

PDC Energy, Inc.
Fourth Quarter 2021 Groundwater Monitoring Summary

November 11, 2021

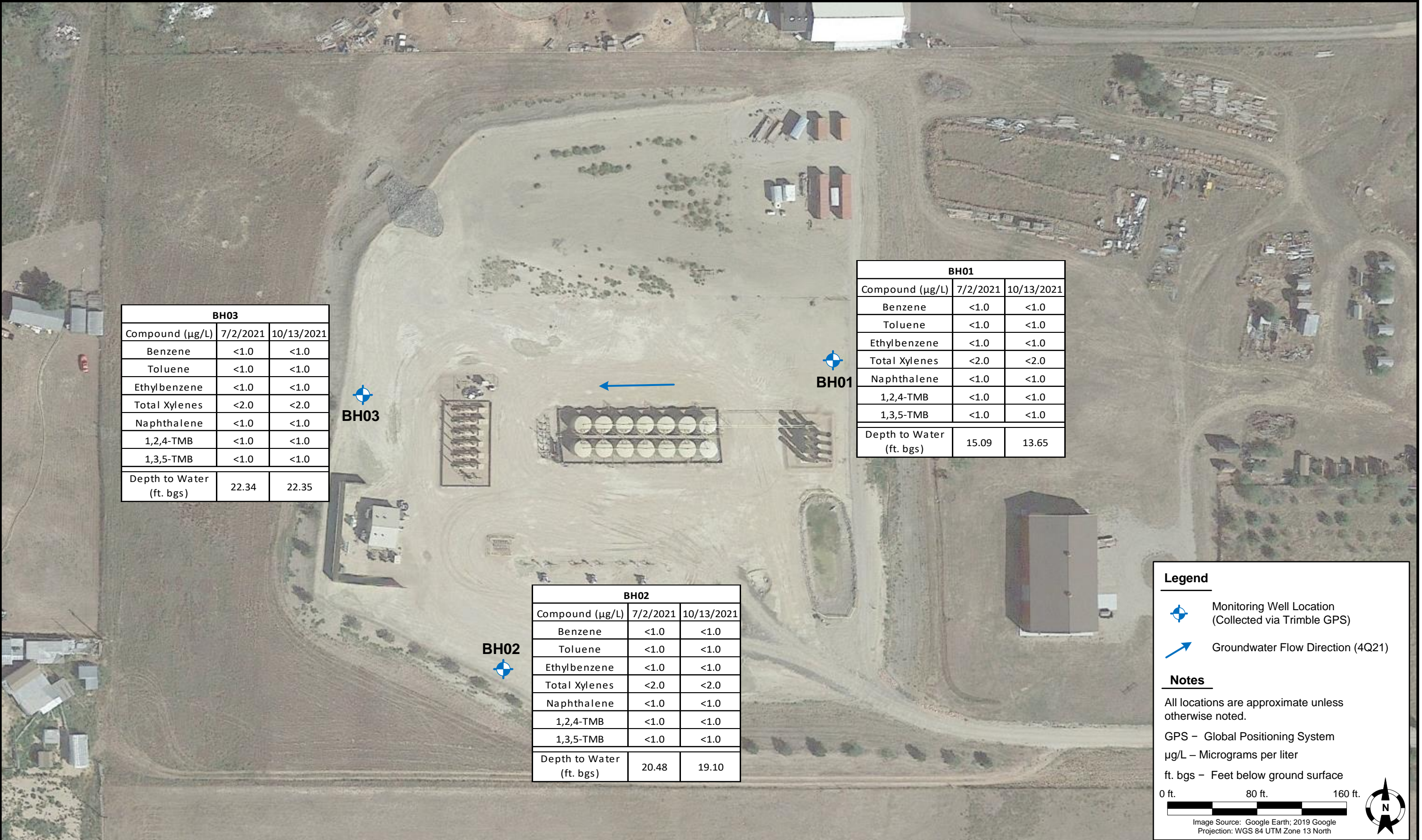
Eberle 13-32 CHZ Facility
NESE Section 32 T1N R66W
Remediation # 15999

This groundwater monitoring summary has been prepared by Tasman Geosciences, Inc. for the Eberle 13-32 CHZ Facility. On October 13, 2021, groundwater monitoring was conducted at all three monitoring wells (BH01 – BH03). Three groundwater samples were submitted to Summit Scientific Laboratories for analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX), naphthalene, 1,2,4-trimethylbenzene (TMB), and 1,3,5-TMB by EPA Method 8260B. In addition, the samples were submitted for laboratory analysis of total dissolved solids (TDS) by Method SM 2540C, and chloride and sulfate anions by EPA Method 300.0.

