

Prepared For

**K.P. KAUFFMAN COMPANY, INC.
WORLD TRADE CENTER
1675 BROADWAY, SUITE 2800
DENVER, CO 80202-4825**

**GROUNDWATER INVESTIGATION FOR
ROBERT G BERGE #2 FACILITY
HIGHWAY 52 AND WELD COUNTY ROAD 23
FORT LUPTON, WELD COUNTY**

**Date Issued: January 12, 2022
APEX Project Number 1-0025.033.00**

Prepared By

**APEX CONSULTING SERVICES, INC.
P.O. Box 369
LOUISVILLE, CO 80027-0369**

January 12, 2022

Mr. Jeff Rickard
K.P. Kauffman Company, Inc.
World Trade Center
1675 Broadway, Suite 2800
Denver, CO 80202-4825

RE: Groundwater Investigation for the Robert G Berge #2 Facility, Highway 52 And Weld County Road 23, Fort Lupton, Weld County, Colorado

Dear Mr. Rickard:

Apex Consulting Services, Inc. is pleased to provide the results of our groundwater Investigation for the Robert G Berge #2 Facility, Highway 52 And Weld County Road 23, Fort Lupton, Weld County, Colorado. The following report details the field methods and findings of the investigation.

We appreciate the opportunity to provide environmental services for this project. If you have any questions concerning this report, or if we can assist you in any other matter, please call.

Sincerely,

APEX CONSULTING SERVICES, INC.



Michael D. Hattel, P.G., R.E.A.
Principal

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1.0 INTRODUCTION

Apex Consulting Services, Inc. (APEX) was retained by K.P. Kauffman Company, Inc. (KPK) to perform a groundwater investigation at the Robert G Berge #2 Facility (FACILITY). The FACILITY is located approximately 3/4-mile south of Highway 52 and 1/2-mile west of Weld County Road 23. On June 15, 2020, a leak from a flowline was discovered. The location of the flow line leak is illustrated on Figure 1 which is included in Appendix A. The leak was repaired and visually contaminated soil in the vicinity of the leak was excavated and disposed. On August 27, 2020, APEX collected a groundwater sample from a private water well located approximately 850' northwest of the FACILITY. APEX also collected surface water samples from the Brantner irrigation ditch (Located immediately east of the FACILITY) on August 27, 2020. Samples were collected approximately 300 feet upstream of the FACILITY, at the FACILITY and approximately 300 feet downstream of the FACILITY. On September 29, 2020, 10 soil probe borings were completed in the vicinity of the flow line leak. Soil and groundwater samples were collected from the boring. A report detailing the aforementioned work was submitted on December 3, 2021.

This investigation was requested by the Colorado Oil and Gas Conservation Commission (COGCC) to determine groundwater quality in vicinity of the FACILITY release.

2.0 FIELD ACTIVITIES

2.1 Utility Locates and Notifications

Prior to initiating the field activities (soil borings), the State of Colorado law requires that, at least 48 hours prior to the initiation of any subsurface work (drilling, backhoe operation, etc.), a utility inspection be performed at the Property. This inspection consists of the marking of underground utility locations by authorized utility locating personnel. The utility inspection was performed prior to the probing activities. Additionally, a "Notice of Intent to Construct Monitoring Holes" was submitted to the Office of the State Engineer prior to initiating field activities. Finally, COGCC was notified of the time and date for the field activities.

2.2 Soil Screening and Temporary Well Completion

On November 30, 2021, APEX contracted Drill Pro of Denver, Colorado to provide and operate probing equipment. Drill Pro, under the direction of APEX, advanced four probe boring (MW-1, MW-2, MW-3, and MW-4) with a direct-push, truck-mounted GeoProbe probe rig equipped with a four-foot-long stainless-steel system. All drilling rods and/or sampling equipment were decontaminated between samples and/or borings to prevent cross-contamination. The borings were installed to terminal depths ranging from 14 to 15 feet below ground surface (BGS). Boring MW-1 is located to the west of the release location. Boring MW-2 is located in the immediate vicinity of the release. Finally, borings MW-3 and MW-4 are located to the east of the release and east of the Brantner Ditch. The location of the borings is illustrated on Figure 2 which is included in Appendix A.

Soil samples (cores) were continuously collected from the borings. The soil samples collected from the boring were field screened for the presence of staining, unusual odors and volatile organic compounds (VOCs) vapors with a photo-ionization detector (PID) equipped with a 10.8 electro-volt lamp. Unusual odors, staining or VOCs were not present in any of the samples or cores collected from the boring.

Top soil was present in the borings from the surface to depths of approximately one (1) foot BGS. The top soil was underlain by silty to sandy clay. Weathered claystone and siltstone were present beneath the silty to sandy clay and present at depths ranging from 11 to 13 feet BGS. Weathered claystone was present beneath the clay in borings MW-1, MW-2 and MW-4. Weathered siltstone was present beneath the clay in boring MW-3. Boring logs and coordinates for each boring are included in Appendix B.

Following the completion of probing, the borings were completed as temporary monitoring wells by placing polyvinyl chloride (PVC) casing and 10 feet of factory slotted screen in the boring. The boring was filled with 10/20 silica sand and then hydrated bentonite. Groundwater was present in each monitoring well.

The top of the surface casing for each well were surveyed to a local datum (100 feet) utilizing a Bosch Self-Leveling Rotary Laser.

2.3 Groundwater Sampling and Analysis

On December 14, 2021, APEX collected a groundwater sample from the monitoring wells. Prior to sampling, groundwater elevations were measured and recorded in each of the monitoring wells. Shallow groundwater was present in the wells at depths ranging from approximately 7.5 to 10.2 feet BGS. Groundwater elevations in each monitoring well and the groundwater flow direction (east-northeast) is shown on Figure 2 in Appendix A. The monitoring wells were developed by purging with a dedicated bailer. During purging, pH, specific conductance, and temperature were monitored. Each well was sampled when pH, specific conductance, and temperature parameters were stable.

The samples were handled with clean, new, nitrile gloves and placed in laboratory supplied vials and bottles. The samples (vials and bottles) were stored on ice in a cooler and delivered to SUMMIT under chain-of-custody documentation. The groundwater samples were analyzed for contaminants listed on Table 915-1 of the COGCC Rules and Regulations. The laboratory reports provided by SUMMIT are included in Attachment A. The analytical results are also summarized on Table 1.

3.0 CONCLUSIONS AND RECOMMENDATIONS

On November 30, 2021, 4 probe borings were completed as a temporary monitoring wells at the FACILITY. Groundwater samples were collected from the monitoring wells on November 4, 2021. Volatile organic compounds or PAH compounds were not detected in any of the groundwater samples.

Based on the laboratory results, groundwater has not been impacted by the release at the FACILITY.

APPENDIX A

FIGURES



Legend



Direction of Surface Flow



Release Location
Lat:40.07498 Long:-104.85437

Date:	June 2020
Designed By:	K.P. Kauffman Co.
Drawn By:	MWK



K.P. Kauffman Company, Inc.
1675 Broadway, Suite 2800
Denver CO, 80202

K.P. Kauffman Company, Inc.
Robert G. Berge #2Release
SWSE, Section 2, Township 1 North, Range 67 West
Weld County, Colorado

Figure #1
Site Map

Robert G. Berge #2 Release

Legend

Monitoring Well

85.9' Groundwater Elevation

92.0' Groundwater Contour

Groundwater Flow Direction

MW-3
85.9'

MW-2
88.9'

MW-4
85.9'

MW-1
92.0'

92.0'

89.0'

86.0'




**FIGURE 2
WELL MAP**

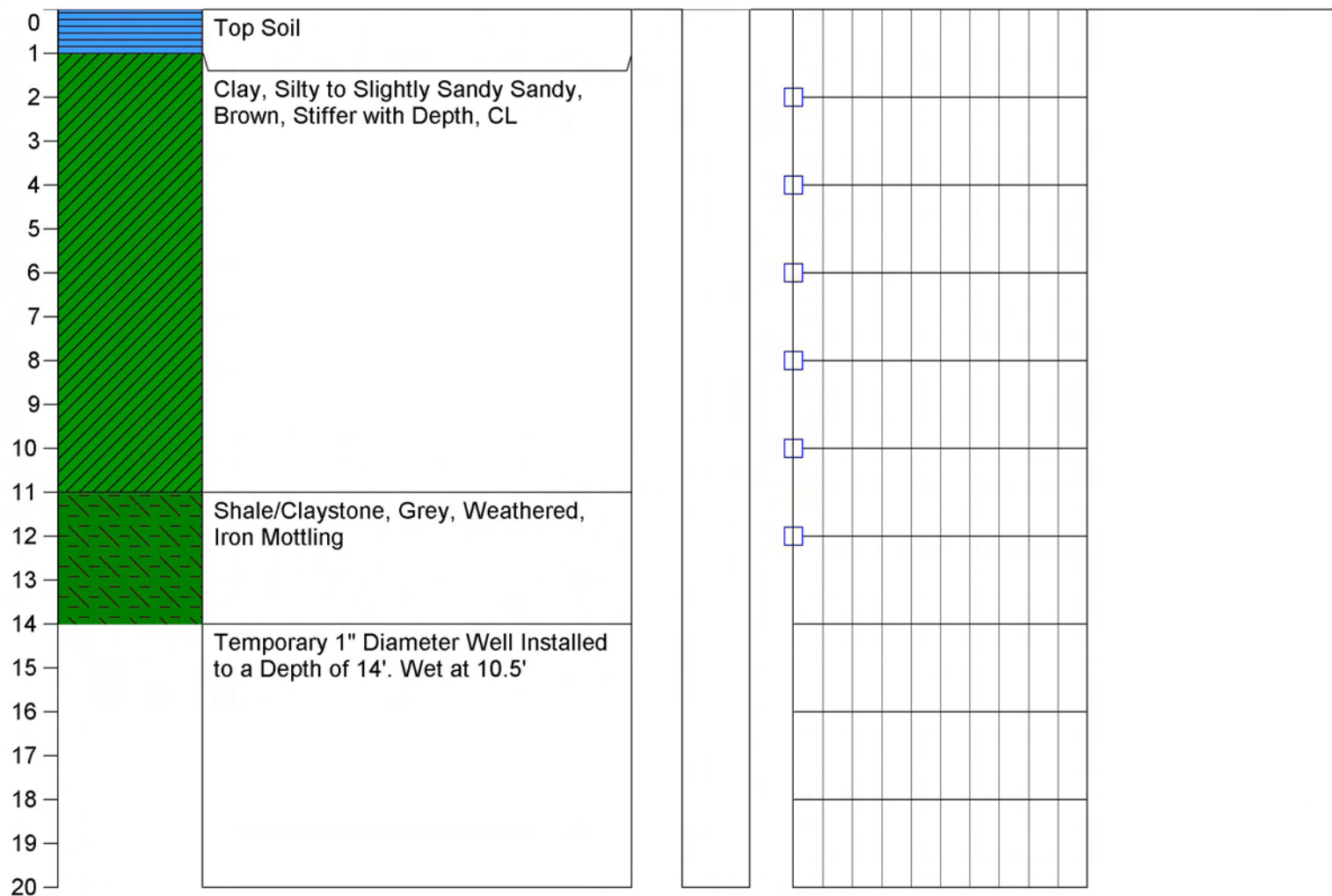


100 ft

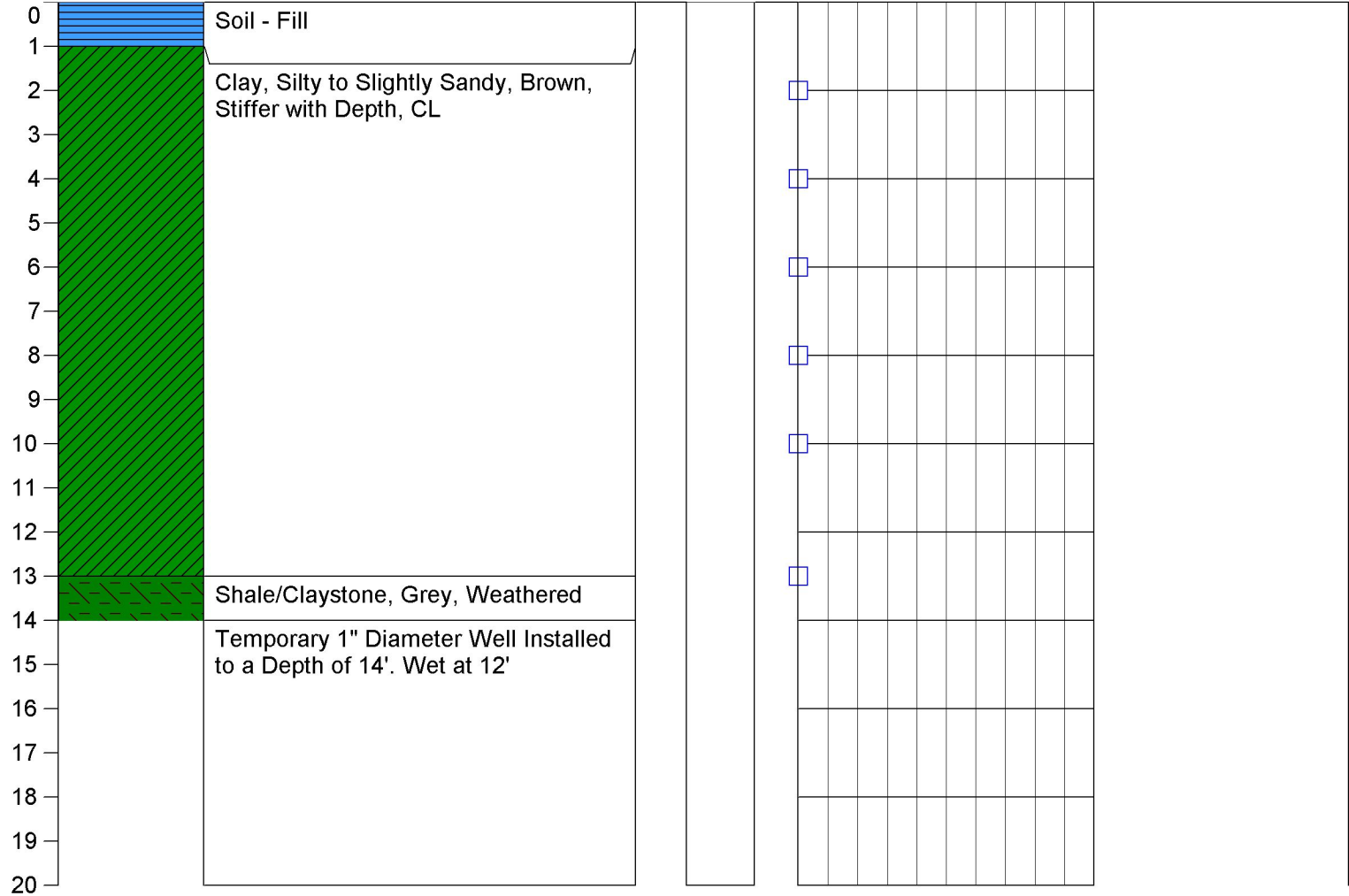
APPENDIX B



BORING LOGS AND COORDINATES

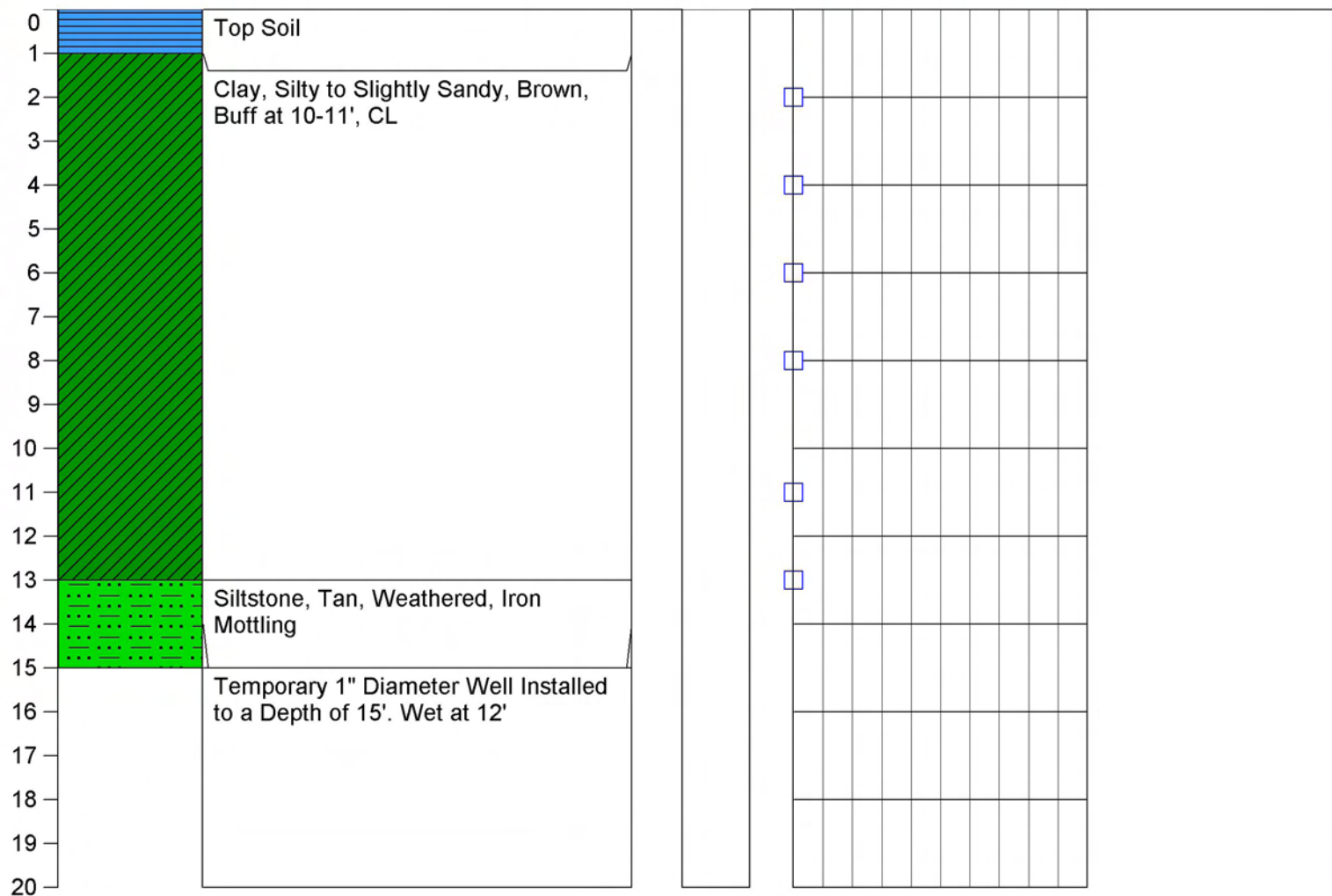
Project		Berge #2		Borehole # MW-1		
Project No		1-0025.033.00				
Client		K.P.K.				
Location		Ft Lupton, CO				
		Date		11/30/21		
		Elevation				
		Recorded By		Michael Hattel		
SUBSURFACE PROFILE				SAMPLE		VOC Concentrator ppm 0 500   
Depth (m)	Lithology	Lithologic Description	Number	Type	Recovery	
						Lab Analysis



