

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

August 03, 2021

Max Knop

K.P. Kauffman

1675 Broadway

Denver, CO 80202

RE: Stieber

Work Order # 2107295

Enclosed are the results of analyses for samples received by Summit Scientific on 07/20/21 12:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury

President



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Stieber

Project Number: [none]
Project Manager: Max Knop

Reported:
08/03/21 07:31

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
318858-GW	2107295-01	Water	07/20/21 11:50	07/20/21 12:00
Trip Blank	2107295-02	Water	07/20/21 00:00	07/20/21 12:00

2107295

Summit Scientific

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310 ♦ 303-374-5933 (f)

Client: K.P. Kauffman Company, Inc.

Project Manager: Max Knop

Address: 1675 Broadway, Suite 2800

E-Mail: MKnop@kpk.com

City/State/Zip: Denver, CO 80202-4628

Phone: 303-825-4822

Project Name: *Stieber*

Sampler Name: Mike Hattel (mhattel@msn.com)

Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions				
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Full	LOIS	BTEX								
1	<i>B318858-6w</i>	<i>7/20/21</i>	<i>1150</i>	<i>11</i>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<i>Full</i>	<i>LOIS</i>							
2	<i>Trip Blank</i>	<i>7/20/21</i>	<i>---</i>	<i>2</i>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>	<i>BTEX</i>						
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							

Relinquished by: *Mike Hattel* Date/Time: *7/20/21 12:00*

Received by: *[Signature]* Date/Time: *7-20-21 12:00*

Turn Around Time (Check)

Same Day 72 hours

24 hours Standard

48 hours

Relinquished by: _____ Date/Time: _____

Received by: _____ Date/Time: _____

Sample Integrity:

Temperature Upon Receipt: *3.6*

Samples Intact: Yes No

Relinquished by: _____ Date/Time: _____

Received by: _____ Date/Time: _____

Notes: *copy to: mhattel@msn.com*

Sample Receipt Checklist

S2 Work Order 2107295

Client: KP KAUFFMAN Client Project ID: STIEBER

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 checked="" type="checkbox"/>			
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	Trip Blank Seals intact
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>			anions, pH
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.		<input checked="" 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 checked="" type="checkbox"/>			HNO3
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input checked="" type="checkbox"/>			
If dissolved metals are requested, were samples field filtered?		<input checked="" 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]
Signature of Custodian

7-10-21
Date/Time



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Stieber
Project Number: [none]
Project Manager: Max Knop

Reported:
08/03/21 07:31

318858-GW

2107295-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/20/21 11:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEG0373	07/21/21	07/22/21	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
m,p-Xylene	ND	2.0		"	"	"	"	"	"	
o-Xylene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	
Naphthalene	ND	1.0		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	500		"	"	"	"	"	"	

Date Sampled: **07/20/21 11:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		88.4 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		97.1 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.7 %		21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/20/21 11:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	0.100		mg/L	1	BEG0411	07/23/21	07/24/21	EPA 8015M	
C28-C36 (ORO)	ND	0.100		"	"	"	"	"	"	

Date Sampled: **07/20/21 11:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl		97.8 %		44.8-129		"	"	"	"	

Dissolved Gases by RSK-175

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318858-GW

2107295-01 (Water)

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Dissolved Gases by RSK-175

Date Sampled: **07/20/21 11:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Methane	ND	0.010		mg/L	1	BEG0403	07/22/21	07/23/21	RSK-175 mod	
Ethane	ND	0.010		"	"	"	"	"	"	
Propane	ND	0.010		"	"	"	"	"	"	

Date Sampled: **07/20/21 11:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<i>Surrogate: Ethene</i>		110 %		70-130		"	"	"	"	