Fourth quarter 2021 analytical results indicated that organic compound concentrations were below the applicable COGCC Table 915-1 standards in all three monitoring well locations. In addition, inorganic parameters were above the applicable regulatory standards and above 1.25x the background concentration of the up-gradient monitoring well (BH01) in all monitoring well locations. Sample locations and corresponding analytical results are illustrated on Figures 1 and 2. Groundwater elevation data is illustrated on Figure 3. Analytical results are summarized in Tables 1 and 2. The laboratory analytical report is included in Attachment A.

Per the Condition of Approval (COA) issued by the State and City of Brighton, groundwater monitoring will continue on a quarterly basis to assess and confirm the absence of dissolved-phase impacts at the Eberle 13-32 CHZ production facility.

First quarter 2022 groundwater sampling will be conducted in January 2022.





BH03		
Compound (µg/L)	7/2/2021	10/13/2021
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<2.0	<2.0
Naphthalene	<1.0	<1.0
1,2,4-TMB	<1.0	<1.0
1,3,5-TMB	<1.0	<1.0
Depth to Water (ft. bgs)	22.34	22.35

BH01		
Compound (µg/L)	7/2/2021	10/13/2021
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<2.0	<2.0
Naphthalene	<1.0	<1.0
1,2,4-TMB	<1.0	<1.0
1,3,5-TMB	<1.0	<1.0
Depth to Water (ft. bgs)	15.09	13.65

BH02		
Compound (µg/L)	7/2/2021	10/13/2021
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<2.0	<2.0
Naphthalene	<1.0	<1.0
1,2,4-TMB	<1.0	<1.0
1,3,5-TMB	<1.0	<1.0
Depth to Water (ft. bgs)	20.48	19.10

Legend

 Monitoring Well Location
(Collected via Trimble GPS)

 Groundwater Flow Direction (4Q21)

Notes

All locations are approximate unless otherwise noted.


GPS – Global Positioning System

µg/L – Micrograms per liter

ft. bgs – Feet below ground surface

0 ft.80 ft.160 ft.

