

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310


February 03, 2022

James Miller  
Civitas Resources  
650 Southgate Drive  
Windsor, CO 80550

RE: Civitas/CPR - Horn Libsack 1  
Work Order #2201208

Enclosed are the results of analyses for samples received by Summit Scientific on 01/20/22 17:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Muri Premer". The signature is written in a cursive style with a large initial 'M' and a long, sweeping underline.

Muri Premer For Paul Shrewsbury  
President



Civatas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Civatas/CPR - Horn Libsack 1

Project Number: 8520.142  
Project Manager: James Miller

**Reported:**  
02/03/22 12:43

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Horn Libsack	2201208-01	Water	01/14/22 00:00	01/20/22 17:40

Summit Scientific

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# Summit Scientific

2201208

S<sub>2</sub>

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

Client: Civitas Resources

Project Manager: James Miller

Address: 650 Southgate Drive

E-Mail: [jmiller@civiresources.com](mailto:jmiller@civiresources.com)

City/State/Zip: Windsor, CO 80550

AFE#: **COC768125**

Phone: 720-984-7460

Project Name: Horn Libsack 1

Sampler Name:

Project Number: 8520.142

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested							Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Anion	Cations	TDS	BTEX 8020	DRO	GRO	RSK-175		
1	Horn Libsack	1/14/2022																			
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by:	Date/Time:	Received by:	Date/Time: 1/20/22 17:40	<b>Turn Around Time</b> (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"/>	<b>Notes: Please include Crestone Peak Resources to sample results.</b> Email results to <a href="mailto:jmiller@civiresources.com">jmiller@civiresources.com</a> , <a href="mailto:declark@civiresources.com">declark@civiresources.com</a> and <a href="mailto:regulatory@civiresources.com">regulatory@civiresources.com</a>
Relinquished by:	Date/Time:	Received by:	Date/Time:	<b>Sample Integrity:</b> Temperature Upon Receipt: 4.4 Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Relinquished by:	Date/Time:	Received by:	Date/Time:		

S<sub>2</sub>

2201208

## Sample Receipt Checklist

S2 Work Order# \_\_\_\_\_

Client: Civitas Client Project ID: Horn Libsack 1Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: \_\_\_\_\_
    
Matrix (check all that apply):  Air  Soil/Solid  Water  Other: \_\_\_\_\_  
(Describe)

Temp (°C)	4.4
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Thermometer ID: G86A9201901378

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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? If yes, contact client and note in narrative.	<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, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.	<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.

CS

Custodian Printed Name or Initials

1/20/22

Date/Time



Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Civitas/CPR - Horn Libsack 1

Project Number: 8520.142  
Project Manager: James Miller

**Reported:**  
02/03/22 12:43

**Horn Libsack**  
**2201208-01 (Water)**

**Summit Scientific**

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

Date Sampled: **01/14/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>650000</b>	10000	ug/l	10000	BFA0429	01/26/22	01/30/22	EPA 8260B	
<b>Toluene</b>	<b>4600000</b>	10000	"	"	"	"	"	"	E
<b>Ethylbenzene</b>	<b>630000</b>	10000	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>8800000</b>	20000	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>210000000</b>	5000000	"	"	"	"	"	"	E

Date Sampled: **01/14/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		122 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		152 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/14/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>710000</b>	50	mg/L	10	BFA0432	01/26/22	01/27/22	EPA 8015M	

Date Sampled: **01/14/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		2290 %	58.9-148		"	"	"	"	S-02

**Dissolved Gases by RSK-175**

Date Sampled: **01/14/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Methane</b>	<b>11</b>	1.0	mg/L	100	BFA0355	01/21/22	01/24/22	RSK-175 mod	
<b>Ethane</b>	<b>18</b>	1.0	"	"	"	"	"	"	
<b>Propane</b>	<b>20</b>	1.0	"	"	"	"	"	"	

Summit Scientific

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 Windsor CO, 80550

Project: Civitas/CPR - Horn Libsack 1

Project Number: 8520.142  
 Project Manager: James Miller

**Reported:**  
 02/03/22 12:43

**Horn Libsack**  
**2201208-01 (Water)**

**Summit Scientific**

**Dissolved Gases by RSK-175**

Date Sampled: **01/14/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: Ethene		22.0 %	70-130		BFA0355	01/21/22	01/24/22	RSK-175 mod	S-04

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Project Number: 8520.142  
Project Manager: James Miller

**Reported:**  
02/03/22 12:43

### 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 BFA0429 - EPA 5030 Water MS

##### Blank (BFA0429-BLK1)

Prepared: 01/26/22 Analyzed: 01/30/22

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Gasoline Range Hydrocarbons	ND	500	"							
Surrogate: 1,2-Dichloroethane-d4	15.2		"	13.3		114		23-173		
Surrogate: Toluene-d8	12.9		"	13.3		97.1		20-170		
Surrogate: 4-Bromofluorobenzene	12.8		"	13.3		95.9		21-167		

