

PDC Energy, Inc.
Second Quarter 2021 Groundwater Monitoring Summary

May 3, 2021

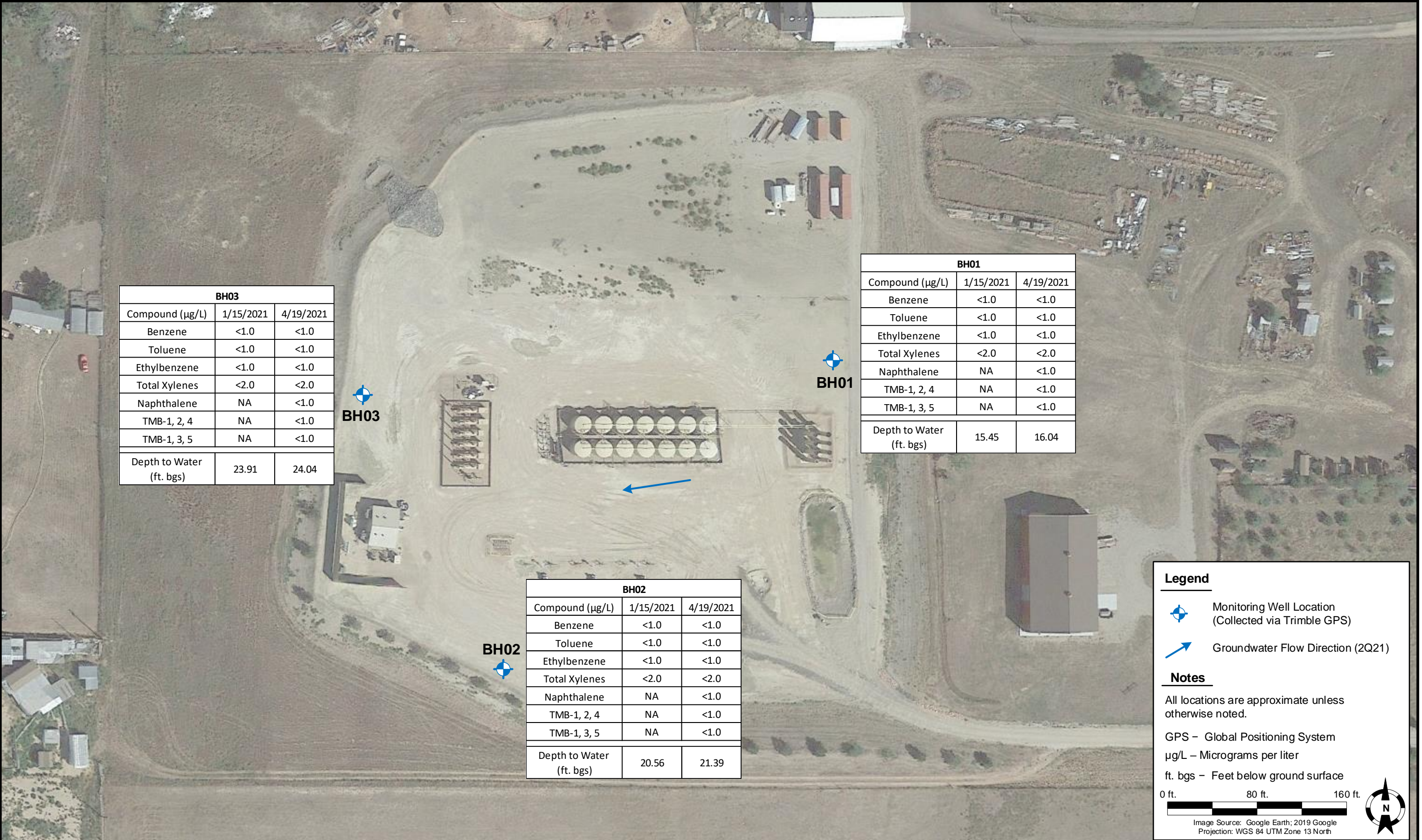
Eberle 13-32 CHZ Facility
NESE Section 32 T1N R66W
Remediation # 15999

This groundwater monitoring summary has been prepared by Tasman Geosciences, Inc. for the Eberle 13-32 CHZ Facility. On April 19, 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.

