

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 22, 2022

Jennifer Galles

Marcom LLC

1811 East Mulberry St.

Fort Collins, CO 80524

RE: KPK - RMF Backgrounds

Work Order #2203112

Enclosed are the results of analyses for samples received by Summit Scientific on 03/08/22 14:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink on a light purple background. The signature is cursive and reads "Muri Premer".

Muri Premer For Paul Shrewsbury
President



Marcom LLC
1811 East Mulberry St.
Fort Collins CO, 80524

Project: KPK - RMF Backgrounds

Project Number: [none]
Project Manager: Jennifer Galles

Reported:
03/22/22 15:45

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Background 1@1ft	2203112-01	Soil	03/08/22 11:25	03/08/22 14:15
Background 2@1ft	2203112-02	Soil	03/08/22 11:35	03/08/22 14:15
Background 3@2ft	2203112-03	Soil	03/08/22 11:45	03/08/22 14:15
Background 4@2ft	2203112-04	Soil	03/08/22 11:50	03/08/22 14:15

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2203112

S₂

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Page 1 of 1

Client: Bill to BPK
Address: Onfile

(Marcom)

Project Manager: Jennifer Galles
E-Mail: Onfile

City/State/Zip:

Phone:

Project Name: RME Backgrounds
Project Number: RME Site

Sampler Name: Lew K, Blake B.

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other									
1	Background 1 @ 1 ft.	3/8/22	11:25	1			X			X			X								
2	Background 2 1 ft.		11:35	1			X			X			X								
3	Background 3 2 ft.		11:45	1			X			X			X								
4	Background 4 2 ft.		11:50	1			X			X			X								
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by: *PK* Date/Time: 3/8/22 14:15

Relinquished by: Date/Time:

Relinquished by: Date/Time:

Received by: *[Signature]* Date/Time: 3/8/22 14:15

Received by: Date/Time:

Received by: Date/Time:

Turn Around Time (Check)

Same Day ☐ 72 hours ☐

24 hours ☐ Standard ☒

48 hours ☐

Sample Integrity:

Temperature Upon Receipt: 7.7

Samples Intact: (Yes) No

Notes:

S₂

2203112

Sample Receipt Checklist

S2 Work Order#

Client: KPK-marcomClient Project ID: RME BackgroundsShipped Via: ☐ H.D./P.U./FedEx/UPS/USPS/Other

Airbill #:

Matrix (check all that apply):


☐ Air☒ Soil/Solid☐ Water☐ Other:

(Describe)

Temp (°C)	7.7
-----------	-----

Thermometer ID: G86A9201901378

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ICE
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				
<p>⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.</p>				


 Custodian Printed Name or Initials
38.22
Date/Time



Marcom LLC
1811 East Mulberry St.
Fort Collins CO, 80524

Project: KPK - RMF Backgrounds

Project Number: [none]
Project Manager: Jennifer Galles

Reported:
03/22/22 15:45

Background 1@1ft
2203112-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/08/22 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.282	0.0100	mg/L	1	BFC0257	03/14/22	03/19/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **03/08/22 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.78	0.219	mg/kg dry	1	BFC0164	03/09/22	03/14/22	EPA 6020B	
Barium	133	0.437	"	"	"	"	"	"	
Cadmium	ND	0.219	"	"	"	"	"	"	
Copper	7.18	0.437	"	"	"	"	"	"	
Lead	9.72	0.219	"	"	"	"	"	"	
Nickel	6.44	0.437	"	"	"	"	"	"	
Selenium	0.614	0.284	"	"	"	"	"	"	
Silver	0.0459	0.0219	"	"	"	"	"	"	
Zinc	24.8	0.437	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **03/08/22 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFC0349	03/17/22	03/17/22	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **03/08/22 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	13.6	0.0547	mg/L dry	1	BFC0226	03/11/22	03/15/22	EPA 6020B	
Magnesium	5.03	0.0547	"	"	"	"	"	"	
Sodium	138	0.0547	"	"	"	"	"	"	