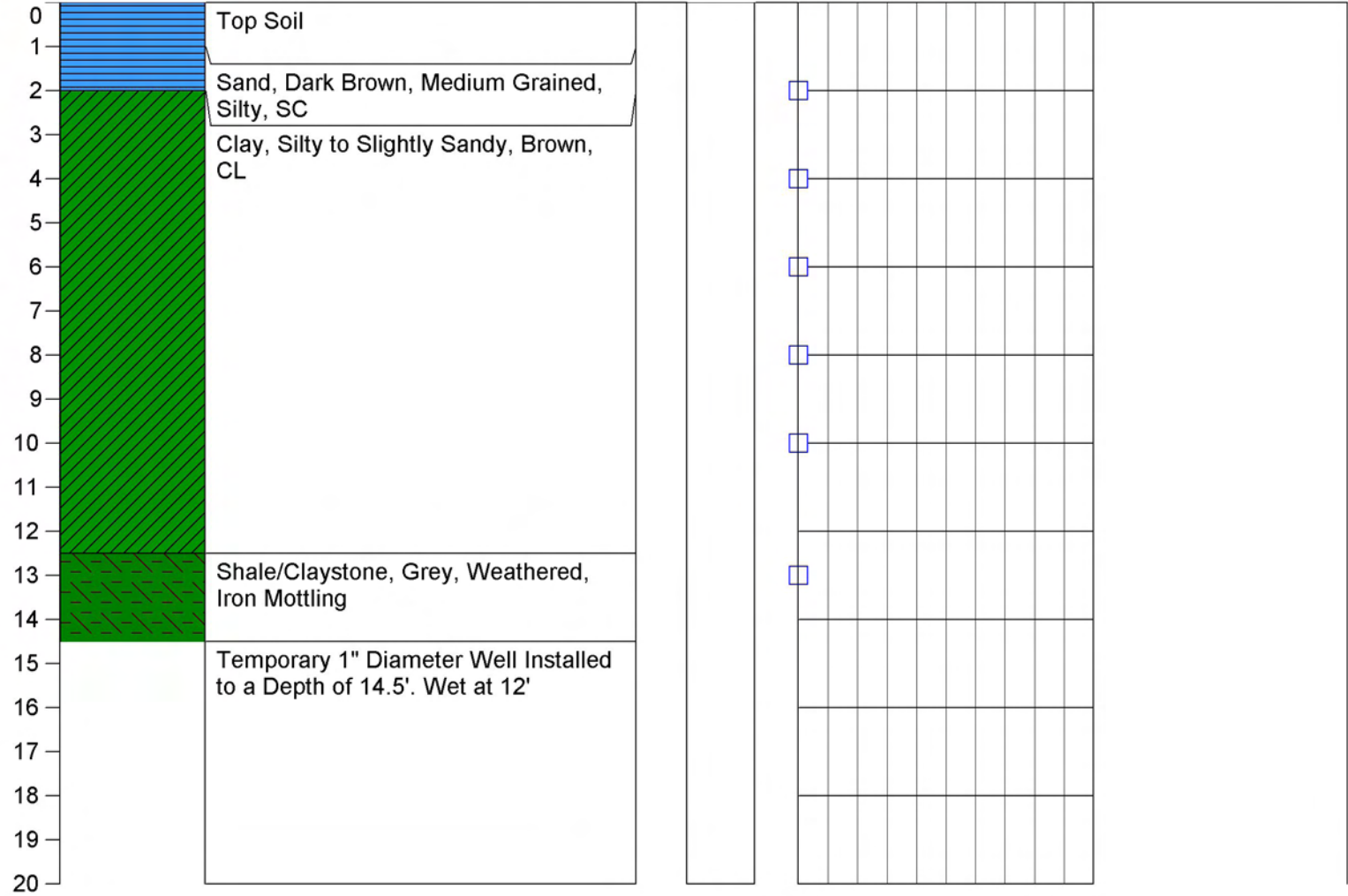
Project		Berge #2		Borehole # MW-2						
Project No		1-0025.033.00					Date		11/30/21	
Client		K.P.K.					Elevation			
Location		Ft Lupton, CO					Recorded By		Michael Hattel	
SUBSURFACE PROFILE				SAMPLE			VOC Concentrator			Lab Analysis
Depth (m)	Lithology	Lithologic Description	Number	Type	Recovery	ppm				
						0		500		
						%LEL				
						0	50	100		



