

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

November 30, 2021

Max Moran

Absaroka Solutions

112 High Street

Buffalo, WY 82834

RE: Arapahoe Unit Section 25S Spill Support

Work Order #2111254

Enclosed are the results of analyses for samples received by Summit Scientific on 11/12/21 12:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to be 'P. Shrewsbury', written in a cursive style.

Paul Shrewsbury

President



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AU_SS_01	2111254-01	Soil	11/11/21 15:00	11/12/21 12:00
AU_SS_02	2111254-02	Soil	11/11/21 15:12	11/12/21 12:00
AU_SS_03	2111254-03	Soil	11/11/21 15:23	11/12/21 12:00
AU_SS_04	2111254-04	Soil	11/11/21 15:43	11/12/21 12:00
AU_SS_05_SW	2111254-05	Soil	11/11/21 15:55	11/12/21 12:00
AU_SS_06_SW	2111254-06	Soil	11/11/21 16:10	11/12/21 12:00
AU_SS_07_SW	2111254-07	Soil	11/11/21 16:21	11/12/21 12:00

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2111254

S₂

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

Page 1 of 1

Client: Absaroka Energy and Environmental Solutions

Project Manager: Max Moran

Address: 112 High Street

E-Mail: Max.Moran@AbsarokaSolutions.com

City/State/Zip: Buffalo WY 82834


Ben.Shoup@Absarokasolutions.com

Phone: 720-352-5326

Project Name: Arapahoe Unit Section 25S Spill Support

Sampler Name: Scott Corlett

Project Number: CIT.CO.0555.01

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	Full Table 915-1 Suite								
1	AU_SS_01	11/11/2021	15:00	3			X			X			X								
2	AU_SS_02	11/11/2021	15:12	3			X			X			X								
3	AU_SS_03	11/11/2021	15:23	3			X			X			X								
4	AU_SS_04	11/11/2021	15:43	3			X			X			X								
5	AU_SS_05_SW	11/11/2021	15:55	3			X			X			X								
6	AU_SS_06_SW	11/11/2021	16:10	3			X			X			X								
7	AU_SS_07_SW	11/11/2021	16:21	3			X			X			X								
8	AU_BG_01	11/11/2021	16:48	3			X			X										Hold	
9	AU_BG_02	11/11/2021	16:59	3			X			X										Hold	
10	AU_BG_03	11/11/2021	17:15	3			X			X										Hold	
Relinquished by: Scott Corlett		Date/Time: 11-12-2021/12:00		Received by: 		Date/Time: 11-12-21 12:00		Turn Around Time (Check) Same Day <input type="checkbox"/> 72 hours <input type="checkbox"/> 24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 hours <input type="checkbox"/> Sample Integrity: Temperature Upon Receipt: 13.9 Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No												Notes: Please send results to both Ben and Max	
Relinquished by:		Date/Time:		Received by:		Date/Time:															
Relinquished by:		Date/Time:		Received by:		Date/Time:															

S₂

2111254

Sample Receipt Checklist

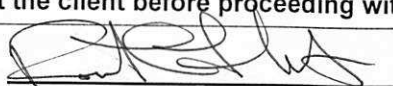
S2 Work Order# _____

Client: Absaroka Client Project ID: Arapahoe Unit Section 25S Spill Support.Shipped Via: ☐ H.D. ☒ P.U. ☐ FedEx ☐ UPS ☐ USPS ☐ Other _____ Airbill #: _____Matrix (check all that apply): ☐ Air ☒ Soil/Solid ☐ Water ☐ Other: _____
(Describe)

Temp (°C)	13.9
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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): 				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				


 Custodian Printed Name or Initials

 11-12-21
 Date/Time



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

AU_SS_01
2111254-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/11/21 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEK0385	11/17/21	11/18/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/11/21 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		106 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		122 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.4 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/11/21 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEK0386	11/17/21	11/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/11/21 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		91.6 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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PAH by EPA Method 8270D SIM

Date Sampled: **11/11/21 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEK0371	11/17/21	11/19/21	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/11/21 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		77.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		72.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/11/21 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	0.0100	mg/L	1	BEK0411	11/18/21	11/26/21	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/11/21 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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AU_SS_01
2111254-01 (Soil)

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Total Metals by EPA 6020B

Arsenic	6.04	0.247	mg/kg dry	1	BEK0364	11/16/21	11/22/21	EPA 6020B
Barium	249	0.494	"	"	"	"	"	"
Cadmium	0.276	0.247	"	"	"	"	"	"
Copper	10.8	0.494	"	"	"	"	"	"
Lead	9.49	0.247	"	"	"	"	"	"
Nickel	12.4	0.494	"	"	"	"	"	"
Selenium	1.48	0.321	"	"	"	"	"	"
Silver	0.0656	0.0247	"	"	"	"	"	"
Zinc	36.2	0.494	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 11/11/21 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEK0352	11/16/21	11/16/21	EPA 7196A	

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

Date Sampled: 11/11/21 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	107	0.0618	mg/L dry	1	BEK0420	11/18/21	11/28/21	EPA 6020B	
Magnesium	27.3	0.0618	"	"	"	"	"	"	
Sodium	27.5	0.0618	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 11/11/21 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.614	0.00100	units	1	BEK0563	11/29/21	11/29/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 11/11/21 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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AU_SS_01
2111254-01 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

% Solids	80.9	%	1	BEK0416	11/18/21	11/19/21	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/11/21 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.917	0.0100	mmhos/cm	1	BEK0450	11/19/21	11/19/21	EPA 120.1	

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

Date Sampled: **11/11/21 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.92		pH Units	1	BEK0451	11/19/21	11/19/21	EPA 9045D	

