

**TABLE 1**  
**SOIL SAMPLE ANALYTICAL AND FIELD RESULTS**  
**RIVERBEND 21-24 WELLHEAD**  
**WELD COUNTY, COLORADO**  
**KERR-MCGEE OIL & GAS ONSHORE, LP**

Analyte	Groundwater Protection Values (GPV)	B01@5'	BG01@5'
		3/31/2021	3/31/2021
Photoionization Detector Reading			
PID (ppm)	NA	0.4	0.0
Total Petroleum Hydrocarbons by USEPA Method 8015D			
TPH-GRO* (mg/kg)	500	<0.200	NA
TPH-DRO* (mg/kg)	500	<25.0	NA
TPH-RRO* (mg/kg)	500	<100	NA
Soil Suitability for Reclamation			
EC (mmhos/cm)	4	1.44	5.33
Sodium Adsorption Ratio (units)	6	10.08	13.85
pH, Lab (pH units)	6-8.3	7.42	7.96
Boron (mg/L)	2	1.8	1.7
Soil Suitability for Reclamation (GPV for Soil)			
Benzene (mg/kg)	0.0026	<0.00200	NA
Toluene (mg/kg)	0.69	<0.00200	NA
Ethylbenzene (mg/kg)	0.78	<0.00200	NA
Xylenes, Total (mg/kg)	9.9	<0.00200	NA
1,2,4-Trimethylbenzene (mg/kg)	0.0081	<0.00200	NA
1,3,5-Trimethylbenzene (mg/kg)	0.0087	<0.00200	NA
Acenaphthene (mg/Kg)	0.55	<0.00335	NA
Anthracene (mg/Kg)	5.8	<0.00335	NA
Benzo (a) anthracene (mg/Kg)	0.011	<0.00335	NA
Benzo (b) fluoranthene (mg/Kg)	0.3	<0.00335	NA
Benzo (k) fluoranthene (mg/Kg)	2.9	<0.00335	NA
Benzo (a) pyrene (mg/Kg)	0.24	0.000998	NA
Chrysene (mg/Kg)	9	<0.00335	NA
Dibenz (a,h) anthracene (mg/Kg)	0.096	<0.00335	NA
Fluoranthene (mg/Kg)	8.9	<0.00335	NA
Fluorene (mg/Kg)	0.54	<0.00335	NA
Indeno (1,2,3-cd) pyrene (mg/Kg)	0.98	<0.00335	NA
1-Methylnaphthalene (mg/Kg)	0.006	<0.00335	NA
2-Methylnaphthalene (mg/Kg)	0.019	<0.00335	NA
Naphthalene (mg/Kg)	0.0038	<0.00335	NA
Pyrene (mg/Kg)	1.3	<0.00335	NA
Metals in Soils (GPV for Soil)			
Arsenic (mg/Kg)	0.29	1.13	1.13
Barium (mg/Kg)	82	89.1	89.2
Cadmium (mg/Kg)	0.38	0.0916	0.0957
Chromium, Hexavalent (mg/Kg)	0.00067	<1	<1
Copper (mg/Kg)	46	7.41	7.75
Lead (mg/Kg)	14	8.32	9.36
Nickel (mg/Kg)	26	5.18	5.89

**TABLE 1**  
**SOIL SAMPLE ANALYTICAL AND FIELD RESULTS**  
**RIVERBEND 21-24 WELLHEAD**  
**WELD COUNTY, COLORADO**  
**KERR-MCGEE OIL & GAS ONSHORE, LP**

Analyte	Groundwater Protection Values (GPV)	B01@5'	BG01@5'
		3/31/2021	3/31/2021
Selenium (mg/Kg)	0.26	<b>0.358</b>	<b>0.394</b>
Silver (mg/Kg)	0.8	0.0547	0.0474
Zinc (mg/Kg)	370	32.1	37.1

**Notes:**

GPV - groundwater protection values  
mg/kg - milligrams per kilogram  
PID - Photoionization Detector  
ppm - parts per million  
TPH - total petroleum hydrocarbons  
GRO - gasoline range organics  
DRO - diesel range organics  
RRO - residual range organics

EC - electrical conductivity  
SAR - sodium adsorption ratio  
mmhos/cm - millimhos per centimeter  
<0.00200 - less than laboratory reporting limit  
NA - Not Applicable / Not Analyzed  
Bold indicates exceeds allowable level  
\*Allowable level for TPH is 500 mg/kg for combined GRO, DRO, and RRO

**TABLE 2**  
**PHOTOIONIZATION DETECTOR FIELD RESULTS**  
**RIVERBEND 21-24 WELLHEAD**  
**WELD COUNTY, COLORADO**  
**KERR-MCGEE OIL & GAS ONSHORE, LP**

Screening Location	Location	Date	PID Reading (ppm)
N01@4'	Wellhead Excavation	3/31/2021	0.3
E01@4'	Wellhead Excavation	3/31/2021	0.1
S01@4'	Wellhead Excavation	3/31/2021	0.0
W01@4'	Wellhead Excavation	3/31/2021	0.0
B01@5'	Wellhead Excavation	3/31/2021	0.4
BG01@5'	Background	3/31/2021	0.0
FL01	Separator Riser	3/31/2021	0.0

**Notes:**

PID - Photoionization Detector  
ppm - parts per million

**TABLE 3**  
**GROUNDWATER ANALYTICAL RESULTS**  
**RIVERBEND 21-24 WELLHEAD**  
**WELD COUNTY, COLORADO**  
**KERR-MCGEE OIL & GAS ONSHORE, LP**

