



Eagle Environmental Consulting, LLC

June 26, 2025

Dan Coloccia

8000 W 44th Ave

Wheat Ridge CO 80033

Project Name - KMG - Kerr-McGee 3-14

Project Number - [none]

Attached are your analytical results for KMG - Kerr-McGee 3-14 received by Origins Laboratory May 28, 2025. This project is associated with Origins project number E5E0975-01.

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





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

Dan Coloccia
Project Number: [none]
Project: KMG - Kerr-McGee 3-14

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
InitialWasteCharacterization@1'	E5E0975-01	Soil	May 28, 2025 8:45	05/28/2025 11:52
BG01@6"	E5E0975-02	Soil	May 28, 2025 9:00	05/28/2025 11:52
BG02@6"	E5E0975-03	Soil	May 28, 2025 9:04	05/28/2025 11:52
BG03@6"	E5E0975-04	Soil	May 28, 2025 9:08	05/28/2025 11:52

Origins Laboratory

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ORIGINS LABORATORY

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

Dan Coloccia
Project Number: [none]
Project: KMG - Kerr-McGee 3-14

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

Sample Receipt Checklist

Origins Work Order: ESE0975 Client: Eagle

Checklist Completed by: JAB/PAF Client Project ID: Kerr-McGee 3-14

Date/time completed: 5/28/25 Shipped Via: HD
(UPS, FedEx, Hand Delivered, Pick-up, etc.)


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

Cooler Number/Temperature: 1/24°C (Describe)

Thermometer ID: 7007

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


 Reviewed by (Project Manager) 5/29/25
Date/Time Reviewed

Origins Laboratory



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Eagle Environmental Consulting, LLC
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Dan Coloccia
 Project Number: [none]
 Project: KMG - Kerr-McGee 3-14

Initial Waste Characterization @ 1
5/28/2025 8:45:00AM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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E5E0975-01 (Soil)
Enthalpy Analytical

TOTAL METALS BY SW7199

Chromium, Hexavalent	0.12		0.20	mg/kg	1	BIF0696	06/13/2025	06/17/2025	J
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Origins Laboratory

Boron (DTPA Sorbitol)

Boron	0.239		0.101	mg/L	1	B5E2910	05/29/2025	06/02/2025	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B5E2929	05/29/2025	05/31/2025	U
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	U

Surrogate: o-Terphenyl	73.0 %			50-150		"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B5E2931	05/29/2025	05/30/2025	U
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	U
Benzene	ND		0.00200	"	"	"	"	"	U
Ethylbenzene	ND		0.00200	"	"	"	"	"	U
Toluene	ND		0.00200	"	"	"	"	"	U
Xylenes, total	ND		0.00200	"	"	"	"	"	U

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Dan Coloccia
 Project Number: [none]
 Project: KMG - Kerr-McGee 3-14

Initial Waste Characterization @ 1
5/28/2025 8:45:00AM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
E5E0975-01 (Soil)									
Origins Laboratory									
GBTEX+TMBs by 8260D									
Gasoline Range Hydrocarbons	ND		0.200	mg/kg	1	B5E2931	05/29/2025	05/30/2025	U
Surrogate: 1,2-Dichloroethane-d4	109 %			70-130		"	"	"	
Surrogate: Toluene-d8	94.8 %			70-130		"	"	"	
Surrogate: 4-Bromofluorobenzene	91.4 %			70-130		"	"	"	
Metals by Saturated Paste by EPA 6010									
Calcium	0.878		0.499	meq/L	10	[CALC]	06/03/2025	06/04/2025	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	2.06		0.435	"	"	"	"	"	
PAH by EPA 8270E extracted via 3580A									
1-Methylnaphthalene	0.012		0.002	mg/kg	1	B5E2951	05/29/2025	05/30/2025	
2-Methylnaphthalene	0.020		0.002	"	"	"	"	"	
Acenaphthene	ND		0.020	"	"	"	"	"	U
Anthracene	ND		0.020	"	"	"	"	"	U
Benzo (a) anthracene	ND		0.005	"	"	"	"	"	U
Benzo (a) pyrene	ND		0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND		0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND		0.020	"	"	"	"	"	U
Chrysene	ND		0.020	"	"	"	"	"	U