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Project: KPK - RMF Backgrounds
Project Number: [none]
Project Manager: Jennifer Galles

Reported:
03/22/22 15:45

Background 1@1ft
2203112-01 (Soil)

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Calculated Analysis

Date Sampled: **03/08/22 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	8.12	0.00100	units	1	BFC0330	03/16/22	03/16/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/08/22 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.5		%	1	BFC0246	03/14/22	03/14/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/08/22 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.779	0.0100	mmhos/cm	1	BFC0250	03/14/22	03/14/22	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **03/08/22 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.02		pH Units	1	BFC0249	03/14/22	03/14/22	EPA 9045D	

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Project: KPK - RMF Backgrounds

Project Number: [none]
Project Manager: Jennifer Galles

Reported:
03/22/22 15:45

Background 2@1ft
2203112-02 (Soil)

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Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/08/22 11:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	0.0842	0.0100	mg/L	1	BFC0257	03/14/22	03/19/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **03/08/22 11:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	2.70	0.205	mg/kg dry	1	BFC0164	03/09/22	03/14/22	EPA 6020B	
Barium	75.8	0.410	"	"	"	"	"	"	
Cadmium	ND	0.205	"	"	"	"	"	"	
Copper	9.89	0.410	"	"	"	"	"	"	
Lead	9.79	0.205	"	"	"	"	"	"	
Nickel	6.47	0.410	"	"	"	"	"	"	
Selenium	0.657	0.266	"	"	"	"	"	"	
Silver	0.0659	0.0205	"	"	"	"	"	"	
Zinc	31.4	0.410	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **03/08/22 11:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFC0349	03/17/22	03/17/22	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **03/08/22 11:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	45.0	0.0512	mg/L dry	1	BFC0226	03/11/22	03/15/22	EPA 6020B	
Magnesium	10.0	0.0512	"	"	"	"	"	"	
Sodium	39.9	0.0512	"	"	"	"	"	"	

Calculated Analysis

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Project: KPK - RMF Backgrounds
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Reported:
03/22/22 15:45

Background 2@1ft
2203112-02 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **03/08/22 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.40	0.00100	units	1	BFC0330	03/16/22	03/16/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/08/22 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	97.6		%	1	BFC0246	03/14/22	03/14/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/08/22 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.708	0.0100	mmhos/cm	1	BFC0250	03/14/22	03/14/22	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **03/08/22 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.65		pH Units	1	BFC0249	03/14/22	03/14/22	EPA 9045D	

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Project: KPK - RMF Backgrounds

Project Number: [none]
Project Manager: Jennifer Galles

Reported:
03/22/22 15:45

Background 3@2ft
2203112-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/08/22 11:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	0.0547	0.0100	mg/L	1	BFC0257	03/14/22	03/19/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **03/08/22 11:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	1.31	0.209	mg/kg dry	1	BFC0164	03/09/22	03/14/22	EPA 6020B	
Barium	53.3	0.417	"	"	"	"	"	"	
Cadmium	ND	0.209	"	"	"	"	"	"	
Copper	5.60	0.417	"	"	"	"	"	"	
Lead	5.30	0.209	"	"	"	"	"	"	
Nickel	3.74	0.417	"	"	"	"	"	"	
Selenium	0.474	0.271	"	"	"	"	"	"	
Silver	0.0310	0.0209	"	"	"	"	"	"	
Zinc	18.3	0.417	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **03/08/22 11:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFC0349	03/17/22	03/17/22	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **03/08/22 11:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	20.7	0.0521	mg/L dry	1	BFC0226	03/11/22	03/15/22	EPA 6020B	
Magnesium	4.97	0.0521	"	"	"	"	"	"	
Sodium	5.69	0.0521	"	"	"	"	"	"	