Well Name	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Naphthalene (µg/L)	1,2,4- trimethylbenzene (µg/L)	1,3,5- trimethylbenzene (µg/L)	Total Dissolved Solids (ug/L)	Chloride Ion (ug/L)	Sulfate Ion (ug/L)	Depth to Water/ (Product Thickness) (ft bgs)
<b>COGCC Allowable Levels</b>		<b>5</b>	<b>560</b>	<b>700</b>	<b>1400</b>	<b>140</b>	<b>67</b>	<b>67</b>	<b>1,437,500</b>	<b>250,000</b>	<b>490,000</b>	
GW01	3/31/2021	<4.00	<4.00	<4.00	<4.00	<16.0	<4.00	<4.00	1,140,000	112,000	354,000	5
BG01-GW01	3/31/2021	NA	NA	NA	NA	NA	NA	NA	1,150,000	222,000	392,000	5

Notes: COGCC - Colorado Oil and Gas Conservation Commission

µg/L - micrograms per liter

ft bgs - feet below ground surface

< - less than laboratory reporting limit

NA - not analyzed/not available

Excavation groundwater depth is approximate

Total dissolved solids and sulfate ion parameters based on background sample (BG01-GW01) concentration x 1.25



April 12, 2021

WSP USA

Brian Sulzberger

4600 W. 60th Ave.

Arvada

CO

80003

**Project Name - KMG - Riverbend 21-24 Wellhead    Project Number - TE105720044**

Attached are your analytical results for KMG - Riverbend 21-24 Wellhead received by Origins Laboratory, Inc. March 31, 2021. This project is associated with Origins project number Y103551-01.

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

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

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

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

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

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



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

WSP USA

4600 W. 60th Ave.

Arvada

CO

80003

Brian Sulzberger

Project Number: TE105720044

Project: KMG - Riverbend 21-24 Wellhead

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B01@5'	Y103551-01	Soil	March 31, 2021 14:00	03/31/2021 17:10
GW01	Y103551-02	Water	March 31, 2021 14:30	03/31/2021 17:10
BG01@5'	Y103551-03	Soil	March 31, 2021 14:10	03/31/2021 17:10
BG01-GW01	Y103551-04	Water	March 31, 2021 14:35	03/31/2021 17:10

Origins Laboratory, Inc.



Jen Pellegrini For Noelle Doyle Mathis, President

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

WSP USA

4600 W. 60th Ave.

Arvada

CO

80003

Brian Sulzberger

Project Number: TE105720044

Project: KMG - Riverbend 21-24 Wellhead

**ORIGINS**  
LABORATORY, INC

www.originslaboratory.com

4103551

page 1 of 1

Client: WSP USA  
Address: 4600 W 60th Ave  
Arvada Co 80003  
Telephone Number: KMG Group  
Email Address: KMG Group

Project Manager: Brian Sulzberger  
Project Name: Riverbend 21-24 Wellhead  
Project Number: TE105720044  
Samples Collected By: Ryan J. Jorgensen

Fax: 303.265.9645

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix		Analysis		Sample Instructions
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summa #	Other	
Bol @ 5'	3-31-11	1400	5	X				X		X		Groundwater protection 1
Gw@1		1430	4	X				X		X		2
BG@1 @ 5'		1410	5	X				X		X		3
BG@1 - Gw@1		1435	1	X				X		X		4
												5
												6
												7
												8
												9
												10

Relinquished By: [Signature] Date: 3-31-21 Time: 1710  
Received By: [Signature] Date: 3/31/21 Time: 1710

Relinquished By: [Signature] Date: [ ] Time: [ ]  
Received By: [Signature] Date: [ ] Time: [ ]

Turnaround Time: Same Day ☒ 24 Hr ☐ 48 Hr ☐ 72 Hr ☐ Standard ☐

Date Results Needed

Temp Received: 10.9

Origins Laboratory, Inc.

Jefe Pellegrini

Jen Pellegrini For Noelle Doyle Mathis, President

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WSP USA

4600 W. 60th Ave.

Arvada

CO

80003

Brian Sulzberger

Project Number: TE105720044

Project: KMG - Riverbend 21-24 Wellhead

Origins Laboratory

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

**Sample Receipt Checklist**

Origins Work Order: Y103551 Client: WSP  
Client Project ID: Riverbend 21-24 WH

Checklist Completed by: JG Shipped Via: HD  
Date/Time completed: 3/31/21 (UPS, FedEx, Hand Delivered, Pick-up, etc.)  
Airbill #: N/A

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

Cooler Number/Temperature: 1, 10.9°C \_\_\_\_\_ °C \_\_\_\_\_ °C \_\_\_\_\_ °C

Thermometer ID: T003

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

3/31/21  
Date/Time Reviewed

Reviewed by (Project Manager) \_\_\_\_\_

Origins Laboratory, Inc.

*Jefe Pellegrini*

Jen Pellegrini For Noelle Doyle Mathis, President

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WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Brian Sulzberger  
Project Number: TE105720044  
Project: KMG - Riverbend 21-24 Wellhead

B01@5'

3/31/2021 2:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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AAL, Inc.  
Y103551-01 (Soil)

## Boron (Sorbitol)

Boron	1.8			mg/L	1	[none]	04/06/2021	04/08/2021	
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## DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B1C3103	03/31/2021	04/01/2021	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	91.2 %	50-150			"	"	"	
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## GBTEX+TMBs

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B1C3111	03/31/2021	03/31/2021	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	99.7 %	70-130			"	"	"	
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Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Brian Sulzberger  
Project Number: TE105720044  
Project: KMG - Riverbend 21-24 Wellhead

B01@5'

3/31/2021 2:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
Y103551-01 (Soil)

**GBTEX+TMBs**

Surrogate: Toluene-d8	98.0 %	70-130	B1C31 11	03/31/2021	03/31/2021
Surrogate: 4-Bromofluorobenzene	95.7 %	70-130	"	"	"