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11/30/21 10:24

AU_SS_02
2111254-02 (Soil)

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Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/11/21 15:12**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEK0385	11/17/21	11/18/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/11/21 15:12**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		98.0 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		121 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.4 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/11/21 15:12**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEK0386	11/17/21	11/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/11/21 15:12**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		94.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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AU_SS_02
2111254-02 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **11/11/21 15:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEK0371	11/17/21	11/19/21	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/11/21 15:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		48.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		53.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/11/21 15:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	0.0100	mg/L	1	BEK0411	11/18/21	11/26/21	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/11/21 15:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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11/30/21 10:24

AU_SS_02
2111254-02 (Soil)

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Total Metals by EPA 6020B

Arsenic	3.04	0.229	mg/kg dry	1	BEK0364	11/16/21	11/23/21	EPA 6020B
Barium	177	0.457	"	"	"	"	"	"
Cadmium	ND	0.229	"	"	"	"	"	"
Copper	7.70	0.457	"	"	"	"	"	"
Lead	7.00	0.229	"	"	"	"	"	"
Nickel	8.74	0.457	"	"	"	"	"	"
Selenium	1.18	0.297	"	"	"	"	"	"
Silver	0.0430	0.0229	"	"	"	"	"	"
Zinc	28.4	0.457	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 11/11/21 15:12

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEK0352	11/16/21	11/16/21	EPA 7196A	

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

Date Sampled: 11/11/21 15:12

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	80.0	0.0571	mg/L dry	1	BEK0420	11/18/21	11/28/21	EPA 6020B	
Magnesium	26.6	0.0571	"	"	"	"	"	"	
Sodium	166	0.0571	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 11/11/21 15:12

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.11	0.00100	units	1	BEK0563	11/29/21	11/29/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 11/11/21 15:12

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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AU_SS_02
2111254-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	87.5	%	1	BEK0416	11/18/21	11/19/21	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/11/21 15:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.69	0.0100	mmhos/cm	1	BEK0450	11/19/21	11/19/21	EPA 120.1	

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

Date Sampled: **11/11/21 15:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.75		pH Units	1	BEK0451	11/19/21	11/19/21	EPA 9045D	

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11/30/21 10:24

AU_SS_03
2111254-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/11/21 15:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEK0385	11/17/21	11/18/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/11/21 15:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		123 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/11/21 15:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEK0386	11/17/21	11/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/11/21 15:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		95.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

AU_SS_03
2111254-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/11/21 15:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEK0371	11/17/21	11/19/21	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/11/21 15:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		65.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		66.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/11/21 15:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	0.0100	mg/L	1	BEK0411	11/18/21	11/26/21	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/11/21 15:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Absaroka Solutions
112 High Street
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Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

AU_SS_03
2111254-03 (Soil)

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Total Metals by EPA 6020B

Arsenic	4.26	0.235	mg/kg dry	1	BEK0364	11/16/21	11/23/21	EPA 6020B
Barium	192	0.469	"	"	"	"	"	"
Cadmium	ND	0.235	"	"	"	"	"	"
Copper	8.94	0.469	"	"	"	"	"	"
Lead	7.95	0.235	"	"	"	"	"	"
Nickel	10.4	0.469	"	"	"	"	"	"
Selenium	1.30	0.305	"	"	"	"	"	"
Silver	0.0542	0.0235	"	"	"	"	"	"
Zinc	33.4	0.469	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 11/11/21 15:23

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEK0352	11/16/21	11/16/21	EPA 7196A	

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

Date Sampled: 11/11/21 15:23

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	126	0.0586	mg/L dry	1	BEK0420	11/18/21	11/28/21	EPA 6020B	
Magnesium	34.6	0.0586	"	"	"	"	"	"	
Sodium	795	0.0586	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 11/11/21 15:23

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	16.2	0.00100	units	1	BEK0563	11/29/21	11/29/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 11/11/21 15:23

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

AU_SS_03
2111254-03 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

% Solids	85.3	%	1	BEK0416	11/18/21	11/19/21	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/11/21 15:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.74	0.0100	mmhos/cm	1	BEK0450	11/19/21	11/19/21	EPA 120.1	

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

Date Sampled: **11/11/21 15:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.77		pH Units	1	BEK0451	11/19/21	11/19/21	EPA 9045D	

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Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

AU_SS_04
2111254-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/11/21 15:43**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEK0385	11/17/21	11/18/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/11/21 15:43**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		97.9 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		122 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.3 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/11/21 15:43**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	63	50	mg/kg	1	BEK0386	11/17/21	11/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/11/21 15:43**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		94.7 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

AU_SS_04
2111254-04 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **11/11/21 15:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEK0371	11/17/21	11/19/21	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/11/21 15:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		55.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		58.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/11/21 15:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	0.0100	mg/L	1	BEK0411	11/18/21	11/26/21	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/11/21 15:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

AU_SS_04
2111254-04 (Soil)

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Total Metals by EPA 6020B

Arsenic	3.87	0.235	mg/kg dry	1	BEK0364	11/16/21	11/23/21	EPA 6020B
Barium	197	0.469	"	"	"	"	"	"
Cadmium	ND	0.235	"	"	"	"	"	"
Copper	8.13	0.469	"	"	"	"	"	"
Lead	7.15	0.235	"	"	"	"	"	"
Nickel	9.49	0.469	"	"	"	"	"	"
Selenium	1.19	0.305	"	"	"	"	"	"
Silver	0.0484	0.0235	"	"	"	"	"	"
Zinc	29.8	0.469	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 11/11/21 15:43