Second quarter 2021 analytical results indicated that organic concentrations were below the applicable COGCC Table 915-1 standards in all three monitoring well locations. The total dissolved solids, chloride, and sulfate concentrations in monitoring wells BH02 and BH03 were above the applicable regulatory standard and outside of the 1.25x concentration of the up-gradient monitoring well (BH01). Sample locations and corresponding analytical results are illustrated on Figure 1. Groundwater elevation data is illustrated on Figure 2. Historical analytical results under COGCC Table 910-1 regulatory standards are summarized in Table 1. Analytical results under COGCC Table 915-1 regulatory standards are summarized in Table 2 and Table 3. 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.

Third quarter 2021 groundwater sampling will be conducted in July 2021.





BH03		
Compound (µg/L)	1/15/2021	4/19/2021
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<2.0	<2.0
Naphthalene	NA	<1.0
TMB-1, 2, 4	NA	<1.0
TMB-1, 3, 5	NA	<1.0
Depth to Water (ft. bgs)	23.91	24.04

BH01		
Compound (µg/L)	1/15/2021	4/19/2021
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<2.0	<2.0
Naphthalene	NA	<1.0
TMB-1, 2, 4	NA	<1.0
TMB-1, 3, 5	NA	<1.0
Depth to Water (ft. bgs)	15.45	16.04

BH02		
Compound (µg/L)	1/15/2021	4/19/2021
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<2.0	<2.0
Naphthalene	NA	<1.0
TMB-1, 2, 4	NA	<1.0
TMB-1, 3, 5	NA	<1.0
Depth to Water (ft. bgs)	20.56	21.39

Legend

-  Monitoring Well Location (Collected via Trimble GPS)
-  Groundwater Flow Direction (2Q21)

