PDC Energy, Inc.

Third Quarter 2022 Groundwater Monitoring Summary

July 19, 2022

Former Von Feldt #13-12 Wellhead
SWSW Section 12 T6N R65W
Remediation # 19634

This groundwater monitoring summary has been prepared by Tasman, Inc. for the former Von Feldt #13-12 Wellhead.

Site History and Background

On September 2, 2021, a historic hydrocarbon release was discovered at the former wellhead during wellhead decommissioning activities. Following the discovery, mitigation activities were initiated and approximately 8 cubic yards of impacted material were removed from the former excavation. During excavation activities, groundwater was encountered within the excavation at approximately 6 feet below ground surface (bgs). On January 21, 2022, five monitoring wells (BH01 – BH05) were installed to confirm the absence of dissolved-phase hydrocarbon impacts within and adjacent to the former excavation extent.

Groundwater Monitoring Activities

On July 5, 2022, groundwater monitoring was conducted at all five monitoring wells (BH01 – BH05). Five (5) 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, chloride and sulfate anions by EPA Method 300.0 and total dissolved solids (TDS) by Method SM 2540C.

Third quarter 2022 analytical results indicated that organic compound concentrations were below the applicable COGCC Table 915-1 groundwater standards in all five monitoring well locations. Additionally, inorganic parameters were in compliance with the applicable COGCC Table 915-1 regulatory standards and within 1.25x the background concentrations of the up- and cross-gradient monitoring wells (BH03 and BH04) 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. Groundwater analytical results are summarized in Tables 1 and 2. The laboratory analytical report is included as Attachment A.

Current Remediation Activities and Path Forward

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

Fourth quarter 2022 groundwater sampling will be conducted in October 2022.

BH02		
Compound (µg/L)	4/8/2022	7/5/2022
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)	10.26	2.93

BH01		
Compound (µg/L)	4/8/2022	7/5/2022
Benzene	Not Sampled Dry	<1.0
Toluene		<1.0
Ethylbenzene		<1.0
Total Xylenes		<2.0
Naphthalene		<1.0
1,2,4-TMB		<1.0
1,3,5-TMB		<1.0
Depth to Water (ft. bgs)	DRY	3.04

BH03		
Compound (µg/L)	4/8/2022	7/5/2022
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)	NA	3.03

BH04		
Compound (µg/L)	4/8/2022	7/5/2022
Benzene	<1.0	1.1
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)	10.52	2.90

BH05		
Compound (µg/L)	4/8/2022	7/5/2022
Benzene	Not Sampled Insufficient Water Column	<1.0
Toluene		<1.0
Ethylbenzene		<1.0
Total Xylenes		<2.0
Naphthalene		<1.0
1,2,4-TMB		<1.0
1,3,5-TMB		<1.0
Depth to Water (ft. bgs)	10.53	3.04

BH02

BH03

GW01

BH01

BH05

BH04

Legend

- Underground Flowline Location (Collected via Trimble GPS)
- Excavation Extent (Collected via Trimble GPS)
- Groundwater Sample Location
- Monitoring Well Location (Collected via Trimble GPS)
- Groundwater Flow Direction (3Q22)

Notes

All locations are approximate unless otherwise noted.

µg/L – Micrograms per liter

TMB – Trimethylbenzene

ft. bgs – Feet below ground surface

GPS – Global Positioning System

NA – Survey data not available

0 ft. 10 ft. 20 ft.