Calculated Analysis

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Project: KPK - RMF Backgrounds
Project Number: [none]
Project Manager: Jennifer Galles

Reported:
03/22/22 15:45

Background 3@2ft
2203112-03 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **03/08/22 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.291	0.00100	units	1	BFC0330	03/16/22	03/16/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/08/22 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.9		%	1	BFC0246	03/14/22	03/14/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/08/22 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.197	0.0100	mmhos/cm	1	BFC0250	03/14/22	03/14/22	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **03/08/22 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.54		pH Units	1	BFC0249	03/14/22	03/14/22	EPA 9045D	

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1811 East Mulberry St.
Fort Collins CO, 80524

Project: KPK - RMF Backgrounds

Project Number: [none]
Project Manager: Jennifer Galles

Reported:
03/22/22 15:45

Background 4@2ft
2203112-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/08/22 11:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	0.110	0.0100	mg/L	1	BFC0257	03/14/22	03/19/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **03/08/22 11:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	4.60	0.222	mg/kg dry	1	BFC0164	03/09/22	03/14/22	EPA 6020B	
Barium	152	0.444	"	"	"	"	"	"	
Cadmium	0.336	0.222	"	"	"	"	"	"	
Copper	13.9	0.444	"	"	"	"	"	"	
Lead	15.6	0.222	"	"	"	"	"	"	
Nickel	12.8	0.444	"	"	"	"	"	"	
Selenium	0.999	0.288	"	"	"	"	"	"	
Silver	0.0844	0.0222	"	"	"	"	"	"	
Zinc	48.2	0.444	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **03/08/22 11:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFC0349	03/17/22	03/17/22	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

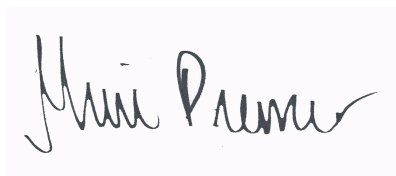
Date Sampled: **03/08/22 11:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	40.2	0.0555	mg/L dry	1	BFC0226	03/11/22	03/15/22	EPA 6020B	
Magnesium	9.11	0.0555	"	"	"	"	"	"	
Sodium	12.6	0.0555	"	"	"	"	"	"	

Calculated Analysis

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Project: KPK - RMF Backgrounds
Project Number: [none]
Project Manager: Jennifer Galles

Reported:
03/22/22 15:45

Background 4@2ft
2203112-04 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **03/08/22 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.467	0.00100	units	1	BFC0330	03/16/22	03/16/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/08/22 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.2		%	1	BFC0246	03/14/22	03/14/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/08/22 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.413	0.0100	mmhos/cm	1	BFC0250	03/14/22	03/14/22	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **03/08/22 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.73		pH Units	1	BFC0249	03/14/22	03/14/22	EPA 9045D	

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Project: KPK - RMF Backgrounds

Project Number: [none]
Project Manager: Jennifer Galles

Reported:
03/22/22 15:45

Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control

Summit Scientific

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

Batch BFC0257 - EPA 3050B

Blank (BFC0257-BLK1)

Prepared: 03/14/22 Analyzed: 03/18/22

Boron ND 0.0100 mg/L

LCS (BFC0257-BS1)

Prepared: 03/14/22 Analyzed: 03/18/22

Boron 4.23 0.0100 mg/L 5.00 84.5 80-120

Duplicate (BFC0257-DUP1)

Source: 2202216-01

Prepared: 03/14/22 Analyzed: 03/19/22

Boron 0.321 0.0100 mg/L 0.319 0.401 20

Matrix Spike (BFC0257-MS1)

Source: 2202216-01

Prepared: 03/14/22 Analyzed: 03/19/22

Boron 4.72 0.0100 mg/L 5.00 0.319 88.0 75-125

Matrix Spike Dup (BFC0257-MSD1)

