



Ensolum

October 02, 2024

Jeremy Espinoza

11049 W 44th Avenue, Suite 103

Wheat Ridge CO 80033

Project Name - KMG - ST C01, ST16-11&12&14
FAC

Project Number - 09A1417553

Attached are your analytical results for KMG - ST C01, ST16-11&12&14 FAC received by Origins Laboratory September 03, 2024. This project is associated with Origins project number E409037-01.

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

Ensolum
 11049 W 44th Avenue, Suite 103
 Wheat Ridge CO 80033

Jeremy Espinoza
 Project Number: 09A1417553
 Project: KMG - ST C01, ST16-11&12&14 FAC

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PWV01-B01@5'	E409037-01	Soil	September 3, 2024 12:30	09/03/2024 16:54
PWV01-B01@5'-V	E409037-02	Soil	September 3, 2024 12:32	09/03/2024 16:54
PWV01-W01@3'	E409037-03	Soil	September 3, 2024 12:36	09/03/2024 16:54
PWV01-W01@3'-V	E409037-04	Soil	September 3, 2024 12:38	09/03/2024 16:54
SEP01-INLET@4'	E409037-05	Soil	September 3, 2024 14:20	09/03/2024 16:54
SEP01-INLET@4'-V	E409037-06	Soil	September 3, 2024 14:22	09/03/2024 16:54
SEP01-OUTLET@4'	E409037-07	Soil	September 3, 2024 14:30	09/03/2024 16:54
SEP01-OUTLET@4'-V	E409037-08	Soil	September 3, 2024 14:32	09/03/2024 16:54

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Ensolum
 11049 W 44th Avenue, Suite 103
 Wheat Ridge CO 80033

Jeremy Espinoza
 Project Number: 09A1417553
 Project: KMG - ST C01, ST16-11&12&14 FAC

ORIGINS LABORATORY INC
 Client: Ensolum
 Address: 11049 W 44th Ave. Ste. 100
 Wheat Ridge, CO 80033
 Telephone Number:
 Email Address: KMG-Team

ORIGINS WORK ORDER # **EW09037** Page 1 of 1

Project Manager: **Jeremy Espinoza**
 Project Name: **ST C01, ST16-11, 12 & 14 Facility** | W=Water
 Project Number: **09A1417553**
 Collected By: **JL**
 Invoice/Billing Info: **Initial/Oxy**

Key:
 GW=Groundwater
 SW=Surface Water
 WW=Waste Water
 L=Liquid

S=Soil | SO=Solid | G=Oil | A=Air | G=Gas | U=Unpres | HCL=Hydrochloric | HNO3=Nitric | H2SO4=Sulfuric | NaOH=Sodium Hydroxide

#	Sample ID	Date Sampled	Time Sampled	# of Containers	Matrix	Preservative	Analysis		Comments
1	PW01-Boies-1	9/3/24	1330	3	S	UMP	X		Ks + Br added to
2	PW01-Boies-LV		1332				X		PW01-W01031-V
3	PW01-Boies-3		1336				X		Bo added to
4	PW01-W01031-V		1338				X		SEPH-1062-01-V
5	SEPH-1062-01-V		1470				X		per the email from
6	SEPH-1062-01-V		1472				X		Tracey on 9/15/24
7	SEPH-1062-01-V		1480				X		
8	SEPH-1062-01-V		1482				X		
9									
10									

Relinquished By: *[Signature]* Date: 9/3/24 Time: 1654
 Relinquished By: *[Signature]* Date: 9/13/24 Time: 1654

Received By: *[Signature]* Date: 9/13/24 Time: 1654
 Received By: *[Signature]* Date: Time:

Turnaround Time: SAME DAY 24 Hr 48 Hr 72 Hr

Standard Yes No

Temp Received: 2.5 Received On Ice? Yes No

For Lab Sample Receiving Only:
 1725 Elk Place Denver, Co, 80211 | # 303.433.1322 | originslab.com

Origins Laboratory
[Signature]

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Wheat Ridge CO 80033

Jeremy Espinoza
Project Number: 09A1417553
Project: KMG - ST C01, ST16-11&12&14 FAC

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: E400037 Client: Ensolum
 Checklist Completed by: JHD Client Project ID: ST C01
 Date/time completed: 9/13/12 Shipped Via: HD
 (UPS, FedEx, Hand Delivered, Pick-up, etc.)
 Matrix(s) Received: (Check all that apply): Soil/Solid Water: _____ Other: _____
 Cooler Number/Temperature: 1 12.5 °C / _____ °C / _____ °C (Describe) °C
 Thermometer ID: 7005

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"/>	<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"/>	<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"/>	<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"/>		<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"/>		<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 in the additional comments (above) and the case narrative.

