

**PDC Energy, Inc.**  
Fourth Quarter 2021 Groundwater Monitoring Summary

November 30, 2021

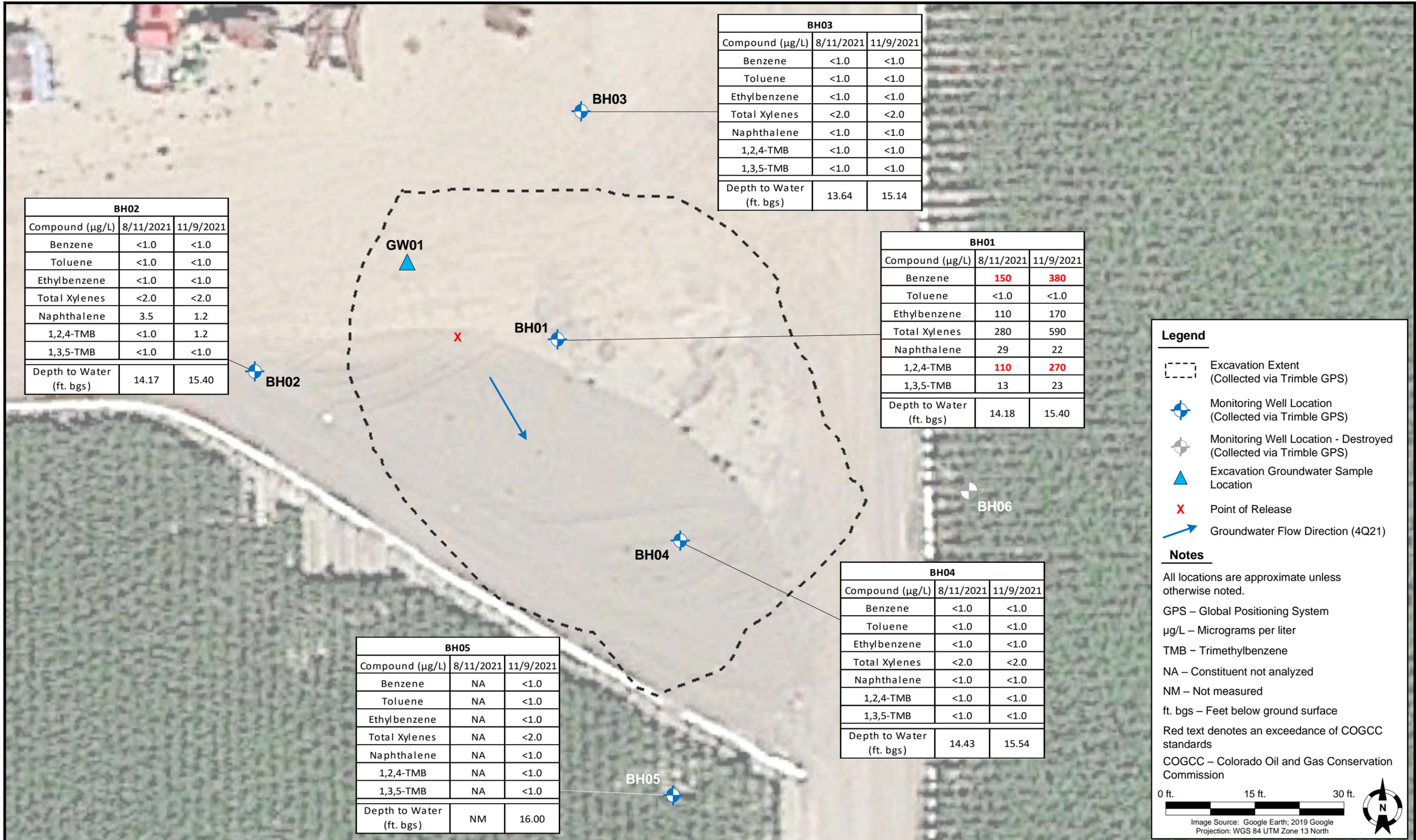
Former JR #1 Tank Battery  
SESW Section 13 T6N R65W  
Remediation # 12319

This groundwater monitoring summary has been prepared by Tasman, Inc. for the former JR #1 tank battery. On November 9, 2021, groundwater monitoring was conducted at five monitoring well locations (BH01 – BH05). Five groundwater samples were submitted to Summit Scientific Laboratory for analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX), naphthalene, 1, 2, 4-trimethylbenzene (TMB) and 1, 3, 5-TMB by EPA Method 8260B.