**Metals (Saturated Paste Prep)**

Calcium	2.06	me/L	1	[none]	04/06/2021	04/08/2021
Magnesium	1.66	"	"	"	"	"
Sodium	13.75	"	"	"	"	"

**PAH by EPA 8270D SIM**

1-Methylnaphthalene	ND	0.0024	0.00335	mg/Kg	5	L545206	04/02/2021	04/05/2021	
2-Methylnaphthalene	ND	0.00271	0.00335	"	"	"	"	"	
Acenaphthene	ND	0.00216	0.00335	"	"	"	"	"	
Anthracene	ND	0.00213	0.00335	"	"	"	"	"	
Benzo(a)anthracene	ND	0.00221	0.00335	"	"	"	"	"	
Benzo(a)pyrene	0.000998	0.000665	0.00335	"	"	"	"	"	J
Benzo(b)fluoranthene	ND	0.00069	0.00335	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.00243	0.00335	"	"	"	"	"	
Chrysene	ND	0.00128	0.00335	"	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.0014	0.00335	"	"	"	"	"	
Fluoranthene	ND	0.00265	0.00335	"	"	"	"	"	

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Brian Sulzberger  
Project Number: TE105720044  
Project: KMG - Riverbend 21-24 Wellhead

B01@5'

3/31/2021 2:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Waypoint Analytical, Inc.**  
Y103551-01 (Soil)

**PAH by EPA 8270D SIM**

Fluorene	ND	0.00251	0.00335	mg/Kg	5	L545206	04/02/2021	04/05/2021
Indeno(1,2,3-cd)pyrene	ND	0.00172	0.00335	"	"	"	"	"
Naphthalene	ND	0.00234	0.00335	"	"	"	"	"
Pyrene	ND	0.00194	0.00335	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	50.2 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	64 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	47.1 %	29-110	"	"	"

**pH in Soil by EPA 9045D**

pH	7.42	pH Units	1	B1D0108	04/01/2021	04/01/2021
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**SAR by 20B Saturated Paste**

SAR	10.08	1	[none]	04/07/2021	04/09/2021
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	1.44	0.00500	mmhos/cm	1	B1D0109	04/01/2021	04/01/2021
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**Total Metals by EPA 6020B**

Arsenic	1.13	0.0433	0.25	mg/Kg	5	L545116	04/02/2021	04/05/2021
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Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

WSP USA

4600 W. 60th Ave.

Arvada CO 80003

Brian Sulzberger

Project Number: TE105720044

Project: KMG - Riverbend 21-24 Wellhead

B01@5'

3/31/2021 2:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.

Y103551-01 (Soil)

## Total Metals by EPA 6020B

Barium	89.1	0.041	0.25	mg/Kg	5	L545116	04/02/2021	04/05/2021	
Cadmium	0.0916	0.0391	0.25	"	"	"	"	"	J
Copper	7.41	0.118	0.25	"	"	"	"	"	
Lead	8.32	0.0115	0.25	"	"	"	"	"	
Nickel	5.18	0.0743	0.25	"	"	"	"	"	
Selenium	0.358	0.102	0.25	"	"	"	"	"	
Silver	0.0547	0.0025	0.25	"	"	"	"	"	J
Zinc	32.1	0.438	2.5	"	"	"	"	"	

## Total Metals by EPA 7196A

Chromium, Hexavalent	ND	0.488	1	mg/Kg	2	L545212	03/31/2021	04/02/2021	
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Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

WSP USA  
4600 W. 60th Ave.  
Arvada CO 80003

Brian Sulzberger  
Project Number: TE105720044  
Project: KMG - Riverbend 21-24 Wellhead

## GW01

3/31/2021 2:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Origins Laboratory, Inc. Y103551-02 (Water)

### Anions by IC 300.0

Chloride	112	31.2	mg/L	125	B1C3021	03/31/2021	04/01/2021
Sulfate	354	31.2	"	"	"	"	"

### BTEX+N+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	4.00	ug/L	4	B1C2906	03/31/2021	03/31/2021	U
1,3,5-Trimethylbenzene	ND	4.00	"	"	"	"	"	U
Benzene	ND	4.00	"	"	"	"	"	U
Ethylbenzene	ND	4.00	"	"	"	"	"	U
Naphthalene	ND	16.0	"	"	"	"	"	U
Toluene	ND	4.00	"	"	"	"	"	U
Xylenes, total	ND	4.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	107 %	70-130	"	"	"
Surrogate: Toluene-d8	90.5 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	102 %	70-130	"	"	"

### Total Dissolved Solids by 2540C

Total Dissolved Solids	1140	5.00	mg/L	1	B1C3104	03/31/2021	04/02/2021
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Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

WSP USA

4600 W. 60th Ave.

Arvada CO 80003

Brian Sulzberger

Project Number: TE105720044

Project: KMG - Riverbend 21-24 Wellhead

BG01@5'

3/31/2021 2:10:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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AAL, Inc.

Y103551-03 (Soil)

## Boron (Sorbitol)

Boron	1.7		mg/L	1	[none]	04/06/2021	04/08/2021
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## Metals (Saturated Paste Prep)

Calcium	10.10		me/L	1	[none]	"	04/08/2021
Magnesium	9.66		"	"	"	"	"
Sodium	43.52		"	"	"	"	"

## pH in Soil by EPA 9045D

pH	7.96		pH Units	1	B1D0108	04/01/2021	04/01/2021
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## SAR by 20B Saturated Paste

SAR	13.85			1	[none]	04/06/2021	04/08/2021
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## Specific Conductance by Modified 9050A

Specific Conductance (EC)	5.33	0.00500	mmhos/cm	1	B1D0109	04/01/2021	04/01/2021
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## Total Metals by EPA 6020B

Arsenic	1.13	0.0433	0.25	mg/Kg	5	L545116	04/02/2021	04/05/2021
Barium	89.2	0.041	0.25	"	"	"	"	"
Cadmium	0.0957	0.0391	0.25	"	"	"	"	"
Copper	7.75	0.118	0.25	"	"	"	"	"

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Jen Pellegrini For Noelle Doyle Mathis, President

WSP USA

4600 W. 60th Ave.

Arvada CO 80003

Brian Sulzberger

Project Number: TE105720044

Project: KMG - Riverbend 21-24 Wellhead

BG01@5'

3/31/2021 2:10:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.