N

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

DATE: July 19, 2022

DESIGNED BY: C. Hamlin

DRAWN BY: E. Wozniak

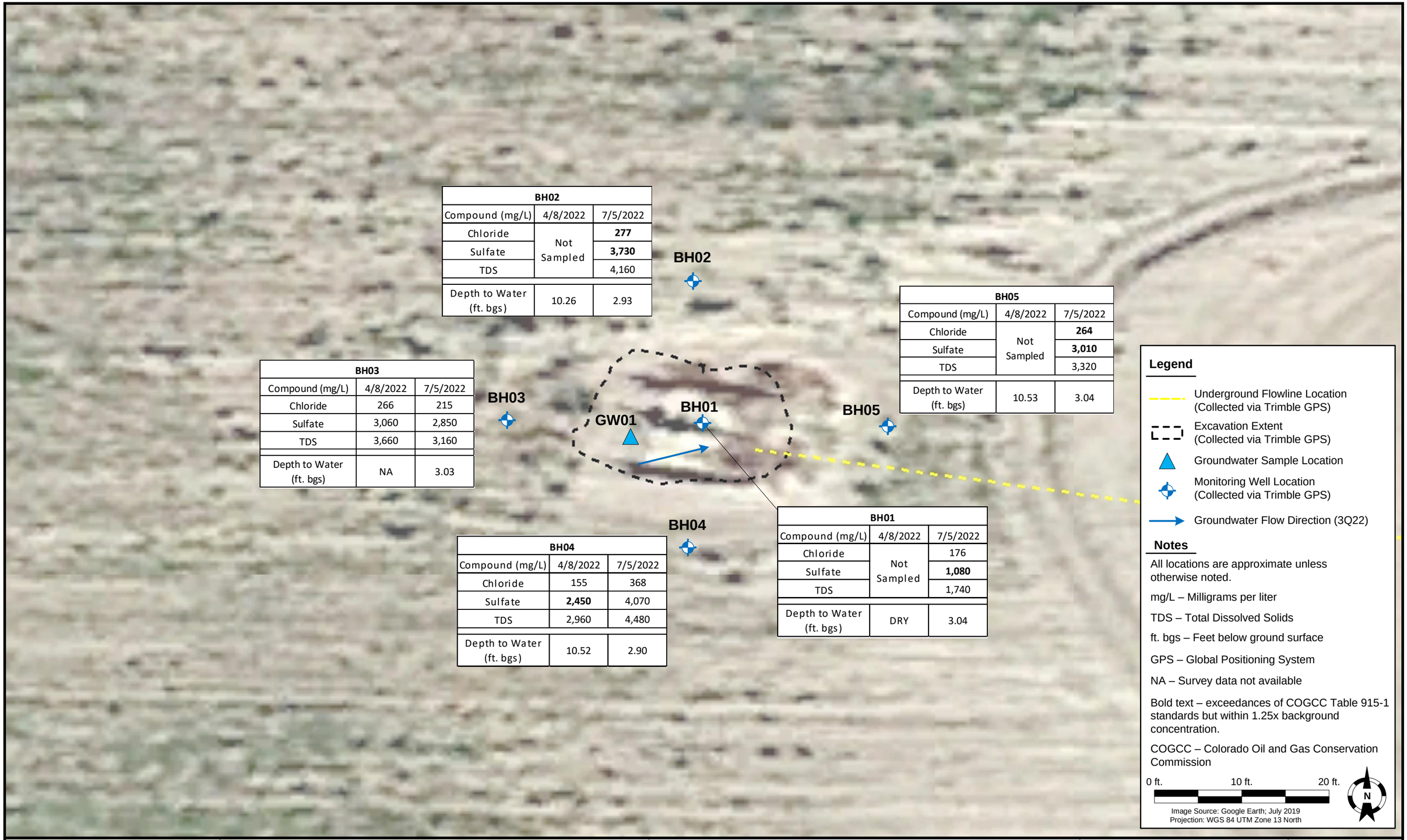
TASMAN

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

PDC Energy, Inc. – DJ Basin
Former Von Feldt 13-12 Wellhead
SWSW, Section 12, Township 6 North, Range 65 West
Weld County, Colorado

GROUNDWATER ANALYTICAL RESULTS MAP

FIGURE 1



BH02		
Compound (mg/L)	4/8/2022	7/5/2022
Chloride	Not Sampled	**277**
Sulfate		**3,730**
TDS		4,160
Depth to Water (ft. bgs)	10.26	2.93

BH03		
Compound (mg/L)	4/8/2022	7/5/2022
Chloride	266	215
Sulfate	3,060	2,850
TDS	3,660	3,160
Depth to Water (ft. bgs)	NA	3.03

BH05		
Compound (mg/L)	4/8/2022	7/5/2022
Chloride	Not Sampled	**264**
Sulfate		**3,010**
TDS		3,320
Depth to Water (ft. bgs)	10.53	3.04

BH01		
Compound (mg/L)	4/8/2022	7/5/2022
Chloride	Not Sampled	176
Sulfate		**1,080**
TDS		1,740
Depth to Water (ft. bgs)	DRY	3.04

BH04		
Compound (mg/L)	4/8/2022	7/5/2022
Chloride	155	368
Sulfate	**2,450**	4,070
TDS	2,960	4,480
Depth to Water (ft. bgs)	10.52	2.90

Legend

- Underground Flowline Location (Collected via Trimble GPS)
- Excavation Extent (Collected via Trimble GPS)
- Groundwater Sample Location
- Monitoring Well Location (Collected via Trimble GPS)
- Groundwater Flow Direction (3Q22)

Notes

All locations are approximate unless otherwise noted.

mg/L – Milligrams per liter

TDS – Total Dissolved Solids

ft. bgs – Feet below ground surface

GPS – Global Positioning System

NA – Survey data not available

Bold text – exceedances of COGCC Table 915-1 standards but within 1.25x background concentration.