Image Source: Google Earth; 2019 Google
Projection: WGS 84 UTM Zone 13 North



DATE:	July 20, 2021
DESIGNED BY:	C. Hamlin
DRAWN BY:	C. Ambler



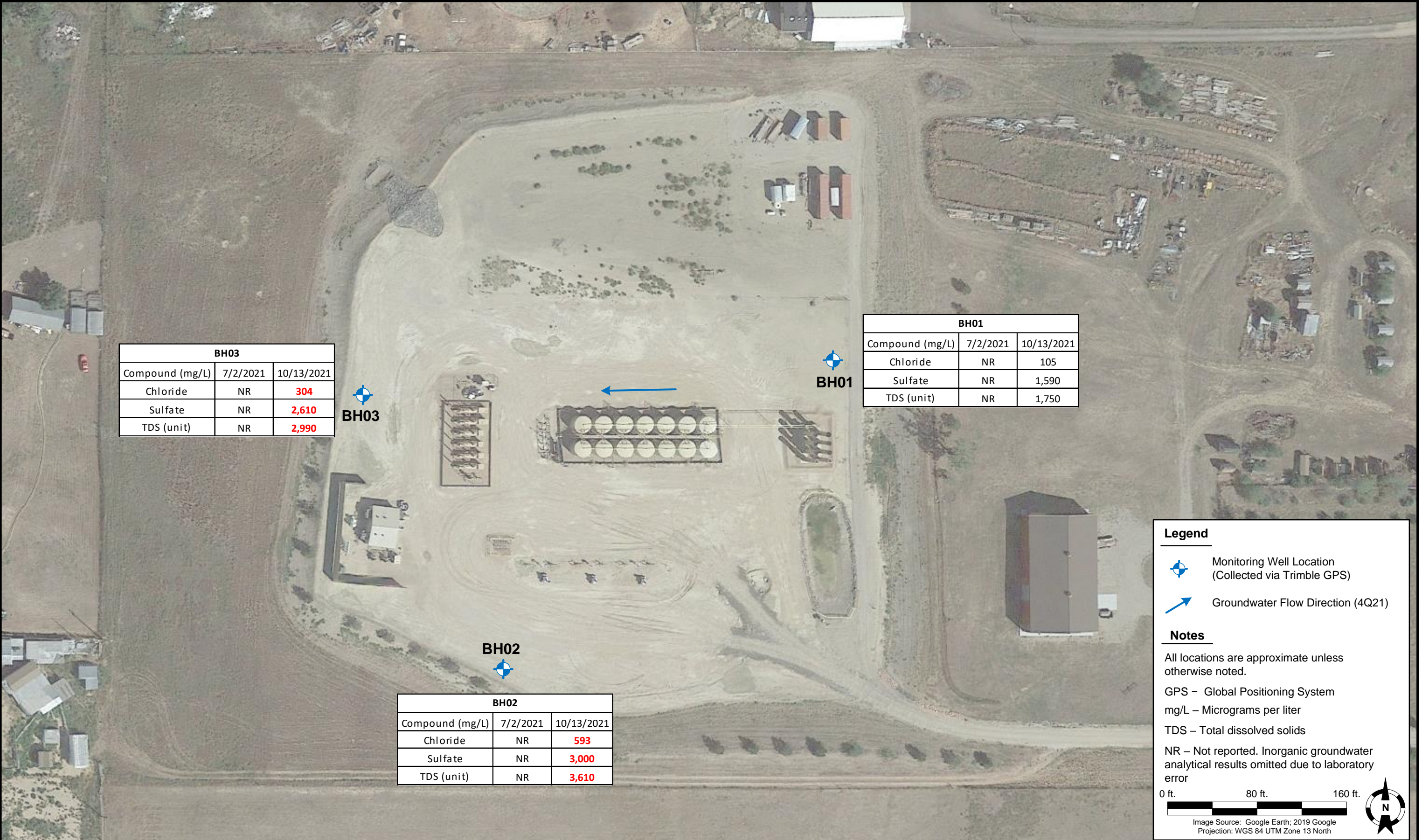
TASMAN
GEOSCIENCES

Tasman Geosciences, Inc.
6855 W. 119th Ave.
Broomfield, CO 80020

PDC Energy, Inc. – DJ Basin
Eberle 13-32 CHZ Facility
NESE, Section 32, Township 1 North, Range 66 West
Weld County, Colorado