Y103551-03 (Soil)

### Total Metals by EPA 6020B

Lead	9.36	0.0115	0.25	mg/Kg	5	L545116	04/02/2021	04/05/2021	
Nickel	5.89	0.0743	0.25	"	"	"	"	"	
Selenium	0.394	0.102	0.25	"	"	"	"	"	
Silver	0.0474	0.0025	0.25	"	"	"	"	"	J
Zinc	37.1	0.438	2.5	"	"	"	"	"	

### Total Metals by EPA 7196A

Chromium, Hexavalent	ND	0.488	1	mg/Kg	2	L545212	03/31/2021	04/02/2021	
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WSP USA

4600 W. 60th Ave.

Arvada CO 80003

Brian Sulzberger

Project Number: TE105720044

Project: KMG - Riverbend 21-24 Wellhead

**BG01-GW01**

**3/31/2021 2:35:00PM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**

**Y103551-04 (Water)**

**Anions by IC 300.0**

Chloride	222		31.2	mg/L	125	B1C3021	03/31/2021	04/01/2021	
Sulfate	392		31.2	"	"	"	"	"	

**Total Dissolved Solids by 2540C**

Total Dissolved Solids	1150		5.00	"	1	B1C3104	03/31/2021	04/02/2021	
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Arvada CO 80003

Brian Sulzberger

Project Number: TE105720044

Project: KMG - Riverbend 21-24 Wellhead

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B1C2906 - EPA 5030B (Water)</b>										
<b>Blank (B1C2906-BLK1)</b>					Prepared: 03/29/2021 Analyzed: 03/31/2021					
1,2,4-Trimethylbenzene	ND	1.00	ug/L							U
1,3,5-Trimethylbenzene	ND	1.00	"							U
Benzene	ND	1.00	"							U
Ethylbenzene	ND	1.00	"							U
Naphthalene	ND	4.00	"							U
Toluene	ND	1.00	"							U
Xylenes, total	ND	1.00	"							U
Surrogate: 1,2-Dichloroethane-d4	68		"	62.5		109	70-130			
Surrogate: Toluene-d8	56		"	62.5		89.8	70-130			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		105	70-130			

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Brian Sulzberger  
Project Number: TE105720044  
Project: KMG - Riverbend 21-24 Wellhead

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B1C2906 - EPA 5030B (Water)**

**LCS (B1C2906-BS1)**

Prepared: 03/29/2021 Analyzed: 03/31/2021

1,2,4-Trimethylbenzene	45.6	1.00	ug/L	50.0		91.1	70-130			
1,3,5-Trimethylbenzene	46.8	1.00	"	50.0		93.5	70-130			
Benzene	46.9	1.00	"	50.0		93.8	70-130			
Ethylbenzene	44.2	1.00	"	50.0		88.3	70-130			
m,p-Xylene	85.2	2.00	"	100		85.2	70-130			
Naphthalene	45.0	4.00	"	50.0		89.9	70-130			
o-Xylene	40.7	1.00	"	50.0		81.4	70-130			
Toluene	44.0	1.00	"	50.0		88.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	71		"	62.5		113	70-130			
Surrogate: Toluene-d8	61		"	62.5		98.3	70-130			
Surrogate: 4-Bromofluorobenzene	68		"	62.5		108	70-130			

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Project Number: TE105720044  
Project: KMG - Riverbend 21-24 Wellhead

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B1C2906 - EPA 5030B (Water)**

Matrix Spike (B1C2906-MS1)		Source: Y103446-03			Prepared: 03/29/2021 Analyzed: 03/31/2021					
1,2,4-Trimethylbenzene	43.6	1.00	ug/L	50.0	ND	87.3	70-130			
1,3,5-Trimethylbenzene	43.1	1.00	"	50.0	ND	86.3	70-130			
Benzene	45.6	1.00	"	50.0	0.690	89.9	70-130			
Ethylbenzene	41.3	1.00	"	50.0	ND	82.7	70-130			
m,p-Xylene	80.6	2.00	"	100	ND	80.6	70-130			
Naphthalene	46.9	4.00	"	50.0	ND	93.8	70-130			
o-Xylene	39.8	1.00	"	50.0	ND	79.5	70-130			
Toluene	40.6	1.00	"	50.0	ND	81.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	70		"	62.5		112	70-130			
Surrogate: Toluene-d8	59		"	62.5		94.4	70-130			
Surrogate: 4-Bromofluorobenzene	68		"	62.5		110	70-130			

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Project: KMG - Riverbend 21-24 Wellhead