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 Project Number: [none]
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Initial Waste Characterization @ 1
5/28/2025 8:45:00AM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
E5E0975-01 (Soil)									
Origins Laboratory									
PAH by EPA 8270E extracted via 3580A									
Dibenz (a,h) anthracene	ND		0.020	mg/kg	1	B5E2951	05/29/2025	05/30/2025	U
Fluoranthene	ND		0.020	"	"	"	"	"	U
Fluorene	ND		0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND		0.020	"	"	"	"	"	U
Naphthalene	0.003		0.002	"	"	"	"	"	
Pyrene	ND		0.020	"	"	"	"	"	U
Surrogate: Fluorene-d10	103 %			60-130		"	"	"	
Surrogate: Anthracene-d10	97.2 %			60-130		"	"	"	
Surrogate: Pyrene-d10	103 %			60-130		"	"	"	
Surrogate: Benzo (a) pyrene-d12	98.5 %			60-130		"	"	"	
pH in Soil by 9045D									
pH	8.31			pH Units	1	B5F0315	06/03/2025	06/04/2025	
SAR by 20B Saturated Paste									
SAR	2.78		0.0100	SAR	1	B5F0310	06/03/2025	06/04/2025	
Specific Conductance Mod. 9050A									
Specific Conductance (EC)	0.388		0.00500	mmhos/cm	1	B5F0315	06/03/2025	06/04/2025	

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Dan Coloccia
 Project Number: [none]
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Initial Waste Characterization @ 1
5/28/2025 8:45:00AM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
E5E0975-01 (Soil)									
Origins Laboratory									
Table 915 metals by EPA 6020B									
Arsenic	2.58		0.274	mg/kg	10	B5E2934	05/29/2025	05/30/2025	
Barium	ND		77.5	"	"	"	"	"	
Cadmium	ND		0.359	"	"	"	"	"	
Copper	ND		43.5	"	"	"	"	"	
Lead	85.3		13.2	"	"	"	"	"	
Nickel	ND		24.6	"	"	"	"	"	
Selenium	ND		0.246	"	"	"	"	"	
Silver	ND		0.756	"	"	"	"	"	
Zinc	ND		350	"	"	"	"	"	

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 Project Number: [none]
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BG01@6"

5/28/2025 9:00:00AM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
E5E0975-02 (Soil)									
Enthalpy Analytical									
TOTAL METALS BY SW7199									
Chromium, Hexavalent	ND		0.20	mg/kg	1	BIF0696	06/13/2025	06/17/2025	
Origins Laboratory									
Boron (DTPA Sorbitol)									
Boron	ND		0.101	mg/L	1	B5E2910	05/29/2025	06/02/2025	
Metals by Saturated Paste by EPA 6010									
Calcium	1.36		0.499	meq/L	10	[CALC]	06/03/2025	06/04/2025	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	ND		0.435	"	"	"	"	"	
pH in Soil by 9045D									
pH	8.31			pH Units	1	B5F0315	06/03/2025	06/04/2025	
SAR by 20B Saturated Paste									
SAR	0.0224		0.0100	SAR	1	B5F0310	06/03/2025	06/04/2025	
Specific Conductance Mod. 9050A									
Specific Conductance (EC)	0.194		0.00500	mmhos/cm	1	B5F0315	06/03/2025	06/04/2025	

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Dan Coloccia
 Project Number: [none]
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BG01@6"

5/28/2025 9:00:00AM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**E5E0975-02 (Soil)
 Origins Laboratory**