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: May 3, 2021

DESIGNED BY: C. Hamlin

DRAWN BY: K. Fletcher



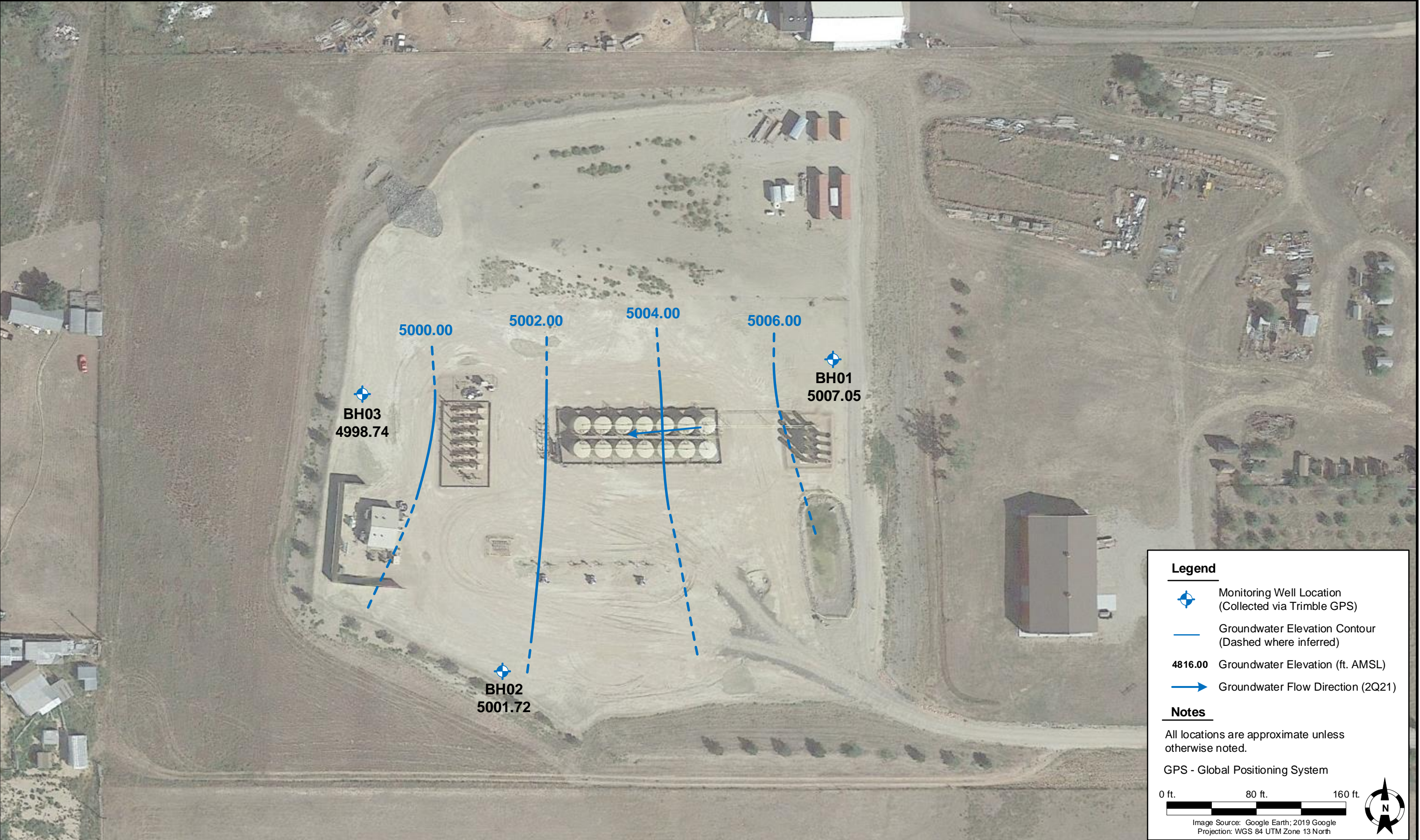
TASMAN
GEOSCIENCES

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



Legend

-  Monitoring Well Location
(Collected via Trimble GPS)
-  Groundwater Elevation Contour
(Dashed where inferred)
- 4816.00** Groundwater Elevation (ft. AMSL)
-  Groundwater Flow Direction (2Q21)

Notes

All locations are approximate unless otherwise noted.

GPS - Global Positioning System

0 ft. 80 ft. 160 ft.

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



DATE: April 26, 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 (04/19/2021)

FIGURE
2

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

Sample ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Depth to Water (²) (ft.)	Groundwater Elevation (ft. AMSL)
COGCC Table 910-1 Groundwater Standard (µg/L) ⁽¹⁾		5	560	700	1,400		
BH01	10/23/2020	<1.0	<1.0	<1.0	<2.0	15.19	5007.90
BH01	1/15/2021	<1.0	<1.0	<1.0	<2.0	15.45	5007.64
BH02	10/23/2020	<1.0	1.2	<1.0	<2.0	20.01	5003.10
BH02	1/15/2021	<1.0	<1.0	<1.0	<2.0	20.56	5002.55
BH03	10/23/2020	<1.0	<1.0	<1.0	<2.0	23.51	4999.27
BH03	1/15/2021	<1.0	<1.0	<1.0	<2.0	23.91	4998.87

Notes:

1. Groundwater standards referenced from 2 CCR 404-1, Table 910-1, effective May 1, 2018.

2. Depth to water measurements were measured from ground surface for excavation samples. Monitoring well measurements were collected from top of casing and adjusted using survey data to reflect depth of water from ground surface.

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
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	5,007.05
BH02	4/19/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	21.39	5,001.72
BH03	4/19/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	24.04	4,998.74

Notes:

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

2. Depth to water measurements were measured from ground surface for excavation samples. Monitoring well measurements were collected from top of casing and adjusted using survey data to reflect depth of water from ground surface.

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

BOLD = Analytical result is in exceedance of applicable standard.

NA = Not applicable

TABLE 3
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	2,230	89.6	1,740
BH02	4/19/2021	5,020	667	2,750
BH03	4/19/2021	3,820	453	2,640

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.

BOLD = Analytical result is in exceedance of applicable standard.

Attachment A

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

April 28, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Eberle 13-32 CHZ Facility

Work Order #2104284

Enclosed are the results of analyses for samples received by Summit Scientific on 04/19/21 16:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

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:
04/28/21 15:06

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	2104284-01	Water	04/19/21 09:06	04/19/21 16:30
BH02	2104284-02	Water	04/19/21 09:30	04/19/21 16:30
BH03	2104284-03	Water	04/19/21 09:12	04/19/21 16:30

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.

