



PDC Energy, Inc.
Second Quarter 2022 Groundwater Monitoring Summary

February 23, 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

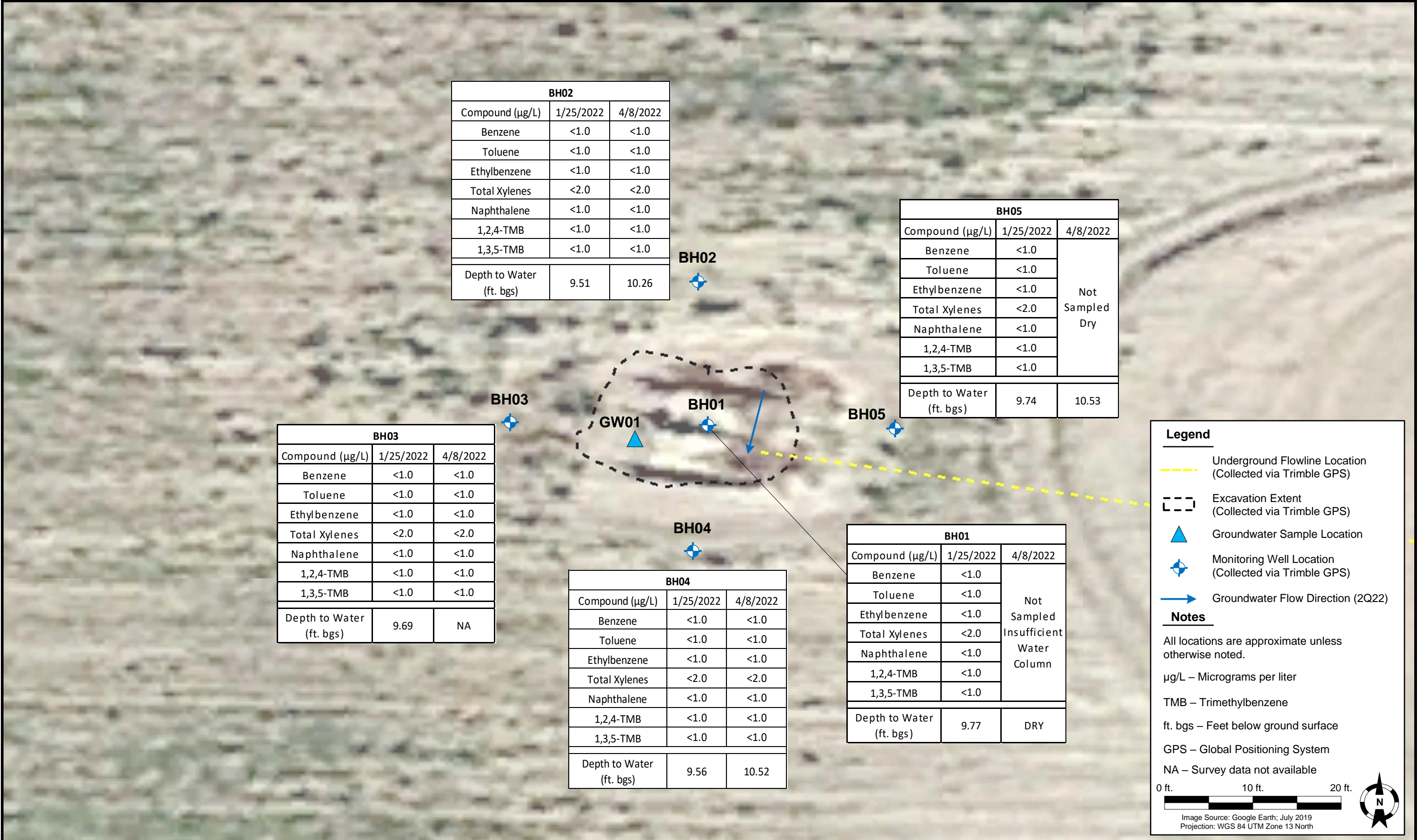
On April 8, 2022, groundwater monitoring was conducted at all five monitoring wells (BH01 – BH05). Due to insufficient water columns, samples were not collected from monitoring wells BH01 and BH05 and inorganic samples were unable to be collected from monitoring well BH02. Three (3) groundwater samples 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 and two (2) groundwater samples were submitted for additional laboratory analysis of chloride and sulfate anions by EPA Method 300.0 and total dissolved solids (TDS) by Method SM 2540C.