Dissolved Metals by EPA Method 200.8

Date Sampled: **07/20/21 11:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	113000	50.0		ug/l	1	BEG0372	07/22/21	07/23/21	EPA 200.8	
Iron	ND	10.0		"	"	"	"	"	"	
Magnesium	44500	50.0		"	"	"	"	"	"	
Manganese	ND	1.00		"	"	"	"	"	"	
Potassium	2580	50.0		"	"	"	"	"	"	
Sodium	135000	50.0		"	"	"	"	"	"	
Barium	38.9	1.00		"	"	"	"	"	"	
Boron	227	10.0		"	"	"	"	"	"	
Selenium	3.16	1.00		"	"	"	"	"	"	
Strontium	1590	10.0		"	"	"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **07/20/21 11:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Bromide	ND	0.200		mg/L	1	BEG0359	07/21/21	07/22/21	EPA 300.0	
Chloride	135	10.0		"	100	"	"	"	"	
Fluoride	0.886	0.200		"	1	"	"	"	"	

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2107295-01 (Water)

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Anions by EPA Method 300.0

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sulfate	252	30.0	mg/L	100	BEG0359	07/21/21	07/22/21	EPA 300.0	
Nitrate as N	ND	0.100	"	1	"	"	"	"	
Nitrite as N	ND	0.100	"	"	"	"	"	"	
Nitrate/Nitrite as N	ND	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/20/21 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Alkalinity	380	10.0	mg/L as CaCO3	1	BEG0358	07/21/21	07/22/21	SM2320-B	
Carbonate	ND	10.0	"	"	"	"	"	"	
Bicarbonate	380	10.0	"	"	"	"	"	"	

Conventional Chemistry Parameters by APHA/EPA Methods

Date Sampled: **07/20/21 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Phosphorus - Total	0.0516	0.0500	mg/L	1	BEG0437	07/26/21	07/28/21	SM4500-P-E	

Specific Conductance by SM2510B

Date Sampled: **07/20/21 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1690	1.00	umhos/cm	1	BEG0354	07/21/21	07/21/21	SM2510B	

Total Dissolved Solids by SM2540C

Date Sampled: **07/20/21 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	836	10.0	mg/L	1	BEG0409	07/23/21	07/23/21	SM2540C	

pH by SM4500

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pH by SM4500

Date Sampled: **07/20/21 11:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.29	1.00		pH Units	1	BEG0414	07/20/21	07/23/21	SM4500-H+ B	

Biological Activity Reaction Test

Date Sampled: **07/20/21 11:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Iron Related Bacteria	500	25.0		CFU/ml	1	BEG0419	07/23/21	08/02/21	BART	
Sulfate Reducing Bacteria	1400	200		"	"	"	"	"	"	
Slime Forming Bacteria	ND	500		"	"	"	"	"	"	

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Trip Blank

2107295-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/20/21 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEG0373	07/21/21	07/22/21	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
m,p-Xylene	ND	2.0		"	"	"	"	"	"	
o-Xylene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **07/20/21 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		82.0 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		95.9 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.8 %		21-167		"	"	"	"	

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Project Manager: Max Knop

Reported:
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Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEG0373 - EPA 5030 Water MS

Blank (BEG0373-BLK1)

Prepared & Analyzed: 07/21/21

Benzene	ND	1.0	ug/l							
Benzene	ND	1.0	"							
Toluene	ND	1.0	"							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
m,p-Xylene	ND	2.0	"							
m,p-Xylene	ND	2.0	"							
o-Xylene	ND	1.0	"							
o-Xylene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Xylenes (total)	ND	2.0	"							
Naphthalene	ND	1.0	"							
1,2,4-Trimethylbenzene	ND	1.0	"							
1,3,5-Trimethylbenzene	ND	1.0	"							
Gasoline Range Hydrocarbons	ND	500	"							
Surrogate: 1,2-Dichloroethane-d4	11.3		"	13.3		84.7	23-173			
Surrogate: Toluene-d8	13.1		"	13.3		98.5	20-170			
Surrogate: 4-Bromofluorobenzene	12.9		"	13.3		96.9	21-167			
Surrogate: 1,2-Dichloroethane-d4	11.3		"	13.3		84.7	23-173			
Surrogate: Toluene-d8	13.1		"	13.3		98.5	20-170			
Surrogate: 4-Bromofluorobenzene	12.9		"	13.3		96.9	21-167			

LCS (BEG0373-BS1)