GROUNDWATER
ANALYTICAL RESULTS
MAP

FIGURE
1



DATE:	October 27, 2021
DESIGNED BY:	C. Hamlin
DRAWN BY:	C. Ambler



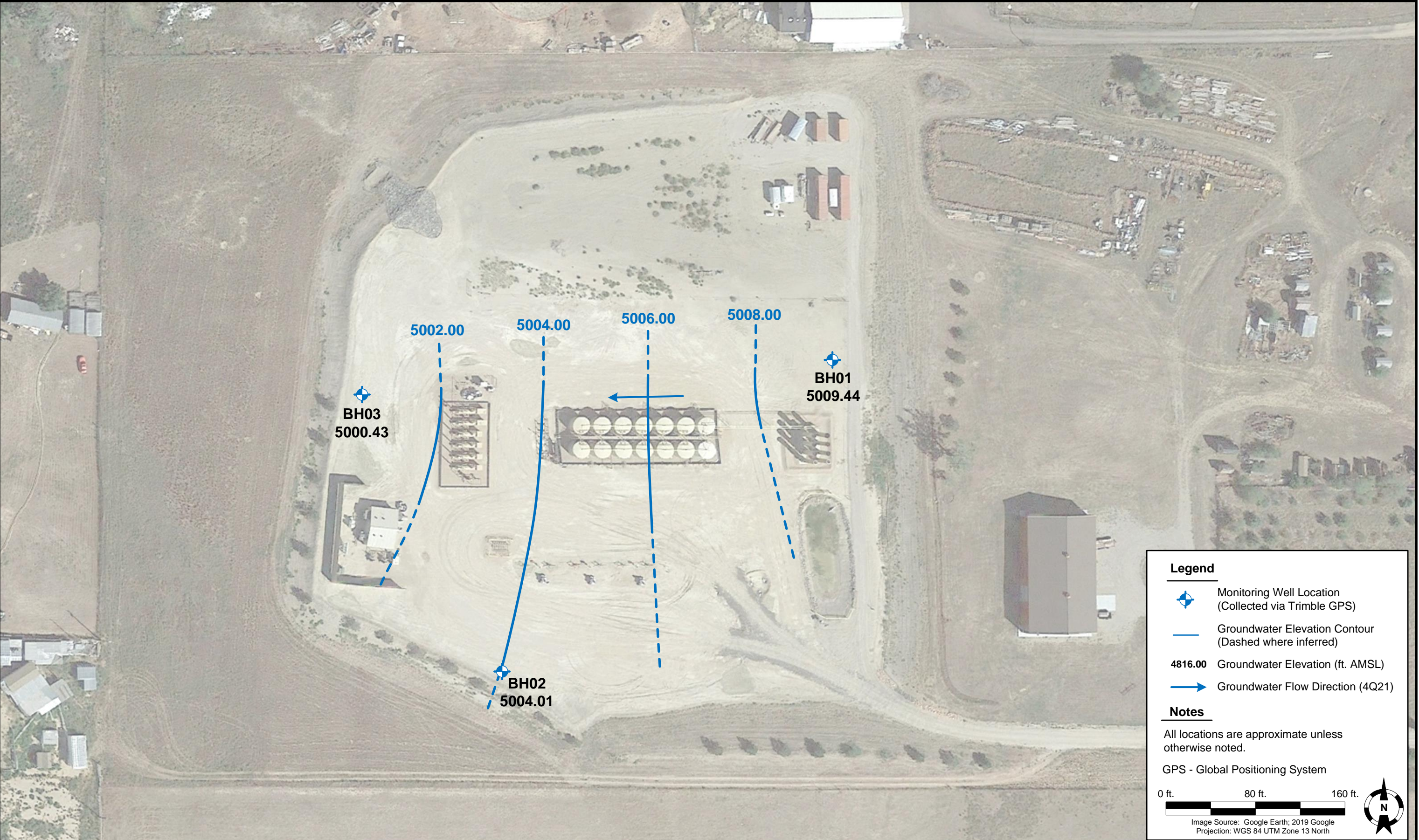
TASMAN
GEOSCIENCES

Tasman Geosciences, Inc.
6855 W. 119th Ave.
Broomfield, CO 80020

PDC Energy, Inc. – DJ Basin
Eberle 13-32 CHZ Facility
NESE, Section 32, Township 1 North, Range 66 West
Weld County, Colorado

GROUNDWATER
ANALYTICAL RESULTS
MAP
(INORGANIC PARAMETERS)

FIGURE
2



DATE: October 21, 2021

DESIGNED BY: B. Nelson

DRAWN BY: C. Ambler



TASMAN
GEOSCIENCES

Tasman Geosciences, Inc.
6855 W. 119th Ave.
Broomfield, CO 80020

PDC Energy, Inc. – DJ Basin
Eberle 13-32 CHZ Facility
NESE, Section 32, Township 1 North, Range 66 West
Weld County, Colorado

**GROUNDWATER
ELEVATION CONTOUR
MAP (10/13/2021)**

**FIGURE
3**

TABLE 1
EBERLE 13-32 CHZ FACILITY
GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE
ORGANIC COMPOUNDS

Sample ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Naphthalene (µg/L)	1,2,4-TMB (µg/L)	1,3,5-TMB (µg/L)	Depth to Water ⁽²⁾ (ft.)	Groundwater Elevation (ft. AMSL)
COGCC Table 915-1 Groundwater Standard (µg/L) ⁽¹⁾		5	560	700	1,400	140	67	67	-	-
BH01	4/19/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	16.04	5007.05
BH01	7/2/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	15.09	5008.00
BH01	10/13/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	13.65	5009.44
BH02	4/19/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	21.39	5001.72
BH02	7/2/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	20.48	5002.63
BH02	10/13/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	19.10	5004.01
BH03	4/19/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	24.04	4998.74
BH03	7/2/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	22.34	5000.44
BH03	10/13/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	22.35	5000.43