Project		Berge #2		Borehole # MW-3					
Project No		1-0025.033.00							
Client		K.P.K.							
Location		Ft Lupton, CO							
		Date		11/30/21					
		Elevation							
		Recorded By		Michael Hattel					
SUBSURFACE PROFILE				SAMPLE		VOC Concentrator ppm 0 500 			
Depth (m)	Lithology	Lithologic Description	Number	Type	Recovery		%LEL 0 50 100 		
						Lab Analysis			



Project		Berge #2		Borehole # MW-4						
Project No		1-0025.033.00					Date		11/30/21	
Client		K.P.K.					Elevation			
Location		Ft Lupton, CO					Recorded By		Michael Hattel	
SUBSURFACE PROFILE				SAMPLE			VOC Concentrator		Lab Analysis	
Depth (m)	Lithology	Lithologic Description	Number	Type	Recovery	0 ppm 500				
						0 %LEL 50 100				



ROBERT G. BERGE #2 RELEASE MONITORING WELL COORDINATES

Monitoring Well	Latitude	Longitude
MW-1	40.07491	-104.85463
MW-2	40.07495	-104.85441
MW-3	40.07512	-104.85429
MW-4	40.07495	-104.854170

APPENDIX C

LABORATORY REPORT AND TABLE

TABLE 1

SUMMARY OF LABORATORY RESULTS
FOR GROUNDWATER SAMPLES COLLECTED FROM MONITORING WELLS
ROBERT BERGE # 2 FACILITY
HIGHWAY 52 AND WELD COUNTY ROAD 23
FORT LUPTON, WELD COUNTY

Sample	Date	Depth To Water (BGS) Feet	Benzene (ug/L)	Toluene (ug/L)	Ethyl-Benzene (ug/L)	Total Xylenes (ug/L)	Naphthalene (ug/L)	1,2,4-TMB (ug/L)	1,3,5-TMB (ug/L)	Chloride (mg/L)	Sulfate (mg/L)	TDS (mg/L)
MW-1*	11/4/21	92.0	<1	<1	<1	<2	<1	<1	<1	2080	6380	9790
MW-2	11/4/21	88.9	<1	<1	<1	<2	<1	<1	<1	506	1540	3060
MW-3	11/4/21	85.9	<1	<1	<1	<2	<1	<1	<1	103	190	672
MW-4	11/4/21	85.9	<1	<1	<1	<2	<1	<1	<1	134	190	724
Standard	NA	NA	5	1000	700	1400	140	67	67	*2600	*7975	*12232

Standard = Colorado Oil and Gas Conservation Commission (COGCC) and/or State of Colorado

BGS = Below Ground Surface

BOLD = Exceeds Standard

mS = Micro siemens at 25 degrees Celsius

ug/L = Micrograms per liter

mg/L = Milligrams per liter

* = Background Sample

** = 1.25 x background for groundwater samples

1,2,4-Trimethylbenzene = 1,2,4-TMB

1,3,5-Trimethylbenzene = 1,3,5-TMB

Benzene, toluene, ethylbenzene, total xylenes, naphthalene, 1,2,4-TMB and 1,3,5-TMB by EPA Method 8260

Chloride by EPA Method 300

Sulfate by EPA Method 300

TDS by EPA Method SM 540C

NA = Not Applicable

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

December 23, 2021

Jeff Rickard

K.P. Kauffman

1675 Broadway

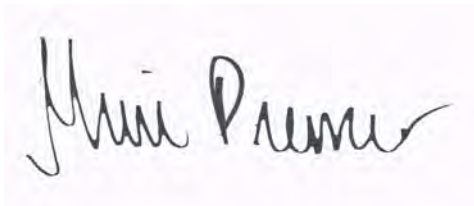
Denver, CO 80202

RE: Berge

Work Order #2112273

Enclosed are the results of analyses for samples received by Summit Scientific on 12/15/21 11:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Muri Premer". The signature is written in a cursive, flowing style. The first name "Muri" is written with a large, stylized 'M' and 'u'. The last name "Premer" is written with a large 'P' and a trailing flourish.

Muri Premer For Paul Shrewsbury
President



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Berge
Project Number: [none]
Project Manager: Jeff Rickard

Reported:
12/23/21 11:44

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	2112273-01	Water	12/14/21 00:00	12/15/21 11:50
MW-2	2112273-02	Water	12/14/21 00:00	12/15/21 11:50
MW-3	2112273-03	Water	12/14/21 00:00	12/15/21 11:50
MW-4	2112273-04	Water	12/14/21 00:00	12/15/21 11:50

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.

Summit Scientific

2112273

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

Page 1 of 1

Client: K.P. Kauffman Company, Inc.