Source: 2202216-01

Prepared: 03/14/22 Analyzed: 03/19/22

Boron 4.68 0.0100 mg/L 5.00 0.319 87.2 75-125 0.894 25

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Project: KPK - RMF Backgrounds
Project Number: [none]
Project Manager: Jennifer Galles

Reported:
03/22/22 15:45

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BFC0164 - EPA 3050B

Blank (BFC0164-BLK1)

Prepared: 03/09/22 Analyzed: 03/14/22

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

LCS (BFC0164-BS1)

Prepared: 03/09/22 Analyzed: 03/14/22

Arsenic	32.9	0.200	mg/kg wet	40.0	82.2	80-120
Barium	34.0	0.400	"	40.0	85.0	80-120
Cadmium	1.82	0.200	"	2.00	91.0	80-120
Copper	39.1	0.400	"	40.0	97.8	80-120
Lead	17.9	0.200	"	20.0	89.7	80-120
Nickel	37.9	0.400	"	40.0	94.7	80-120
Selenium	3.33	0.260	"	4.00	83.3	80-120
Silver	1.75	0.0200	"	2.00	87.4	80-120
Zinc	34.3	0.400	"	40.0	85.7	80-120

Duplicate (BFC0164-DUP1)

Source: 2203112-01

Prepared: 03/09/22 Analyzed: 03/14/22

Arsenic	2.02	0.219	mg/kg dry	1.78	12.3	20	QR-03
Barium	180	0.437	"	133	30.0	20	
Cadmium	0.164	0.219	"	0.139	17.1	20	
Copper	7.99	0.437	"	7.18	10.7	20	
Lead	11.3	0.219	"	9.72	15.0	20	
Nickel	7.21	0.437	"	6.44	11.3	20	
Selenium	0.676	0.284	"	0.614	9.64	20	
Silver	0.0503	0.0219	"	0.0459	9.28	20	
Zinc	28.2	0.437	"	24.8	13.0	20	

Summit Scientific

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Marcom LLC
1811 East Mulberry St.
Fort Collins CO, 80524

Project: KPK - RMF Backgrounds

Project Number: [none]
Project Manager: Jennifer Galles

Reported:
03/22/22 15:45

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BFC0164 - EPA 3050B

Matrix Spike (BFC0164-MS1)		Source: 2203112-01			Prepared: 03/09/22 Analyzed: 03/14/22					
Arsenic	43.2	0.219	mg/kg dry	43.7	1.78	94.6	75-125			
Barium	215	0.437	"	43.7	133	189	75-125			QR-03
Cadmium	1.89	0.219	"	2.19	0.139	80.2	75-125			
Copper	42.8	0.437	"	43.7	7.18	81.5	75-125			
Lead	27.1	0.219	"	21.9	9.72	79.3	75-125			
Nickel	41.8	0.437	"	43.7	6.44	80.8	75-125			
Selenium	4.04	0.284	"	4.37	0.614	78.3	75-125			
Silver	1.68	0.0219	"	2.19	0.0459	74.9	75-125			QR-03
Zinc	61.5	0.437	"	43.7	24.8	84.0	75-125			

Matrix Spike Dup (BFC0164-MSD1)		Source: 2203112-01			Prepared: 03/09/22 Analyzed: 03/14/22					
Arsenic	35.7	0.219	mg/kg dry	43.7	1.78	77.7	75-125	18.8	25	
Barium	189	0.437	"	43.7	133	128	75-125	13.2	25	QR-03
Cadmium	1.94	0.219	"	2.19	0.139	82.5	75-125	2.61	25	
Copper	43.5	0.437	"	43.7	7.18	83.0	75-125	1.55	25	
Lead	27.8	0.219	"	21.9	9.72	82.9	75-125	2.83	25	
Nickel	43.5	0.437	"	43.7	6.44	84.8	75-125	4.10	25	
Selenium	4.21	0.284	"	4.37	0.614	82.2	75-125	4.06	25	
Silver	1.71	0.0219	"	2.19	0.0459	76.0	75-125	1.50	25	
Zinc	66.5	0.437	"	43.7	24.8	95.5	75-125	7.86	25	