Prepared & Analyzed: 07/21/21

Benzene	39.2	1.0	ug/l	41.7		94.0	51-132			
Benzene	39.2	1.0	"	41.7		94.0	51-132			
Toluene	41.7	1.0	"	41.7		100	51-138			
Toluene	41.7	1.0	"	41.7		100	51-138			
Ethylbenzene	40.6	1.0	"	41.7		97.3	58-146			
Ethylbenzene	40.6	1.0	"	41.7		97.3	58-146			
m,p-Xylene	81.6	2.0	"	83.3		98.0	57-144			
m,p-Xylene	81.6	2.0	"	83.3		98.0	57-144			
o-Xylene	40.4	1.0	"	41.7		96.9	53-146			
o-Xylene	40.4	1.0	"	41.7		96.9	53-146			
Naphthalene	37.4	1.0	"	41.7		89.8	70-130			
1,2,4-Trimethylbenzene	34.8	1.0	"	41.7		83.4	70-130			
1,3,5-Trimethylbenzene	42.7	1.0	"	41.7		102	70-130			
Surrogate: 1,2-Dichloroethane-d4	11.4		"	13.3		85.5	23-173			

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Project: Stieber

Project Number: [none]
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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 BEG0373 - EPA 5030 Water MS

LCS (BEG0373-BS1)

Prepared & Analyzed: 07/21/21

Surrogate: Toluene-d8	13.4		ug/l	13.3		100	20-170			
Surrogate: 4-Bromofluorobenzene	12.8		"	13.3		95.9	21-167			
Surrogate: 1,2-Dichloroethane-d4	11.4		"	13.3		85.5	23-173			
Surrogate: Toluene-d8	13.4		"	13.3		100	20-170			
Surrogate: 4-Bromofluorobenzene	12.8		"	13.3		95.9	21-167			

Matrix Spike (BEG0373-MS1)

Source: 2107285-01

Prepared & Analyzed: 07/21/21

Benzene	39.5	1.0	ug/l	41.7	ND	94.9	34-141			
Benzene	39.5	1.0	"	41.7	ND	94.9	34-141			
Toluene	41.1	1.0	"	41.7	ND	98.6	27-151			
Toluene	41.1	1.0	"	41.7	ND	98.6	27-151			
Ethylbenzene	40.8	1.0	"	41.7	ND	97.9	29-160			
Ethylbenzene	40.8	1.0	"	41.7	ND	97.9	29-160			
m,p-Xylene	82.5	2.0	"	83.3	ND	99.0	20-166			
m,p-Xylene	82.5	2.0	"	83.3	ND	99.0	20-166			
o-Xylene	40.9	1.0	"	41.7	ND	98.2	33-159			
o-Xylene	40.9	1.0	"	41.7	ND	98.2	33-159			
Naphthalene	47.1	1.0	"	41.7	7.10	96.0	70-130			
1,2,4-Trimethylbenzene	35.5	1.0	"	41.7	ND	85.2	70-130			
1,3,5-Trimethylbenzene	43.3	1.0	"	41.7	ND	104	70-130			
Surrogate: 1,2-Dichloroethane-d4	11.3		"	13.3		84.7	23-173			
Surrogate: Toluene-d8	13.0		"	13.3		97.5	20-170			
Surrogate: 4-Bromofluorobenzene	13.0		"	13.3		97.5	21-167			
Surrogate: 1,2-Dichloroethane-d4	11.3		"	13.3		84.7	23-173			
Surrogate: Toluene-d8	13.0		"	13.3		97.5	20-170			
Surrogate: 4-Bromofluorobenzene	13.0		"	13.3		97.5	21-167			

Matrix Spike Dup (BEG0373-MSD1)

Source: 2107285-01

Prepared & Analyzed: 07/21/21

Benzene	39.1	1.0	ug/l	41.7	ND	93.8	34-141	1.12	32	
Benzene	39.1	1.0	"	41.7	ND	93.8	34-141	1.12	30	
Toluene	38.9	1.0	"	41.7	ND	93.4	27-151	5.35	25	
Toluene	38.9	1.0	"	41.7	ND	93.4	27-151	5.35	30	
Ethylbenzene	40.6	1.0	"	41.7	ND	97.4	29-160	0.541	50	
Ethylbenzene	40.6	1.0	"	41.7	ND	97.4	29-160	0.541	30	
m,p-Xylene	81.9	2.0	"	83.3	ND	98.3	20-166	0.693	36	
m,p-Xylene	81.9	2.0	"	83.3	ND	98.3	20-166	0.693	30	
o-Xylene	40.6	1.0	"	41.7	ND	97.5	33-159	0.687	26	
o-Xylene	40.6	1.0	"	41.7	ND	97.5	33-159	0.687	30	

