

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 'P. Shrewsbury', with a stylized, cursive script.

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

Summit Scientific

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

2104399

Page 1 of 1

Project Manager:	Max Knop
E-Mail:	mknop@kpk.com; mduran@kpk.com
Project Name:	Woolly #1 Stockpile Sample
Project Number:	

				Preservative				Matrix				Analyze For:								
Sample Description	Date Sampled	Time Sampled	Number of Containers	HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	Table 915-1 Suite								Special Instructions
Stockpile #001	4/23/2021	12:00	1			x		x				x								
Relinquished by: <i>[Signature]</i>				Date/Time: 4-26-21 9:04		Received by: <i>[Signature]</i>		Date/Time: 4-26-21 9:04		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"/>										Notes:
Relinquished by:				Date/Time:		Received by:		Date/Time:		Sample Integrity: Temperature Upon Receipt: 3.6 Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>										
Relinquished by:				Date/Time:		Received in Lab by:		Date/Time:												

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>
-----------	------------

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)

Summit Scientific

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

Summit Scientific

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



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)

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
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

Summit Scientific

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



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)

Summit Scientific

Total Metals by EPA 6020B

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
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

Summit Scientific

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



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)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	81.2	%	1	BED0500	04/29/21	04/30/21	Calculation
----------	------	---	---	---------	----------	----------	-------------

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	

Summit Scientific

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



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

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 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	"							
Surrogate: 1,2-Dichloroethane-d4	0.0539		"	0.0400		135	23-173			
Surrogate: Toluene-d8	0.0508		"	0.0400		127	20-170			
Surrogate: 4-Bromofluorobenzene	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			
Surrogate: 1,2-Dichloroethane-d4	0.0490		"	0.0400		123	23-173			
Surrogate: Toluene-d8	0.0420		"	0.0400		105	20-170			
Surrogate: 4-Bromofluorobenzene	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			
Surrogate: 1,2-Dichloroethane-d4	0.0509		"	0.0400		127	23-173			
Surrogate: Toluene-d8	0.0422		"	0.0400		106	20-170			
Surrogate: 4-Bromofluorobenzene	0.0405		"	0.0400		101	21-167			

Summit Scientific

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



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

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 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	
Surrogate: 1,2-Dichloroethane-d4		0.0505	"	0.0400		126	23-173			
Surrogate: Toluene-d8		0.0389	"	0.0400		97.3	20-170			
Surrogate: 4-Bromofluorobenzene		0.0416	"	0.0400		104	21-167			

Summit Scientific

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



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

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

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
---------------	-----	----	-------	-----	------	--------

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
---------------	-----	----	-------	-----	------	------	--------

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
---------------	-----	----	-------	-----	------	------	--------	------	----

Summit Scientific

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



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

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

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	"							
Surrogate: 2-Methylnaphthalene-d10	0.0270		"	0.0333		81.0	40-150			
Surrogate: Fluoranthene-d10	0.0335		"	0.0333		100	40-150			

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			
Surrogate: 2-Methylnaphthalene-d10	0.0283		"	0.0333		85.0	40-150			
Surrogate: Fluoranthene-d10	0.0374		"	0.0333		112	40-150			

Summit Scientific

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



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

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 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		
Surrogate: 2-Methylnaphthalene-d10	0.0268		"	0.0333		80.4	40-150		
Surrogate: Fluoranthene-d10	0.0339		"	0.0333		102	40-150		

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
Surrogate: 2-Methylnaphthalene-d10	0.0278		"	0.0333		83.3	40-150		
Surrogate: Fluoranthene-d10	0.0362		"	0.0333		109	40-150		

Summit Scientific

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



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

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

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



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

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

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

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



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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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

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



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

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

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



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

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

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



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 Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

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

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



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	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

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

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



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 Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

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

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



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