2104284

Summit Scientific

S₂

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

Page 1 of 1

Client: PDC / Tasman

Project Manager: Mark Longhurst

Address: 6855 W 119th Ave.

E-Mail: mark.longhurst@pdce.com

City/State/Zip: Broomfield, CO 80020

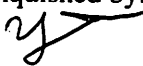
Phone: 303-487-1228

Project Name: Eberle 13-32 CHZ Facility

Sampler Name: Yianni Tsambis

Project Number: n/a

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	BTEX	NAP	1,2,4 TMB	1,3,5 TMB	TDS	Chloride	Sulfate		
1	BH01	4/19/2021	9:06	4	3		1		X					X	X	X	X	X	X	X	915 Standards
2	BH02	4/19/2021	9:30	4	3		1		X					X	X	X	X	X	X	X	
3	BH03	4/19/2021	9:12	4	3		1		X					X	X	X	X	X	X	X	
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by: 	Date/Time: 4/19/21 1335	Received by: Tasman's Lock Box	Date/Time: 4/19/21 1335	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:
Relinquished by: Tasman Lockbox	Date/Time: 4/19/21 1630	Received by: Josh Burr	Date/Time: 4/19/21 1630	Sample Integrity:	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Temperature Upon Receipt: 3 Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	

Sample Receipt Checklist

S2 Work Order 2104284

Client: PDC / Tasman

Client Project ID: Eberle 13-32 CHZ Facility

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
-----------	---

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 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 ⁽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, H2SO4, NaOH, HNO3, ect	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HCl
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.

JB
Custodian Printed Name or Initials

John Br
Signature of Custodian

4/19/21 1830
Date/Time



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

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

Reported:
04/28/21 15:06

BH01
2104284-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/19/21 09:06**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	BED0367	04/21/21	04/21/21	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: **04/19/21 09:06**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		81.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.2 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **04/19/21 09:06**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chloride	89.6	12.0	mg/L	200	BED0339	04/20/21	04/21/21	EPA 300.0	
Sulfate	1740	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **04/19/21 09:06**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Total Dissolved Solids	2230	10.0	mg/L	1	BED0351	04/21/21	04/21/21	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:
04/28/21 15:06

BH02
2104284-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/19/21 09:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BED0367	04/21/21	04/21/21	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: **04/19/21 09:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		96.9 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		81.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.2 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **04/19/21 09:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	667	12.0	mg/L	200	BED0339	04/20/21	04/21/21	EPA 300.0	
Sulfate	2750	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **04/19/21 09:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	5020	10.0	mg/L	1	BED0351	04/21/21	04/21/21	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:
04/28/21 15:06

BH03
2104284-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/19/21 09:12**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BED0367	04/21/21	04/21/21	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: **04/19/21 09:12**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		111 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		92.6 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.0 %		21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **04/19/21 09:12**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Sulfate	2640	60.0		mg/L	200	BED0339	04/20/21	04/21/21	EPA 300.0	
Chloride	453	12.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **04/19/21 09:12**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	3820	10.0		mg/L	1	BED0351	04/21/21	04/21/21	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:
04/28/21 15:06

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 BED0367 - EPA 5030 Water MS

Blank (BED0367-BLK1)

Prepared & Analyzed: 04/21/21

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	13.1		"	13.3		98.1	23-173			
Surrogate: Toluene-d8	13.1		"	13.3		98.3	20-170			
Surrogate: 4-Bromofluorobenzene	12.0		"	13.3		90.4	21-167			

LCS (BED0367-BS1)

Prepared & Analyzed: 04/21/21

Benzene	26.8	1.0	ug/l	33.3		80.6	51-132			
Toluene	32.3	1.0	"	33.3		96.9	51-138			
Ethylbenzene	40.0	1.0	"	33.3		120	58-146			
m,p-Xylene	76.0	2.0	"	66.7		114	57-144			
o-Xylene	39.3	1.0	"	33.3		118	53-146			
Naphthalene	39.3	1.0	"	33.3		118	70-130			
1,2,4-Trimethylbenzene	29.8	1.0	"	33.3		89.3	70-130			
1,3,5-Trimethylbenzene	40.9	1.0	"	33.3		123	70-130			
Surrogate: 1,2-Dichloroethane-d4	10.7		"	13.3		80.0	23-173			
Surrogate: Toluene-d8	11.2		"	13.3		84.1	20-170			
Surrogate: 4-Bromofluorobenzene	11.8		"	13.3		88.3	21-167			