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEK0352	11/16/21	11/16/21	EPA 7196A	

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

Date Sampled: 11/11/21 15:43

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	12.8	0.0587	mg/L dry	1	BEK0420	11/18/21	11/28/21	EPA 6020B	
Magnesium	3.36	0.0587	"	"	"	"	"	"	
Sodium	315	0.0587	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 11/11/21 15:43

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	20.3	0.00100	units	1	BEK0563	11/29/21	11/29/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 11/11/21 15:43

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Buffalo WY, 82834

Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

AU_SS_04
2111254-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	85.3	%	1	BEK0416	11/18/21	11/19/21	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/11/21 15:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.54	0.0100	mmhos/cm	1	BEK0450	11/19/21	11/19/21	EPA 120.1	

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

Date Sampled: **11/11/21 15:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.42		pH Units	1	BEK0451	11/19/21	11/19/21	EPA 9045D	

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112 High Street
Buffalo WY, 82834

Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

AU_SS_05_SW
2111254-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/11/21 15:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEK0385	11/17/21	11/18/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/11/21 15:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		120 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.6 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/11/21 15:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEK0386	11/17/21	11/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/11/21 15:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		107 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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11/30/21 10:24

AU_SS_05_SW
2111254-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/11/21 15:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEK0371	11/17/21	11/19/21	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/11/21 15:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		71.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		72.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/11/21 15:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	0.0100	mg/L	1	BEK0411	11/18/21	11/26/21	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/11/21 15:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

AU_SS_05_SW
2111254-05 (Soil)

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Total Metals by EPA 6020B

Arsenic	4.14	0.241	mg/kg dry	1	BEK0364	11/16/21	11/23/21	EPA 6020B
Barium	185	0.483	"	"	"	"	"	"
Cadmium	ND	0.241	"	"	"	"	"	"
Copper	9.17	0.483	"	"	"	"	"	"
Lead	8.19	0.241	"	"	"	"	"	"
Nickel	9.98	0.483	"	"	"	"	"	"
Selenium	1.31	0.314	"	"	"	"	"	"
Silver	0.0523	0.0241	"	"	"	"	"	"
Zinc	32.6	0.483	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 11/11/21 15:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEK0352	11/16/21	11/16/21	EPA 7196A	

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

Date Sampled: 11/11/21 15:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	330	0.0603	mg/L dry	1	BEK0420	11/18/21	11/28/21	EPA 6020B	
Magnesium	57.8	0.0603	"	"	"	"	"	"	
Sodium	652	0.0603	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 11/11/21 15:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	8.71	0.00100	units	1	BEK0563	11/29/21	11/29/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 11/11/21 15:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

AU_SS_05_SW
2111254-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	82.9	%	1	BEK0416	11/18/21	11/19/21	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/11/21 15:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	5.18	0.0100	mmhos/cm	1	BEK0450	11/19/21	11/19/21	EPA 120.1	

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

Date Sampled: **11/11/21 15:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.72		pH Units	1	BEK0451	11/19/21	11/19/21	EPA 9045D	

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112 High Street
Buffalo WY, 82834

Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

AU_SS_06_SW
2111254-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/11/21 16:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEK0385	11/17/21	11/18/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/11/21 16:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		98.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		117 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.0 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/11/21 16:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEK0386	11/17/21	11/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/11/21 16:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		89.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Buffalo WY, 82834

Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

AU_SS_06_SW
2111254-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/11/21 16:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEK0371	11/17/21	11/19/21	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/11/21 16:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		55.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		58.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/11/21 16:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	0.0100	mg/L	1	BEK0411	11/18/21	11/26/21	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/11/21 16:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

AU_SS_06_SW
2111254-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	5.87	0.247	mg/kg dry	1	BEK0364	11/16/21	11/23/21	EPA 6020B
Barium	215	0.494	"	"	"	"	"	"
Cadmium	0.276	0.247	"	"	"	"	"	"
Copper	11.6	0.494	"	"	"	"	"	"
Lead	9.47	0.247	"	"	"	"	"	"
Nickel	12.2	0.494	"	"	"	"	"	"
Selenium	1.53	0.321	"	"	"	"	"	"
Silver	0.0682	0.0247	"	"	"	"	"	"
Zinc	37.9	0.494	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 11/11/21 16:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEK0352	11/16/21	11/16/21	EPA 7196A	

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

Date Sampled: 11/11/21 16:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	134	0.0617	mg/L dry	1	BEK0420	11/18/21	11/28/21	EPA 6020B	
Magnesium	32.6	0.0617	"	"	"	"	"	"	
Sodium	488	0.0617	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 11/11/21 16:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	9.81	0.00100	units	1	BEK0563	11/29/21	11/29/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 11/11/21 16:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

AU_SS_06_SW
2111254-06 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	81.0	%	1	BEK0416	11/18/21	11/19/21	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/11/21 16:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.14	0.0100	mmhos/cm	1	BEK0450	11/19/21	11/19/21	EPA 120.1	

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

Date Sampled: **11/11/21 16:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.88		pH Units	1	BEK0451	11/19/21	11/19/21	EPA 9045D	

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112 High Street
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Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

AU_SS_07_SW
2111254-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/11/21 16:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEK0385	11/17/21	11/18/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/11/21 16:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		97.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		120 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.0 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/11/21 16:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEK0386	11/17/21	11/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/11/21 16:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		83.7 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

AU_SS_07_SW
2111254-07 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **11/11/21 16:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEK0371	11/17/21	11/19/21	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/11/21 16:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		57.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		63.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/11/21 16:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	0.0100	mg/L	1	BEK0411	11/18/21	11/26/21	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/11/21 16:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Reported:
11/30/21 10:24