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Marcom LLC
1811 East Mulberry St.
Fort Collins CO, 80524

Project: KPK - RMF Backgrounds
Project Number: [none]
Project Manager: Jennifer Galles

Reported:
03/22/22 15:45

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BFC0349 - 3060A Mod

Blank (BFC0349-BLK1)

Prepared & Analyzed: 03/17/22

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BFC0349-BS1)

Prepared & Analyzed: 03/17/22

Chromium, Hexavalent 24.6 0.30 mg/kg wet 25.0 98.6 80-120

Duplicate (BFC0349-DUP1)

Source: 2203093-01

Prepared & Analyzed: 03/17/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BFC0349-MS1)

Source: 2203093-01

Prepared & Analyzed: 03/17/22

Chromium, Hexavalent 32.5 0.30 mg/kg dry 28.3 ND 115 75-125

Matrix Spike Dup (BFC0349-MSD1)

Source: 2203093-01

Prepared & Analyzed: 03/17/22

Chromium, Hexavalent 28.9 0.30 mg/kg dry 28.3 ND 102 75-125 11.6 20

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Project: KPK - RMF Backgrounds

Project Number: [none]
Project Manager: Jennifer Galles

Reported:
03/22/22 15:45

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control

Summit Scientific

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

Batch BFC0226 - General Preparation

Blank (BFC0226-BLK1)

Prepared: 03/11/22 Analyzed: 03/15/22

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

LCS (BFC0226-BS1)

Prepared: 03/11/22 Analyzed: 03/15/22

Calcium	5.36	0.0500	mg/L wet	5.00	107	70-130
Magnesium	5.50	0.0500	"	5.00	110	70-130
Sodium	5.27	0.0500	"	5.00	105	70-130

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Project: KPK - RMF Backgrounds

Project Number: [none]
Project Manager: Jennifer Galles

Reported:
03/22/22 15:45

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control

Summit Scientific

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

Batch BFC0246 - General Preparation

Duplicate (BFC0246-DUP1)

Source: 2203093-01

Prepared & Analyzed: 03/14/22

% Solids	86.9	%	88.3	1.63	20
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Marcom LLC
1811 East Mulberry St.
Fort Collins CO, 80524

Project: KPK - RMF Backgrounds

Project Number: [none]
Project Manager: Jennifer Galles

Reported:
03/22/22 15:45

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control

Summit Scientific

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

Batch BFC0250 - General Preparation

Blank (BFC0250-BLK1)

Prepared & Analyzed: 03/14/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFC0250-BS1)

Prepared & Analyzed: 03/14/22

Specific Conductance (EC) 0.157 0.0100 mmhos/cm 0.150 105 95-105

Duplicate (BFC0250-DUP1)

Source: 2203112-01

Prepared & Analyzed: 03/14/22

Specific Conductance (EC) 0.768 0.0100 mmhos/cm 0.779 1.42 20

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Marcom LLC
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Fort Collins CO, 80524

Project: KPK - RMF Backgrounds

Project Number: [none]
Project Manager: Jennifer Galles

Reported:
03/22/22 15:45

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control

Summit Scientific

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

Batch BFC0249 - General Preparation

LCS (BFC0249-BS1)

Prepared & Analyzed: 03/14/22

pH	9.00	pH Units	9.18	98.0	95-105
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Duplicate (BFC0249-DUP1)

Source: 2203112-01

Prepared & Analyzed: 03/14/22

pH	8.08	pH Units	8.02	0.745	20
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Marcom LLC
1811 East Mulberry St.
Fort Collins CO, 80524

Project: KPK - RMF Backgrounds

Project Number: [none]
Project Manager: Jennifer Galles

Reported:
03/22/22 15:45

Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference