

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 06, 2021

Max Knop

K.P. Kauffman

1675 Broadway

Denver, CO 80202

RE: Woolley #1 Stockpile Sample

Work Order #2104399

Enclosed are the results of analyses for samples received by Summit Scientific on 04/26/21 09:04. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Paul Shrewsbury

President



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Woolley #1 Stockpile Sample

Project Number: [none]
Project Manager: Max Knop

Reported:
05/06/21 12:26

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Stockpile #001	2104399-01	Soil	04/23/21 12:00	04/26/21 09:04

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Sample Receipt Checklist

S2 Work Order 2104399

Client: KP KAUFFMAN Client Project ID WOOLY #1 STOCKPILE SAMPLE

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

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

Temp (°C)	<u>3.6</u>
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Thermometer ID: 61857155-K

	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 provided that there is evidence that cooling has begun.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input 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 type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input 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 type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Additional Comments (if any):

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

Muri P.
Custodian Printed Name or Initials


Signature of Custodian

4-26-21
Date/Time



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Woolley #1 Stockpile Sample

Project Number: [none]
Project Manager: Max Knop

Reported:
05/06/21 12:26

Stockpile #001
2104399-01 (Soil)

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Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/23/21 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BED0454	04/27/21	04/28/21	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: **04/23/21 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		99.3 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		107 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %		21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/23/21 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BED0490	04/29/21	04/30/21	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **04/23/21 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl		108 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project Number: [none]
Project Manager: Max Knop

Reported:
05/06/21 12:26

Stockpile #001
2104399-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/23/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEE0003	05/01/21	05/05/21	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	0.00550	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	0.0154	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	0.00638	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: **04/23/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		81.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		97.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/23/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	2.37	0.0100	mg/L	1	BED0498	04/29/21	04/30/21	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/23/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Stockpile #001
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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	12.6	0.246	mg/kg dry	1	BED0497	04/29/21	04/29/21	EPA 6020B
Barium	130	0.493	"	"	"	"	"	"
Cadmium	ND	0.246	"	"	"	"	"	"
Copper	17.6	0.493	"	"	"	"	"	"
Lead	18.7	0.246	"	"	"	"	"	"
Nickel	17.8	0.493	"	"	"	"	"	"
Selenium	1.36	0.320	"	"	"	"	"	"
Silver	0.0685	0.0246	"	"	"	"	"	"
Zinc	80.9	0.493	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/23/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BED0527	04/30/21	04/30/21	EPA 7196A	

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

Date Sampled: **04/23/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	74.2	0.0616	mg/L dry	1	BED0523	04/30/21	05/03/21	EPA 6020B	
Magnesium	29.7	0.0616	"	"	"	"	"	"	
Sodium	233	0.0616	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/23/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.78	0.00100	units	1	BEE0057	05/04/21	05/04/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/23/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Stockpile #001
2104399-01 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

% Solids	81.2	%	1	BED0500	04/29/21	04/30/21	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/23/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	7.74	0.0100	mmhos/cm	1	BEE0023	05/03/21	05/03/21	EPA 120.1	

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

Date Sampled: **04/23/21 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.02		pH Units	1	BEE0024	05/03/21	05/03/21	EPA 9045D	

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Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BED0454 - EPA 5030 Soil MS

Blank (BED0454-BLK1)

Prepared & Analyzed: 04/27/21

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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0539		"	0.0400		135	23-173			
<i>Surrogate: Toluene-d8</i>	0.0508		"	0.0400		127	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0436		"	0.0400		109	21-167			

LCS (BED0454-BS1)

Prepared & Analyzed: 04/27/21

Benzene	0.0926	0.0020	mg/kg	0.100		92.6	70-130			
Toluene	0.113	0.0050	"	0.100		113	70-130			
Ethylbenzene	0.101	0.0050	"	0.100		101	70-130			
m,p-Xylene	0.203	0.010	"	0.200		101	70-130			
o-Xylene	0.103	0.0050	"	0.100		103	70-130			
1,2,4-Trimethylbenzene	0.0946	0.0050	"	0.100		94.6	70-130			
1,3,5-Trimethylbenzene	0.0919	0.0050	"	0.100		91.9	70-130			
Naphthalene	0.0885	0.0038	"	0.100		88.5	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0490		"	0.0400		123	23-173			
<i>Surrogate: Toluene-d8</i>	0.0420		"	0.0400		105	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0428		"	0.0400		107	21-167			

Matrix Spike (BED0454-MS1)