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B1C2906 - EPA 5030B (Water)</b>										
<b>Matrix Spike Dup (B1C2906-MSD1)</b>		<b>Source: Y103446-03</b>			Prepared: 03/29/2021 Analyzed: 03/31/2021					
1,2,4-Trimethylbenzene	44.0	1.00	ug/L	50.0	ND	88.0	70-130	0.799	20	
1,3,5-Trimethylbenzene	42.4	1.00	"	50.0	ND	84.8	70-130	1.71	20	
Benzene	46.7	1.00	"	50.0	0.690	91.9	70-130	2.25	20	
Ethylbenzene	41.7	1.00	"	50.0	ND	83.3	70-130	0.819	20	
m,p-Xylene	81.7	2.00	"	100	ND	81.7	70-130	1.36	20	
Naphthalene	51.2	4.00	"	50.0	ND	102	70-130	8.65	20	
o-Xylene	41.4	1.00	"	50.0	ND	82.8	70-130	3.99	20	
Toluene	41.9	1.00	"	50.0	ND	83.8	70-130	3.08	20	
Surrogate: 1,2-Dichloroethane-d4	70		"	62.5		112	70-130			
Surrogate: Toluene-d8	60		"	62.5		95.4	70-130			
Surrogate: 4-Bromofluorobenzene	67		"	62.5		107	70-130			

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Project Number: TE105720044

Project: KMG - Riverbend 21-24 Wellhead

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B1C3103 - EPA 3550B**

**Blank (B1C3103-BLK1)**

Prepared: 03/31/2021 Analyzed: 03/31/2021

Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	19		"	25.0		77.4	50-150			

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Brian Sulzberger

Project Number: TE105720044

Project: KMG - Riverbend 21-24 Wellhead

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B1C3103 - EPA 3550B**

**LCS (B1C3103-BS1)**

Prepared: 03/31/2021 Analyzed: 03/31/2021

Diesel (C10-C28)	758	50.0	mg/kg	1000		75.8	70-130			
Residual Range Organics (C28-C40)	754	200	"	1000		75.4	70-130			
Surrogate: o-Terphenyl	40		"	50.0		80.5	50-150			

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Brian Sulzberger

Project Number: TE105720044

Project: KMG - Riverbend 21-24 Wellhead

## Extractable Petroleum Hydrocarbons by 8015D - Quality Control

### Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch B1C3103 - EPA 3550B

Matrix Spike (B1C3103-MS1)		Source: Y103522-01			Prepared: 03/31/2021 Analyzed: 03/31/2021					
Diesel (C10-C28)	840	50.0	mg/kg	1000	ND	84.0	70-130			
Residual Range Organics (C28-C40)	817	200	"	1000	ND	81.7	70-130			
Surrogate: o-Terphenyl	43		"	50.0		85.9	50-150			

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Brian Sulzberger

Project Number: TE105720044

Project: KMG - Riverbend 21-24 Wellhead

## Extractable Petroleum Hydrocarbons by 8015D - Quality Control

### Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch B1C3103 - EPA 3550B

Matrix Spike Dup (B1C3103-MSD1)		Source: Y103522-01			Prepared: 03/31/2021 Analyzed: 03/31/2021					
Diesel (C10-C28)	807	50.0	mg/kg	1000	ND	80.7	70-130	3.96	35	
Residual Range Organics (C28-C40)	794	200	"	1000	ND	79.4	70-130	2.88	35	
Surrogate: o-Terphenyl	42		"	50.0		83.8	50-150			

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Brian Sulzberger  
Project Number: TE105720044  
Project: KMG - Riverbend 21-24 Wellhead

## Extractable Petroleum Hydrocarbons by 8015D - Quality Control

### Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B1C3111 - EPA 5030 (soil)										
Blank (B1C3111-BLK1)					Prepared: 03/31/2021 Analyzed: 03/31/2021					
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							U
Naphthalene	ND	0.0100	"							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
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		92.6	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		102	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.1	70-130			

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Brian Sulzberger

Project Number: TE105720044

Project: KMG - Riverbend 21-24 Wellhead

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

### Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch B1C3111 - EPA 5030 (soil)

#### LCS (B1C3111-BS1)

Prepared: 03/31/2021 Analyzed: 03/31/2021

1,2,4-Trimethylbenzene	0.0601	0.00200	mg/kg	0.0500		120	70-130			
Naphthalene	0.0444	0.0100	"	0.0500		88.8	70-130			
1,3,5-Trimethylbenzene	0.0594	0.00200	"	0.0500		119	70-130			
Benzene	0.0533	0.00200	"	0.0500		107	70-130			
Ethylbenzene	0.0584	0.00200	"	0.0500		117	70-130			
m,p-Xylene	0.118	0.00400	"	0.100		118	70-130			
o-Xylene	0.0580	0.00200	"	0.0500		116	70-130			
Toluene	0.0543	0.00200	"	0.0500		109	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		95.7	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		101	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		100	70-130			

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Project Number: TE105720044  
Project: KMG - Riverbend 21-24 Wellhead

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B1C3111 - EPA 5030 (soil)**

Matrix Spike (B1C3111-MS1)		Source: Y103543-01			Prepared: 03/31/2021 Analyzed: 03/31/2021					
1,2,4-Trimethylbenzene	0.0558	0.00200	mg/kg	0.0500	0.000540	111	70-130			
Naphthalene	0.0577	0.0100	"	0.0500	0.00122	113	70-130			
1,3,5-Trimethylbenzene	0.0539	0.00200	"	0.0500	ND	108	70-130			
Benzene	0.0527	0.00200	"	0.0500	ND	105	70-130			
Ethylbenzene	0.0521	0.00200	"	0.0500	ND	104	70-130			
m,p-Xylene	0.105	0.00400	"	0.100	ND	105	70-130			
o-Xylene	0.0536	0.00200	"	0.0500	ND	107	70-130			
Toluene	0.0517	0.00200	"	0.0500	ND	103	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		98.1	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.1	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.0	70-130			

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Project Number: TE105720044  
Project: KMG - Riverbend 21-24 Wellhead