Fourth quarter 2021 analytical results indicated that organic constituent concentrations were above the applicable COGCC Table 915-1 groundwater standards in monitoring well BH01. Organic compound concentrations were below the applicable regulatory standards in the four remaining monitoring well locations. Sample locations and corresponding analytical results are illustrated on Figure 1. Groundwater elevation data is illustrated on Figure 2. Analytical results are summarized in Tables 1 and 2. The laboratory report is included as Attachment A.

Monitored natural attenuation (MNA) was selected as the remediation strategy for this site during the first quarter 2019 and will remain the selected remediation strategy for the first quarter 2022.

First quarter 2022 groundwater sampling will be conducted during February 2022.



BH02		
Compound (µg/L)	8/11/2021	11/9/2021
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<2.0	<2.0
Naphthalene	3.5	1.2
1,2,4-TMB	<1.0	1.2
1,3,5-TMB	<1.0	<1.0
Depth to Water (ft. bgs)	14.17	15.40

BH03		
Compound (µg/L)	8/11/2021	11/9/2021
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)	13.64	15.14

BH01		
Compound (µg/L)	8/11/2021	11/9/2021
Benzene	150	380
Toluene	<1.0	<1.0
Ethylbenzene	110	170
Total Xylenes	280	590
Naphthalene	29	22
1,2,4-TMB	110	270
1,3,5-TMB	13	23
Depth to Water (ft. bgs)	14.18	15.40

BH04		
Compound (µg/L)	8/11/2021	11/9/2021
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)	14.43	15.54

BH05		
Compound (µg/L)	8/11/2021	11/9/2021
Benzene	NA	<1.0
Toluene	NA	<1.0
Ethylbenzene	NA	<1.0
Total Xylenes	NA	<2.0
Naphthalene	NA	<1.0
1,2,4-TMB	NA	<1.0
1,3,5-TMB	NA	<1.0
Depth to Water (ft. bgs)	NM	16.00

**Legend**

- Excavation Extent (Collected via Trimble GPS)
- Monitoring Well Location (Collected via Trimble GPS)
- Monitoring Well Location - Destroyed (Collected via Trimble GPS)
- Excavation Groundwater Sample Location
- Point of Release
- Groundwater Flow Direction (4Q21)

**Notes**

All locations are approximate unless otherwise noted.  
 GPS – Global Positioning System  
 µg/L – Micrograms per liter  
 TMB – Trimethylbenzene  
 NA – Constituent not analyzed  
 NM – Not measured  
 ft. bgs – Feet below ground surface  
 Red text denotes an exceedance of COGCC standards  
 COGCC – Colorado Oil and Gas Conservation Commission

0 ft. 15 ft. 30 ft.