Source: 2104361-02

Prepared & Analyzed: 04/27/21

Benzene	0.0940	0.0020	mg/kg	0.100	ND	94.0	70-130			
Toluene	0.114	0.0050	"	0.100	ND	114	70-130			
Ethylbenzene	0.101	0.0050	"	0.100	ND	101	70-130			
m,p-Xylene	0.201	0.010	"	0.200	ND	100	70-130			
o-Xylene	0.104	0.0050	"	0.100	ND	104	70-130			
1,2,4-Trimethylbenzene	0.0949	0.0050	"	0.100	ND	94.9	70-130			
1,3,5-Trimethylbenzene	0.0912	0.0050	"	0.100	ND	91.2	70-130			
Naphthalene	0.0955	0.0038	"	0.100	ND	95.5	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0509		"	0.0400		127	23-173			
<i>Surrogate: Toluene-d8</i>	0.0422		"	0.0400		106	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0405		"	0.0400		101	21-167			

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Project: Woolley #1 Stockpile Sample

Project Number: [none]
Project Manager: Max Knop

Reported:
05/06/21 12:26

Volatile Organic Compounds by EPA Method 8260B - Quality Control

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

Batch BED0454 - EPA 5030 Soil MS

Matrix Spike Dup (BED0454-MSD1)	Source: 2104361-02			Prepared & Analyzed: 04/27/21						
Benzene	0.0917	0.0020	mg/kg	0.100	ND	91.7	70-130	2.49	30	
Toluene	0.107	0.0050	"	0.100	ND	107	70-130	6.66	30	
Ethylbenzene	0.101	0.0050	"	0.100	ND	101	70-130	0.0595	30	
m,p-Xylene	0.199	0.010	"	0.200	ND	99.4	70-130	0.991	30	
o-Xylene	0.103	0.0050	"	0.100	ND	103	70-130	0.666	30	
1,2,4-Trimethylbenzene	0.0941	0.0050	"	0.100	ND	94.1	70-130	0.825	30	
1,3,5-Trimethylbenzene	0.0899	0.0050	"	0.100	ND	89.9	70-130	1.36	30	
Naphthalene	0.104	0.0038	"	0.100	ND	104	70-130	8.28	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0505</i>		<i>"</i>	<i>0.0400</i>		<i>126</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0389</i>		<i>"</i>	<i>0.0400</i>		<i>97.3</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0416</i>		<i>"</i>	<i>0.0400</i>		<i>104</i>	<i>21-167</i>			

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Project: Woolley #1 Stockpile Sample

Project Number: [none]
Project Manager: Max Knop

Reported:
05/06/21 12:26

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BED0490 - EPA 3550A

Blank (BED0490-BLK1)

Prepared: 04/29/21 Analyzed: 04/30/21

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

LCS (BED0490-BS1)

Prepared: 04/29/21 Analyzed: 04/30/21

C10-C28 (DRO)	474	50	mg/kg	500	94.7	70-130				
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Matrix Spike (BED0490-MS1)

Source: 2104361-02

Prepared: 04/29/21 Analyzed: 04/30/21

C10-C28 (DRO)	449	50	mg/kg	500	12.6	87.4	70-130			
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Matrix Spike Dup (BED0490-MSD1)

Source: 2104361-02

Prepared: 04/29/21 Analyzed: 04/30/21

C10-C28 (DRO)	463	50	mg/kg	500	12.6	90.2	70-130	3.06	20	
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Project: Woolley #1 Stockpile Sample

Project Number: [none]
Project Manager: Max Knop

Reported:
05/06/21 12:26

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BEE0003 - EPA 5030 Soil MS

Blank (BEE0003-BLK1)

Prepared: 05/01/21 Analyzed: 05/03/21

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0270</i>		<i>"</i>	<i>0.0333</i>		<i>81.0</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0335</i>		<i>"</i>	<i>0.0333</i>		<i>100</i>	<i>40-150</i>			

LCS (BEE0003-BS1)