Second quarter 2022 analytical results indicated that organic compound concentrations were below the applicable COGCC Table 915-1 groundwater standards in all three sampled locations. Additionally, inorganic parameters were in compliance with the applicable COGCC Table 915-1 regulatory standards or within 1.25x the background concentration the cross-gradient monitoring well (BH03) in monitoring well BH04. 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 third quarter 2022.

Third quarter 2022 groundwater sampling will be conducted in July 2022.



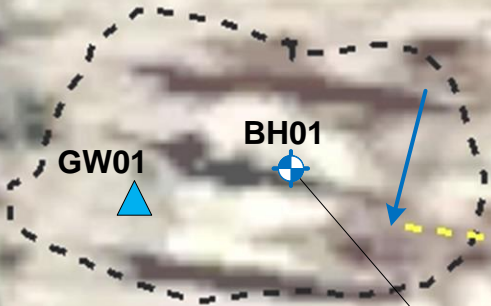
BH02		
Compound (mg/L)	1/28/2022	4/8/2022
Chloride	244	Not Sampled
Sulfate	2,300	
TDS	4,530	
Depth to Water (ft. bgs)	9.51	10.26

BH02

BH05		
Compound (mg/L)	1/28/2022	4/8/2022
Chloride	126	Not Sampled
Sulfate	1,280	
TDS	2,910	
Depth to Water (ft. bgs)	9.74	10.53

BH03		
Compound (mg/L)	1/28/2022	4/8/2022
Chloride	188	266
Sulfate	1,830	3,060
TDS	3,740	3,660
Depth to Water (ft. bgs)	9.69	NA

BH03



BH01

BH05

BH01		
Compound (mg/L)	1/28/2022	4/8/2022
Chloride	173	Not Sampled Dry
Sulfate	1,750	
TDS	3,410	
Depth to Water (ft. bgs)	9.77	DRY

BH04

BH04		
Compound (mg/L)	1/28/2022	4/8/2022
Chloride	113	155
Sulfate	1,450	2,450
TDS	3,030	2,960
Depth to Water (ft. bgs)	9.56	10.52

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 (2Q22)

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
Red text – exceedance of COGCC Table 915-1 standards and above 1.25x BCKG concentration.
Bold text – exceedances of COGCC Table 915-1 standards but within 1.25x BCKG concentration.
BCKG – Background
COGCC – Colorado Oil and Gas Conservation Commission

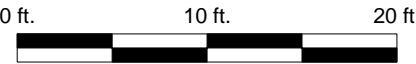


Image Source: Google Earth; July 2019
Projection: WGS 84 UTM Zone 13 North



DATE: May 17, 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
2



DATE:	April 14, 2022
DESIGNED BY:	C. Hamlin
DRAWN BY:	A. Dahl



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 (4/8/2022)**

**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
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
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
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
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

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.
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
BH02	1/28/2022	4,530	244	2,300	9.51	4708.70
BH02	4/8/2022	Not Sampled - Insufficient Water Column			10.26	4707.95
BH03	1/28/2022	3,740	188	1,830	9.69	4708.87
BH03	4/8/2022	3,660	266	3,060	NA	NA
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
BH05	1/28/2022	2,910	126	1,280	9.74	4708.70
BH05	4/8/2022	Not Sampled - Insufficient Water Column			10.53	4707.91

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

April 15, 2022

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Von Feldt 13-12

Work Order #2204136

Enclosed are the results of analyses for samples received by Summit Scientific on 04/08/22 17:12. 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 For Muri Premer
Project Manager



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

Project: Von Feldt 13-12

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
04/15/22 11:16

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH02	2204136-01	Water	04/08/22 11:28	04/08/22 17:12
BH03	2204136-02	Water	04/08/22 11:37	04/08/22 17:12
BH04	2204136-03	Water	04/08/22 11:46	04/08/22 17:12

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

2204136

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 Ave.