Reviewed by (Project Manager) JHD Date/Time Reviewed 9/13/12

Origins Laboratory



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Ensolum
 11049 W 44th Avenue, Suite 103
 Wheat Ridge CO 80033

Jeremy Espinoza
 Project Number: 09A1417553
 Project: KMG - ST C01, ST16-11&12&14 FAC

PWV01-B01@5'

9/3/2024 12:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409037-01 (Soil)

Boron (DTPA Sorbitol)

Boron	ND		0.0994	mg/L	1	B410409	09/04/2024	09/05/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B410355	09/03/2024	09/04/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	89.4 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B410354	09/03/2024	09/03/2024	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			"	"	"	
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PWV01-B01@5'

9/3/2024 12:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409037-01 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	98.2 %		70-130			B41035 4	09/03/2024	09/03/2024	
Surrogate: 4-Bromofluorobenzene	95.5 %		70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	0.917		0.499	meq/L	10	[CALC]	09/04/2024	09/05/2024	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	ND		0.435	"	"	"	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND		0.002	mg/kg	1	B410348	09/03/2024	09/04/2024	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

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PWV01-B01@5'

9/3/2024 12:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409037-01 (Soil)

PAH by EPA 8270E

Fluorene	ND	0.020	mg/kg	1	B410348	09/03/2024	09/04/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	97.1 %	60-130	"	"	"	"	"
Surrogate: Anthracene-d10	89.6 %	60-130	"	"	"	"	"
Surrogate: Pyrene-d10	102 %	60-130	"	"	"	"	"
Surrogate: Benzo (a) pyrene-d12	106 %	60-130	"	"	"	"	"

pH in Soil by 9045D

pH	8.30	pH Units	1	B410417	09/04/2024	09/05/2024
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SAR by 20B Saturated Paste

SAR	0.460	0.0100	SAR	1	B410405	09/04/2024	09/05/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.202	0.00500	mmhos/cm	1	B410417	09/04/2024	09/05/2024
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Table 915 metals by EPA 6020B

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PWV01-B01@5'

9/3/2024 12:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
 E409037-01 (Soil)

Table 915 metals by EPA 6020B

Arsenic	1.85		0.286	mg/kg	10	B410353	09/03/2024	09/04/2024	
Barium	25.5		9.86	"	"	"	"	"	
Cadmium	ND		0.0986	"	"	"	"	"	
Copper	ND		9.86	"	"	"	"	"	
Lead	5.94		0.986	"	"	"	"	"	
Nickel	4.47		0.986	"	"	"	"	"	
Selenium	ND		0.256	"	"	"	"	"	
Silver	ND		0.0986	"	"	"	"	"	
Zinc	ND		36.5	"	"	"	"	"	

Total Metals 7196A

Hexavalent Chromium	ND	0.174	0.434	mg/kg dry	1	2678702	09/26/2024	09/27/2024	U
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Origins Laboratory



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 Wheat Ridge CO 80033

Jeremy Espinoza
 Project Number: 09A1417553
 Project: KMG - ST C01, ST16-11&12&14 FAC

PWV01-B01@5'-V
9/3/2024 12:32:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409037-02 (Soil)

pH in Soil by 9045D

pH	8.49			pH Units	1	B410419	09/04/2024	09/06/2024	
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Jeremy Espinoza
 Project Number: 09A1417553
 Project: KMG - ST C01, ST16-11&12&14 FAC

PWV01-W01@3'

9/3/2024 12:36:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409037-03 (Soil)

Boron (DTPA Sorbitol)

Boron	0.179		0.0989	mg/L	1	B410409	09/04/2024	09/05/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B410355	09/03/2024	09/04/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	86.8 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B410354	09/03/2024	09/04/2024	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			"	"	"	
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 Project: KMG - ST C01, ST16-11&12&14 FAC

PWV01-W01@3'

9/3/2024 12:36:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409037-03 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	98.9 %		70-130			B41035 4	09/03/2024	09/04/2024	
Surrogate: 4-Bromofluorobenzene	93.2 %		70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	1.10		0.499	meq/L	10	[CALC]	09/04/2024	09/05/2024	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	ND		0.435	"	"	"	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND		0.002	mg/kg	1	B410348	09/03/2024	09/04/2024	Ua
2-Methylnaphthalene	0.002		0.002	"	"	"	"	"	
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

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 Project: KMG - ST C01, ST16-11&12&14 FAC

PWV01-W01@3'

9/3/2024 12:36:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409037-03 (Soil)

PAH by EPA 8270E

Fluorene	ND	0.020	mg/kg	1	B410348	09/03/2024	09/04/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	97.5 %	60-130	"	"	"	"	"
Surrogate: Anthracene-d10	90.6 %	60-130	"	"	"	"	"
Surrogate: Pyrene-d10	103 %	60-130	"	"	"	"	"
Surrogate: Benzo (a) pyrene-d12	100 %	60-130	"	"	"	"	"

pH in Soil by 9045D

pH	8.30	pH Units	1	B410417	09/04/2024	09/05/2024
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SAR by 20B Saturated Paste

SAR	0.301	0.0100	SAR	1	B410405	09/04/2024	09/05/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.209	0.00500	mmhos/cm	1	B410417	09/04/2024	09/05/2024
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Table 915 metals by EPA 6020B

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PWV01-W01@3'

9/3/2024 12:36:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409037-03 (Soil)

Table 915 metals by EPA 6020B

Arsenic	3.72		0.271	mg/kg	10	B410353	09/03/2024	09/04/2024	
Barium	121		9.34	"	"	"	"	"	
Cadmium	0.147		0.0934	"	"	"	"	"	
Copper	10.3		9.34	"	"	"	"	"	
Lead	12.0		0.934	"	"	"	"	"	
Nickel	8.89		0.934	"	"	"	"	"	
Selenium	ND		0.243	"	"	"	"	"	
Silver	0.0934		0.0934	"	"	"	"	"	
Zinc	38.1		34.5	"	"	"	"	"	

Total Metals 7196A

Hexavalent Chromium	ND	0.167	0.417	mg/kg dry	1	2678702	09/26/2024	09/27/2024	U
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Project Number: 09A1417553
Project: KMG - ST C01, ST16-11&12&14 FAC

PWV01-W01@3'-V
9/3/2024 12:38:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409037-04 (Soil)

pH in Soil by 9045D

pH	8.49			pH Units	1	B410419	09/04/2024	09/06/2024	
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Table 915 metals by EPA 6020B

Arsenic	2.35		0.267	mg/kg	10	B410530	09/05/2024	09/06/2024	
Barium	69.6		9.19	"	"	"	"	"	

Origins Laboratory



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Ensolum
 11049 W 44th Avenue, Suite 103
 Wheat Ridge CO 80033

Jeremy Espinoza
 Project Number: 09A1417553
 Project: KMG - ST C01, ST16-11&12&14 FAC

SEP01-INLET@4'
9/3/2024 2:20:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409037-05 (Soil)

Boron (DTPA Sorbitol)

Boron	1.30		0.101	mg/L	1	B410409	09/04/2024	09/05/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B410355	09/03/2024	09/04/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	85.9 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B410354	09/03/2024	09/04/2024	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	105 %		70-130			"	"	"	
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Jeremy Espinoza
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 Project: KMG - ST C01, ST16-11&12&14 FAC

SEP01-INLET@4'
9/3/2024 2:20:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409037-05 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	97.9 %		70-130			B41035 4	09/03/2024	09/04/2024	
Surrogate: 4-Bromofluorobenzene	93.4 %		70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	3.34		0.499	meq/L	10	[CALC]	09/04/2024	09/05/2024	
Magnesium	2.58		0.823	"	"	"	"	"	
Sodium	3.17		0.435	"	"	"	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND		0.002	mg/kg	1	B410348	09/03/2024	09/04/2024	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

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SEP01-INLET@4'
9/3/2024 2:20:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409037-05 (Soil)

PAH by EPA 8270E

Fluorene	ND	0.020	mg/kg	1	B410348	09/03/2024	09/04/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	99.3 %	60-130	"	"	"	"	"
Surrogate: Anthracene-d10	88.6 %	60-130	"	"	"	"	"
Surrogate: Pyrene-d10	102 %	60-130	"	"	"	"	"
Surrogate: Benzo (a) pyrene-d12	101 %	60-130	"	"	"	"	"

pH in Soil by 9045D

pH	8.30	pH Units	1	B410417	09/04/2024	09/05/2024
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SAR by 20B Saturated Paste

SAR	1.84	0.0100	SAR	1	B410405	09/04/2024	09/05/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.940	0.00500	mmhos/cm	1	B410417	09/04/2024	09/05/2024
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Table 915 metals by EPA 6020B

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SEP01-INLET@4'
9/3/2024 2:20:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409037-05 (Soil)

Table 915 metals by EPA 6020B

Arsenic	5.45		0.265	mg/kg	10	B410353	09/03/2024	09/04/2024	
Barium	191		9.15	"	"	"	"	"	
Cadmium	0.353		0.0915	"	"	"	"	"	
Copper	21.9		9.15	"	"	"	"	"	
Lead	31.5		0.915	"	"	"	"	"	
Nickel	15.3		0.915	"	"	"	"	"	
Selenium	0.662		0.238	"	"	"	"	"	
Silver	0.374		0.0915	"	"	"	"	"	
Zinc	70.7		33.9	"	"	"	"	"	

Total Metals 7196A

Hexavalent Chromium	ND	0.177	0.442	mg/kg dry	1	2678702	09/26/2024	09/27/2024	U
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Project: KMG - ST C01, ST16-11&12&14 FAC

SEP01-INLET@4'-V
9/3/2024 2:22:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409037-06 (Soil)

pH in Soil by 9045D

pH	8.50			pH Units	1	B410419	09/04/2024	09/06/2024	
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Table 915 metals by EPA 6020B

Arsenic	6.01		0.288	mg/kg	10	B410530	09/05/2024	09/06/2024	
Barium	155		9.92	"	"	"	"	"	

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 Project: KMG - ST C01, ST16-11&12&14 FAC

SEP01-OUTLET@4'
9/3/2024 2:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409037-07 (Soil)

Boron (DTPA Sorbitol)

Boron	0.232		0.101	mg/L	1	B410409	09/04/2024	09/05/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B410355	09/03/2024	09/04/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: <i>o</i> -Terphenyl	85.7 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B410354	09/03/2024	09/04/2024	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			"	"	"	
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 Project: KMG - ST C01, ST16-11&12&14 FAC

SEP01-OUTLET@4'
9/3/2024 2:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409037-07 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	98.6 %		70-130			B41035 4	09/03/2024	09/04/2024	
Surrogate: 4-Bromofluorobenzene	95.8 %		70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	1.68		0.499	meq/L	10	[CALC]	09/04/2024	09/05/2024	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	0.472		0.435	"	"	"	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND		0.002	mg/kg	1	B410348	09/03/2024	09/04/2024	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

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 Project: KMG - ST C01, ST16-11&12&14 FAC

SEP01-OUTLET@4'
9/3/2024 2:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409037-07 (Soil)

PAH by EPA 8270E

Fluorene	ND	0.020	mg/kg	1	B410348	09/03/2024	09/04/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	98.3 %	60-130	"	"	"	"	"
Surrogate: Anthracene-d10	89.9 %	60-130	"	"	"	"	"
Surrogate: Pyrene-d10	99.9 %	60-130	"	"	"	"	"
Surrogate: Benzo (a) pyrene-d12	104 %	60-130	"	"	"	"	"

pH in Soil by 9045D

pH	8.25	pH Units	1	B410418	09/04/2024	09/05/2024
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SAR by 20B Saturated Paste

SAR	0.426	0.0100	SAR	1	B410406	09/04/2024	09/05/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.336	0.00500	mmhos/cm	1	B410418	09/04/2024	09/05/2024
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Table 915 metals by EPA 6020B

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Jeremy Espinoza
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 Project: KMG - ST C01, ST16-11&12&14 FAC

SEP01-OUTLET@4'
9/3/2024 2:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409037-07 (Soil)

Table 915 metals by EPA 6020B

Arsenic	4.31		0.253	mg/kg	10	B410353	09/03/2024	09/04/2024	
Barium	74.4		8.74	"	"	"	"	"	
Cadmium	0.207		0.0874	"	"	"	"	"	
Copper	9.87		8.74	"	"	"	"	"	
Lead	13.0		0.874	"	"	"	"	"	
Nickel	8.21		0.874	"	"	"	"	"	
Selenium	0.246		0.227	"	"	"	"	"	
Silver	ND		0.0874	"	"	"	"	"	
Zinc	35.2		32.3	"	"	"	"	"	

Total Metals 7196A

Hexavalent Chromium	ND	0.159	0.398	mg/kg dry	1	2678702	09/26/2024	09/27/2024	U
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SEP01-OUTLET@4'-V

9/3/2024 2:32:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory
E409037-08 (Soil)

pH in Soil by 9045D

pH	8.40			pH Units	1	B410419	09/04/2024	09/06/2024	
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Jeremy Espinoza
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 Project: KMG - ST C01, ST16-11&12&14 FAC

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B410354 - EPA 5030 (soil)

Blank (B410354-BLK1)

Prepared: 09/03/2024 Analyzed: 09/03/2024

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	0.13		"	0.125	106		70-130			
Surrogate: Toluene-d8	0.12		"	0.125	97.3		70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125	93.1		70-130			

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Volatile Organic Compounds by GC/MS SW846 8260D - 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 B410354 - EPA 5030 (soil)

LCS (B410354-BS1)

Prepared: 09/03/2024 Analyzed: 09/03/2024

1,2,4-Trimethylbenzene	0.0898	0.00200	mg/kg	0.100		89.8	70-130			
1,3,5-Trimethylbenzene	0.0922	0.00200	"	0.100		92.2	70-130			
Benzene	0.0837	0.00200	"	0.100		83.7	70-130			
Ethylbenzene	0.0895	0.00200	"	0.100		89.5	70-130			
Naphthalene	0.0901	0.00380	"	0.100		90.1	70-130			
Toluene	0.0850	0.00200	"	0.100		85.0	70-130			
o-Xylene	0.0895	0.00200	"	0.100		89.5	70-130			
m,p-Xylene	0.185	0.00400	"	0.200		92.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		105	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.7	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.8	70-130			

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Volatile Organic Compounds by GC/MS SW846 8260D - 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 B4I0354 - EPA 5030 (soil)

Matrix Spike (B4I0354-MS1)

Source: E409036-13

Prepared: 09/03/2024 Analyzed: 09/03/2024

1,2,4-Trimethylbenzene	0.0790	0.00200	mg/kg	0.100	ND	79.0	70-130			
1,3,5-Trimethylbenzene	0.0814	0.00200	"	0.100	ND	81.4	70-130			
Benzene	0.0756	0.00200	"	0.100	ND	75.6	70-130			
Ethylbenzene	0.0798	0.00200	"	0.100	ND	79.8	70-130			
Naphthalene	0.0762	0.00380	"	0.100	ND	76.2	70-130			
Toluene	0.0738	0.00200	"	0.100	ND	73.8	70-130			
o-Xylene	0.0812	0.00200	"	0.100	ND	81.2	70-130			
m,p-Xylene	0.164	0.00400	"	0.200	ND	81.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		106	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		93.5	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.6	70-130			

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 Project: KMG - ST C01, ST16-11&12&14 FAC

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B410354 - EPA 5030 (soil)

Matrix Spike Dup (B410354-MSD1)

Source: E409036-13

Prepared: 09/03/2024 Analyzed: 09/03/2024

1,2,4-Trimethylbenzene	0.0759	0.00200	mg/kg	0.100	ND	75.9	70-130	3.98	20	
1,3,5-Trimethylbenzene	0.0789	0.00200	"	0.100	ND	78.9	70-130	3.14	20	
Benzene	0.0720	0.00200	"	0.100	ND	72.0	70-130	4.90	20	
Ethylbenzene	0.0772	0.00200	"	0.100	ND	77.2	70-130	3.21	20	
Naphthalene	0.0777	0.00380	"	0.100	ND	77.7	70-130	1.87	20	
Toluene	0.0725	0.00200	"	0.100	ND	72.5	70-130	1.81	20	
o-Xylene	0.0792	0.00200	"	0.100	ND	79.2	70-130	2.47	20	
m,p-Xylene	0.158	0.00400	"	0.200	ND	78.8	70-130	3.81	20	
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		106	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		96.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.2	70-130			

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 Wheat Ridge CO 80033

Jeremy Espinoza
 Project Number: 09A1417553
 Project: KMG - ST C01, ST16-11&12&14 FAC

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B410355 - EPA 3550B										
Blank (B410355-BLK1)										
					Prepared: 09/03/2024 Analyzed: 09/04/2024					
Diesel (C10-C28)	ND	25.0	mg/kg							Ua
Residual Range Organics (C28-C40)	ND	100	"							Ua
Surrogate: o-Terphenyl	21		"	24.9		83.4	50-150			

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Extractable Petroleum Hydrocarbons by 8015D - 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 B410355 - EPA 3550B

LCS (B410355-BS1)

Prepared: 09/03/2024 Analyzed: 09/04/2024

Diesel (C10-C28)	916	50.0	mg/kg	1000		91.6	70-130			
Residual Range Organics (C28-C40)	1000	200	"	1000		100	70-130			
Surrogate: o-Terphenyl	55		"	49.8		111	50-150			

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Extractable Petroleum Hydrocarbons by 8015D - 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 B4I0355 - EPA 3550B

Matrix Spike (B4I0355-MS1)	Source: E409036-13			Prepared: 09/03/2024 Analyzed: 09/04/2024						
Diesel (C10-C28)	917	50.0	mg/kg	1000	ND	91.7	70-130			
Residual Range Organics (C28-C40)	1020	200	"	1000	ND	102	70-130			
Surrogate: o-Terphenyl	49		"	49.8		97.8	50-150			

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Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B410355 - EPA 3550B										
Matrix Spike Dup (B410355-MSD1)			Source: E409036-13			Prepared: 09/03/2024 Analyzed: 09/04/2024				
Diesel (C10-C28)	1020	50.0	mg/kg	1000	ND	102	70-130	10.5	35	
Residual Range Organics (C28-C40)	1130	200	"	1000	ND	113	70-130	10.4	35	
Surrogate: o-Terphenyl	55		"	49.8		110	50-150			

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Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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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 B4I0353 - EPA 3050B

Blank (B4I0353-BLK1)

Prepared: 09/03/2024 Analyzed: 09/04/2024

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 (B4I0353-BS1)

Prepared: 09/03/2024 Analyzed: 09/04/2024

Arsenic	5.36	0.290	mg/kg	5.00		107	80-120			
Barium	555	10.0	"	500		111	80-120			
Cadmium	5.44	0.100	"	5.00		109	80-120			
Copper	52.3	10.0	"	50.0		105	80-120			
Lead	5.45	1.00	"	5.00		109	80-120			
Nickel	5.27	1.00	"	5.00		105	80-120			
Selenium	5.26	0.260	"	5.00		105	80-120			
Silver	5.53	0.100	"	5.00		111	80-120			
Zinc	54.3	37.0	"	50.0		109	80-120			

Matrix Spike (B4I0353-MS1)

Source: E409036-02

Prepared: 09/03/2024 Analyzed: 09/04/2024

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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 B4I0353 - EPA 3050B

Matrix Spike (B4I0353-MS1)

Source: E409036-02

Prepared: 09/03/2024 Analyzed: 09/04/2024

Arsenic	9.56	0.245	mg/kg	4.22	5.70	91.2	75-125			
Barium	677	8.45	"	422	232	105	75-125			
Cadmium	4.58	0.0845	"	4.22	0.297	101	75-125			
Copper	54.8	8.45	"	42.2	15.3	93.4	75-125			
Lead	17.1	0.845	"	4.22	12.7	104	75-125			
Nickel	19.7	0.845	"	4.22	16.8	69.8	75-125			QM-07
Selenium	4.24	0.220	"	4.22	0.220	95.1	75-125			
Silver	4.43	0.0845	"	4.22	0.0741	103	75-125			
Zinc	99.6	31.3	"	42.2	59.6	94.7	75-125			

Matrix Spike Dup (B4I0353-MSD1)