Prepared: 05/01/21 Analyzed: 05/03/21

Acenaphthene	0.0280	0.00500	mg/kg	0.0333		84.1	31-137			
Anthracene	0.0278	0.00500	"	0.0333		83.5	30-120			
Benzo (a) anthracene	0.0285	0.00500	"	0.0333		85.4	30-120			
Benzo (a) pyrene	0.0279	0.00500	"	0.0333		83.8	30-120			
Benzo (b) fluoranthene	0.0287	0.00500	"	0.0333		86.0	30-120			
Benzo (k) fluoranthene	0.0269	0.00500	"	0.0333		80.7	30-120			
Chrysene	0.0275	0.00500	"	0.0333		82.6	30-120			
Dibenz (a,h) anthracene	0.0331	0.00500	"	0.0333		99.4	30-120			
Fluoranthene	0.0228	0.00500	"	0.0333		68.4	30-120			
Fluorene	0.0297	0.00500	"	0.0333		89.0	30-120			
Indeno (1,2,3-cd) pyrene	0.0317	0.00500	"	0.0333		95.1	30-120			
Pyrene	0.0235	0.00500	"	0.0333		70.6	35-142			
1-Methylnaphthalene	0.0307	0.00500	"	0.0333		92.1	35-142			
2-Methylnaphthalene	0.0295	0.00500	"	0.0333		88.4	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0283</i>		<i>"</i>	<i>0.0333</i>		<i>85.0</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0374</i>		<i>"</i>	<i>0.0333</i>		<i>112</i>	<i>40-150</i>			

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Project: Woolley #1 Stockpile Sample

Project Number: [none]
Project Manager: Max Knop

Reported:
05/06/21 12:26

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BEE0003 - EPA 5030 Soil MS

Matrix Spike (BEE0003-MS1)	Source: 2104361-02			Prepared: 05/01/21 Analyzed: 05/03/21					
Acenaphthene	0.0280	0.00500	mg/kg	0.0333	ND	84.0	31-137		
Anthracene	0.0285	0.00500	"	0.0333	ND	85.6	30-120		
Benzo (a) anthracene	0.0283	0.00500	"	0.0333	ND	85.0	30-120		
Benzo (a) pyrene	0.0281	0.00500	"	0.0333	ND	84.4	30-120		
Benzo (b) fluoranthene	0.0288	0.00500	"	0.0333	ND	86.4	30-120		
Benzo (k) fluoranthene	0.0271	0.00500	"	0.0333	ND	81.4	30-120		
Chrysene	0.0273	0.00500	"	0.0333	ND	81.8	30-120		
Dibenz (a,h) anthracene	0.0331	0.00500	"	0.0333	ND	99.4	30-120		
Fluoranthene	0.0231	0.00500	"	0.0333	ND	69.3	30-120		
Fluorene	0.0307	0.00500	"	0.0333	ND	92.0	30-120		
Indeno (1,2,3-cd) pyrene	0.0315	0.00500	"	0.0333	ND	94.5	30-120		
Pyrene	0.0238	0.00500	"	0.0333	ND	71.5	35-142		
1-Methylnaphthalene	0.0338	0.00500	"	0.0333	ND	101	15-130		
2-Methylnaphthalene	0.0323	0.00500	"	0.0333	ND	96.9	15-130		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0268</i>		<i>"</i>	<i>0.0333</i>		<i>80.4</i>	<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0339</i>		<i>"</i>	<i>0.0333</i>		<i>102</i>	<i>40-150</i>		

Matrix Spike Dup (BEE0003-MSD1)	Source: 2104361-02			Prepared: 05/01/21 Analyzed: 05/03/21					
Acenaphthene	0.0284	0.00500	mg/kg	0.0333	ND	85.3	31-137	1.64	30
Anthracene	0.0295	0.00500	"	0.0333	ND	88.4	30-120	3.20	30
Benzo (a) anthracene	0.0290	0.00500	"	0.0333	ND	86.9	30-120	2.13	30
Benzo (a) pyrene	0.0284	0.00500	"	0.0333	ND	85.3	30-120	0.998	30
Benzo (b) fluoranthene	0.0288	0.00500	"	0.0333	ND	86.4	30-120	0.0625	30
Benzo (k) fluoranthene	0.0270	0.00500	"	0.0333	ND	81.1	30-120	0.362	30
Chrysene	0.0281	0.00500	"	0.0333	ND	84.3	30-120	3.05	30
Dibenz (a,h) anthracene	0.0329	0.00500	"	0.0333	ND	98.8	30-120	0.598	30
Fluoranthene	0.0229	0.00500	"	0.0333	ND	68.6	30-120	1.02	30
Fluorene	0.0288	0.00500	"	0.0333	ND	86.4	30-120	6.31	30
Indeno (1,2,3-cd) pyrene	0.0317	0.00500	"	0.0333	ND	95.1	30-120	0.712	30
Pyrene	0.0237	0.00500	"	0.0333	ND	71.0	35-142	0.731	30
1-Methylnaphthalene	0.0322	0.00500	"	0.0333	ND	96.6	15-130	4.74	50
2-Methylnaphthalene	0.0314	0.00500	"	0.0333	ND	94.2	15-130	2.87	50
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0278</i>		<i>"</i>	<i>0.0333</i>		<i>83.3</i>	<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0362</i>		<i>"</i>	<i>0.0333</i>		<i>109</i>	<i>40-150</i>		