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B1C3111 - EPA 5030 (soil)</b>										
<b>Matrix Spike Dup (B1C3111-MSD1)</b>		<b>Source: Y103543-01</b>			Prepared: 03/31/2021 Analyzed: 03/31/2021					
1,2,4-Trimethylbenzene	0.0533	0.00200	mg/kg	0.0500	0.000540	106	70-130	4.55	20	
Naphthalene	0.0505	0.0100	"	0.0500	0.00122	98.6	70-130	13.2	20	
1,3,5-Trimethylbenzene	0.0525	0.00200	"	0.0500	ND	105	70-130	2.74	20	
Benzene	0.0496	0.00200	"	0.0500	ND	99.2	70-130	6.06	20	
Ethylbenzene	0.0522	0.00200	"	0.0500	ND	104	70-130	0.192	20	
m,p-Xylene	0.105	0.00400	"	0.100	ND	105	70-130	0.400	20	
o-Xylene	0.0539	0.00200	"	0.0500	ND	108	70-130	0.633	20	
Toluene	0.0492	0.00200	"	0.0500	ND	98.3	70-130	5.08	20	
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		97.4	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.1	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	70-130			

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Project Number: TE105720044  
Project: KMG - Riverbend 21-24 Wellhead

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Classical Chemistry Parameters - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B1C3021 - Filter .45um non acidified**

**Blank (B1C3021-BLK1)**

Prepared: 03/30/2021 Analyzed: 04/01/2021

Chloride	ND	0.250	mg/L							
Sulfate	ND	0.250	"							

**LCS (B1C3021-BS1)**

Prepared: 03/30/2021 Analyzed: 04/01/2021

Chloride	1.82		mg/L	2.00		90.8	90-110			
Sulfate	1.82		"	2.00		90.9	90-110			

**Duplicate (B1C3021-DUP1)**

**Source: Y103437-49**

Prepared: 03/30/2021 Analyzed: 04/01/2021

Chloride	7.70	31.2	mg/L		9.31			19.0	20	
Fluoride	ND	12.5	"		ND				20	
Bromide	ND	12.5	"		ND				20	
Sulfate	27.6	31.2	"		29.6			7.26	20	
Nitrate	ND	31.2	"		ND				20	
Nitrite	ND	12.5	"		ND				20	
Phosphate	ND	12.5	"		ND				20	

**Matrix Spike (B1C3021-MS1)**

**Source: Y103437-49**

Prepared: 03/30/2021 Analyzed: 04/01/2021

Chloride	235		mg/L	250	9.31	90.1	80-120			
Sulfate	252		"	250	29.6	89.1	80-120			

**Matrix Spike Dup (B1C3021-MSD1)**

**Source: Y103437-49**

Prepared: 03/30/2021 Analyzed: 04/01/2021

Chloride	239		mg/L	250	9.31	92.0	80-120	1.92	20	
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Project Number: TE105720044  
Project: KMG - Riverbend 21-24 Wellhead

## Classical Chemistry Parameters - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B1C3021 - Filter .45um non acidified</b>										
<b>Matrix Spike Dup (B1C3021-MSD1)</b>			<b>Source: Y103437-49</b>			Prepared: 03/30/2021 Analyzed: 04/01/2021				
Sulfate	256		mg/L	250	29.6	90.5	80-120	1.37	20	
<b>Batch B1C3104 - NO PREP</b>										
<b>Blank (B1C3104-BLK1)</b>			Prepared: 03/31/2021 Analyzed: 04/02/2021							
Total Dissolved Solids	ND	5.00	mg/L							
<b>LCS (B1C3104-BS1)</b>			Prepared: 03/31/2021 Analyzed: 04/02/2021							
Total Dissolved Solids	693	5.00	mg/L	716		96.8	85-115			
<b>Duplicate (B1C3104-DUP1)</b>			<b>Source: Y103487-01</b>			Prepared: 03/31/2021 Analyzed: 04/02/2021				
Total Dissolved Solids	1110	5.00	mg/L		1100			1.08	20	

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Project: KMG - Riverbend 21-24 Wellhead

## Saturated Paste - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B1D0108 - NO PREP</b>										
<b>Duplicate (B1D0108-DUP1)</b>		<b>Source: Y103530-01</b>			Prepared: 04/01/2021 Analyzed: 04/01/2021					
pH	8.02		pH Units		7.94			1.00	25	
<b>Batch B1D0109 - NO PREP</b>										
<b>Blank (B1D0109-BLK1)</b>		Prepared: 04/01/2021 Analyzed: 04/01/2021								
Specific Conductance (EC)	0.00170	0.00500	mmhos/cm							
<b>Duplicate (B1D0109-DUP1)</b>		<b>Source: Y103530-01</b>			Prepared: 04/01/2021 Analyzed: 04/01/2021					
Specific Conductance (EC)	6.06	0.00500	mmhos/cm		6.54			7.56	25	

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Project: KMG - Riverbend 21-24 Wellhead

**PAH by EPA 8270D SIM - Quality Control**  
**Waypoint Analytical, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch L545206 - 3550B**