Project Manager: Jeff Rickard

Address: 1675 Broadway, Suite 2800

E-Mail: jrickard@kpk.com

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

Phone: 303-825-4822

Project Name: BERGE

Sampler Name: Mike Hattel (303-517-6551)

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									
1	MW-1	12/14/21		4				X	X					X							
2	MW-2			4				X	X					X							
3	MW-3			4				X	X					X							
4	MW-4			4				X	X					X							
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by: <u>Mike Hattel</u>	Date/Time: <u>12/15/21 11:50</u>	Received by: <u>[Signature]</u>	Date/Time: <u>12-15-21 11:50</u>	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: PDF COPY TO MIKE HATTEL AT mhattel@msn.com
Relinquished by:	Date/Time:	Received by:	Date/Time:	Sample Integrity: Temperature Upon Receipt: <u>14.6</u> Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	
Relinquished by:	Date/Time:	Received by:	Date/Time:		

S₂

Sample Receipt Checklist

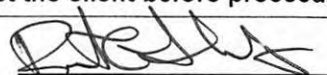
S2 Work Order# 2112273

Client: Kp Kauffman Client Project ID: BERGEShipped Via: ☐ H.D./P.U./FedEx/UPS/USPS/Other ☒ Airbill #: _____Matrix (check all that apply): ☐ Air ☐ Soil/Solid ☒ Water ☐ Other: _____
(Describe)Temp (°C) 14.6

Thermometer ID: G86A9201901378

	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 if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ON ICE
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<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) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 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):

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

 Custodian Printed Name or Initials

12.15.21
 Date/Time



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Berge
Project Number: [none]
Project Manager: Jeff Rickard

Reported:
12/23/21 11:44

MW-1
2112273-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/14/21 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	BEL0374	12/16/21	12/19/21	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	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	"	"	"	"	"	"	

Date Sampled: **12/14/21 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		84.0 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		124 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		115 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **12/14/21 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chloride	2080	12.0	mg/L	200	BEL0399	12/17/21	12/17/21	EPA 300.0	
Sulfate	6380	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **12/14/21 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Total Dissolved Solids	9790	10.0	mg/L	1	BEL0398	12/17/21	12/17/21	SM2540C	

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: Berge
Project Number: [none]
Project Manager: Jeff Rickard

Reported:
12/23/21 11:44

MW-2
2112273-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/14/21 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BEL0374	12/16/21	12/19/21	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	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	"	"	"	"	"	"	

Date Sampled: **12/14/21 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		92.3 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		125 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **12/14/21 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	506	12.0	mg/L	200	BEL0399	12/17/21	12/17/21	EPA 300.0	
Sulfate	1540	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **12/14/21 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	3060	10.0	mg/L	1	BEL0398	12/17/21	12/17/21	SM2540C	

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Berge
Project Number: [none]
Project Manager: Jeff Rickard

Reported:
12/23/21 11:44

MW-3
2112273-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/14/21 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BEL0374	12/16/21	12/19/21	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	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	"	"	"	"	"	"	

Date Sampled: **12/14/21 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		101 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		107 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		114 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **12/14/21 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	103	12.0	mg/L	200	BEL0399	12/17/21	12/17/21	EPA 300.0	
Sulfate	190	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **12/14/21 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	672	10.0	mg/L	1	BEL0398	12/17/21	12/17/21	SM2540C	

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: Berge
Project Number: [none]
Project Manager: Jeff Rickard

Reported:
12/23/21 11:44

MW-4
2112273-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/14/21 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BEL0374	12/16/21	12/19/21	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	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	"	"	"	"	"	"	

Date Sampled: **12/14/21 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		96.0 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		112 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **12/14/21 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	134	12.0	mg/L	200	BEL0399	12/17/21	12/17/21	EPA 300.0	
Sulfate	190	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **12/14/21 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	724	10.0	mg/L	1	BEL0398	12/17/21	12/17/21	SM2540C	

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Berge
Project Number: [none]
Project Manager: Jeff Rickard

Reported:
12/23/21 11:44

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 BEL0374 - EPA 5030 Water MS

Blank (BEL0374-BLK1)

Prepared: 12/16/21 Analyzed: 12/19/21

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	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	"							
Surrogate: 1,2-Dichloroethane-d4	17.2		"	13.3		129	23-173			
Surrogate: Toluene-d8	18.6		"	13.3		140	20-170			
Surrogate: 4-Bromofluorobenzene	16.9		"	13.3		127	21-167			

LCS (BEL0374-BS1)