Table 915 metals by EPA 6020B

Arsenic	2.02		0.254	mg/kg	10	B5E2934	05/29/2025	05/30/2025	
Barium	ND		71.8	"	"	"	"	"	
Cadmium	ND		0.333	"	"	"	"	"	
Copper	ND		40.3	"	"	"	"	"	
Lead	ND		12.3	"	"	"	"	"	
Nickel	ND		22.8	"	"	"	"	"	
Selenium	ND		0.228	"	"	"	"	"	
Silver	ND		0.700	"	"	"	"	"	
Zinc	ND		324	"	"	"	"	"	

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Dan Coloccia
 Project Number: [none]
 Project: KMG - Kerr-McGee 3-14

BG02@6"

5/28/2025 9:04:00AM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
E5E0975-03 (Soil)									
Enthalpy Analytical									
TOTAL METALS BY SW7199									
Chromium, Hexavalent	ND		0.20	mg/kg	1	BIF0696	06/13/2025	06/17/2025	
Origins Laboratory									
Boron (DTPA Sorbitol)									
Boron	ND		0.101	mg/L	1	B5E2910	05/29/2025	06/02/2025	
Metals by Saturated Paste by EPA 6010									
Calcium	1.29		0.499	meq/L	10	[CALC]	06/03/2025	06/04/2025	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	ND		0.435	"	"	"	"	"	
pH in Soil by 9045D									
pH	8.18			pH Units	1	B5F0315	06/03/2025	06/04/2025	
SAR by 20B Saturated Paste									
SAR	0.0315		0.0100	SAR	1	B5F0310	06/03/2025	06/04/2025	
Specific Conductance Mod. 9050A									
Specific Conductance (EC)	0.200		0.00500	mmhos/cm	1	B5F0315	06/03/2025	06/04/2025	

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Dan Coloccia
 Project Number: [none]
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BG02@6"

5/28/2025 9:04:00AM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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E5E0975-03 (Soil)
Origins Laboratory

Table 915 metals by EPA 6020B

Arsenic	1.96		0.254	mg/kg	10	B5E2934	05/29/2025	05/30/2025	
Barium	ND		71.8	"	"	"	"	"	
Cadmium	ND		0.333	"	"	"	"	"	
Copper	ND		40.3	"	"	"	"	"	
Lead	ND		12.3	"	"	"	"	"	
Nickel	ND		22.8	"	"	"	"	"	
Selenium	ND		0.228	"	"	"	"	"	
Silver	ND		0.700	"	"	"	"	"	
Zinc	ND		324	"	"	"	"	"	

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 - Kerr-McGee 3-14

BG03@6"

5/28/2025 9:08:00AM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
E5E0975-04 (Soil)									
Enthalpy Analytical									
TOTAL METALS BY SW7199									
Chromium, Hexavalent	ND		0.21	mg/kg	1	BIF0696	06/13/2025	06/17/2025	
Origins Laboratory									
Boron (DTPA Sorbitol)									
Boron	ND		0.0997	mg/L	1	B5E2910	05/29/2025	06/02/2025	
Metals by Saturated Paste by EPA 6010									
Calcium	1.40		0.499	meq/L	10	[CALC]	06/03/2025	06/04/2025	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	ND		0.435	"	"	"	"	"	
pH in Soil by 9045D									
pH	8.23			pH Units	1	B5F0315	06/03/2025	06/04/2025	
SAR by 20B Saturated Paste									
SAR	0.0143		0.0100	SAR	1	B5F0310	06/03/2025	06/04/2025	
Specific Conductance Mod. 9050A									
Specific Conductance (EC)	0.232		0.00500	mmhos/cm	1	B5F0315	06/03/2025	06/04/2025	

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Dan Coloccia
 Project Number: [none]
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BG03@6"

5/28/2025 9:08:00AM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**E5E0975-04 (Soil)
 Origins Laboratory**

Table 915 metals by EPA 6020B

Arsenic	2.31		0.260	mg/kg	10	B5E2934	05/29/2025	05/30/2025	
Barium	ND		73.5	"	"	"	"	"	
Cadmium	ND		0.340	"	"	"	"	"	
Copper	ND		41.2	"	"	"	"	"	
Lead	ND		12.5	"	"	"	"	"	
Nickel	ND		23.3	"	"	"	"	"	
Selenium	ND		0.233	"	"	"	"	"	
Silver	ND		0.717	"	"	"	"	"	
Zinc	ND		331	"	"	"	"	"	