MSD (L 87620-MSD-L545206)		Source: 87620			Prepared: 04/02/2021 Analyzed: 04/05/2021					
Indeno(1,2,3-cd)pyrene	0.0838	0.000344	mg/Kg	0.165	<0.000344	50.7	30-130	12.1	30	
Anthracene	0.101	0.000426	"	0.165	<0.000426	61.2	30-130	7.8	30	
Fluorene	0.103	0.000501	"	0.165	<0.000501	62.4	30-130	8.6	30	
Fluoranthene	0.108	0.000529	"	0.165	<0.000529	65.4	30-130	7.6	30	
Dibenz(a,h)anthracene	0.0852	0.000279	"	0.165	<0.000279	51.6	30-130	11.8	30	
Chrysene	0.102	0.000256	"	0.165	<0.000256	61.8	30-130	9.5	30	
Benzo(k)fluoranthene	0.1	0.000486	"	0.165	<0.000486	60.6	30-130	6.5	30	
Benzo(b)fluoranthene	0.103	0.000138	"	0.165	<0.000138	62.4	30-130	10	30	
Pyrene	0.105	0.000387	"	0.165	<0.000387	63.6	30-130	8.5	30	
Benzo(a)anthracene	0.108	0.000441	"	0.165	<0.000441	65.4	30-130	3.7	30	
Acenaphthene	0.095	0.000431	"	0.165	<0.000431	57.5	30-130	9.4	30	
2-Methylnaphthalene	0.0994	0.000542	"	0.165	0.00132	59.4	30-130	8.2	30	
1-Methylnaphthalene	0.0987	0.00048	"	0.165	0.000604	59.8	30-130	8.7	30	
Naphthalene	0.0938	0.000467	"	0.165	<0.000467	56.8	30-130	10.6	30	
Benzo(a)pyrene	0.118	0.000133	"	0.165	<0.000133	71.5	30-130	6.1	30	
Surrogate: Nitrobenzene-d5	60.3		"	0.33	185	60.3	29-110			
Surrogate: 4-Terphenyl-d14	68.4		"	0.33	218	68.4	33-122			
Surrogate: 2-Fluorobiphenyl	56		"	0.33	175	56	33-115			

MS (L 87620-MS-L545206)		Source: 87620			Prepared: 04/02/2021 Analyzed: 04/05/2021					
Anthracene	0.0934	0.000426	mg/Kg	0.164	<0.000426	56.9	30-130			
Dibenz(a,h)anthracene	0.0757	0.000279	"	0.164	<0.000279	46.1	30-130			
Pyrene	0.0964	0.000387	"	0.164	<0.000387	58.7	30-130			
Benzo(k)fluoranthene	0.0937	0.000486	"	0.164	<0.000486	57.1	30-130			
Benzo(b)fluoranthene	0.0931	0.000138	"	0.164	<0.000138	56.7	30-130			
Fluorene	0.0945	0.000501	"	0.164	<0.000501	57.6	30-130			
Indeno(1,2,3-cd)pyrene	0.0742	0.000344	"	0.164	<0.000344	45.2	30-130			

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Project: KMG - Riverbend 21-24 Wellhead

**PAH by EPA 8270D SIM - Quality Control**  
**Waypoint Analytical, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch L545206 - 3550B**

MS (L 87620-MS-L545206)		Source: 87620			Prepared: 04/02/2021 Analyzed: 04/05/2021					
Naphthalene	0.0843	0.000467	mg/Kg	0.164	<0.000467	51.4	30-130			
Benzo(a)pyrene	0.111	0.000133	"	0.164	<0.000133	67.6	30-130			
Chrysene	0.0927	0.000256	"	0.164	<0.000256	56.5	30-130			
Fluoranthene	0.1	0.000529	"	0.164	<0.000529	60.9	30-130			
Acenaphthene	0.0864	0.000431	"	0.164	<0.000431	52.6	30-130			
2-Methylnaphthalene	0.0915	0.000542	"	0.164	0.00132	54.9	30-130			
1-Methylnaphthalene	0.0904	0.00048	"	0.164	0.000604	55.1	30-130			
Benzo(a)anthracene	0.104	0.000441	"	0.164	<0.000441	63.4	30-130			
Surrogate: Nitrobenzene-d5	54.5		"	0.328	185	54.5	29-110			
Surrogate: 4-Terphenyl-d14	64.9		"	0.328	218	64.9	33-122			
Surrogate: 2-Fluorobiphenyl	52.1		"	0.328	175	52.1	33-115			

LCS (LCS-L545206)		Prepared: 04/02/2021 Analyzed: 04/05/2021								
Indeno(1,2,3-cd)pyrene	0.123	0.000344	mg/Kg	0.167		73.6	30-130			
1-Methylnaphthalene	0.0995	0.00048	"	0.167		59.5	30-130			
2-Methylnaphthalene	0.1	0.000542	"	0.167		59.8	30-130			
Pyrene	0.132	0.000387	"	0.167		79	30-130			
Fluorene	0.115	0.000501	"	0.167		68.8	30-130			
Naphthalene	0.0964	0.000467	"	0.167		57.7	30-130			
Acenaphthene	0.113	0.000431	"	0.167		67.6	30-130			
Anthracene	0.125	0.000426	"	0.167		74.8	30-130			
Benzo(a)anthracene	0.118	0.000441	"	0.167		70.6	30-130			
Benzo(a)pyrene	0.123	0.000133	"	0.167		73.6	30-130			
Benzo(b)fluoranthene	0.114	0.000138	"	0.167		68.2	30-130			
Benzo(k)fluoranthene	0.133	0.000486	"	0.167		79.6	30-130			
Chrysene	0.12	0.000256	"	0.167		71.8	30-130			
Dibenz(a,h)anthracene	0.121	0.000279	"	0.167		72.4	30-130			

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Project: KMG - Riverbend 21-24 Wellhead

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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 L545206 - 3550B

LCS (LCS-L545206)

Prepared: 04/02/2021 Analyzed: 04/05/2021

Fluoranthene	0.13	0.000529	mg/Kg	0.167		77.8	30-130			
Surrogate: 2-Fluorobiphenyl	62.1		"	0.333	62.1		33-115			
Surrogate: 4-Terphenyl-d14	72.6		"	0.333	72.6		33-122			
Surrogate: Nitrobenzene-d5	56.7		"	0.333	56.7		29-110			

LRB (LRB-L545206)