AU_SS_07_SW
2111254-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.08	0.225	mg/kg dry	1	BEK0364	11/16/21	11/23/21	EPA 6020B
Barium	166	0.450	"	"	"	"	"	"
Cadmium	ND	0.225	"	"	"	"	"	"
Copper	6.74	0.450	"	"	"	"	"	"
Lead	6.03	0.225	"	"	"	"	"	"
Nickel	7.72	0.450	"	"	"	"	"	"
Selenium	0.955	0.293	"	"	"	"	"	"
Silver	0.0374	0.0225	"	"	"	"	"	"
Zinc	25.6	0.450	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 11/11/21 16:21

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEK0352	11/16/21	11/16/21	EPA 7196A	

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

Date Sampled: 11/11/21 16:21

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	27.7	0.0563	mg/L dry	1	BEK0420	11/18/21	11/28/21	EPA 6020B	
Magnesium	9.14	0.0563	"	"	"	"	"	"	
Sodium	20.1	0.0563	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 11/11/21 16:21

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.846	0.00100	units	1	BEK0563	11/29/21	11/29/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 11/11/21 16:21

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

AU_SS_07_SW
2111254-07 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	88.8	%	1	BEK0416	11/18/21	11/19/21	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/11/21 16:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.378	0.0100	mmhos/cm	1	BEK0450	11/19/21	11/19/21	EPA 120.1	

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

Date Sampled: **11/11/21 16:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.09		pH Units	1	BEK0451	11/19/21	11/19/21	EPA 9045D	

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Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEK0385 - EPA 5030 Soil MS

Blank (BEK0385-BLK1)

Prepared: 11/17/21 Analyzed: 11/18/21

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0391		"	0.0400		97.7	23-173			
Surrogate: Toluene-d8	0.0487		"	0.0400		122	20-170			
Surrogate: 4-Bromofluorobenzene	0.0408		"	0.0400		102	21-167			

LCS (BEK0385-BS1)

Prepared: 11/17/21 Analyzed: 11/18/21

Benzene	0.0728	0.0020	mg/kg	0.100		72.8	70-130			
Toluene	0.0940	0.0050	"	0.100		94.0	70-130			
Ethylbenzene	0.0748	0.0050	"	0.100		74.8	70-130			
m,p-Xylene	0.154	0.010	"	0.200		76.8	70-130			
o-Xylene	0.0758	0.0050	"	0.100		75.8	70-130			
1,2,4-Trimethylbenzene	0.0748	0.0050	"	0.100		74.8	70-130			
1,3,5-Trimethylbenzene	0.0737	0.0050	"	0.100		73.7	70-130			
Naphthalene	0.0788	0.0038	"	0.100		78.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0348		"	0.0400		86.9	23-173			
Surrogate: Toluene-d8	0.0448		"	0.0400		112	20-170			
Surrogate: 4-Bromofluorobenzene	0.0412		"	0.0400		103	21-167			

Matrix Spike (BEK0385-MS1)

Source: 2111254-01

Prepared: 11/17/21 Analyzed: 11/18/21

Benzene	0.0778	0.0020	mg/kg	0.100	ND	77.8	70-130			
Toluene	0.0968	0.0050	"	0.100	ND	96.8	70-130			
Ethylbenzene	0.0708	0.0050	"	0.100	ND	70.8	70-130			
m,p-Xylene	0.144	0.010	"	0.200	ND	72.1	70-130			
o-Xylene	0.0729	0.0050	"	0.100	ND	72.9	70-130			
1,2,4-Trimethylbenzene	0.0706	0.0050	"	0.100	ND	70.6	70-130			
1,3,5-Trimethylbenzene	0.0826	0.0050	"	0.100	ND	82.6	70-130			
Naphthalene	0.0794	0.0038	"	0.100	ND	79.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0392		"	0.0400		98.0	23-173			
Surrogate: Toluene-d8	0.0447		"	0.0400		112	20-170			
Surrogate: 4-Bromofluorobenzene	0.0431		"	0.0400		108	21-167			

Summit Scientific

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112 High Street
Buffalo WY, 82834

Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

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

Batch BEK0385 - EPA 5030 Soil MS

Matrix Spike Dup (BEK0385-MSD1)	Source: 2111254-01			Prepared: 11/17/21 Analyzed: 11/18/21						
Benzene	0.0740	0.0020	mg/kg	0.100	ND	74.0	70-130	5.02	30	
Toluene	0.0970	0.0050	"	0.100	ND	97.0	70-130	0.155	30	
Ethylbenzene	0.0719	0.0050	"	0.100	ND	71.9	70-130	1.60	30	
m,p-Xylene	0.143	0.010	"	0.200	ND	71.7	70-130	0.480	30	
o-Xylene	0.0743	0.0050	"	0.100	ND	74.3	70-130	1.91	30	
1,2,4-Trimethylbenzene	0.0728	0.0050	"	0.100	ND	72.8	70-130	2.93	30	
1,3,5-Trimethylbenzene	0.0712	0.0050	"	0.100	ND	71.2	70-130	14.9	30	
Naphthalene	0.0799	0.0038	"	0.100	ND	79.9	70-130	0.640	30	
Surrogate: 1,2-Dichloroethane-d4	0.0374		"	0.0400		93.4	23-173			
Surrogate: Toluene-d8	0.0460		"	0.0400		115	20-170			
Surrogate: 4-Bromofluorobenzene	0.0418		"	0.0400		104	21-167			

Summit Scientific

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Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEK0386 - EPA 3550A

Blank (BEK0386-BLK1)