E-Mail: mark.longhurst@pdce.com

City/State/Zip: Broomfield, CO 80020

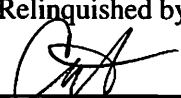
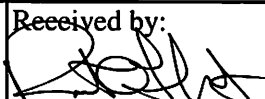
Phone: 303-487-1228

Project Name: Von Feldt 13-12

Sampler Name: Colette Ramey

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	BTEXN	1,2,4-TMB	1,3,5-TMB	TDS	Cl	SO ₄		
1	BH02	4/8/22	1128	3	3					✓				✓	✓	✓				
2	BH03	4/8/22	1137	4	3					✓				✓	✓	✓	✓	✓		
3	BH04	4/8/22	1146	4	3					✓				✓	✓	✓	✓	✓		
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Relinquished by: 	Date/Time: 4/8/2022 1630	Received by: Tasman's Lock Box	Date/Time: 4/8/2022 1630	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's Lock Box	Date/Time: 4822 1712	Received by: 	Date/Time: 4822 1712	Sample Integrity: Temperature Upon Receipt: 0.7	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Samples Intact: (yes) No	

S₂

Sample Receipt Checklist

S2 Work Order# 2204136Client: Pac/Tasman Client Project ID: Von Pelot 13-12

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

	-			
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Matrix (Check all that apply) Air ☐ Soil/Solid ☐ Water ☒ Other ☐Temp (°C) 0.7 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 ₂ SO 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.				



Custodian Printed Name

4.8.22

Date/Time



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

Project: Von Feldt 13-12
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/15/22 11:16

BH02
2204136-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/08/22 11:28**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	BFD0243	04/12/22	04/13/22	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: **04/08/22 11:28**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		102 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		108 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		112 %	21-167		"	"	"	"	

Summit Scientific

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

Project: Von Feldt 13-12
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/15/22 11:16

BH03
2204136-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/08/22 11:37**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFD0243	04/12/22	04/13/22	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: **04/08/22 11:37**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		101 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		107 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		113 %		21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **04/08/22 11:37**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	266	12.0		mg/L	200	BFD0200	04/11/22	04/11/22	EPA 300.0	
Sulfate	3060	60.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **04/08/22 11:37**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	3660	10.0		mg/L	1	BFD0212	04/11/22	04/11/22	SM2540C	

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

Project: Von Feldt 13-12
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/15/22 11:16

BH04
2204136-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/08/22 11:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BFD0243	04/12/22	04/13/22	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: **04/08/22 11:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		101 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		107 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		113 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **04/08/22 11:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	155	12.0	mg/L	200	BFD0200	04/11/22	04/11/22	EPA 300.0	
Sulfate	2450	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **04/08/22 11:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	2960	10.0	mg/L	1	BFD0212	04/11/22	04/11/22	SM2540C	

Summit Scientific

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

Project: Von Feldt 13-12
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/15/22 11:16

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 BFD0243 - EPA 5030 Water MS

Blank (BFD0243-BLK1)

Prepared: 04/12/22 Analyzed: 04/13/22

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	12.6		"	13.3		94.2	23-173			
Surrogate: Toluene-d8	14.2		"	13.3		107	20-170			
Surrogate: 4-Bromofluorobenzene	14.5		"	13.3		109	21-167			

LCS (BFD0243-BS1)

Prepared: 04/12/22 Analyzed: 04/13/22

Benzene	57.4	1.0	ug/l	50.0		115	51-132			
Toluene	56.4	1.0	"	50.0		113	51-138			
Ethylbenzene	42.6	1.0	"	50.0		85.2	58-146			
m,p-Xylene	82.6	2.0	"	100		82.6	57-144			
o-Xylene	43.6	1.0	"	50.0		87.3	53-146			
Naphthalene	38.2	1.0	"	50.0		76.4	70-130			
1,2,4-Trimethylbenzene	42.0	1.0	"	50.0		84.1	70-130			
1,3,5-Trimethylbenzene	41.4	1.0	"	50.0		82.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	11.3		"	13.3		84.5	23-173			
Surrogate: Toluene-d8	14.1		"	13.3		106	20-170			
Surrogate: 4-Bromofluorobenzene	14.2		"	13.3		106	21-167			