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

DATE: November 18, 2021

DESIGNED BY: C. Hamlin

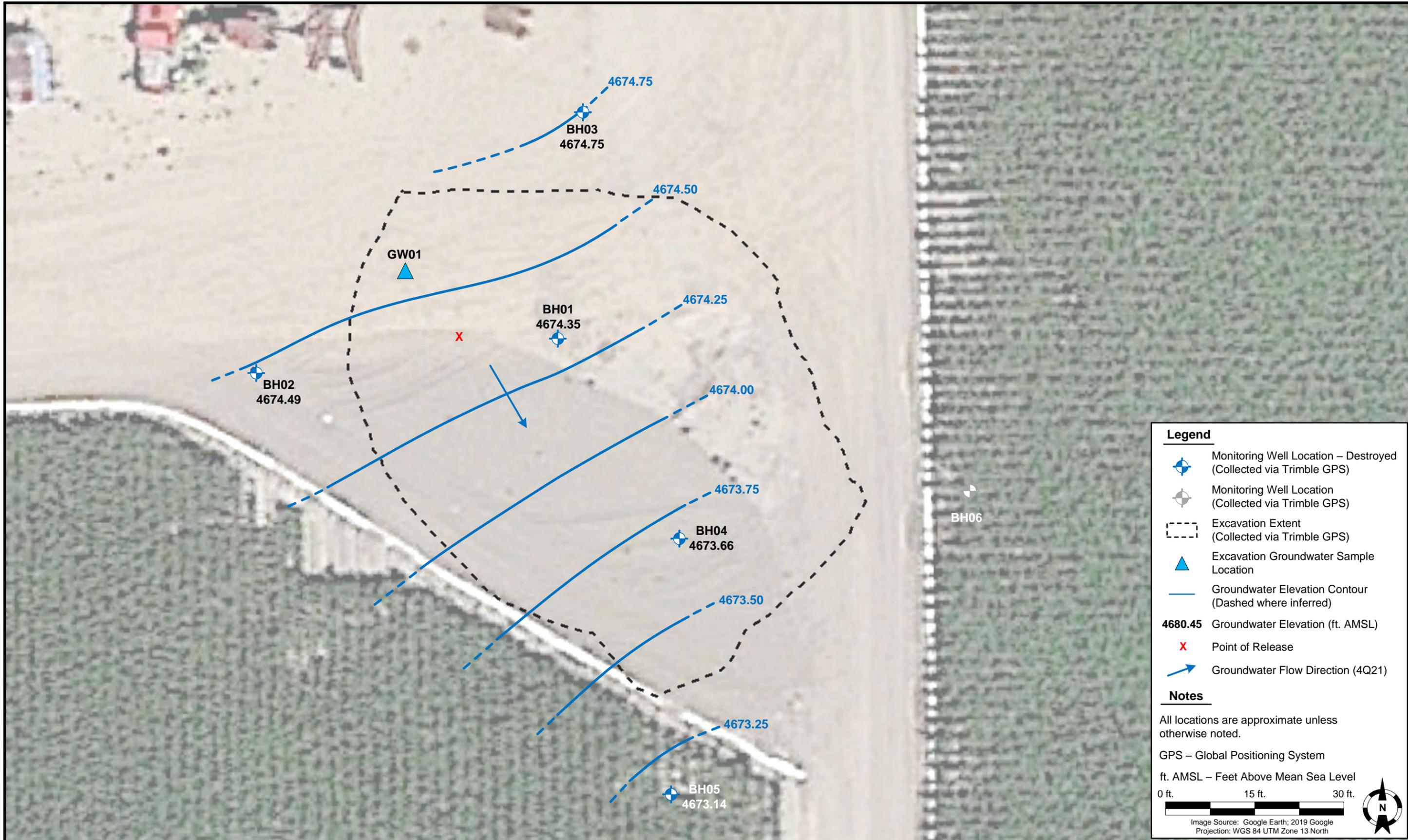
DRAWN BY: C. Ambler

**Tasman, Inc.**  
 6855 W. 119<sup>th</sup> Ave.  
 Broomfield, CO 80020

**PDC Energy, Inc. – DJ Basin**  
**Former JR #1 Tank Battery**  
 SESW, Section 13, Township 6 North, Range 65 West  
 Weld County, Colorado

**GROUNDWATER ANALYTICAL RESULTS MAP**

**FIGURE 1**



**Legend**

- Monitoring Well Location – Destroyed (Collected via Trimble GPS)
- Monitoring Well Location (Collected via Trimble GPS)
- Excavation Extent (Collected via Trimble GPS)
- Excavation Groundwater Sample Location
- Groundwater Elevation Contour (Dashed where inferred)
- 4680.45** Groundwater Elevation (ft. AMSL)
- Point of Release
- Groundwater Flow Direction (4Q21)

**Notes**

All locations are approximate unless otherwise noted.

GPS – Global Positioning System

ft. AMSL – Feet Above Mean Sea Level

0 ft. 15 ft. 30 ft.

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

DATE:	November 12, 2021
DESIGNED BY:	B. Nelson
DRAWN BY:	A. Dahl



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

**PDC Energy, Inc. – DJ Basin**  
**Former JR #1 Tank Battery**  
SESW, Section 13, Township 6 North, Range 65 West  
Weld County, Colorado

**GROUNDWATER  
ELEVATION CONTOUR  
MAP (11/09/2021)**

**FIGURE  
2**

**TABLE 1**  
**FORMER JR #1 TANK BATTERY**  
**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 <sup>(2)</sup> (ft.)	Groundwater Elevation (ft. AMSL)
<b>COGCC Table 915-1 Groundwater Standard (µg/L) <sup>(1)</sup></b>		<b>5</b>	<b>560</b>	<b>700</b>	<b>1,400</b>	<b>140</b>	<b>67</b>	<b>67</b>	-	-
BH01	5/14/2021	<b>310</b>	<1.0	180	730	27	<b>160</b>	<b>120</b>	16.68	4673.07
BH01	8/11/2021	<b>150</b>	<1.0	110	280	29	<b>110</b>	13	14.18	4675.57
BH01	11/9/2021	<b>380</b>	<1.0	170	590	22	<b>270</b>	23	15.40	4674.35
BH02	5/14/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	16.68	4673.21
BH02	8/11/2021	<1.0	<1.0	<1.0	<2.0	3.5	<1.0	<1.0	14.17	4675.72
BH02	11/9/2021	<1.0	<1.0	<1.0	<2.0	1.2	1.2	<1.0	15.40	4674.49
BH03	5/14/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	16.49	4673.40
BH03	8/11/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	13.64	4676.25
BH03	11/9/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	15.14	4674.75
BH04	5/14/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	17.58	4671.62
BH04	8/11/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	14.43	4674.77
BH04	11/9/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	15.54	4673.66
BH05	5/14/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	17.85	4671.29
BH05	8/11/2021	Not Sampled							NM	NM
BH05	11/9/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	16.00	4673.14

**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 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.  
NM = Not measured  
ft. = Feet  
AMSL = Above Mean Sea Level  
**BOLD** = Analytical result is in exceedance of applicable standard.

## Attachment A

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

November 16, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: JR #1

Work Order #2111171

Enclosed are the results of analyses for samples received by Summit Scientific on 11/09/21 16:01. 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



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

Project: JR #1

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
11/16/21 14:08

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	2111171-01	Water	11/09/21 12:22	11/09/21 16:01
BH02	2111171-02	Water	11/09/21 12:40	11/09/21 16:01
BH03	2111171-03	Water	11/09/21 12:09	11/09/21 16:01
BH04	2111171-04	Water	11/09/21 11:55	11/09/21 16:01
BH05	2111171-05	Water	11/09/21 13:39	11/09/21 16:01

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

2111171

S<sub>2</sub>

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

Page 1 of 1

Client: PDC /Tasman Geosciences

Project Manager: Mark Longhurst

Address: 6855 W. 119th St.

E-Mail: Mark.Longhurst@PDCE.com

City/State/Zip: Broomfield CO 80020

Phone: 303-487-1228

Project Name: JR #1

Sampler Name: Aaron O'Keller

Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested					Special Instructions			
					HCl	HNO <sub>3</sub>	None	Other	Water	Soil	Air-Canister #	Other	8260 BTEX	Napthalene	1,2,4 TMB	1,3,5 TMB	TDS		Chloride	Sulphate	
1	BH01	11/9/21	1222	3			3		X					X	X	X	X				
2	BH02		1240																		
3	BH03		1209																		
4	BH04		1155																		
5	BH05		1339																		
6																					
7																					
8																					
9																					
10																					

Relinquished by: <i>Aaron O'Keller</i>	Date/Time: 11/9/21 16:00	Received by: Tasman Lockbox	Date/Time: 11/9/21 16:01	Turn Around Time (Check)	Notes:
				Same Day <input type="checkbox"/> 72 hours	
				24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/>	
Relinquished by: Tasman LockBox	Date/Time: 11/9/21 16:00	Received by: <i>[Signature]</i>	Date/Time: 11/9/21 16:01	48 hours <input type="checkbox"/>	Sample Integrity: 2.3
Relinquished by:	Date/Time:	Received by:	Date/Time:	Temperature Upon Receipt: 2.3	
				Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	

S<sub>2</sub>

2111171

S2 Work Order#

Sample Receipt Checklist

Client: Doc Tasmann Client Project ID: JR#1

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

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

Temp (°C) 2.3

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"/>	<u>on ICE</u>
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 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 <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.				

[Signature]  
Custodian Printed Name or Initials

11.9.21  
Date/Time



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

Project: JR #1

Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 11/16/21 14:08

**BH01**  
**2111171-01 (Water)**

**Summit Scientific**

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

Date Sampled: **11/09/21 12:22**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Benzene</b>	<b>380</b>	10	ug/l	10	BEK0237	11/10/21	11/12/21	EPA 8260B	
Toluene	ND	1.0	"	1	"	"	"	"	
<b>Ethylbenzene</b>	<b>170</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>590</b>	20	"	10	"	"	"	"	
<b>Naphthalene</b>	<b>22</b>	1.0	"	1	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>270</b>	1.0	"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>23</b>	1.0	"	"	"	"	"	"	

Date Sampled: **11/09/21 12:22**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		100 %		23-173	"	"	"	"	
Surrogate: Toluene-d8		101 %		20-170	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		113 %		21-167	"	"	"	"	

Summit Scientific

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

Project: JR #1

Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 11/16/21 14:08

**BH02**  
**2111171-02 (Water)**

**Summit Scientific**

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

Date Sampled: **11/09/21 12:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	BEK0237	11/10/21	11/12/21	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>1.2</b>	1.0	"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>1.2</b>	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

Date Sampled: **11/09/21 12:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		98.0 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	21-167		"	"	"	"	

Summit Scientific

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

Project: JR #1

Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 11/16/21 14:08

**BH03**  
**2111171-03 (Water)**

**Summit Scientific**

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

Date Sampled: **11/09/21 12:09**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	BEK0237	11/10/21	11/12/21	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: **11/09/21 12:09**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		99.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