Prepared: 11/17/21 Analyzed: 11/19/21

C10-C28 (DRO)	ND	50	mg/kg
C28-C36 (ORO)	ND	50	"

LCS (BEK0386-BS1)

Prepared: 11/17/21 Analyzed: 11/19/21

C10-C28 (DRO)	444	50	mg/kg	500	88.8	70-130
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Matrix Spike (BEK0386-MS1)

Source: 2111254-01

Prepared: 11/17/21 Analyzed: 11/19/21

C10-C28 (DRO)	454	50	mg/kg	500	41.4	82.6	70-130
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Matrix Spike Dup (BEK0386-MSD1)

Source: 2111254-01

Prepared: 11/17/21 Analyzed: 11/19/21

C10-C28 (DRO)	414	50	mg/kg	500	41.4	74.5	70-130	9.37	20
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Summit Scientific

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Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BEK0371 - EPA 5030 Soil MS

Blank (BEK0371-BLK1)

Prepared: 11/17/21 Analyzed: 11/18/21

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0314		"	0.0333		94.3	40-150			
Surrogate: Fluoranthene-d10	0.0315		"	0.0333		94.6	40-150			

LCS (BEK0371-BS1)

Prepared: 11/17/21 Analyzed: 11/18/21

Acenaphthene	0.0329	0.00500	mg/kg	0.0333		98.6	31-137			
Anthracene	0.0323	0.00500	"	0.0333		97.0	30-120			
Benzo (a) anthracene	0.0293	0.00500	"	0.0333		87.8	30-120			
Benzo (a) pyrene	0.0313	0.00500	"	0.0333		93.9	30-120			
Benzo (b) fluoranthene	0.0359	0.00500	"	0.0333		108	30-120			
Benzo (k) fluoranthene	0.0394	0.00500	"	0.0333		118	30-120			
Chrysene	0.0295	0.00500	"	0.0333		88.5	30-120			
Dibenz (a,h) anthracene	0.0192	0.00500	"	0.0333		57.7	30-120			
Fluoranthene	0.0351	0.00500	"	0.0333		105	30-120			
Fluorene	0.0335	0.00500	"	0.0333		101	30-120			
Indeno (1,2,3-cd) pyrene	0.0226	0.00500	"	0.0333		67.7	30-120			
Pyrene	0.0333	0.00500	"	0.0333		100	35-142			
1-Methylnaphthalene	0.0318	0.00500	"	0.0333		95.3	35-142			
2-Methylnaphthalene	0.0317	0.00500	"	0.0333		95.2	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0329		"	0.0333		98.7	40-150			
Surrogate: Fluoranthene-d10	0.0341		"	0.0333		102	40-150			

Summit Scientific

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Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BEK0371 - EPA 5030 Soil MS

Matrix Spike (BEK0371-MS1)		Source: 2111090-02			Prepared: 11/17/21		Analyzed: 11/18/21				
Acenaphthene	0.0228	0.00500	mg/kg	0.0333	ND	68.5	31-137				
Anthracene	0.0232	0.00500	"	0.0333	ND	69.5	30-120				
Benzo (a) anthracene	0.0223	0.00500	"	0.0333	ND	66.9	30-120				
Benzo (a) pyrene	0.0223	0.00500	"	0.0333	ND	67.0	30-120				
Benzo (b) fluoranthene	0.0266	0.00500	"	0.0333	ND	79.7	30-120				
Benzo (k) fluoranthene	0.0283	0.00500	"	0.0333	ND	84.8	30-120				
Chrysene	0.0215	0.00500	"	0.0333	ND	64.5	30-120				
Dibenz (a,h) anthracene	0.0148	0.00500	"	0.0333	ND	44.5	30-120				
Fluoranthene	0.0249	0.00500	"	0.0333	ND	74.6	30-120				
Fluorene	0.0234	0.00500	"	0.0333	ND	70.3	30-120				
Indeno (1,2,3-cd) pyrene	0.0166	0.00500	"	0.0333	ND	49.7	30-120				
Pyrene	0.0269	0.00500	"	0.0333	0.00619	62.2	35-142				
1-Methylnaphthalene	0.0219	0.00500	"	0.0333	ND	65.8	15-130				
2-Methylnaphthalene	0.0227	0.00500	"	0.0333	ND	68.1	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0235		"	0.0333		70.4	40-150				
Surrogate: Fluoranthene-d10	0.0267		"	0.0333		80.2	40-150				

Matrix Spike Dup (BEK0371-MSD1)		Source: 2111090-02			Prepared: 11/17/21		Analyzed: 11/18/21				
Acenaphthene	0.0191	0.00500	mg/kg	0.0333	ND	57.2	31-137	18.1	30		
Anthracene	0.0191	0.00500	"	0.0333	ND	57.4	30-120	19.1	30		
Benzo (a) anthracene	0.0189	0.00500	"	0.0333	ND	56.7	30-120	16.5	30		
Benzo (a) pyrene	0.0197	0.00500	"	0.0333	ND	59.2	30-120	12.4	30		
Benzo (b) fluoranthene	0.0230	0.00500	"	0.0333	ND	69.0	30-120	14.4	30		
Benzo (k) fluoranthene	0.0247	0.00500	"	0.0333	ND	74.1	30-120	13.4	30		
Chrysene	0.0186	0.00500	"	0.0333	ND	55.7	30-120	14.7	30		
Dibenz (a,h) anthracene	0.0123	0.00500	"	0.0333	ND	36.8	30-120	18.8	30		
Fluoranthene	0.0209	0.00500	"	0.0333	ND	62.8	30-120	17.2	30		
Fluorene	0.0201	0.00500	"	0.0333	ND	60.4	30-120	15.2	30		
Indeno (1,2,3-cd) pyrene	0.0139	0.00500	"	0.0333	ND	41.8	30-120	17.4	30		
Pyrene	0.0219	0.00500	"	0.0333	0.00619	47.0	35-142	20.7	30		
1-Methylnaphthalene	0.0184	0.00500	"	0.0333	ND	55.2	15-130	17.5	50		
2-Methylnaphthalene	0.0191	0.00500	"	0.0333	ND	57.4	15-130	17.1	50		
Surrogate: 2-Methylnaphthalene-d10	0.0213		"	0.0333		63.9	40-150				
Surrogate: Fluoranthene-d10	0.0229		"	0.0333		68.6	40-150				