Source: E409036-02

Prepared: 09/03/2024 Analyzed: 09/04/2024

Arsenic	10.3	0.266	mg/kg	4.58	5.70	99.5	75-125	7.13	20	
Barium	725	9.17	"	458	232	108	75-125	6.89	20	
Cadmium	5.04	0.0917	"	4.58	0.297	104	75-125	9.57	20	
Copper	60.1	9.17	"	45.8	15.3	97.6	75-125	9.20	20	
Lead	17.9	0.917	"	4.58	12.7	112	75-125	4.38	20	
Nickel	20.8	0.917	"	4.58	16.8	87.5	75-125	5.23	20	
Selenium	5.04	0.238	"	4.58	0.220	105	75-125	17.3	20	
Silver	4.84	0.0917	"	4.58	0.0741	104	75-125	8.84	20	
Zinc	104	33.9	"	45.8	59.6	97.9	75-125	4.75	20	

Batch B4I0530 - EPA 3050B

Blank (B4I0530-BLK1)

Prepared: 09/05/2024 Analyzed: 09/06/2024

Arsenic	ND	0.290	mg/kg							
Barium	ND	10.0	"							
Cadmium	ND	0.100	"							

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Metals by EPA 6000/7000 Series Methods - Quality Control
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4I0530 - EPA 3050B

Blank (B4I0530-BLK1)

Prepared: 09/05/2024 Analyzed: 09/06/2024

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

LCS (B4I0530-BS1)

Prepared: 09/05/2024 Analyzed: 09/06/2024

Arsenic	5.28	0.290	mg/kg	5.00		106	80-120			
Barium	520	10.0	"	500		104	80-120			
Cadmium	5.29	0.100	"	5.00		106	80-120			
Copper	54.5	10.0	"	50.0		109	80-120			
Lead	5.14	1.00	"	5.00		103	80-120			
Nickel	5.63	1.00	"	5.00		113	80-120			
Selenium	5.06	0.260	"	5.00		101	80-120			
Silver	5.58	0.100	"	5.00		112	80-120			
Zinc	54.0	37.0	"	50.0		108	80-120			

Matrix Spike (B4I0530-MS1)

Source: E409118-02

Prepared: 09/05/2024 Analyzed: 09/06/2024

Arsenic	6.21	0.249	mg/kg	4.30	1.75	104	75-125			
Barium	518	8.59	"	430	62.2	106	75-125			
Cadmium	4.61	0.0859	"	4.30	0.0933	105	75-125			
Copper	53.2	8.59	"	43.0	5.63	111	75-125			
Lead	9.63	0.859	"	4.30	5.43	97.7	75-125			
Nickel	10.9	0.859	"	4.30	6.37	105	75-125			
Selenium	4.48	0.223	"	4.30	0.0840	102	75-125			
Silver	4.69	0.0859	"	4.30	0.0280	109	75-125			

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**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
Batch B4I0530 - EPA 3050B										
Matrix Spike (B4I0530-MS1)		Source: E409118-02			Prepared: 09/05/2024 Analyzed: 09/06/2024					
Zinc	71.9	31.8	mg/kg	43.0	27.2	104	75-125			
Matrix Spike Dup (B4I0530-MSD1)		Source: E409118-02			Prepared: 09/05/2024 Analyzed: 09/06/2024					
Arsenic	6.81	0.274	mg/kg	4.72	1.75	107	75-125	9.30	20	
Barium	576	9.43	"	472	62.2	109	75-125	10.6	20	
Cadmium	5.22	0.0943	"	4.72	0.0933	109	75-125	12.4	20	
Copper	60.4	9.43	"	47.2	5.63	116	75-125	12.7	20	
Lead	10.6	0.943	"	4.72	5.43	110	75-125	9.81	20	
Nickel	12.1	0.943	"	4.72	6.37	122	75-125	10.5	20	
Selenium	5.09	0.245	"	4.72	0.0840	106	75-125	12.8	20	
Silver	5.41	0.0943	"	4.72	0.0280	114	75-125	14.3	20	
Zinc	79.3	34.9	"	47.2	27.2	110	75-125	9.80	20	

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 Project: KMG - ST C01, ST16-11&12&14 FAC

EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B410348 - EPA 3580

Blank (B410348-BLK1)

Prepared: 09/03/2024 Analyzed: 09/04/2024

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	190		ug/kg	200		96.9	60-130			
Surrogate: Anthracene-d10	180		"	200		88.0	60-130			
Surrogate: Pyrene-d10	210		"	200		107	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		103	60-130			

LCS (B410348-BS1)

Prepared: 09/03/2024 Analyzed: 09/04/2024

1-Methylnaphthalene	0.205	0.002	mg/kg	0.200		103	70-130			
2-Methylnaphthalene	0.208	0.002	"	0.200		104	70-130			
Acenaphthene	0.220	0.020	"	0.200		110	70-130			
Anthracene	0.192	0.020	"	0.200		95.9	70-130			

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EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B410348 - EPA 3580

LCS (B410348-BS1)

