

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

February 11, 2019

Heather Shideman

Axis Exploration LLC

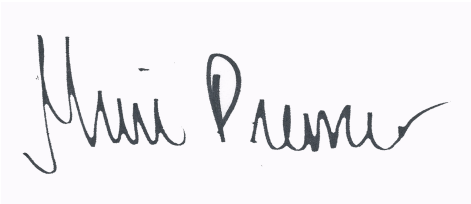
2234 117th Ave Ste. 106

Greeley, CO 80634

RE: Trip\_Blank/GWA\_Houlihan\_4\_64\_22A

Enclosed are the results of analyses for samples received by Summit Scientific on 02/04/19 16:07. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Muri Premer For Ben Shrewsbury

Laboratory Manager



Axis Exploration LLC  
2234 117th Ave Ste. 106  
Greeley CO, 80634

Project: Trip\_Blank/GWA\_Houlihan\_4\_64\_22A

Project Number: AFE #221706 Code 961.15

Project Manager: Heather Shideman

**Reported:**  
02/11/19 11:08

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BW_Meyer_302196_Trip_Blank	1902026-01	Water	02/04/19 14:34	02/04/19 16:07

Summit Scientific

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# Summit Scientific

S<sub>2</sub>


1902026

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310 ♦ 303-374-5933

Page 1 of 1

<b>Client:</b> Axis Exploration, LLC (AXIS)	<b>Report to:</b> Apex Companies, LLC	<b>Project Manager:</b> Heather Shideman
<b>Address:</b> 2234 117th Ave, Ste 106	<b>E-Mail:</b> Rochelle.Carlisle@apexcos.com, Heather.Shideman@apexcos.com	
<b>City/State/Zip:</b> Greeley, CO 80634	<b>cc:</b> bford@extractionog.com	
<b>Phone:</b> (970) 576-3446	<b>Project Name:</b> Trip_Blank/GWA_Houlihan_4_64_22A	
<b>Sampler Name:</b> David Stark	<b>Project No.:</b> AFE # 221706; Code: 961.15	<b>Facility ID</b> 756989

ID	Field ID / Point of Collection	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested				Special Instructions		
					HCl	HNO <sub>3</sub>	None	Other (Specify)	Groundwater	Soil	Air-Canister Serial #	Other (Specify)	BTEX						
1	BW_Meyer_302196_Trip_Blank	2/4/19	1434	2					X					X					Sample Frequency: 1SUB
			15:37 ps																
Relinquished by: David Stark		Date/Time: 2/4/19 1607		Received by: 		Date/Time: 2.4.19 1607		Turn Around Time (Check)				Notes:							
								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"/>											
Relinquished by:		Date/Time:		Received by:		Date/Time:		Sample Integrity:											
								Temperature Upon Receipt: 11.2											
								Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No											

# Sample Receipt Checklist

S2 Work Order 1902026

Client: Axis Exploration / APEX Client Project ID: Trip-Blank/GWA-Hutchins-4-64-229

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other H.O. Airbill #: \_\_\_\_\_

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

Temp (°C)	<u>11.2</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 <sup>(1)</sup> ? 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"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? 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):

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

CP  
Custodian Printed Name or Initials

[Signature]  
Signature of Custodian

2.4.19 1701  
Date/Time



Axis Exploration LLC  
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Greeley CO, 80634

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Project Number: AFE #221706 Code 961.15  
Project Manager: Heather Shideman

**Reported:**  
02/11/19 11:08

**BW\_Meyer\_302196\_Trip\_Blank**  
**1902026-01 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **02/04/19 14:34**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	1902054	02/07/19	02/09/19	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: **02/04/19 14:34**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		97.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		95.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.7 %	21-167		"	"	"	"	

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Project Manager: Heather Shideman

**Reported:**  
02/11/19 11:08

## 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 1902054 - EPA 5030 Water MS

##### Blank (1902054-BLK1)

Prepared: 02/07/19 Analyzed: 02/08/19

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
m,p-Xylene	ND	2.0	"							
o-Xylene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Surrogate: 1,2-Dichloroethane-d4	12.6		"	13.3		94.6	23-173			
Surrogate: Toluene-d8	12.8		"	13.3		95.9	20-170			
Surrogate: 4-Bromofluorobenzene	13.3		"	13.3		99.9	21-167			

##### LCS (1902054-BS1)

Prepared: 02/07/19 Analyzed: 02/08/19

Benzene	29.0	1.0	ug/l	33.3		86.9	51-132			
Toluene	28.2	1.0	"	33.3		84.5	51-138			
Ethylbenzene	34.3	1.0	"	33.3		103	58-146			
m,p-Xylene	57.3	2.0	"	66.7		85.9	57-144			
o-Xylene	29.8	1.0	"	33.3		89.4	53-146			
Surrogate: 1,2-Dichloroethane-d4	12.7		"	13.3		95.6	23-173			
Surrogate: Toluene-d8	12.8		"	13.3		95.9	20-170			
Surrogate: 4-Bromofluorobenzene	13.1		"	13.3		98.6	21-167			

##### Matrix Spike (1902054-MS1)

Source: 1902027-01

Prepared: 02/07/19 Analyzed: 02/08/19

Benzene	29.1	1.0	ug/l	33.3	ND	87.2	34-141			
Toluene	28.4	1.0	"	33.3	ND	85.3	27-151			
Ethylbenzene	34.7	1.0	"	33.3	ND	104	29-160			
m,p-Xylene	57.4	2.0	"	66.7	ND	86.1	20-166			
o-Xylene	30.3	1.0	"	33.3	ND	90.8	33-159			
Surrogate: 1,2-Dichloroethane-d4	12.9		"	13.3		96.8	23-173			
Surrogate: Toluene-d8	12.9		"	13.3		96.6	20-170			
Surrogate: 4-Bromofluorobenzene	13.9		"	13.3		104	21-167			

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## 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 1902054 - EPA 5030 Water MS

Matrix Spike Dup (1902054-MSD1)	Source: 1902027-01			Prepared: 02/07/19 Analyzed: 02/08/19						
Benzene	29.3	1.0	ug/l	33.3	ND	87.8	34-141	0.651	32	
Toluene	29.1	1.0	"	33.3	ND	87.4	27-151	2.43	25	
Ethylbenzene	34.7	1.0	"	33.3	ND	104	29-160	0.173	50	
m,p-Xylene	58.0	2.0	"	66.7	ND	87.0	20-166	0.953	36	
o-Xylene	30.4	1.0	"	33.3	ND	91.1	33-159	0.330	26	
Surrogate: 1,2-Dichloroethane-d4	14.5		"	13.3		109	23-173			
Surrogate: Toluene-d8	13.0		"	13.3		97.6	20-170			
Surrogate: 4-Bromofluorobenzene	14.1		"	13.3		106	21-167			

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### 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