Notes:

- Groundwater standards referenced from 2 CCR 404-1, Table 915-1, January 15, 2021.
 - Depth to water measurements were measured from ground surface for excavation samples. Monitoring well measurements were collected from top of casing and adjusted
- TMB = Trimethylbenzene
COGCC = Colorado Oil and Gas Conservation Commission
µg/L = Micrograms per liter
(<) = Analytical result is less than the indicated laboratory reporting limit.
ft. = Feet
AMSL = Above Mean Sea Level

TABLE 2
EBERLE 13-32 CHZ FACILITY
GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE
INORGANIC PARAMETERS

Sample ID	Date Sampled	TDS (unit)	Chloride Ion (mg/L)	Sulfate Ion (mg/L)
COGCC Table 915-1 Groundwater Standard (mg/L) ⁽¹⁾		<1.25 x BCKG	250 or <1.25 x BCKG	250 or <1.25 x BCKG
BH01	4/19/2021	NR	NR	NR
BH01	7/2/2021	NR	NR	NR
BH01	10/13/2021	1,750	105	1,590
BH02	4/19/2021	NR	NR	NR
BH02	7/2/2021	NR	NR	NR
BH02	10/13/2021	3,610	593	3,000
BH03	4/19/2021	NR	NR	NR
BH03	7/2/2021	NR	NR	NR
BH03	10/13/2021	2,990	304	2,610

Notes:

1. Groundwater standards referenced from 2 CCR 404-1, Table 915-1, January 15, 2021.

TDS = Total dissolved solids

COGCC = Colorado Oil and Gas Conservation Commission

BCKG = Background

mg/L = Milligrams per liter

(<) = Analytical result is less than the indicated laboratory reporting limit.

NR = Not Reported. Inorganic groundwater analytical results omitted due to laboratory error. Case narrative provided in the attached laboratory report.

 = Up-gradient well location used for background concentration.

BOLD = Analytical result is in exceedance of applicable standard.

Attachment A

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 25, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

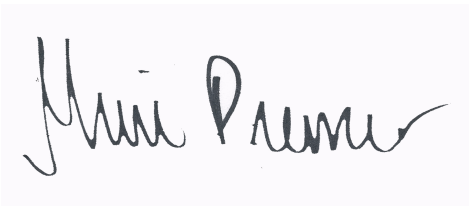
Denver, CO 80203

RE: Eberle 13-32 CHZ Facility

Work Order #2110210

Enclosed are the results of analyses for samples received by Summit Scientific on 10/13/21 18:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Muri Premier", is displayed on a light purple rectangular background.

Muri Premier For Paul Shrewsbury
President



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Eberle 13-32 CHZ Facility

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
10/25/21 11:28

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	2110210-01	Water	10/13/21 14:27	10/13/21 18:00
BH02	2110210-02	Water	10/13/21 14:23	10/13/21 18:00
BH03	2110210-03	Water	10/13/21 14:39	10/13/21 18:00

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

S₂

2110210

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

Page 1 of 1

Client: PDC / Tasman Geosciences

Project Manager: Mark Longhurst

Address: 6855 W. 119th Ave.