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 Wheat Ridge CO 80033

Dan Coloccia
 Project Number: [none]
 Project: KMG - Kerr-McGee 3-14

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 B5E2910 - DTPA Sorbitol Preparation

Blank (B5E2910-BLK1)

Prepared: 05/29/2025 Analyzed: 06/02/2025

Boron ND 0.100 mg/L

Duplicate (B5E2910-DUP1)

Source: E5E0971-05

Prepared: 05/29/2025 Analyzed: 06/02/2025

Boron 0.335 0.0995 mg/L 0.322 4.09 50

Batch B5F0310 - Saturated Paste Metals

Blank (B5F0310-BLK1)

Prepared: 06/03/2025 Analyzed: 06/04/2025

SAR ND 0.0100 SAR

Calcium PPM ND 10.0 mg/L

Magnesium PPM ND 10.0 "

Sodium PPM ND 10.0 "

Duplicate (B5F0310-DUP1)

Source: E5E0948-25

Prepared: 06/03/2025 Analyzed: 06/04/2025

Calcium PPM 24.8 10.0 mg/L 25.8 4.15 50

SAR ND 0.0100 SAR 2.50 200

Magnesium PPM 4.27 10.0 mg/L 4.55 6.35 50

Sodium PPM 52.4 10.0 " 52.4 0.0954 50

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Dan Coloccia
 Project Number: [none]
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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 B5E2951 - EPA 3580

Blank (B5E2951-BLK1)

Prepared: 05/29/2025 Analyzed: 05/29/2025

1-Methylnaphthalene	ND	0.002	mg/kg							U
2-Methylnaphthalene	ND	0.002	"							U
Acenaphthene	ND	0.020	"							U
Anthracene	ND	0.020	"							U
Benzo (a) anthracene	ND	0.005	"							U
Benzo (a) pyrene	ND	0.020	"							U
Benzo (b) fluoranthene	ND	0.020	"							U
Benzo (k) fluoranthene	ND	0.020	"							U
Chrysene	ND	0.020	"							U
Dibenz (a,h) anthracene	ND	0.020	"							U
Fluoranthene	ND	0.020	"							U
Fluorene	ND	0.020	"							U
Indeno (1,2,3-cd) pyrene	ND	0.020	"							U
Naphthalene	ND	0.002	"							U
Pyrene	ND	0.020	"							U

Surrogate: Fluorene-d10	200		ug/kg	200		101	60-130			
Surrogate: Anthracene-d10	200		"	200		99.6	60-130			
Surrogate: Pyrene-d10	200		"	200		101	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		98.6	60-130			

LCS (B5E2951-BS1)

Prepared: 05/29/2025 Analyzed: 05/29/2025

1-Methylnaphthalene	0.220	0.002	mg/kg	0.200		110	70-130			
2-Methylnaphthalene	0.218	0.002	"	0.200		109	70-130			
Acenaphthene	0.221	0.020	"	0.200		110	70-130			
Anthracene	0.215	0.020	"	0.200		108	70-130			
Benzo (a) anthracene	0.226	0.005	"	0.200		113	70-130			
Benzo (a) pyrene	0.210	0.020	"	0.200		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 B5E2951 - EPA 3580

LCS (B5E2951-BS1)

Prepared: 05/29/2025 Analyzed: 05/29/2025

Benzo (b) fluoranthene	0.212	0.020	mg/kg	0.200		106	70-130			
Benzo (k) fluoranthene	0.219	0.020	"	0.200		110	70-130			
Chrysene	0.214	0.020	"	0.200		107	70-130			
Dibenz (a,h) anthracene	0.211	0.020	"	0.200		106	70-130			
Fluoranthene	0.221	0.020	"	0.200		110	70-130			
Fluorene	0.218	0.020	"	0.200		109	70-130			
Indeno (1,2,3-cd) pyrene	0.209	0.020	"	0.200		105	70-130			
Naphthalene	0.214	0.002	"	0.200		107	70-130			
Pyrene	0.221	0.020	"	0.200		111	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		102	60-130			
Surrogate: Anthracene-d10	200		"	200		98.5	60-130			
Surrogate: Pyrene-d10	200		"	200		101	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		98.1	60-130			