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08/03/21 07:31

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 BEG0373 - EPA 5030 Water MS

Matrix Spike Dup (BEG0373-MSD1)	Source: 2107285-01			Prepared & Analyzed: 07/21/21						
Naphthalene	47.2	1.0	ug/l	41.7	7.10	96.2	70-130	0.170	30	
1,2,4-Trimethylbenzene	35.3	1.0	"	41.7	ND	84.7	70-130	0.593	30	
1,3,5-Trimethylbenzene	43.0	1.0	"	41.7	ND	103	70-130	0.719	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>11.4</i>		<i>"</i>	<i>13.3</i>		<i>85.6</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>12.6</i>		<i>"</i>	<i>13.3</i>		<i>94.7</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>12.9</i>		<i>"</i>	<i>13.3</i>		<i>97.0</i>	<i>21-167</i>			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>11.4</i>		<i>"</i>	<i>13.3</i>		<i>85.6</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>12.6</i>		<i>"</i>	<i>13.3</i>		<i>94.7</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>12.9</i>		<i>"</i>	<i>13.3</i>		<i>97.0</i>	<i>21-167</i>			

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Stieber

Project Number: [none]
Project Manager: Max Knop

Reported:
08/03/21 07:31

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEG0411 - EPA 3520B

Blank (BEG0411-BLK1)

Prepared: 07/23/21 Analyzed: 07/24/21

C10-C28 (DRO)	ND	0.100	mg/L							
C28-C36 (ORO)	ND	0.100	"							
Surrogate: <i>o</i> -Terphenyl	0.0229		"	0.0250		91.5	44.8-129			

LCS (BEG0411-BS1)

Prepared: 07/23/21 Analyzed: 07/24/21

C10-C28 (DRO)	0.875	0.100	mg/L	1.00		87.5	70-130			
Surrogate: <i>o</i> -Terphenyl	0.0220		"	0.0250		87.9	44.8-129			

LCS Dup (BEG0411-BSD1)

Prepared: 07/23/21 Analyzed: 07/24/21

C10-C28 (DRO)	0.938	0.100	mg/L	1.00		93.8	70-130	7.00	200	
Surrogate: <i>o</i> -Terphenyl	0.0232		"	0.0250		92.6	44.8-129			

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Stieber

Project Number: [none]
Project Manager: Max Knop

Reported:
08/03/21 07:31

Dissolved Gases by RSK-175 - Quality Control
Summit Scientific

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

Batch BEG0403 - GC

Blank (BEG0403-BLK1)

Prepared: 07/22/21 Analyzed: 07/23/21

Methane	ND	0.010	mg/L								
Ethane	ND	0.010	"								
Propane	ND	0.010	"								
<i>Surrogate: Ethene</i>	<i>0.0448</i>		<i>"</i>	<i>0.0364</i>		<i>123</i>	<i>70-130</i>				

LCS (BEG0403-BS1)

Prepared: 07/22/21 Analyzed: 07/23/21

Methane	0.038	0.010	mg/L	0.0428		87.7	70-130				
Ethane	0.10	0.010	"	0.0798		129	70-130				
Propane	0.15	0.010	"	0.139		111	70-130				
<i>Surrogate: Ethene</i>	<i>0.0931</i>		<i>"</i>	<i>0.0728</i>		<i>128</i>	<i>70-130</i>				

Duplicate (BEG0403-DUP1)

Source: 2107295-01

Prepared: 07/22/21 Analyzed: 07/23/21

Methane	ND	0.010	mg/L		ND					30	
Ethane	ND	0.010	"		ND					30	
Propane	ND	0.010	"		ND					30	
<i>Surrogate: Ethene</i>	<i>0.0403</i>		<i>"</i>	<i>0.0364</i>		<i>111</i>	<i>70-130</i>				

Matrix Spike (BEG0403-MS1)