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Woolley #1 Stockpile Sample

Project Number: [none]
Project Manager: Max Knop

Reported:
05/06/21 12:26

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

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

Batch BED0498 - EPA 3050B

Blank (BED0498-BLK1)

Prepared & Analyzed: 04/29/21

Boron ND 0.0100 mg/L

LCS (BED0498-BS1)

Prepared & Analyzed: 04/29/21

Boron 5.22 0.0100 mg/L 5.00 104 80-120

Duplicate (BED0498-DUP1)

Source: 2103484-05

Prepared & Analyzed: 04/29/21

Boron 0.135 0.0100 mg/L 0.112 18.8 20

Matrix Spike (BED0498-MS1)

Source: 2103484-05

Prepared & Analyzed: 04/29/21

Boron 5.53 0.0100 mg/L 5.00 0.112 108 75-125

Matrix Spike Dup (BED0498-MSD1)

Source: 2103484-05

Prepared & Analyzed: 04/29/21

Boron 5.46 0.0100 mg/L 5.00 0.112 107 75-125 1.39 25

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Woolley #1 Stockpile Sample

Project Number: [none]
Project Manager: Max Knop

Reported:
05/06/21 12:26

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BED0497 - EPA 3050B

Blank (BED0497-BLK1)

Prepared & Analyzed: 04/29/21

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 (BED0497-BS1)

Prepared & Analyzed: 04/29/21

Arsenic	38.1	0.200	mg/kg wet	40.0	95.3	80-120
Barium	36.4	0.400	"	40.0	90.9	80-120
Cadmium	1.87	0.200	"	2.00	93.6	80-120
Copper	40.1	0.400	"	40.0	100	80-120
Lead	17.5	0.200	"	20.0	87.4	80-120
Nickel	36.5	0.400	"	40.0	91.3	80-120
Selenium	3.55	0.260	"	4.00	88.8	80-120
Silver	1.81	0.0200	"	2.00	90.4	80-120
Zinc	39.3	0.400	"	40.0	98.3	80-120

Duplicate (BED0497-DUP1)

Source: 2103484-05

Prepared & Analyzed: 04/29/21

Arsenic	3.92	0.233	mg/kg dry	3.35	15.6	20
Barium	105	0.466	"	98.7	6.41	20
Cadmium	0.456	0.233	"	0.397	14.0	20
Copper	15.7	0.466	"	29.7	61.9	20
Lead	8.50	0.233	"	7.85	7.97	20
Nickel	29.5	0.466	"	30.6	3.84	20
Selenium	0.999	0.303	"	0.958	4.22	20
Silver	0.0487	0.0233	"	0.0464	4.91	20
Zinc	55.4	0.466	"	52.2	5.97	20

QR-03

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Woolley #1 Stockpile Sample

Project Number: [none]
Project Manager: Max Knop

Reported:
05/06/21 12:26

Total Metals by EPA 6020B - Quality Control

Summit Scientific

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

Batch BED0497 - EPA 3050B

Matrix Spike (BED0497-MS1)

Source: 2103484-05

Prepared & Analyzed: 04/29/21

Arsenic	45.7	0.233	mg/kg dry	46.6	3.35	90.8	75-125			
Barium	149	0.466	"	46.6	98.7	109	75-125			
Cadmium	2.58	0.233	"	2.33	0.397	93.6	75-125			
Copper	71.1	0.466	"	46.6	29.7	88.9	75-125			
Lead	28.2	0.233	"	23.3	7.85	87.2	75-125			
Nickel	71.4	0.466	"	46.6	30.6	87.4	75-125			
Selenium	4.78	0.303	"	4.66	0.958	82.1	75-125			
Silver	2.15	0.0233	"	2.33	0.0464	90.4	75-125			
Zinc	92.6	0.466	"	46.6	52.2	86.7	75-125			

Matrix Spike Dup (BED0497-MSD1)