Summit Scientific

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

Project: JR #1

Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 11/16/21 14:08

**BH04**  
**2111171-04 (Water)**

**Summit Scientific**

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

Date Sampled: **11/09/21 11:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	BEK0237	11/10/21	11/12/21	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: **11/09/21 11:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		98.3 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	21-167		"	"	"	"	

Summit Scientific

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

Project: JR #1

Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 11/16/21 14:08

**BH05**  
**2111171-05 (Water)**

**Summit Scientific**

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

Date Sampled: **11/09/21 13:39**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	BEK0237	11/10/21	11/12/21	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: **11/09/21 13:39**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		97.1 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

Summit Scientific

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

Project: JR #1

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
11/16/21 14:08

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

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

#### Batch BEK0237 - EPA 5030 Water MS

##### Blank (BEK0237-BLK1)

Prepared: 11/10/21 Analyzed: 11/11/21

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	13.8		"	13.3		103		23-173			
Surrogate: Toluene-d8	13.0		"	13.3		97.5		20-170			
Surrogate: 4-Bromofluorobenzene	13.5		"	13.3		101		21-167			

##### LCS (BEK0237-BS1)

Prepared: 11/10/21 Analyzed: 11/11/21

Benzene	46.8	1.0	ug/l	50.0		93.6		51-132			
Toluene	46.9	1.0	"	50.0		93.7		51-138			
Ethylbenzene	46.1	1.0	"	50.0		92.3		58-146			
m,p-Xylene	92.8	2.0	"	100		92.8		57-144			
o-Xylene	47.4	1.0	"	50.0		94.7		53-146			
Naphthalene	50.5	1.0	"	50.0		101		70-130			
1,2,4-Trimethylbenzene	47.1	1.0	"	50.0		94.2		70-130			
1,3,5-Trimethylbenzene	46.7	1.0	"	50.0		93.4		70-130			
Surrogate: 1,2-Dichloroethane-d4	13.6		"	13.3		102		23-173			
Surrogate: Toluene-d8	13.2		"	13.3		99.3		20-170			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		101		21-167			

##### Matrix Spike (BEK0237-MS1)

Source: 2111128-01

Prepared: 11/10/21 Analyzed: 11/11/21

Benzene	51.4	1.0	ug/l	50.0	ND	103		34-141			
Toluene	51.4	1.0	"	50.0	ND	103		27-151			
Ethylbenzene	52.3	1.0	"	50.0	ND	105		29-160			
m,p-Xylene	106	2.0	"	100	ND	106		20-166			
o-Xylene	52.4	1.0	"	50.0	ND	105		33-159			
Naphthalene	46.6	1.0	"	50.0	ND	93.2		70-130			
1,2,4-Trimethylbenzene	53.4	1.0	"	50.0	ND	107		70-130			
1,3,5-Trimethylbenzene	53.2	1.0	"	50.0	ND	106		70-130			
Surrogate: 1,2-Dichloroethane-d4	12.2		"	13.3		91.5		23-173			
Surrogate: Toluene-d8	13.2		"	13.3		98.6		20-170			
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		99.2		21-167			

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: JR #1

Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 11/16/21 14:08

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

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

**Batch BEK0237 - EPA 5030 Water MS**

Matrix Spike Dup (BEK0237-MSD1)	Source: 2111128-01			Prepared: 11/10/21 Analyzed: 11/11/21					
Benzene	51.5	1.0	ug/l	50.0	ND	103	34-141	0.253	30
Toluene	51.2	1.0	"	50.0	ND	102	27-151	0.429	30
Ethylbenzene	52.8	1.0	"	50.0	ND	106	29-160	0.895	30
m,p-Xylene	106	2.0	"	100	ND	106	20-166	0.707	30
o-Xylene	53.2	1.0	"	50.0	ND	106	33-159	1.57	30
Naphthalene	49.0	1.0	"	50.0	ND	98.0	70-130	4.96	30
1,2,4-Trimethylbenzene	54.9	1.0	"	50.0	ND	110	70-130	2.81	30
1,3,5-Trimethylbenzene	54.8	1.0	"	50.0	ND	110	70-130	3.06	30
Surrogate: 1,2-Dichloroethane-d4	12.2		"	13.3		91.4	23-173		
Surrogate: Toluene-d8	13.2		"	13.3		99.0	20-170		
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		98.7	21-167		

Summit Scientific

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

Project: JR #1  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
11/16/21 14:08

### 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