Source: 2107295-01

Prepared: 07/22/21 Analyzed: 07/23/21

Methane	0.033	0.010	mg/L	0.0428	ND	76.2	70-130				
Ethane	0.096	0.010	"	0.0798	ND	120	70-130				
Propane	0.14	0.010	"	0.139	ND	101	70-130				
<i>Surrogate: Ethene</i>	<i>0.0944</i>		<i>"</i>	<i>0.0728</i>		<i>130</i>	<i>70-130</i>				

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Stieber

Project Number: [none]
Project Manager: Max Knop

Reported:
08/03/21 07:31

Dissolved Metals by EPA Method 200.8 - Quality Control
Summit Scientific

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

Batch BEG0372 - EPA 200.8

Blank (BEG0372-BLK1)

Prepared: 07/22/21 Analyzed: 07/23/21

Calcium	ND	50.0	ug/l							
Iron	ND	10.0	"							
Magnesium	ND	50.0	"							
Manganese	ND	1.00	"							
Potassium	ND	50.0	"							
Sodium	ND	50.0	"							
Barium	ND	1.00	"							
Boron	ND	10.0	"							
Selenium	ND	1.00	"							
Strontium	ND	10.0	"							

LCS (BEG0372-BS1)

Prepared: 07/22/21 Analyzed: 07/23/21

Calcium	5220	50.0	ug/l	5000	104	85-115				
Iron	5340	10.0	"	5000	107	85-115				
Magnesium	5530	50.0	"	5000	111	85-115				
Manganese	463	1.00	"	500	92.7	85-115				
Potassium	5380	50.0	"	5000	108	85-115				
Sodium	5600	50.0	"	5000	112	85-115				
Barium	451	1.00	"	500	90.2	85-115				
Boron	2470	10.0	"	2500	99.0	85-115				
Selenium	43.9	1.00	"	50.0	87.9	85-115				
Strontium	448	10.0	"	500	89.6	85-115				

Duplicate (BEG0372-DUP1)

Source: 2107278-01

Prepared: 07/22/21 Analyzed: 07/23/21

Calcium	152000	50.0	ug/l	150000		1.22	20			
Iron	43.9	10.0	"	49.9		12.7	20			
Magnesium	30000	50.0	"	29900		0.280	20			
Manganese	8.75	1.00	"	8.80		0.609	20			
Potassium	5570	50.0	"	5500		1.39	20			
Sodium	70700	50.0	"	69700		1.41	20			
Barium	138	1.00	"	143		3.69	20			
Boron	129	10.0	"	128		0.422	20			
Selenium	28.3	1.00	"	28.0		0.957	20			
Strontium	2080	10.0	"	1990		4.37	20			

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Stieber

Project Number: [none]
Project Manager: Max Knop

Reported:
08/03/21 07:31

Dissolved Metals by EPA Method 200.8 - Quality Control
Summit Scientific

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

Batch BEG0372 - EPA 200.8

Matrix Spike (BEG0372-MS1)

Source: 2107278-01

Prepared: 07/22/21 Analyzed: 07/23/21

Calcium	156000	50.0	ug/l	5000	150000	116	70-130		
Iron	5440	10.0	"	5000	49.9	108	70-130		
Magnesium	34900	50.0	"	5000	29900	98.6	70-130		
Manganese	508	1.00	"	500	8.80	99.8	70-130		
Potassium	10600	50.0	"	5000	5500	103	70-130		
Sodium	74500	50.0	"	5000	69700	95.9	70-130		
Barium	632	1.00	"	500	143	97.8	70-130		
Boron	2390	10.0	"	2500	128	90.5	70-130		
Selenium	74.9	1.00	"	50.0	28.0	93.9	70-130		
Strontium	2510	10.0	"	500	1990	104	70-130		

Matrix Spike Dup (BEG0372-MSD1)