Summit Scientific

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Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

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 BEK0411 - EPA 3050B

Blank (BEK0411-BLK1)

Prepared: 11/18/21 Analyzed: 11/26/21

Boron ND 0.0100 mg/L

LCS (BEK0411-BS1)

Prepared: 11/18/21 Analyzed: 11/26/21

Boron 4.84 0.0100 mg/L 5.00 96.8 80-120

Duplicate (BEK0411-DUP1)

Source: 2111252-01

Prepared: 11/18/21 Analyzed: 11/26/21

Boron ND 0.0100 mg/L ND 20

Matrix Spike (BEK0411-MS1)

Source: 2111252-01

Prepared: 11/18/21 Analyzed: 11/26/21

Boron 4.94 0.0100 mg/L 5.00 ND 98.7 75-125

Matrix Spike Dup (BEK0411-MSD1)

Source: 2111252-01

Prepared: 11/18/21 Analyzed: 11/26/21

Boron 4.98 0.0100 mg/L 5.00 ND 99.6 75-125 0.935 25

Summit Scientific

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Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

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 BEK0364 - EPA 3050B

Blank (BEK0364-BLK1)

Prepared: 11/16/21 Analyzed: 11/22/21

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 (BEK0364-BS1)

Prepared: 11/16/21 Analyzed: 11/22/21

Arsenic	47.6	0.200	mg/kg wet	40.0	119	80-120
Barium	46.8	0.400	"	40.0	117	80-120
Cadmium	2.03	0.200	"	2.00	101	80-120
Copper	46.2	0.400	"	40.0	116	80-120
Lead	22.1	0.200	"	20.0	110	80-120
Nickel	44.0	0.400	"	40.0	110	80-120
Selenium	4.58	0.260	"	4.00	115	80-120
Silver	2.26	0.0200	"	2.00	113	80-120
Zinc	46.0	0.400	"	40.0	115	80-120

Duplicate (BEK0364-DUP1)

Source: 2110432-03

Prepared: 11/16/21 Analyzed: 11/22/21

Arsenic	1.98	0.225	mg/kg dry	1.74	13.0	20	
Barium	116	0.451	"	183	44.6	20	QR-03
Cadmium	0.113	0.225	"	0.0918	21.0	20	QR-03
Copper	7.64	0.451	"	7.58	0.734	20	
Lead	7.33	0.225	"	6.71	8.86	20	
Nickel	6.36	0.451	"	5.48	14.7	20	
Selenium	1.10	0.293	"	1.02	7.08	20	
Silver	0.0299	0.0225	"	0.0346	14.4	20	
Zinc	30.7	0.451	"	29.5	3.99	20	

Summit Scientific

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Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

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 BEK0364 - EPA 3050B

Matrix Spike (BEK0364-MS1)		Source: 2110432-03			Prepared: 11/16/21		Analyzed: 11/22/21			
Arsenic	51.8	0.225	mg/kg dry	45.1	1.74	111	75-125			
Barium	106	0.451	"	45.1	183	NR	75-125			QR-03
Cadmium	2.72	0.225	"	2.25	0.0918	117	75-125			
Copper	55.1	0.451	"	45.1	7.58	105	75-125			
Lead	28.4	0.225	"	22.5	6.71	96.3	75-125			
Nickel	54.7	0.451	"	45.1	5.48	109	75-125			
Selenium	5.07	0.293	"	4.51	1.02	89.8	75-125			
Silver	2.39	0.0225	"	2.25	0.0346	105	75-125			
Zinc	80.6	0.451	"	45.1	29.5	113	75-125			

Matrix Spike Dup (BEK0364-MSD1)		Source: 2110432-03			Prepared: 11/16/21		Analyzed: 11/22/21			
Arsenic	51.0	0.225	mg/kg dry	45.1	1.74	109	75-125	1.58	25	
Barium	98.8	0.451	"	45.1	183	NR	75-125	6.63	25	QR-03
Cadmium	2.68	0.225	"	2.25	0.0918	115	75-125	1.42	25	
Copper	54.3	0.451	"	45.1	7.58	104	75-125	1.47	25	
Lead	28.5	0.225	"	22.5	6.71	96.9	75-125	0.455	25	
Nickel	53.0	0.451	"	45.1	5.48	105	75-125	3.17	25	
Selenium	4.88	0.293	"	4.51	1.02	85.5	75-125	3.88	25	
Silver	2.39	0.0225	"	2.25	0.0346	104	75-125	0.356	25	
Zinc	82.3	0.451	"	45.1	29.5	117	75-125	2.05	25	

Summit Scientific

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Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

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 BEK0352 - 3060A Mod

Blank (BEK0352-BLK1)

Prepared & Analyzed: 11/16/21

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BEK0352-BS1)

Prepared & Analyzed: 11/16/21

Chromium, Hexavalent 23.5 0.30 mg/kg wet 25.0 94.0 80-120

Duplicate (BEK0352-DUP1)