Prepared: 12/16/21 Analyzed: 12/19/21

Benzene	39.0	1.0	ug/l	33.3		117	51-132			
Toluene	37.8	1.0	"	33.3		113	51-138			
Ethylbenzene	32.1	1.0	"	33.3		96.3	58-146			
m,p-Xylene	78.7	2.0	"	66.7		118	57-144			
o-Xylene	36.6	1.0	"	33.3		110	53-146			
Naphthalene	32.9	1.0	"	33.3		98.8	70-130			
1,2,4-Trimethylbenzene	34.5	1.0	"	33.3		104	70-130			
1,3,5-Trimethylbenzene	36.4	1.0	"	33.3		109	70-130			
Surrogate: 1,2-Dichloroethane-d4	12.9		"	13.3		96.5	23-173			
Surrogate: Toluene-d8	12.7		"	13.3		95.6	20-170			
Surrogate: 4-Bromofluorobenzene	18.0		"	13.3		135	21-167			

Matrix Spike (BEL0374-MS1)

Source: 2112273-01

Prepared: 12/16/21 Analyzed: 12/19/21

Benzene	32.2	1.0	ug/l	33.3	ND	96.5	34-141			
Toluene	37.2	1.0	"	33.3	ND	112	27-151			
Ethylbenzene	37.5	1.0	"	33.3	ND	112	29-160			
m,p-Xylene	80.3	2.0	"	66.7	ND	120	20-166			
o-Xylene	40.6	1.0	"	33.3	ND	122	33-159			
Naphthalene	25.1	1.0	"	33.3	ND	75.4	70-130			
1,2,4-Trimethylbenzene	33.8	1.0	"	33.3	ND	101	70-130			
1,3,5-Trimethylbenzene	42.7	1.0	"	33.3	ND	128	70-130			
Surrogate: 1,2-Dichloroethane-d4	10.3		"	13.3		77.5	23-173			
Surrogate: Toluene-d8	17.0		"	13.3		127	20-170			
Surrogate: 4-Bromofluorobenzene	19.5		"	13.3		146	21-167			

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Volatile Organic Compounds by EPA Method 8260B - Quality Control
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Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BEL0374 - EPA 5030 Water MS

Matrix Spike Dup (BEL0374-MSD1)	Source: 2112273-01			Prepared: 12/16/21 Analyzed: 12/19/21						
Benzene	38.4	1.0	ug/l	33.3	ND	115	34-141	17.8	30	
Toluene	36.1	1.0	"	33.3	ND	108	27-151	3.03	30	
Ethylbenzene	28.1	1.0	"	33.3	ND	84.2	29-160	28.6	30	
m,p-Xylene	61.2	2.0	"	66.7	ND	91.8	20-166	27.0	30	
o-Xylene	31.2	1.0	"	33.3	ND	93.5	33-159	26.2	30	
Naphthalene	32.4	1.0	"	33.3	ND	97.1	70-130	25.2	30	
1,2,4-Trimethylbenzene	34.7	1.0	"	33.3	ND	104	70-130	2.69	30	
1,3,5-Trimethylbenzene	33.2	1.0	"	33.3	ND	99.5	70-130	25.1	30	
Surrogate: 1,2-Dichloroethane-d4	10.8		"	13.3		81.2	23-173			
Surrogate: Toluene-d8	16.9		"	13.3		127	20-170			
Surrogate: 4-Bromofluorobenzene	17.4		"	13.3		130	21-167			

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Anions by EPA Method 300.0 - Quality Control
Summit Scientific

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

Batch BEL0399 - General Preparation

Blank (BEL0399-BLK1)

Prepared & Analyzed: 12/17/21

Chloride	ND	0.0600	mg/L
Sulfate	ND	0.300	"

LCS (BEL0399-BS1)

Prepared & Analyzed: 12/17/21

Chloride	2.90	0.0600	mg/L	3.00	96.8	90-110
Sulfate	15.6	0.300	"	15.0	104	90-110

Duplicate (BEL0399-DUP1)

Source: 2112304-01

Prepared & Analyzed: 12/17/21

Chloride	4.61	0.0600	mg/L	4.62	0.0433	20
Sulfate	60.7	0.300	"	58.0	4.54	20

Matrix Spike (BEL0399-MS1)

Source: 2112304-01

Prepared & Analyzed: 12/17/21

Chloride	7.32	0.0600	mg/L	3.00	4.62	90.2	80-120
Sulfate	71.4	0.300	"	15.0	58.0	89.1	80-120

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12/23/21 11:44

Total Dissolved Solids by SM2540C - Quality Control
Summit Scientific

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

Batch BEL0398 - General Preparation

Blank (BEL0398-BLK1)

Prepared & Analyzed: 12/17/21

Total Dissolved Solids ND 10.0 mg/L

Duplicate (BEL0398-DUP1)

Source: 2112270-08

Prepared & Analyzed: 12/17/21

Total Dissolved Solids 699 10.0 mg/L 697 0.315 20

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Denver CO, 80202

Project: Berge
Project Number: [none]
Project Manager: Jeff Rickard

Reported:
12/23/21 11:44

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