Matrix Spike (B5E2951-MS1)

Source: E5E0940-02

Prepared: 05/29/2025 Analyzed: 05/29/2025

1-Methylnaphthalene	0.242	0.002	mg/kg	0.200	0.001	120	70-130			
2-Methylnaphthalene	0.243	0.002	"	0.200	0.003	120	70-130			
Acenaphthene	0.228	0.020	"	0.200	0.0008	114	70-130			
Anthracene	0.226	0.020	"	0.200	ND	113	70-130			
Benzo (a) anthracene	0.237	0.005	"	0.200	ND	118	70-130			
Benzo (a) pyrene	0.228	0.020	"	0.200	0.001	113	70-130			
Benzo (b) fluoranthene	0.234	0.020	"	0.200	0.0006	117	70-130			
Benzo (k) fluoranthene	0.238	0.020	"	0.200	ND	119	70-130			
Chrysene	0.227	0.020	"	0.200	0.0007	113	70-130			
Dibenz (a,h) anthracene	0.231	0.020	"	0.200	0.0004	115	70-130			
Fluoranthene	0.232	0.020	"	0.200	ND	116	70-130			
Fluorene	0.226	0.020	"	0.200	ND	113	70-130			

Origins Laboratory

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 Wheat Ridge CO 80033

Dan Coloccia
 Project Number: [none]
 Project: KMG - Kerr-McGee 3-14

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 B5E2951 - EPA 3580

Matrix Spike (B5E2951-MS1)		Source: E5E0940-02			Prepared: 05/29/2025 Analyzed: 05/29/2025					
Indeno (1,2,3-cd) pyrene	0.229	0.020	mg/kg	0.200	ND	114	70-130			
Naphthalene	0.227	0.002	"	0.200	ND	113	70-130			
Pyrene	0.232	0.020	"	0.200	ND	116	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		101	60-130			
Surrogate: Anthracene-d10	200		"	200		100	60-130			
Surrogate: Pyrene-d10	200		"	200		99.9	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		100	60-130			

Matrix Spike Dup (B5E2951-MSD1)		Source: E5E0940-02			Prepared: 05/29/2025 Analyzed: 05/29/2025					
1-Methylnaphthalene	0.233	0.002	mg/kg	0.200	0.001	116	70-130	3.57	20	
2-Methylnaphthalene	0.233	0.002	"	0.200	0.003	115	70-130	4.11	20	
Acenaphthene	0.227	0.020	"	0.200	0.0008	113	70-130	0.741	20	
Anthracene	0.225	0.020	"	0.200	ND	112	70-130	0.722	20	
Benzo (a) anthracene	0.223	0.005	"	0.200	ND	112	70-130	5.78	20	
Benzo (a) pyrene	0.223	0.020	"	0.200	0.001	111	70-130	2.28	20	
Benzo (b) fluoranthene	0.229	0.020	"	0.200	0.0006	114	70-130	2.37	20	
Benzo (k) fluoranthene	0.236	0.020	"	0.200	ND	118	70-130	0.920	20	
Chrysene	0.230	0.020	"	0.200	0.0007	115	70-130	1.53	20	
Dibenz (a,h) anthracene	0.228	0.020	"	0.200	0.0004	114	70-130	1.37	20	
Fluoranthene	0.226	0.020	"	0.200	ND	113	70-130	2.30	20	
Fluorene	0.222	0.020	"	0.200	ND	111	70-130	1.50	20	
Indeno (1,2,3-cd) pyrene	0.229	0.020	"	0.200	ND	114	70-130	0.0148	20	
Naphthalene	0.217	0.002	"	0.200	ND	109	70-130	4.22	20	
Pyrene	0.228	0.020	"	0.200	ND	114	70-130	1.58	20	
Surrogate: Fluorene-d10	200		ug/kg	200		101	60-130			
Surrogate: Anthracene-d10	200		"	200		98.7	60-130			
Surrogate: Pyrene-d10	200		"	200		99.7	60-130			