Source: 2110432-03

Prepared & Analyzed: 11/16/21

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BEK0352-MS1)

Source: 2110432-03

Prepared & Analyzed: 11/16/21

Chromium, Hexavalent 25.9 0.30 mg/kg dry 28.2 ND 92.0 75-125

Matrix Spike Dup (BEK0352-MSD1)

Source: 2110432-03

Prepared & Analyzed: 11/16/21

Chromium, Hexavalent 25.4 0.30 mg/kg dry 28.2 ND 90.0 75-125 2.20 20

Summit Scientific

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Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

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

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

Batch BEK0420 - General Preparation

Blank (BEK0420-BLK1)

Prepared: 11/18/21 Analyzed: 11/28/21

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

LCS (BEK0420-BS1)

Prepared: 11/18/21 Analyzed: 11/28/21

Calcium	5.64	0.0500	mg/L wet	5.00	113	70-130
Magnesium	5.73	0.0500	"	5.00	115	70-130
Sodium	5.63	0.0500	"	5.00	113	70-130

Summit Scientific

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Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Arapahoe Unit Section 25S Spill Support

Project Number: CIT.CO.0555.01

Project Manager: Max Moran

Reported:

11/30/21 10:24

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 BEK0416 - General Preparation

Duplicate (BEK0416-DUP1)		Source: 2111044-10		Prepared: 11/18/21 Analyzed: 11/19/21	
% Solids	91.8		%	91.9	0.117 20

Summit Scientific

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Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

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

Summit Scientific

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

Batch BEK0450 - General Preparation

Blank (BEK0450-BLK1)

Prepared & Analyzed: 11/19/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BEK0450-BS1)

Prepared & Analyzed: 11/19/21

Specific Conductance (EC) 0.156 0.0100 mmhos/cm 0.150 104 95-105

Duplicate (BEK0450-DUP1)

Source: 2110397-01

Prepared & Analyzed: 11/19/21

Specific Conductance (EC) 0.342 0.0100 mmhos/cm 0.346 1.16 20

Summit Scientific

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Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Arapahoe Unit Section 25S Spill Support

Project Number: CIT.CO.0555.01

Project Manager: Max Moran

Reported:

11/30/21 10:24

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

Summit Scientific

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

Batch BEK0451 - General Preparation

LCS (BEK0451-BS1)

Prepared & Analyzed: 11/19/21

pH	9.06	pH Units	9.18	98.7	95-105
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Duplicate (BEK0451-DUP1)

Source: 2110397-01

Prepared & Analyzed: 11/19/21

pH	6.76	pH Units	6.80	0.590	20
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Summit Scientific

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Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Arapahoe Unit Section 25S Spill Support

Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
11/30/21 10:24

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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

December 16, 2021

Max Moran

Absaroka Solutions

112 High Street

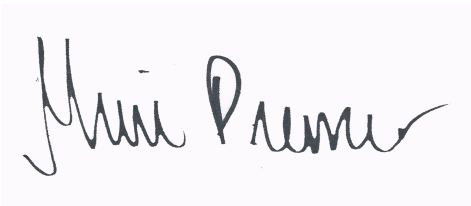
Buffalo, WY 82834

RE: Arapahoe Unit Section 25S Spill Support

Work Order #2112040

Enclosed are the results of analyses for samples received by Summit Scientific on 12/02/21 12:52. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Muri Premier", is displayed on a light purple rectangular background.

Muri Premier For Paul Shrewsbury
President



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Arapahoe Unit Section 25S Spill Support

Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
12/16/21 19:05

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AU_25_BG_BH_01_4	2112040-01	Soil	12/01/21 14:50	12/02/21 12:52
AU_25_BG_BH_01_6	2112040-03	Soil	12/01/21 14:58	12/02/21 12:52

Summit Scientific

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Summit Scientific

2112040

S₂

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

Page 1 of 1

Client: Absaroka Energy and Environmental Solutions

Project Manager: Max Moran/Ben Shoup

Address: 112 High ST.

E-Mail: max.moran@absarokasolutions.com

City/State/Zip: Buffalo, WY, 82834

ben.shoup@absarokasolutions.com

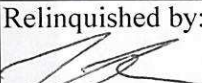

Phone: 720-352-5326

Arapahoe Unit Section 25S Spill Support

Sampler Name: Max Moran

Project Number: CIT.CO.0555.01

					Preservative				Matrix				Analysis Requested								Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Fuller 915 Suite	EC	SAR	pH	Boron*	Arsenic			
1	AU_25_BG_BH_01_4	12/1/2021	1450	3			X			X				X	X	X		X			
2	AU_25_BG_BH_01_5	12/1/2021	1455	3			X													HOLD	
3	AU_25_BG_BH_01_6	12/1/2021	1458	3			X							X	X	X		X			
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by: 	Date/Time: 12/2/21 1252	Received by: 	Date/Time: 12.2.21 1252	Turn Around Time (Check) Same Day _____ 72 hours _____ 24 hours _____ Standard <u>X</u> 48 hours _____ Sample Integrity: Temperature Upon Receipt: <u>10.1</u> Samples Intact: <u>Yes</u> No	Please hold all additional sample material for future analysis
Relinquished by:	Date/Time:	Received by:	Date/Time:		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

S₂

2112040

Sample Receipt Checklist

S2 Work Order#

Client: Absaroka Client Project ID: Arapahoe Unit Section 255 Spill Support

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ ☒ ☐ ☐ ☐ Airbill #: _____

Matrix (check all that apply): ☐ Air ☒ Soil/Solid ☐ Water ☐ Other: _____ (Describe)

Temp (°C) 10.1

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):				

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.