Source: 2103484-05

Prepared & Analyzed: 04/29/21

Arsenic	46.4	0.233	mg/kg dry	46.6	3.35	92.4	75-125	1.58	25
Barium	146	0.466	"	46.6	98.7	101	75-125	2.37	25
Cadmium	2.64	0.233	"	2.33	0.397	96.1	75-125	2.19	25
Copper	65.3	0.466	"	46.6	29.7	76.3	75-125	8.61	25
Lead	27.8	0.233	"	23.3	7.85	85.4	75-125	1.48	25
Nickel	71.4	0.466	"	46.6	30.6	87.6	75-125	0.0938	25
Selenium	4.90	0.303	"	4.66	0.958	84.6	75-125	2.40	25
Silver	2.13	0.0233	"	2.33	0.0464	89.2	75-125	1.24	25
Zinc	95.1	0.466	"	46.6	52.2	92.1	75-125	2.70	25

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Woolley #1 Stockpile Sample

Project Number: [none]
Project Manager: Max Knop

Reported:
05/06/21 12:26

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BED0527 - 3060A Mod

Blank (BED0527-BLK1)

Prepared & Analyzed: 04/30/21

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BED0527-BS1)

Prepared & Analyzed: 04/30/21

Chromium, Hexavalent 24.4 0.30 mg/kg wet 25.0 97.8 80-120

Duplicate (BED0527-DUP1)

Source: 2103484-05

Prepared & Analyzed: 04/30/21

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BED0527-MS1)

Source: 2103484-05

Prepared & Analyzed: 04/30/21

Chromium, Hexavalent 27.9 0.30 mg/kg dry 29.1 ND 95.8 75-125

Matrix Spike Dup (BED0527-MSD1)

Source: 2103484-05

Prepared & Analyzed: 04/30/21

Chromium, Hexavalent 27.7 0.30 mg/kg dry 29.1 ND 95.0 75-125 0.839 20

Summit Scientific

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K.P. Kauffman
 1675 Broadway
 Denver CO, 80202

Project: Woolley #1 Stockpile Sample

Project Number: [none]
 Project Manager: Max Knop

Reported:
 05/06/21 12:26

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

Summit Scientific

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

Batch BED0523 - General Preparation

Blank (BED0523-BLK1)

Prepared: 04/30/21 Analyzed: 05/03/21

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

LCS (BED0523-BS1)

Prepared: 04/30/21 Analyzed: 05/03/21

Calcium	5.67	0.0500	mg/L wet	5.00	113	70-130				
Magnesium	5.79	0.0500	"	5.00	116	70-130				
Sodium	5.82	0.0500	"	5.00	116	70-130				

Summit Scientific

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K.P. Kauffman
 1675 Broadway
 Denver CO, 80202

Project: Woolley #1 Stockpile Sample

Project Number: [none]
 Project Manager: Max Knop

Reported:
 05/06/21 12:26

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

Summit Scientific

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

Batch BED0500 - General Preparation

Duplicate (BED0500-DUP1)	Source: 2104237-09			Prepared: 04/29/21 Analyzed: 04/30/21	
% Solids	91.6		%	91.5	0.129 20

Summit Scientific

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K.P. Kauffman
 1675 Broadway
 Denver CO, 80202

Project: Woolley #1 Stockpile Sample

Project Number: [none]
 Project Manager: Max Knop

Reported:
 05/06/21 12:26

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

Summit Scientific

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

Batch BEE0023 - General Preparation

Blank (BEE0023-BLK1)

Prepared & Analyzed: 05/03/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BEE0023-BS1)

Prepared & Analyzed: 05/03/21

Specific Conductance (EC) 0.153 0.0100 mmhos/cm 0.150 102 90-110

Duplicate (BEE0023-DUP1)

Source: 2104253-03

Prepared & Analyzed: 05/03/21

Specific Conductance (EC) 3.57 0.0100 mmhos/cm 3.53 1.15 20

Summit Scientific

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K.P. Kauffman
 1675 Broadway
 Denver CO, 80202

Project: Woolley #1 Stockpile Sample

Project Number: [none]
 Project Manager: Max Knop

Reported:
 05/06/21 12:26

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

Summit Scientific

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

Batch BEE0024 - General Preparation

LCS (BEE0024-BS1)

Prepared & Analyzed: 05/03/21

pH 9.28 pH Units 9.21 101 95-105

Duplicate (BEE0024-DUP1)

Source: 2104253-03

Prepared & Analyzed: 05/03/21

pH 8.02 pH Units 8.01 0.125 20

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Woolley #1 Stockpile Sample

Project Number: [none]
Project Manager: Max Knop

Reported:
05/06/21 12:26

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