COGCC – Colorado Oil and Gas Conservation Commission

0 ft. 10 ft. 20 ft.

N

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

DATE: July 19, 2022

DESIGNED BY: C. Hamlin

DRAWN BY: E. Wozniak

TASMAN

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

PDC Energy, Inc. – DJ Basin
Former Von Feldt 13-12 Wellhead
SWSW, Section 12, Township 6 North, Range 65 West
Weld County, Colorado

GROUNDWATER ANALYTICAL RESULTS MAP (INORGANIC PARAMETERS)

FIGURE 2

Legend

- Monitoring Well Location (Collected via Trimble GPS)
- Excavation Extent (Collected via Trimble GPS)
- Underground Flowline Location (Collected via Trimble GPS)
- Groundwater Elevation Contour (Dashed where inferred)
- 4681.91 Groundwater Elevation (ft. AMSL)
- Groundwater Flow Direction (3Q22)

Notes

All locations are approximate unless otherwise noted.

ft. AMSL – Feet Above Mean Sea Level

GPS – Global Positioning System

0 ft. 10 ft. 20 ft.

N

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

DATE: July 19, 2022 DESIGNED BY: C. Hamlin DRAWN BY: J. Clonts	TASMAN	**Tasman, Inc.** 6855 West 119th Avenue Broomfield, CO 80020	**PDC Energy, Inc. – DJ Basin** **Von Feldt #13-12 Wellhead** SWSW, Section 12, Township 6 North, Range 65 West Weld County, Colorado	GROUNDWATER ELEVATION CONTOUR MAP (7/5/2022)	FIGURE 3

TABLE 1
FORMER VON FELDT 13-12 WELLHEAD
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	1/25/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	9.77	4708.82
BH01	4/8/2022	Not Sampled - Dry							DRY	DRY
BH01	7/5/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.04	4715.72
BH02	1/25/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	9.51	4708.70
BH02	4/8/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	10.26	4707.95
BH02	7/5/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.93	4715.70
BH03	1/25/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	9.69	4708.87
BH03	4/8/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	NA	NA
BH03	7/5/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.03	4715.77
BH04	1/25/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	9.56	4708.79
BH04	4/8/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	10.52	4707.83
BH04	7/5/2022	1.1	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.90	4715.73
BH05	1/25/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	9.74	4708.70
BH05	4/8/2022	Not Sampled - Insufficient Water Column							10.53	4707.91
BH05	7/5/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.04	4715.62

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
NA = Survey data not available

TABLE 2
FORMER VON FELDT 13-12 WELLHEAD
GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE
INORGANIC PARAMETERS

Sample ID	Date Sampled	TDS (unit)	Chloride Ion (mg/L)	Sulfate Ion (mg/L)	Depth to Water [2] (ft.)	Groundwater Elevation (ft. AMSL)
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	1/28/2022	3,410	173	**1,750**	9.77	4708.82
BH01	4/8/2022	Not Sampled - Dry			DRY	DRY
BH01	7/5/2022	1,740	176	**1,080**	3.04	4715.72
BH02	1/28/2022	4,530	244	**2,300**	9.51	4708.70
BH02	4/8/2022	Not Sampled - Insufficent Water Column			10.26	4707.95
BH02	7/5/2022	4,160	**277**	**3,730**	2.93	4715.70
BH03	1/28/2022	3,740	188	1,830	9.69	4708.87
BH03	4/8/2022	3,660	266	3,060	NA	NA
BH03	7/5/2022	3,160	215	2,850	3.03	4715.77
BH04	1/28/2022	3,030	113	1,450	9.56	4708.79
BH04	4/8/2022	2,960	155	**2,450**	10.52	4707.83
BH04	7/5/2022	4,480	368	4,070	2.90	4715.73
BH05	1/28/2022	2,910	126	**1,280**	9.74	4708.70
BH05	4/8/2022	Not Sampled - Insufficent Water Column			10.53	4707.91
BH05	7/5/2022	3,320	**264**	**3,010**	3.04	4715.62

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.

TDS = Total dissolved solids
COGCC = Colorado Oil and Gas Conservation Commission
BCKG = Background
mg/L = Milligrams per liter
ft. = Feet
AMSL = Above Mean Sea Level
(<) = Analytical result is less than the indicated laboratory reporting limit.
NA = Survey data not available
= Up- / cross-gradient well location used for background concentration.
BOLD = Analytical result is in exceedance of applicable standard but within 1.25x background concentration.
BOLD = Analytical result is in exceedance of applicable standard and above 1.25x background concentration.

Attachment A

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

July 15, 2022

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

RE: Von Feldt 13-12 Wellhead
Work Order #2207031

Enclosed are the results of analyses for samples received by Summit Scientific on 07/05/22 17:19. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Mikayla Axtell For Paul Shrewsbury
President

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Von Feldt 13-12 Wellhead Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 07/15/22 09:00

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	2207031-01	Water	07/05/22 12:17	07/05/22 17:19
BH02	2207031-02	Water	07/05/22 12:17	07/05/22 17:19
BH03	2207031-03	Water	07/05/22 12:39	07/05/22 17:19
BH04	2207031-04	Water	07/05/22 12:48	07/05/22 17:19
BH05	2207031-05	Water	07/05/22 12:56	07/05/22 17:19

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

S_2

2207031

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

Page 1 of

Client: PDC /Tasman Geosciences
Address: 6855 W. 119th St.
City/State/Zip: Broomfield CO 80020
Phone: 303-487-1228
Sampler Name: Aaron Otillar

Project Manager: Mark Longhurst
E-Mail:mark.longhurst@pdce.com
Project Name: Von Feldt 13-12 Wellhead
Project Number: NA

					Preservative				Matrix				Analysis Requested								Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other ___	Water	Soil	Air-Canister #	Other ___	8260 BTEX	Napthalene	1,2,4 TMB	1,3,5 TMB	TDS	Chloride	Sulfate		
1	BH01	7/5/22	1217	4	3		1		x				x	x	x	x	x	x	x		
2	BH02	"	1217	"	"		"		"				"	"	"	"	"	"	"		
3	BH03	"	1239	"	"		"		"				"	"	"	"	"	"	"		
4	BH04	"	1248	"	"		"		"				"	"	"	"	"	"	"		
5	BH05	"	1256	"	"		"		"				"	"	"	"	"	"	"		
6																					
7																					
8																					
9																					
10																					

Relinquished by:	Date/Time:	Received by:	Date/Time:
Aaron Otillar	7/5/22 1712	Tasman Lockbox	7/5/22 1712
Relinquished by:	Date/Time: 7522	Received by:	Date/Time: 7522
Tasman Lockbox	1719		1719
Relinquished by:	Date/Time:	Received by:	Date/Time:

Turn Around Time (Check)
Same Day ___ 72 hours ___
24 hours ___ Standard x
48 hours ___
Sample Integrity:
Temperature Upon Receipt: 2.3
Samples Intact: Yes No

Notes:

S2

S2 Work Order# 2207031

Sample Receipt Checklist

Client: Rocky Mountain Client Project ID: Van Feldt 13-12 Wellhead

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

	–			

Matrix (Check all that apply) Air [ ] Soil/Solid [ ] Water [ ] Other [ ]

Temp (°C) [2.3] Thermometer # [1]

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6 °C [1]? **NOTE:** If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	–			on ice
Were all samples received intact [1]?	–			
Was adequate sample volume provided [1]?	–			
If custody seals are present, are they intact [1]?	–			
Are samples due within 48 hours present?		–		
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe^{2+}), Hexavalent Chromium (Cr^{6+}, Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen			–	
Is a chain-of-custody (COC) form present and filled out completely [1]?	–			
Does the COC agree with the number and type of sample bottles received [1]?	–			
Do the sample IDs on the bottle labels match the COC [1]?	–			
Is the COC properly relinquished by the client w/ date and time recorded [1]?	–			
For volatiles in water – is there headspace present? **If yes, contact client and note in narrative.**		–		
Are samples preserved that require preservation **(excluding cooling)** [1]? Note the type of preservative in the comments column – HCl, H_2SO_4, NaOH, HNO_3, etc.	–			HCl
If samples are acid preserved for metals, is the pH ≤ 2[1]? Record the pH in Comments.			–	
If dissolved metals are requested, were samples field filtered?			–	
Additional Comments (if any):				
[1] **If NO, then contact the client before proceeding with analysis and note in case narrative.**				

[signature] 7522

Custodian Printed Name **Date/Time**

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Von Feldt 13-12 Wellhead Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 07/15/22 09:00

BH01

2207031-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/05/22 12:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	BFG0097	07/06/22	07/07/22	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: **07/05/22 12:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*141 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*94.1 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*87.8 %*	*21-167*		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **07/05/22 12:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloride	**176**	12.0	mg/L	200	BFG0144	07/08/22	07/08/22	EPA 300.0	
Sulfate	**1080**	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **07/05/22 12:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	**1740**	10.0	mg/L	1	BFG0120	07/07/22	07/07/22	SM2540C	

Summit Scientific

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PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Von Feldt 13-12 Wellhead Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 07/15/22 09:00

BH02

2207031-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/05/22 12:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	BFG0097	07/06/22	07/07/22	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: **07/05/22 12:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*157 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*101 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*94.7 %*	*21-167*		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **07/05/22 12:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloride	**277**	12.0	mg/L	200	BFG0144	07/08/22	07/08/22	EPA 300.0	
Sulfate	**3730**	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **07/05/22 12:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	**4160**	10.0	mg/L	1	BFG0120	07/07/22	07/07/22	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.

S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Von Feldt 13-12 Wellhead Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 07/15/22 09:00

BH03

2207031-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/05/22 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	BFG0097	07/06/22	07/07/22	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: **07/05/22 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*138 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*92.1 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*85.1 %*	*21-167*		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **07/05/22 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloride	**215**	12.0	mg/L	200	BFG0144	07/08/22	07/08/22	EPA 300.0	
Sulfate	**2850**	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **07/05/22 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	**3160**	10.0	mg/L	1	BFG0120	07/07/22	07/07/22	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: Von Feldt 13-12 Wellhead Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 07/15/22 09:00

BH04

2207031-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/05/22 12:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	**1.1**	1.0	ug/l	1	BFG0097	07/06/22	07/07/22	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: **07/05/22 12:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*90.7 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*95.9 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*83.0 %*	*21-167*		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **07/05/22 12:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloride	**368**	12.0	mg/L	200	BFG0144	07/08/22	07/08/22	EPA 300.0	
Sulfate	**4070**	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **07/05/22 12:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	**4480**	10.0	mg/L	1	BFG0120	07/07/22	07/07/22	SM2540C	

Summit Scientific

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S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Von Feldt 13-12 Wellhead Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 07/15/22 09:00

BH05

2207031-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/05/22 12:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	BFG0097	07/06/22	07/07/22	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: **07/05/22 12:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*149 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*88.8 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*91.7 %*	*21-167*		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **07/05/22 12:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloride	**264**	12.0	mg/L	200	BFG0144	07/08/22	07/08/22	EPA 300.0	
Sulfate	**3010**	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **07/05/22 12:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	**3320**	10.0	mg/L	1	BFG0120	07/07/22	07/07/22	SM2540C	

Summit Scientific

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PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Von Feldt 13-12 Wellhead Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 07/15/22 09:00