[Signature]
Custodian Printed Name or Initials

11:2:21
Date/Time



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
12/16/21 19:05

AU_25_BG_BH_01_4
2112040-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **12/01/21 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	4.17	0.200	mg/kg dry	1	BEL0185	12/09/21	12/16/21	EPA 6020B	

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

Date Sampled: **12/01/21 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	25.8	0.0553	mg/L dry	1	BEL0167	12/08/21	12/11/21	EPA 6020B	
Magnesium	5.17	0.0553	"	"	"	"	"	"	
Sodium	3.37	0.0553	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **12/01/21 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.158	0.00100	units	1	BEL0252	12/13/21	12/13/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/01/21 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.4		%	1	BEL0228	12/10/21	12/10/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/01/21 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.252	0.0100	mmhos/cm	1	BEL0192	12/09/21	12/09/21	EPA 120.1	

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

Summit Scientific

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Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
12/16/21 19:05

AU_25_BG_BH_01_4
2112040-01 (Soil)

Summit Scientific

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

Date Sampled: **12/01/21 14:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.10			pH Units	1	BEL0193	12/09/21	12/09/21	EPA 9045D	

Summit Scientific

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Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
12/16/21 19:05

AU_25_BG_BH_01_6
2112040-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **12/01/21 14:58**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	3.57	0.200	mg/kg dry	1	BEL0185	12/09/21	12/16/21	EPA 6020B	

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

Date Sampled: **12/01/21 14:58**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	20.6	0.0554	mg/L dry	1	BEL0167	12/08/21	12/11/21	EPA 6020B	
Magnesium	5.99	0.0554	"	"	"	"	"	"	
Sodium	2.11	0.0554	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **12/01/21 14:58**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	0.105	0.00100	units	1	BEL0252	12/13/21	12/13/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/01/21 14:58**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	90.2		%	1	BEL0228	12/10/21	12/10/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/01/21 14:58**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	0.230	0.0100	mmhos/cm	1	BEL0192	12/09/21	12/09/21	EPA 120.1	

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

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Buffalo WY, 82834

Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
12/16/21 19:05

AU_25_BG_BH_01_6
2112040-03 (Soil)

Summit Scientific

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

Date Sampled: **12/01/21 14:58**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.90			pH Units	1	BEL0193	12/09/21	12/09/21	EPA 9045D	

Summit Scientific

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Reported:
12/16/21 19:05

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 BEL0185 - EPA 3050B

Blank (BEL0185-BLK1)

Prepared: 12/09/21 Analyzed: 12/15/21

Arsenic ND 0.200 mg/kg wet

LCS (BEL0185-BS1)

Prepared: 12/09/21 Analyzed: 12/15/21

Arsenic 41.9 0.200 mg/kg wet 40.0 105 80-120

Duplicate (BEL0185-DUP1)

Source: 2112040-01

Prepared: 12/09/21 Analyzed: 12/16/21

Arsenic 4.03 0.200 mg/kg dry 4.17 3.43 20

Matrix Spike (BEL0185-MS1)

Source: 2112040-01

Prepared: 12/09/21 Analyzed: 12/16/21

Arsenic 46.0 0.200 mg/kg dry 44.2 4.17 94.6 75-125

Matrix Spike Dup (BEL0185-MSD1)

Source: 2112040-01

Prepared: 12/09/21 Analyzed: 12/16/21

Arsenic 45.4 0.200 mg/kg dry 44.2 4.17 93.2 75-125 1.35 25

Summit Scientific

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Project Number: CIT.CO.0555.01
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Reported:
12/16/21 19:05

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

Summit Scientific

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

Batch BEL0167 - General Preparation

Blank (BEL0167-BLK1)

Prepared: 12/08/21 Analyzed: 12/10/21

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

LCS (BEL0167-BS1)

Prepared: 12/08/21 Analyzed: 12/11/21

Calcium	5.51	0.0500	mg/L wet	5.00	110	70-130
Magnesium	5.16	0.0500	"	5.00	103	70-130
Sodium	5.23	0.0500	"	5.00	105	70-130

Summit Scientific

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Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
12/16/21 19:05

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 BEL0228 - General Preparation

Duplicate (BEL0228-DUP1)		Source: 2112026-12		Prepared & Analyzed: 12/10/21						
% Solids	96.8		%		96.6			0.214	20	

Summit Scientific

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Project: Arapahoe Unit Section 25S Spill Support
Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
12/16/21 19:05

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 BEL0192 - General Preparation

Blank (BEL0192-BLK1)

Prepared & Analyzed: 12/09/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BEL0192-BS1)

Prepared & Analyzed: 12/09/21

Specific Conductance (EC) 0.148 0.0100 mmhos/cm 0.150 98.5 95-105

Duplicate (BEL0192-DUP1)

Source: 2111266-03

Prepared & Analyzed: 12/09/21

Specific Conductance (EC) 0.435 0.0100 mmhos/cm 0.450 3.25 20

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Project Number: CIT.CO.0555.01

Project Manager: Max Moran

Reported:
12/16/21 19:05

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

Summit Scientific

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

Batch BEL0193 - General Preparation

LCS (BEL0193-BS1)

Prepared & Analyzed: 12/09/21

pH	9.06	pH Units	9.18	98.7	95-105
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Duplicate (BEL0193-DUP1)

Source: 2112040-01

Prepared & Analyzed: 12/09/21

pH	8.16	pH Units	8.10	0.738	20
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Buffalo WY, 82834

Project: Arapahoe Unit Section 25S Spill Support

Project Number: CIT.CO.0555.01
Project Manager: Max Moran

Reported:
12/16/21 19:05

Notes and Definitions

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