Matrix Spike (BED0367-MS1)

Source: 2104275-01

Prepared & Analyzed: 04/21/21

Benzene	28.0	1.0	ug/l	33.3	ND	83.9	34-141			
Toluene	33.0	1.0	"	33.3	ND	99.2	27-151			
Ethylbenzene	40.6	1.0	"	33.3	ND	122	29-160			
m,p-Xylene	77.2	2.0	"	66.7	1.07	114	20-166			
o-Xylene	39.3	1.0	"	33.3	ND	118	33-159			
Naphthalene	44.4	1.0	"	33.3	2.88	125	70-130			
1,2,4-Trimethylbenzene	30.3	1.0	"	33.3	ND	90.8	70-130			
1,3,5-Trimethylbenzene	41.4	1.0	"	33.3	ND	124	70-130			
Surrogate: 1,2-Dichloroethane-d4	11.1		"	13.3		83.5	23-173			
Surrogate: Toluene-d8	10.9		"	13.3		82.1	20-170			
Surrogate: 4-Bromofluorobenzene	11.7		"	13.3		87.5	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:
04/28/21 15:06

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 BED0367 - EPA 5030 Water MS

Matrix Spike Dup (BED0367-MSD1)	Source: 2104275-01			Prepared & Analyzed: 04/21/21						
Benzene	29.4	1.0	ug/l	33.3	ND	88.2	34-141	5.09	30	
Toluene	32.4	1.0	"	33.3	ND	97.1	27-151	2.14	30	
Ethylbenzene	40.7	1.0	"	33.3	ND	122	29-160	0.394	30	
m,p-Xylene	76.8	2.0	"	66.7	1.07	114	20-166	0.520	30	
o-Xylene	39.8	1.0	"	33.3	ND	119	33-159	1.37	30	
Naphthalene	42.9	1.0	"	33.3	2.88	120	70-130	3.39	30	
1,2,4-Trimethylbenzene	30.2	1.0	"	33.3	ND	90.5	70-130	0.397	30	
1,3,5-Trimethylbenzene	41.7	1.0	"	33.3	ND	125	70-130	0.891	30	
Surrogate: 1,2-Dichloroethane-d4	11.7		"	13.3		87.7	23-173			
Surrogate: Toluene-d8	11.1		"	13.3		83.6	20-170			
Surrogate: 4-Bromofluorobenzene	11.8		"	13.3		88.4	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:
04/28/21 15:06

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 BED0339 - General Preparation

Blank (BED0339-BLK1)

Prepared: 04/20/21 Analyzed: 04/21/21

Chloride	ND	0.0600	mg/L
Sulfate	ND	0.300	"

LCS (BED0339-BS1)

Prepared: 04/20/21 Analyzed: 04/21/21

Sulfate	14.9	0.300	mg/L	15.0	99.3	90-110
Chloride	3.00	0.0600	"	3.00	99.9	90-110

Duplicate (BED0339-DUP1)

Source: 2104255-15

Prepared: 04/20/21 Analyzed: 04/21/21

Sulfate	ND	60.0	mg/L	ND		20
Chloride	35.4	12.0	"	36.0	1.68	20

Matrix Spike (BED0339-MS1)

Source: 2104255-15

Prepared: 04/20/21 Analyzed: 04/21/21

Sulfate	2650	60.0	mg/L	3000	ND	88.3	80-120
Chloride	652	12.0	"	600	36.0	103	80-120

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:
04/28/21 15:06

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 BED0351 - General Preparation

Blank (BED0351-BLK1)

Prepared & Analyzed: 04/21/21

Total Dissolved Solids ND 10.0 mg/L

Duplicate (BED0351-DUP1)

Source: 2104268-04

Prepared & Analyzed: 04/21/21

Total Dissolved Solids 1360 10.0 mg/L 1360 0.514 20

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:
04/28/21 15:06

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