Prepared: 09/03/2024 Analyzed: 09/04/2024

Benzo (a) anthracene	0.201	0.005	mg/kg	0.200		100	70-130			
Benzo (a) pyrene	0.218	0.020	"	0.200		109	70-130			
Benzo (b) fluoranthene	0.216	0.020	"	0.200		108	70-130			
Benzo (g,h,i) perylene	0.211	0.020	"	0.200		105	70-130			
Benzo (k) fluoranthene	0.212	0.020	"	0.200		106	70-130			
Chrysene	0.206	0.020	"	0.200		103	70-130			
Dibenz (a,h) anthracene	0.205	0.020	"	0.200		102	70-130			
Fluoranthene	0.178	0.020	"	0.200		89.2	70-130			
Fluorene	0.216	0.020	"	0.200		108	70-130			
Indeno (1,2,3-cd) pyrene	0.204	0.020	"	0.200		102	70-130			
Naphthalene	0.221	0.002	"	0.200		111	70-130			
Phenanthrene	0.202	0.020	"	0.200		101	70-130			
Pyrene	0.220	0.020	"	0.200		110	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		97.6	60-130			
Surrogate: Anthracene-d10	180		"	200		89.1	60-130			
Surrogate: Pyrene-d10	210		"	200		104	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		106	60-130			

Matrix Spike (B410348-MS1)

Source: E409030-01

Prepared: 09/03/2024 Analyzed: 09/04/2024

1-Methylnaphthalene	0.203	0.002	mg/kg	0.200	ND	101	70-130			
2-Methylnaphthalene	0.202	0.002	"	0.200	ND	101	70-130			
Acenaphthene	0.215	0.020	"	0.200	ND	107	70-130			
Anthracene	0.191	0.020	"	0.200	ND	95.4	70-130			
Benzo (a) anthracene	0.198	0.005	"	0.200	ND	99.1	70-130			
Benzo (a) pyrene	0.211	0.020	"	0.200	ND	105	70-130			
Benzo (b) fluoranthene	0.212	0.020	"	0.200	ND	106	70-130			
Benzo (g,h,i) perylene	0.211	0.020	"	0.200	ND	105	70-130			

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EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B410348 - EPA 3580

Matrix Spike (B410348-MS1)	Source: E409030-01			Prepared: 09/03/2024 Analyzed: 09/04/2024						
Benzo (k) fluoranthene	0.207	0.020	mg/kg	0.200	ND	104	70-130			
Chrysene	0.193	0.020	"	0.200	ND	96.6	70-130			
Dibenz (a,h) anthracene	0.211	0.020	"	0.200	ND	106	70-130			
Fluoranthene	0.185	0.020	"	0.200	ND	92.3	70-130			
Fluorene	0.215	0.020	"	0.200	ND	108	70-130			
Indeno (1,2,3-cd) pyrene	0.201	0.020	"	0.200	ND	101	70-130			
Naphthalene	0.216	0.002	"	0.200	ND	108	70-130			
Phenanthrene	0.196	0.020	"	0.200	ND	98.1	70-130			
Pyrene	0.206	0.020	"	0.200	ND	103	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		98.6	60-130			
Surrogate: Anthracene-d10	180		"	200		89.1	60-130			
Surrogate: Pyrene-d10	200		"	200		100	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		105	60-130			

Matrix Spike Dup (B410348-MSD1)	Source: E409030-01			Prepared: 09/03/2024 Analyzed: 09/04/2024						
1-Methylnaphthalene	0.207	0.002	mg/kg	0.200	ND	104	70-130	2.01	20	
2-Methylnaphthalene	0.207	0.002	"	0.200	ND	104	70-130	2.42	20	
Acenaphthene	0.219	0.020	"	0.200	ND	109	70-130	1.79	20	
Anthracene	0.199	0.020	"	0.200	ND	99.4	70-130	4.13	20	
Benzo (a) anthracene	0.201	0.005	"	0.200	ND	101	70-130	1.48	20	
Benzo (a) pyrene	0.209	0.020	"	0.200	ND	105	70-130	0.844	20	
Benzo (b) fluoranthene	0.212	0.020	"	0.200	ND	106	70-130	0.0315	20	
Benzo (g,h,i) perylene	0.209	0.020	"	0.200	ND	105	70-130	0.659	20	
Benzo (k) fluoranthene	0.206	0.020	"	0.200	ND	103	70-130	0.455	20	
Chrysene	0.199	0.020	"	0.200	ND	99.5	70-130	2.94	20	
Dibenz (a,h) anthracene	0.209	0.020	"	0.200	ND	104	70-130	1.13	20	
Fluoranthene	0.184	0.020	"	0.200	ND	92.0	70-130	0.335	20	

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EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B410348 - EPA 3580

Matrix Spike Dup (B410348-MSD1)	Source: E409030-01			Prepared: 09/03/2024 Analyzed: 09/04/2024						
Fluorene	0.216	0.020	mg/kg	0.200	ND	108	70-130	0.503	20	
Indeno (1,2,3-cd) pyrene	0.199	0.020	"	0.200	ND	99.5	70-130	1.09	20	
Naphthalene	0.232	0.002	"	0.200	ND	116	70-130	6.99	20	
Phenanthrene	0.202	0.020	"	0.200	ND	101	70-130	2.69	20	
Pyrene	0.215	0.020	"	0.200	ND	108	70-130	4.29	20	
Surrogate: Fluorene-d10	190		ug/kg	200		97.1	60-130			
Surrogate: Anthracene-d10	180		"	200		90.0	60-130			
Surrogate: Pyrene-d10	200		"	200		101	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		105	60-130			

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Classical Chemistry Parameters - Quality Control
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4I0405 - Saturated Paste Metals