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Dan Coloccia
 Project Number: [none]
 Project: KMG - Kerr-McGee 3-14

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 B5E2951 - EPA 3580

Matrix Spike Dup (B5E2951-MSD1)

Source: E5E0940-02

Prepared: 05/29/2025 Analyzed: 05/29/2025

Surrogate: Benzo (a) pyrene-d12	200		ug/kg	200	101		60-130			
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Dan Coloccia
 Project Number: [none]
 Project: KMG - Kerr-McGee 3-14

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 B5E2929 - EPA 3550B										
Blank (B5E2929-BLK1)										
					Prepared: 05/29/2025 Analyzed: 05/31/2025					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	18		"	24.9		72.5	50-150			
LCS (B5E2929-BS1)										
					Prepared: 05/29/2025 Analyzed: 05/31/2025					
Diesel (C10-C28)	1010	50.0	mg/kg	1000		101	70-130			
Residual Range Organics (C28-C40)	1100	200	"	1000		110	70-130			
Surrogate: o-Terphenyl	49		"	49.8		97.6	50-150			
Matrix Spike (B5E2929-MS1)										
		Source: E5E0964-09			Prepared: 05/29/2025 Analyzed: 05/31/2025					
Diesel (C10-C28)	1050	50.0	mg/kg	1000	ND	105	70-130			
Residual Range Organics (C28-C40)	1130	200	"	1000	ND	113	70-130			
Surrogate: o-Terphenyl	48		"	49.8		96.2	50-150			
Matrix Spike Dup (B5E2929-MSD1)										
		Source: E5E0964-09			Prepared: 05/29/2025 Analyzed: 05/31/2025					
Diesel (C10-C28)	922	50.0	mg/kg	1000	ND	92.2	70-130	12.7	35	
Residual Range Organics (C28-C40)	998	200	"	1000	ND	99.8	70-130	12.1	35	
Surrogate: o-Terphenyl	42		"	49.8		83.7	50-150			

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Dan Coloccia
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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 B5E2934 - EPA 3050B

Prepared: 05/29/2025 Analyzed: 05/30/2025

Blank (B5E2934-BLK1)

Arsenic	ND	0.290	mg/kg							
Barium	ND	82.0	"							
Cadmium	ND	0.380	"							
Copper	ND	46.0	"							
Lead	ND	14.0	"							
Nickel	ND	26.0	"							
Selenium	ND	0.260	"							
Silver	ND	0.800	"							
Zinc	ND	370	"							

LCS (B5E2934-BS1)

Prepared: 05/29/2025 Analyzed: 05/30/2025

Arsenic	5.20	0.290	mg/kg	5.00		104	80-120			
Barium	524	82.0	"	500		105	80-120			
Cadmium	5.52	0.380	"	5.00		110	80-120			
Copper	50.5	46.0	"	50.0		101	80-120			
Lead	5.34	14.0	"	5.00		107	80-120			
Nickel	4.99	26.0	"	5.00		99.8	80-120			
Selenium	5.23	0.260	"	5.00		105	80-120			
Silver	5.58	0.800	"	5.00		112	80-120			
Zinc	50.7	370	"	50.0		101	80-120			

Matrix Spike (B5E2934-MS1)

Source: E5E0975-01

Prepared: 05/29/2025 Analyzed: 05/30/2025

Arsenic	7.95	0.283	mg/kg	4.88	2.58	110	75-125			
Barium	625	80.0	"	488	75.4	113	75-125			
Cadmium	5.86	0.371	"	4.88	0.243	115	75-125			
Copper	59.2	44.9	"	48.8	7.99	105	75-125			
Lead	73.0	13.7	"	4.88	85.3	NR	75-125			QM-4X