Prepared: 04/02/2021 Analyzed: 04/05/2021

Benzo(a)anthracene	ND	0.00067	mg/Kg				-			
Naphthalene	ND	0.00067	"				-			
Pyrene	ND	0.00067	"				-			
Benzo(a)pyrene	ND	0.00067	"				-			
Anthracene	ND	0.00067	"				-			
2-Methylnaphthalene	ND	0.00067	"				-			
1-Methylnaphthalene	ND	0.00067	"				-			
Indeno(1,2,3-cd)pyrene	ND	0.00067	"				-			
Fluorene	ND	0.00067	"				-			
Fluoranthene	ND	0.00067	"				-			
Dibenz(a,h)anthracene	ND	0.00067	"				-			
Chrysene	ND	0.00067	"				-			
Benzo(k)fluoranthene	ND	0.00067	"				-			
Benzo(b)fluoranthene	ND	0.00067	"				-			
Acenaphthene	ND	0.00067	"				-			
Surrogate: 2-Fluorobiphenyl	58.8		"	0.333	58.8		33-115			
Surrogate: Nitrobenzene-d5	55.5		"	0.333	55.5		29-110			
Surrogate: 4-Terphenyl-d14	69.9		"	0.333	69.9		33-122			

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**Total Metals by EPA 6020B - Quality Control**  
**Waypoint Analytical, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch L545116 - 3050B**

<b>MSD (L 95806-MSD-L545116)</b>		<b>Source: 95806</b>			Prepared: 04/02/2021 Analyzed: 04/05/2021					
Cadmium	0.468	0.0391	mg/Kg	0.47	<0.0391	99	75-125	4.3	80	
Arsenic	2.28	0.0433	"	2.35	0.0997	97	75-125	2.1	80	
Barium	12.2	0.041	"	4.7	6.79	115	75-125	10.3	80	
Copper	3.83	0.118	"	2.35	1.46	101	75-125	11.3	80	
Lead	2.56	0.0115	"	2.35	0.295	96	75-125	3.1	80	
Nickel	2.88	0.0743	"	2.35	0.456	103	75-125	12.9	80	
Selenium	4.87	0.102	"	4.7	<0.102	104	75-125	6.5	80	
Silver	0.464	0.0025	"	0.47	<0.0025	99	75-125	3	80	
Zinc	25.3	0.438	"	23.5	3.34	93	75-125	0.3	80	
<b>MS (L 95806-MS-L545116)</b>		<b>Source: 95806</b>			Prepared: 04/02/2021 Analyzed: 04/05/2021					
Lead	2.48	0.0115	mg/Kg	2.38	0.295	92	75-125			
Zinc	25.2	0.438	"	23.8	3.34	92	75-125			
Silver	0.45	0.0025	"	0.476	<0.0025	95	75-125			
Nickel	2.53	0.0743	"	2.38	0.456	87	75-125			
Copper	3.42	0.118	"	2.38	1.46	82	75-125			
Cadmium	0.448	0.0391	"	0.476	<0.0391	94	75-125			
Barium	11	0.041	"	4.76	6.79	88	75-125			
Arsenic	2.33	0.0433	"	2.38	0.0997	98	75-125			
Selenium	4.56	0.102	"	4.76	<0.102	96	75-125			
<b>LCS (LCS-L545116)</b>		Prepared: 04/02/2021 Analyzed: 04/05/2021								
Cadmium	0.486	0.0391	mg/Kg	0.5		97	80-120			
Zinc	23.1	0.438	"	25		92	80-120			
Arsenic	2.41	0.0433	"	2.5		96	80-120			
Barium	4.99	0.041	"	5		100	80-120			
Copper	2.28	0.118	"	2.5		91	80-120			

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**Total Metals by EPA 6020B - Quality Control**  
**Waypoint Analytical, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch L545116 - 3050B**

**LCS (LCS-L545116)**

Prepared: 04/02/2021 Analyzed: 04/05/2021

Nickel	2.24	0.0743	mg/Kg	2.5		90	80-120			
Selenium	5.17	0.102	"	5		103	80-120			
Lead	2.47	0.0115	"	2.5		99	80-120			
Silver	0.481	0.0025	"	0.5		96	80-120			

**LRB (LRB-L545116)**

Prepared: 04/02/2021 Analyzed: 04/05/2021

Arsenic	0.0585	0.25	mg/Kg				-			J
Selenium	ND	0.25	"				-			
Barium	0.0796	0.25	"				-			J
Cadmium	ND	0.25	"				-			
Copper	ND	0.25	"				-			
Lead	ND	0.25	"				-			
Nickel	ND	0.25	"				-			
Zinc	ND	2.5	"				-			
Silver	ND	0.25	"				-			

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## Total Metals by EPA 7196A - Quality Control Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L545212 -</b>										
<b>DUP (L 87624-DUP)</b>		<b>Source: 87624</b>			Prepared: Analyzed: 04/02/2021					
Chromium, Hexavalent	ND	0.244	mg/Kg		<0.500	-		0	20	
<b>MS (L 87624-MS)</b>		<b>Source: 87624</b>			Prepared: Analyzed: 04/02/2021					
Chromium, Hexavalent	7.48	0.244	mg/Kg	7.94	<0.244	94	75-125			
<b>LCS (LCS)</b>					Prepared: Analyzed: 04/02/2021					
Chromium, Hexavalent	7.72	0.244	mg/Kg	8		97	75-125			
<b>LRB (LRB)</b>					Prepared: Analyzed: 04/02/2021					
Chromium, Hexavalent	ND	0.5	mg/Kg							

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Arvada CO 80003

Brian Sulzberger

Project Number: TE105720044

Project: KMG - Riverbend 21-24 Wellhead

### Notes and Definitions

U Sample is Non-Detect.

J Estimated Value. Analyte below reported quantitation limit.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported on a wet weight basis.

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