Blank (B4I0405-BLK1)

Prepared: 09/04/2024 Analyzed: 09/05/2024

SAR	ND	0.0100	SAR							
Calcium PPM	ND	10.0	mg/L							
Magnesium PPM	ND	10.0	"							
Sodium PPM	ND	10.0	"							

Duplicate (B4I0405-DUP1)

Source: E409034-04

Prepared: 09/04/2024 Analyzed: 09/05/2024

Calcium PPM	60.0	10.0	mg/L		69.2			14.3	50	
SAR	ND	0.0100	SAR		6.12				200	
Magnesium PPM	27.0	10.0	mg/L		30.8			13.1	50	
Sodium PPM	227	10.0	"		243			7.17	50	

Batch B4I0406 - Saturated Paste Metals

Blank (B4I0406-BLK1)

Prepared: 09/04/2024 Analyzed: 09/05/2024

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 (B4I0406-DUP1)

Source: E409039-01

Prepared: 09/04/2024 Analyzed: 09/05/2024

SAR	ND	0.0100	SAR		1.92				200	
Calcium PPM	56.9	10.0	mg/L		68.3			18.2	50	
Magnesium PPM	25.3	10.0	"		30.3			17.9	50	
Sodium PPM	65.4	10.0	"		75.7			14.6	50	

Batch B4I0409 - DTPA Sorbitol Preparation

Blank (B4I0409-BLK1)

Prepared: 09/04/2024 Analyzed: 09/05/2024

Origins Laboratory



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Ensolum
 11049 W 44th Avenue, Suite 103
 Wheat Ridge CO 80033

Jeremy Espinoza
 Project Number: 09A1417553
 Project: KMG - ST C01, ST16-11&12&14 FAC

Classical Chemistry Parameters - Quality Control
Origins Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4I0409 - DTPA Sorbitol Preparation										
Blank (B4I0409-BLK1)					Prepared: 09/04/2024 Analyzed: 09/05/2024					
Boron	ND	0.100	mg/L							
Duplicate (B4I0409-DUP1)		Source: E409036-08			Prepared: 09/04/2024 Analyzed: 09/05/2024					
Boron	0.602	0.100	mg/L		0.555			8.07	50	

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**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 B4I0417 - Saturated Paste pH/EC

Blank (B4I0417-BLK1) Prepared: 09/04/2024 Analyzed: 09/05/2024

Specific Conductance (EC) ND 0.00500 mmhos/cm

Duplicate (B4I0417-DUP1) Source: E409034-04 Prepared: 09/04/2024 Analyzed: 09/05/2024

pH 8.42 pH Units 8.31 1.31 25

Specific Conductance (EC) 1.63 0.00500 mmhos/cm 1.71 4.86 25

Batch B4I0418 - Saturated Paste pH/EC

Blank (B4I0418-BLK1) Prepared: 09/04/2024 Analyzed: 09/05/2024

Specific Conductance (EC) ND 0.00500 mmhos/cm

Duplicate (B4I0418-DUP1) Source: E409039-01 Prepared: 09/04/2024 Analyzed: 09/05/2024

pH 8.26 pH Units 8.31 0.604 25

Specific Conductance (EC) 0.831 0.00500 mmhos/cm 0.956 14.0 25

Batch B4I0419 - Saturated Paste pH/EC

Duplicate (B4I0419-DUP1) Source: E409021-01 Prepared: 09/04/2024 Analyzed: 09/05/2024

pH 8.26 pH Units 8.27 0.121 25

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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 2678702 - SW846 3060A										
BLANK (1205868095-BLK)					Prepared: 09/26/2024 Analyzed: 09/27/2024					
Hexavalent Chromium	ND	0.392	mg/kg				-			U
LCS (1205868096-BKS)					Prepared: 09/26/2024 Analyzed: 09/27/2024					
Hexavalent Chromium	3.65	0.364	mg/kg	3.64		100	80-120			
DUP (1205868097 D)					Prepared: 09/26/2024 Analyzed: 09/27/2024					
Source: 684152015										
Hexavalent Chromium	ND	0.420	mg/kg dry		<0.168		0-50	N/A	50	U
MS (1205868098 S)					Prepared: 09/26/2024 Analyzed: 09/27/2024					
Source: 684152015										
Hexavalent Chromium	4.01	0.413	mg/kg dry	4.13	<0.165	94.9	75-125			
DUP (1205868099 D)					Prepared: 09/26/2024 Analyzed: 09/27/2024					
Source: 684152016										
Hexavalent Chromium	ND	0.459	mg/kg dry		<0.184		0-50	N/A	50	U
MS (1205868100 S)					Prepared: 09/26/2024 Analyzed: 09/27/2024					
Source: 684152016										
Hexavalent Chromium	4.11	0.485	mg/kg dry	4.85	<0.194	84.7	75-125			
ILCS (1205868101-ILCS)					Prepared: 09/26/2024 Analyzed: 09/27/2024					
Source: 684152016										
Hexavalent Chromium	8.16	0.397	mg/kg	7.97		102	80-120			

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Project: KMG - ST C01, ST16-11&12&14 FAC

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.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported on a wet weight basis.

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