Origins Laboratory

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 Wheat Ridge CO 80033

Dan Coloccia
 Project Number: [none]
 Project: KMG - Kerr-McGee 3-14

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 B5E2934 - EPA 3050B

Matrix Spike (B5E2934-MS1)

Source: E5E0975-01

Prepared: 05/29/2025 Analyzed: 05/30/2025

Nickel	11.5	25.4	mg/kg	4.88	6.76	96.9	75-125			
Selenium	5.54	0.254	"	4.88	0.171	110	75-125			
Silver	5.62	0.781	"	4.88	0.0303	115	75-125			
Zinc	78.3	361	"	48.8	31.1	96.7	75-125			

Matrix Spike Dup (B5E2934-MSD1)

Source: E5E0975-01

Prepared: 05/29/2025 Analyzed: 05/30/2025

Arsenic	6.63	0.257	mg/kg	4.43	2.58	91.4	75-125	18.1	20	
Barium	536	72.7	"	443	75.4	104	75-125	15.4	20	
Cadmium	4.84	0.337	"	4.43	0.243	104	75-125	19.0	20	
Copper	51.9	40.8	"	44.3	7.99	99.2	75-125	13.0	20	
Lead	80.8	12.4	"	4.43	85.3	NR	75-125	10.1	20	QM-4X
Nickel	11.1	23.1	"	4.43	6.76	98.2	75-125	3.34	20	
Selenium	4.57	0.231	"	4.43	0.171	99.1	75-125	19.4	20	
Silver	4.79	0.709	"	4.43	0.0303	107	75-125	16.1	20	
Zinc	73.5	328	"	44.3	31.1	95.6	75-125	6.35	20	

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 Project: KMG - Kerr-McGee 3-14

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 B5F0315 - Saturated Paste pH/EC

Blank (B5F0315-BLK1)

Prepared: 06/03/2025 Analyzed: 06/04/2025

Specific Conductance (EC) ND 0.00500 mmhos/cm

Duplicate (B5F0315-DUP1)

Source: E5E0948-25

Prepared: 06/03/2025 Analyzed: 06/04/2025

pH 8.16 pH Units 8.19 0.367 25

Specific Conductance (EC) 0.432 0.00500 mmhos/cm 0.455 5.05 25

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 Project: KMG - Kerr-McGee 3-14

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 B5E2931 - EPA 5030 (soil)

Blank (B5E2931-BLK1)

Prepared: 05/29/2025 Analyzed: 05/30/2025

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							U
1,3,5-Trimethylbenzene	ND	0.00200	"							U
Benzene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Naphthalene	ND	0.00380	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U

Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125	101	70-130
Surrogate: Toluene-d8	0.12		"	0.125	98.4	70-130
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125	93.4	70-130

LCS (B5E2931-BS1)

Prepared: 05/29/2025 Analyzed: 05/30/2025

1,2,4-Trimethylbenzene	0.0992	0.00200	mg/kg	0.100	99.2	70-130
1,3,5-Trimethylbenzene	0.0987	0.00200	"	0.100	98.7	70-130
Benzene	0.0882	0.00200	"	0.100	88.2	70-130
Ethylbenzene	0.0899	0.00200	"	0.100	89.9	70-130
Naphthalene	0.106	0.00380	"	0.100	106	70-130
Toluene	0.0917	0.00200	"	0.100	91.7	70-130
o-Xylene	0.0913	0.00200	"	0.100	91.3	70-130
m,p-Xylene	0.185	0.00400	"	0.200	92.4	70-130

Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125	102	70-130
Surrogate: Toluene-d8	0.12		"	0.125	98.3	70-130
Surrogate: 4-Bromofluorobenzene	0.11		"	0.125	91.6	70-130

Matrix Spike (B5E2931-MS1)

Source: E5E1013-01

Prepared: 05/29/2025 Analyzed: 05/30/2025

1,2,4-Trimethylbenzene	0.105	0.00200	mg/kg	0.100	ND	105	70-130
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 Project Number: [none]
 Project: KMG - Kerr-McGee 3-14