Source: 2107278-01

Prepared: 07/22/21 Analyzed: 07/23/21

Calcium	155000	50.0	ug/l	5000	150000	107	70-130	0.294	25
Iron	5770	10.0	"	5000	49.9	114	70-130	5.92	25
Magnesium	35700	50.0	"	5000	29900	116	70-130	2.48	25
Manganese	535	1.00	"	500	8.80	105	70-130	5.18	25
Potassium	11000	50.0	"	5000	5500	111	70-130	3.80	25
Sodium	75200	50.0	"	5000	69700	110	70-130	0.917	25
Barium	647	1.00	"	500	143	101	70-130	2.43	25
Boron	2560	10.0	"	2500	128	97.1	70-130	6.60	25
Selenium	78.9	1.00	"	50.0	28.0	102	70-130	5.11	25
Strontium	2530	10.0	"	500	1990	107	70-130	0.502	25

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Stieber

Project Number: [none]
Project Manager: Max Knop

Reported:
08/03/21 07:31

Anions by EPA Method 300.0 - Quality Control
Summit Scientific

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

Batch BEG0359 - General Preparation

Blank (BEG0359-BLK1)

Prepared: 07/21/21 Analyzed: 07/22/21

Bromide	ND	0.200	mg/L							
Chloride	ND	0.100	"							
Fluoride	ND	0.200	"							
Sulfate	ND	0.300	"							
Nitrate as N	ND	0.100	"							
Nitrite as N	ND	0.100	"							
Nitrate/Nitrite as N	ND	0.200	"							

LCS (BEG0359-BS1)

Prepared: 07/21/21 Analyzed: 07/22/21

Bromide	9.12	0.200	mg/L	10.0	91.2	90-110				
Chloride	3.18	0.100	"	3.00	106	90-110				
Fluoride	2.02	0.200	"	2.00	101	90-110				
Sulfate	14.6	0.300	"	15.0	97.1	90-110				
Nitrate as N	2.82	0.100	"	3.00	94.1	90-110				
Nitrite as N	3.06	0.100	"	3.00	102	90-110				

Duplicate (BEG0359-DUP1)

Source: 2107286-01

Prepared: 07/21/21 Analyzed: 07/22/21

Bromide	ND	40.0	mg/L	ND				20		
Chloride	537	20.0	"	544			1.30	20		
Fluoride	ND	40.0	"	ND				20		
Sulfate	970	60.0	"	1010			3.76	20		
Nitrate as N	ND	20.0	"	ND				20		R-03
Nitrite as N	ND	20.0	"	ND				20		R-03
Nitrate/Nitrite as N	ND	40.0	"	ND				20		R-03

Matrix Spike (BEG0359-MS1)

Source: 2107286-01

Prepared: 07/21/21 Analyzed: 07/22/21

Bromide	1910	40.0	mg/L	2000	ND	95.6	80-120			
Chloride	1100	20.0	"	600	544	92.8	80-120			
Fluoride	393	40.0	"	400	ND	98.2	80-120			
Sulfate	4180	60.0	"	3000	1010	106	80-120			
Nitrate as N	622	20.0	"	600	ND	104	80-120			
Nitrite as N	514	20.0	"	600	ND	85.6	80-120			

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Stieber

Project Number: [none]
Project Manager: Max Knop

Reported:
08/03/21 07:31

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

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

Batch BEG0358 - General Preparation

Blank (BEG0358-BLK1)

Prepared: 07/21/21 Analyzed: 07/22/21

Total Alkalinity	ND	10.0	mg/L as CaCO3							
Carbonate	ND	10.0	"							
Bicarbonate	ND	10.0	"							

LCS (BEG0358-BS1)

Prepared: 07/21/21 Analyzed: 07/22/21

Total Alkalinity	90.0	10.0	mg/L as CaCO3	100		90.0	80-120			
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Duplicate (BEG0358-DUP1)

Source: 2107248-01

Prepared: 07/21/21 Analyzed: 07/22/21

Total Alkalinity	1320	10.0	mg/L as CaCO3		1320			0.00	20	
Carbonate	460	10.0	"		460			0.00	20	
Bicarbonate	860	10.0	"		860			0.00	20	

Matrix Spike (BEG0358-MS1)

Source: 2107248-01

Prepared: 07/21/21 Analyzed: 07/22/21

Total Alkalinity	1410	10.0	mg/L as CaCO3	100	1320	90.0	70-130			
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Matrix Spike Dup (BEG0358-MSD1)