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFG0097 - EPA 5030 Water MS										
Blank (BFG0097-BLK1)				Prepared & Analyzed: 07/06/22						
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	*8.59*		*"*	*13.3*		*64.4*	*23-173*			
Surrogate: Toluene-d8	*12.1*		*"*	*13.3*		*90.8*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*10.7*		*"*	*13.3*		*80.4*	*21-167*			
LCS (BFG0097-BS1)				Prepared & Analyzed: 07/06/22						
Benzene	25.6	1.0	ug/l	33.3		76.7	51-132			
Toluene	35.3	1.0	"	33.3		106	51-138			
Ethylbenzene	43.7	1.0	"	33.3		131	58-146			
m,p-Xylene	82.6	2.0	"	66.7		124	57-144			
o-Xylene	40.9	1.0	"	33.3		123	53-146			
Naphthalene	39.7	1.0	"	33.3		119	70-130			
1,2,4-Trimethylbenzene	41.1	1.0	"	33.3		123	70-130			
1,3,5-Trimethylbenzene	43.1	1.0	"	33.3		129	70-130			
Surrogate: 1,2-Dichloroethane-d4	*13.6*		*"*	*13.3*		*102*	*23-173*			
Surrogate: Toluene-d8	*13.9*		*"*	*13.3*		*104*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*12.3*		*"*	*13.3*		*92.1*	*21-167*			
Matrix Spike (BFG0097-MS1)	**Source: 2207015-02**			Prepared & Analyzed: 07/06/22						
Benzene	25.1	1.0	ug/l	33.3	ND	75.2	34-141			
Toluene	35.4	1.0	"	33.3	ND	106	27-151			
Ethylbenzene	44.9	1.0	"	33.3	ND	135	29-160			
m,p-Xylene	85.0	2.0	"	66.7	ND	128	20-166			
o-Xylene	42.1	1.0	"	33.3	ND	126	33-159			
Naphthalene	33.8	1.0	"	33.3	ND	101	70-130			
1,2,4-Trimethylbenzene	40.6	1.0	"	33.3	ND	122	70-130			
1,3,5-Trimethylbenzene	35.9	1.0	"	33.3	ND	108	70-130			
Surrogate: 1,2-Dichloroethane-d4	*13.4*		*"*	*13.3*		*101*	*23-173*			
Surrogate: Toluene-d8	*13.6*		*"*	*13.3*		*102*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*12.1*		*"*	*13.3*		*90.8*	*21-167*			

Summit Scientific

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PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Von Feldt 13-12 Wellhead Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 07/15/22 09:00

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFG0097 - EPA 5030 Water MS										
Matrix Spike Dup (BFG0097-MSD1)	**Source: 2207015-02**			Prepared & Analyzed: 07/06/22						
Benzene	32.4	1.0	ug/l	33.3	ND	97.2	34-141	25.5	30	
Toluene	34.9	1.0	"	33.3	ND	105	27-151	1.53	30	
Ethylbenzene	42.3	1.0	"	33.3	ND	127	29-160	6.10	30	
m,p-Xylene	79.8	2.0	"	66.7	ND	120	20-166	6.32	30	
o-Xylene	40.0	1.0	"	33.3	ND	120	33-159	5.19	30	
Naphthalene	35.6	1.0	"	33.3	ND	107	70-130	5.33	30	
1,2,4-Trimethylbenzene	39.8	1.0	"	33.3	ND	119	70-130	2.06	30	
1,3,5-Trimethylbenzene	34.4	1.0	"	33.3	ND	103	70-130	4.24	30	
Surrogate: 1,2-Dichloroethane-d4	*22.9*		*"*	*13.3*		*172*	*23-173*			
Surrogate: Toluene-d8	*13.6*		*"*	*13.3*		*102*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*12.8*		*"*	*13.3*		*95.9*	*21-167*			

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Von Feldt 13-12 Wellhead Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 07/15/22 09:00

Anions by EPA Method 300.0 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFG0144 - General Preparation										
Blank (BFG0144-BLK1)				Prepared & Analyzed: 07/08/22						
Chloride	ND	0.0600	mg/L							
Sulfate	ND	0.300	"							
LCS (BFG0144-BS1)				Prepared & Analyzed: 07/08/22						
Chloride	2.86	0.0600	mg/L	3.00		95.3	90-110			
Sulfate	15.6	0.300	"	15.0		104	90-110			
Duplicate (BFG0144-DUP1)	**Source: 2207031-01**			Prepared & Analyzed: 07/08/22						
Chloride	133	12.0	mg/L		176			27.8	20	QM-02
Sulfate	1040	60.0	"		1080			3.44	20	
Matrix Spike (BFG0144-MS1)	**Source: 2207031-01**			Prepared & Analyzed: 07/08/22						
Chloride	729	12.0	mg/L	600	176	92.1	80-120			
Sulfate	4330	60.0	"	3000	1080	108	80-120			

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Von Feldt 13-12 Wellhead Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 07/15/22 09:00

Total Dissolved Solids by SM2540C - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFG0120 - General Preparation										
Blank (BFG0120-BLK1)				Prepared & Analyzed: 07/07/22						
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (BFG0120-DUP1)		**Source: 2207029-01**		Prepared & Analyzed: 07/07/22						
Total Dissolved Solids	426	10.0	mg/L		401			6.04	20	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Von Feldt 13-12 Wellhead Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 07/15/22 09:00

Notes and Definitions

QM-02	The RPD and/or percent recovery for this QC sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
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