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 B5E2931 - EPA 5030 (soil)

Matrix Spike (B5E2931-MS1)

Source: E5E1013-01

Prepared: 05/29/2025 Analyzed: 05/30/2025

1,3,5-Trimethylbenzene	0.105	0.00200	mg/kg	0.100	ND	105	70-130			
Benzene	0.100	0.00200	"	0.100	ND	100	70-130			
Ethylbenzene	0.0977	0.00200	"	0.100	ND	97.7	70-130			
Naphthalene	0.115	0.00380	"	0.100	ND	115	70-130			
Toluene	0.101	0.00200	"	0.100	ND	101	70-130			
o-Xylene	0.0982	0.00200	"	0.100	ND	98.2	70-130			
m,p-Xylene	0.200	0.00400	"	0.200	ND	100	70-130			

Surrogate: 1,2-Dichloroethane-d4	0.13	"	"	0.125		105	70-130			
Surrogate: Toluene-d8	0.12	"	"	0.125		98.1	70-130			
Surrogate: 4-Bromofluorobenzene	0.12	"	"	0.125		92.8	70-130			

Matrix Spike Dup (B5E2931-MSD1)

Source: E5E1013-01

Prepared: 05/29/2025 Analyzed: 05/30/2025

1,2,4-Trimethylbenzene	0.105	0.00200	mg/kg	0.100	ND	105	70-130	0.209	20	
1,3,5-Trimethylbenzene	0.106	0.00200	"	0.100	ND	106	70-130	0.819	20	
Benzene	0.101	0.00200	"	0.100	ND	101	70-130	0.676	20	
Ethylbenzene	0.0988	0.00200	"	0.100	ND	98.8	70-130	1.12	20	
Naphthalene	0.113	0.00380	"	0.100	ND	113	70-130	1.79	20	
Toluene	0.102	0.00200	"	0.100	ND	102	70-130	0.453	20	
o-Xylene	0.0991	0.00200	"	0.100	ND	99.1	70-130	0.993	20	
m,p-Xylene	0.201	0.00400	"	0.200	ND	100	70-130	0.419	20	

Surrogate: 1,2-Dichloroethane-d4	0.13	"	"	0.125		105	70-130			
Surrogate: Toluene-d8	0.12	"	"	0.125		98.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.12	"	"	0.125		93.3	70-130			

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Dan Coloccia
 Project Number: [none]
 Project: KMG - Kerr-McGee 3-14

TOTAL METALS BY SW7199 - Quality Control
Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BIF0696 - No Prep IC-WET										
Blank (BIF0696-BLK1)										
					Prepared: 06/13/2025 Analyzed: 06/17/2025					
Chromium, Hexavalent	ND	0.005	mg/kg				-			
LCS (BIF0696-BS1)										
					Prepared: 06/13/2025 Analyzed: 06/17/2025					
Chromium, Hexavalent	0.05	0.005	mg/kg	0.0500		95.1	80-120			
LCS (BIF0696-BS2)										
					Prepared: 06/13/2025 Analyzed: 06/17/2025					
Chromium, Hexavalent	6.88	1.00	mg/kg	8.08		85.2	80-120			
Matrix Spike (BIF0696-MS1)										
		Source: 25F0023-07			Prepared: 06/13/2025 Analyzed: 06/17/2025					
Chromium, Hexavalent	1.85	0.19	mg/kg	1.93	ND	95.9	75-125			
Matrix Spike Dup (BIF0696-MSD1)										
		Source: 25F0023-07			Prepared: 06/13/2025 Analyzed: 06/17/2025					
Chromium, Hexavalent	1.89	0.20	mg/kg	2.02	ND	93.6	75-125	2.00	20	

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Wheat Ridge CO 80033

Dan Coloccia
Project Number: [none]
Project: KMG - Kerr-McGee 3-14

Notes and Definitions

- U Sample is Non-Detect.
 - QM-4X The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
 - J The reported result is an estimated value.
 - 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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