Source: 2107248-01

Prepared: 07/21/21 Analyzed: 07/22/21

Total Alkalinity	1400	10.0	mg/L as CaCO3	100	1320	80.0	70-130	0.712	20	
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Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Stieber

Project Number: [none]
Project Manager: Max Knop

Reported:
08/03/21 07:31

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control
Summit Scientific

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

Batch BEG0437 - General Preparation

Blank (BEG0437-BLK1)

Prepared: 07/26/21 Analyzed: 07/28/21

Phosphorus - Total ND 0.0500 mg/L

LCS (BEG0437-BS1)

Prepared: 07/26/21 Analyzed: 07/28/21

Phosphorus - Total 0.968 0.0500 mg/L 1.00 96.8 80-120

Duplicate (BEG0437-DUP1)

Source: 2107295-01

Prepared: 07/26/21 Analyzed: 07/28/21

Phosphorus - Total 0.0502 0.0500 mg/L 0.0516 2.75 20

Matrix Spike (BEG0437-MS1)

Source: 2107295-01

Prepared: 07/26/21 Analyzed: 07/28/21

Phosphorus - Total 0.997 0.0500 mg/L 1.00 0.0516 94.5 70-130

Matrix Spike Dup (BEG0437-MSD1)

Source: 2107295-01

Prepared: 07/26/21 Analyzed: 07/28/21

Phosphorus - Total 1.04 0.0500 mg/L 1.00 0.0516 98.8 70-130 4.22 20

Summit Scientific

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K.P. Kauffman
 1675 Broadway
 Denver CO, 80202

Project: Stieber

Project Number: [none]
 Project Manager: Max Knop

Reported:
 08/03/21 07:31

Specific Conductance by SM2510B - Quality Control

Summit Scientific

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

Batch BEG0354 - General Preparation

Blank (BEG0354-BLK1)

Prepared & Analyzed: 07/21/21

Specific Conductance (EC) ND 1.00 umhos/cm

Duplicate (BEG0354-DUP1)

Source: 2107295-01

Prepared & Analyzed: 07/21/21

Specific Conductance (EC) 1700 1.00 umhos/cm 1690 0.236 20

Summit Scientific

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K.P. Kauffman
 1675 Broadway
 Denver CO, 80202

Project: Stieber

Project Number: [none]
 Project Manager: Max Knop

Reported:
 08/03/21 07:31

Total Dissolved Solids by SM2540C - Quality Control
Summit Scientific

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

Batch BEG0409 - General Preparation

Blank (BEG0409-BLK1)

Prepared & Analyzed: 07/23/21

Total Dissolved Solids ND 10.0 mg/L

Duplicate (BEG0409-DUP1)

Source: 2107237-01

Prepared & Analyzed: 07/23/21

Total Dissolved Solids 1060 10.0 mg/L 1060 0.0944 20

Summit Scientific

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K.P. Kauffman
 1675 Broadway
 Denver CO, 80202

Project: Stieber

Project Number: [none]
 Project Manager: Max Knop

Reported:
 08/03/21 07:31

pH by SM4500 - Quality Control
Summit Scientific

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

Batch BEG0414 - General Preparation

LCS (BEG0414-BS1)

Prepared: 07/20/21 Analyzed: 07/23/21

pH	9.27	1.00	pH Units	9.21	101	90-110
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Duplicate (BEG0414-DUP1)

Source: 2107279-01

Prepared: 07/20/21 Analyzed: 07/23/21

pH	6.79	1.00	pH Units	6.80	0.147	20
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Summit Scientific

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K.P. Kauffman
 1675 Broadway
 Denver CO, 80202

Project: Stieber

Project Number: [none]
 Project Manager: Max Knop

Reported:
 08/03/21 07:31

Biological Activity Reaction Test - Quality Control
Summit Scientific

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

Batch BEG0419 - General Preparation

Blank (BEG0419-BLK1)

Prepared: 07/23/21 Analyzed: 08/02/21

Iron Related Bacteria	ND	25.0	CFU/ml							
Sulfate Reducing Bacteria	ND	200	"							
Slime Forming Bacteria	ND	500	"							

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Stieber

Project Number: [none]
Project Manager: Max Knop

Reported:
08/03/21 07:31

Notes and Definitions

- R-03 The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.
- 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