##### LCS (BFA0429-BS1)

Prepared: 01/26/22 Analyzed: 01/30/22

Benzene	38.7	1.0	ug/l	33.3		116		70-130		
Toluene	38.1	1.0	"	33.3		114		70-130		
Ethylbenzene	39.0	1.0	"	33.3		117		70-130		
m,p-Xylene	76.2	2.0	"	66.7		114		70-130		
o-Xylene	37.9	1.0	"	33.3		114		70-130		
Surrogate: 1,2-Dichloroethane-d4	16.4		"	13.3		123		23-173		
Surrogate: Toluene-d8	13.5		"	13.3		101		20-170		
Surrogate: 4-Bromofluorobenzene	12.8		"	13.3		96.4		21-167		

##### Matrix Spike (BFA0429-MS1)

Source: 2201288-21

Prepared: 01/26/22 Analyzed: 01/30/22

Benzene	39.2	1.0	ug/l	33.3	ND	118		70-130		
Toluene	39.0	1.0	"	33.3	ND	117		70-130		
Ethylbenzene	39.7	1.0	"	33.3	ND	119		70-130		
m,p-Xylene	79.1	2.0	"	66.7	ND	119		70-130		
o-Xylene	39.7	1.0	"	33.3	ND	119		70-130		
Surrogate: 1,2-Dichloroethane-d4	15.8		"	13.3		118		23-173		
Surrogate: Toluene-d8	13.4		"	13.3		101		20-170		
Surrogate: 4-Bromofluorobenzene	13.0		"	13.3		97.4		21-167		

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Project Number: 8520.142  
Project Manager: James Miller

**Reported:**  
02/03/22 12:43

**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 BFA0429 - EPA 5030 Water MS**

**Matrix Spike Dup (BFA0429-MSD1)**

Source: 2201288-21

Prepared: 01/26/22 Analyzed: 01/30/22

Benzene	38.9	1.0	ug/l	33.3	ND	117	70-130	0.767	30	
Toluene	38.8	1.0	"	33.3	ND	117	70-130	0.283	30	
Ethylbenzene	40.1	1.0	"	33.3	ND	120	70-130	0.952	30	
m,p-Xylene	78.3	2.0	"	66.7	ND	117	70-130	1.07	30	
o-Xylene	38.7	1.0	"	33.3	ND	116	70-130	2.40	30	
Surrogate: 1,2-Dichloroethane-d4	16.3		"	13.3		122	23-173			
Surrogate: Toluene-d8	13.3		"	13.3		99.7	20-170			
Surrogate: 4-Bromofluorobenzene	13.1		"	13.3		98.1	21-167			

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Project: Civitas/CPR - Horn Libsack 1

Project Number: 8520.142  
Project Manager: James Miller

**Reported:**  
02/03/22 12:43

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**Batch BFA0432 - EPA 5030 Water GC**

**Blank (BFA0432-BLK1)**

Prepared: 01/26/22 Analyzed: 01/27/22

C10-C28 (DRO) ND 5.0 mg/L

**LCS (BFA0432-BS1)**

Prepared: 01/26/22 Analyzed: 01/27/22

C10-C28 (DRO) 42.3 5.0 mg/L 50.0 84.7 70-130

**LCS Dup (BFA0432-BSD1)**

Prepared: 01/26/22 Analyzed: 01/27/22

C10-C28 (DRO) 49.6 5.0 mg/L 50.0 99.3 70-130 15.8 20

Summit Scientific

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**Reported:**  
02/03/22 12:43

**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 BFA0355 - GC**

**Blank (BFA0355-BLK1)**

Prepared: 01/21/22 Analyzed: 01/24/22

Methane	ND	0.010	mg/L							
Ethane	ND	0.010	"							
Propane	ND	0.010	"							
Surrogate: Ethene	0.0431		"	0.0364		118	70-130			

**LCS (BFA0355-BS1)**

Prepared: 01/21/22 Analyzed: 01/24/22

Methane	0.033	0.010	mg/L	0.0428		76.9	70-130			
Ethane	0.093	0.010	"	0.0798		116	70-130			
Propane	0.14	0.010	"	0.139		98.7	70-130			
Surrogate: Ethene	0.0899		"	0.0728		123	70-130			

**Duplicate (BFA0355-DUP1)**

Source: 2201183-01

Prepared: 01/21/22 Analyzed: 01/24/22

Methane	5.3	1.0	mg/L		ND			200	30	QR-03
Ethane	ND	0.010	"		ND				30	
Propane	ND	0.010	"		ND				30	
Surrogate: Ethene	0.0380		"	0.0364		104	70-130			

**Matrix Spike (BFA0355-MS1)**

Source: 2201183-01

Prepared: 01/21/22 Analyzed: 01/24/22

Methane	6.6	1.0	mg/L	0.0428	ND	NR	70-130			QM-01
Ethane	0.11	0.10	"	0.0798	ND	139	70-130			QM-01
Propane	0.16	0.10	"	0.139	ND	114	70-130			
Surrogate: Ethene	0.102		"	0.0728		140	70-130			QM-01

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**Reported:**  
02/03/22 12:43

### Notes and Definitions

- S-04 A sample matrix effect prevented complete surrogate recovery.
- S-02 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
- 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.
- QM-01 The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.
- E The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.
- 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