E-Mail: mark.longhurst@pdc.com

City/State/Zip: Broomfield / CO/ 80020


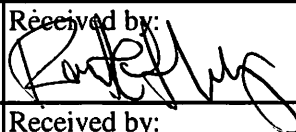
Phone: 303-487-1228

Project Name: Eberle 13-32 CH2

Sampler Name: Ben Wagner

Project Number: N/A

					Preservative				Matrix				Analysis Requested								Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	8260 BTEX	Naphthalene	1,2,4-TMB	1,3,5-TMB	TDS	Chloride	Sulfate		
1	BH01	10/13/21	1427	4			4		X				X	X	X	X	X	X	X		
2	BH02	10/13/21	1423	4			4		X				X	X	X	X	X	X	X		
3	BH03	10/13/21	1439	4			4		X				X	X	X	X	X	X	X		
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by: 	Date/Time: <u>10/13/21</u> <u>1545</u>	Received by: <u>Tasman's Lock Box</u>	Date/Time: <u>10/13/21</u> <u>1545</u>	Turn Around Time (Check) ___ Same Day ___ 72 hours ___ 24 hours <u>X</u> Standard ___ 48 hours ___ Sample Integrity: Temperature Upon Receipt: <u>3.8</u> Samples Intact: <u>Yes</u> No	Notes:
Relinquished by: <u>Tasman's Lock Box</u>	Date/Time:	Received by: 	Date/Time: <u>10-13-21</u> <u>1800</u>		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

2110210

Sample Receipt Checklist

S2 Work Order _____

Client: ~~Noble~~ **Tasman**Client Project ID: **Eberle 13-32 CH2**Shipped Via: ☐ H.D./P.U./FedEx/UPS/USPS/Other _____ Airbill #: _____Matrix (check all that apply): ☐ Air ☐ Soil/Solid ☒ Water ☐ Other: _____
(Describe)

Temp (°C)

3.8

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"/>	<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 , ect	<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

Signature of Custodian

Date/Time

10-13-21



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Eberle 13-32 CHZ Facility
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/25/21 11:28

BH01
2110210-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/13/21 14:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	BEJ0322	10/18/21	10/19/21	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: **10/13/21 14:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		112 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.8 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **10/13/21 14:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chloride	105	12.0	mg/L	200	BEJ0344	10/19/21	10/19/21	EPA 300.0	
Sulfate	1590	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **10/13/21 14:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Total Dissolved Solids	1750	10.0	mg/L	1	BEJ0320	10/18/21	10/19/21	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.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Eberle 13-32 CHZ Facility
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/25/21 11:28

BH02
2110210-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/13/21 14:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BEJ0322	10/18/21	10/19/21	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: **10/13/21 14:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		111 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.5 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **10/13/21 14:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	593	12.0	mg/L	200	BEJ0344	10/19/21	10/19/21	EPA 300.0	
Sulfate	3000	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **10/13/21 14:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	3610	10.0	mg/L	1	BEJ0320	10/18/21	10/19/21	SM2540C	

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Eberle 13-32 CHZ Facility
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/25/21 11:28

BH03
2110210-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/13/21 14:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BEJ0322	10/18/21	10/19/21	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: **10/13/21 14:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		112 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.2 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **10/13/21 14:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	304	12.0	mg/L	200	BEJ0344	10/19/21	10/19/21	EPA 300.0	
Sulfate	2610	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **10/13/21 14:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	2990	10.0	mg/L	1	BEJ0320	10/18/21	10/19/21	SM2540C	

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Eberle 13-32 CHZ Facility

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/25/21 11:28

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 BEJ0322 - EPA 5030 Water MS

Blank (BEJ0322-BLK1)

Prepared: 10/18/21 Analyzed: 10/19/21

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	14.0		"	13.3		105	23-173			
Surrogate: Toluene-d8	13.6		"	13.3		102	20-170			
Surrogate: 4-Bromofluorobenzene	13.1		"	13.3		98.2	21-167			

LCS (BEJ0322-BS1)

Prepared: 10/18/21 Analyzed: 10/19/21

Benzene	35.7	1.0	ug/l	33.3		107	51-132			
Toluene	42.9	1.0	"	33.3		129	51-138			
Ethylbenzene	43.1	1.0	"	33.3		129	58-146			
m,p-Xylene	82.0	2.0	"	66.7		123	57-144			
o-Xylene	42.0	1.0	"	33.3		126	53-146			
Naphthalene	39.8	1.0	"	33.3		119	70-130			
1,2,4-Trimethylbenzene	40.6	1.0	"	33.3		122	70-130			
1,3,5-Trimethylbenzene	39.4	1.0	"	33.3		118	70-130			
Surrogate: 1,2-Dichloroethane-d4	16.6		"	13.3		124	23-173			
Surrogate: Toluene-d8	13.6		"	13.3		102	20-170			
Surrogate: 4-Bromofluorobenzene	13.0		"	13.3		97.1	21-167			

Matrix Spike (BEJ0322-MS1)

Source: 2110210-01

Prepared: 10/18/21 Analyzed: 10/19/21

Benzene	34.4	1.0	ug/l	33.3	ND	103	34-141			
Toluene	39.4	1.0	"	33.3	ND	118	27-151			
Ethylbenzene	43.4	1.0	"	33.3	ND	130	29-160			
m,p-Xylene	82.6	2.0	"	66.7	ND	124	20-166			
o-Xylene	42.1	1.0	"	33.3	ND	126	33-159			
Naphthalene	40.1	1.0	"	33.3	ND	120	70-130			
1,2,4-Trimethylbenzene	40.6	1.0	"	33.3	ND	122	70-130			
1,3,5-Trimethylbenzene	39.7	1.0	"	33.3	ND	119	70-130			
Surrogate: 1,2-Dichloroethane-d4	15.8		"	13.3		119	23-173			
Surrogate: Toluene-d8	13.5		"	13.3		101	20-170			
Surrogate: 4-Bromofluorobenzene	12.6		"	13.3		94.9	21-167			

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Eberle 13-32 CHZ Facility

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/25/21 11:28

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 BEJ0322 - EPA 5030 Water MS

Matrix Spike Dup (BEJ0322-MSD1)		Source: 2110210-01			Prepared: 10/18/21 Analyzed: 10/19/21					
Benzene	35.0	1.0	ug/l	33.3	ND	105	34-141	1.81	30	
Toluene	42.8	1.0	"	33.3	ND	129	27-151	8.42	30	
Ethylbenzene	42.7	1.0	"	33.3	ND	128	29-160	1.72	30	
m,p-Xylene	81.9	2.0	"	66.7	ND	123	20-166	0.778	30	
o-Xylene	42.3	1.0	"	33.3	ND	127	33-159	0.403	30	
Naphthalene	42.1	1.0	"	33.3	ND	126	70-130	4.89	30	
1,2,4-Trimethylbenzene	40.6	1.0	"	33.3	ND	122	70-130	0.246	30	
1,3,5-Trimethylbenzene	39.6	1.0	"	33.3	ND	119	70-130	0.252	30	
<hr/>										
Surrogate: 1,2-Dichloroethane-d4	16.9		"	13.3		127	23-173			
Surrogate: Toluene-d8	13.5		"	13.3		101	20-170			
Surrogate: 4-Bromofluorobenzene	12.9		"	13.3		96.5	21-167			

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Eberle 13-32 CHZ Facility

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/25/21 11:28

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 BEJ0344 - General Preparation

Blank (BEJ0344-BLK1)

Prepared & Analyzed: 10/19/21

Chloride	ND	0.0600	mg/L
Sulfate	ND	0.300	"

LCS (BEJ0344-BS1)

Prepared & Analyzed: 10/19/21

Chloride	2.75	0.0600	mg/L	3.00	91.7	90-110
Sulfate	14.2	0.300	"	15.0	94.9	90-110

Duplicate (BEJ0344-DUP1)

Source: 2110115-01

Prepared & Analyzed: 10/19/21

Chloride	141	12.0	mg/L	140	0.714	20
Sulfate	937	60.0	"	885	5.69	20

Matrix Spike (BEJ0344-MS1)

Source: 2110115-01

Prepared & Analyzed: 10/19/21

Chloride	758	12.0	mg/L	600	140	103	80-120
Sulfate	4660	60.0	"	3000	885	126	80-120

QR-04

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Eberle 13-32 CHZ Facility

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
10/25/21 11:28

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 BEJ0320 - General Preparation

Blank (BEJ0320-BLK1)

Prepared: 10/18/21 Analyzed: 10/19/21

Total Dissolved Solids ND 10.0 mg/L

Duplicate (BEJ0320-DUP1)

Source: 2110201-01

Prepared: 10/18/21 Analyzed: 10/19/21

Total Dissolved Solids 856 10.0 mg/L 869 1.52 20

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Eberle 13-32 CHZ Facility

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/25/21 11:28

Notes and Definitions

QR-04	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance. 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