Matrix Spike (BFD0243-MS1)

Source: 2204177-01

Prepared: 04/12/22 Analyzed: 04/13/22

Benzene	64.2	1.0	ug/l	50.0	ND	128	34-141			
Toluene	63.8	1.0	"	50.0	ND	128	27-151			
Ethylbenzene	47.7	1.0	"	50.0	ND	95.5	29-160			
m,p-Xylene	92.8	2.0	"	100	ND	92.8	20-166			
o-Xylene	48.4	1.0	"	50.0	ND	96.7	33-159			
Naphthalene	44.5	1.0	"	50.0	ND	89.1	70-130			
1,2,4-Trimethylbenzene	46.2	1.0	"	50.0	ND	92.3	70-130			
1,3,5-Trimethylbenzene	41.8	1.0	"	50.0	ND	83.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	10.9		"	13.3		81.5	23-173			
Surrogate: Toluene-d8	14.3		"	13.3		107	20-170			
Surrogate: 4-Bromofluorobenzene	14.5		"	13.3		109	21-167			

Summit Scientific

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

Project: Von Feldt 13-12

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/15/22 11:16

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 BFD0243 - EPA 5030 Water MS

Matrix Spike Dup (BFD0243-MSD1)	Source: 2204177-01			Prepared: 04/12/22 Analyzed: 04/13/22						
Benzene	60.9	1.0	ug/l	50.0	ND	122	34-141	5.34	30	
Toluene	60.4	1.0	"	50.0	ND	121	27-151	5.49	30	
Ethylbenzene	46.8	1.0	"	50.0	ND	93.5	29-160	2.07	30	
m,p-Xylene	91.0	2.0	"	100	ND	91.0	20-166	2.02	30	
o-Xylene	46.8	1.0	"	50.0	ND	93.6	33-159	3.24	30	
Naphthalene	35.3	1.0	"	50.0	ND	70.6	70-130	23.2	30	
1,2,4-Trimethylbenzene	45.4	1.0	"	50.0	ND	90.8	70-130	1.73	30	
1,3,5-Trimethylbenzene	41.6	1.0	"	50.0	ND	83.2	70-130	0.456	30	
Surrogate: 1,2-Dichloroethane-d4	10.8		"	13.3		80.9	23-173			
Surrogate: Toluene-d8	14.1		"	13.3		106	20-170			
Surrogate: 4-Bromofluorobenzene	14.4		"	13.3		108	21-167			

Summit Scientific

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

Project: Von Feldt 13-12

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/15/22 11:16

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 BFD0200 - General Preparation

Blank (BFD0200-BLK1)

Prepared & Analyzed: 04/11/22

Chloride	ND	0.0600	mg/L
Sulfate	ND	0.300	"

LCS (BFD0200-BS1)

Prepared & Analyzed: 04/11/22

Chloride	3.15	0.0600	mg/L	3.00	105	90-110
Sulfate	15.3	0.300	"	15.0	102	90-110

Duplicate (BFD0200-DUP1)

Source: 2204098-01

Prepared & Analyzed: 04/11/22

Chloride	113	12.0	mg/L	118	4.68	20
Sulfate	381	60.0	"	378	0.633	20

Matrix Spike (BFD0200-MS1)

Source: 2204098-01

Prepared & Analyzed: 04/11/22

Chloride	624	12.0	mg/L	600	118	84.4	80-120
Sulfate	2920	60.0	"	3000	378	84.8	80-120

Summit Scientific

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

Project: Von Feldt 13-12

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/15/22 11:16

Total Dissolved Solids by SM2540C - Quality Control
Summit Scientific

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

Batch BFD0212 - General Preparation

Blank (BFD0212-BLK1)

Prepared & Analyzed: 04/11/22

Total Dissolved Solids ND 10.0 mg/L

Duplicate (BFD0212-DUP1)

Source: 2204097-01

Prepared & Analyzed: 04/11/22

Total Dissolved Solids 1450 10.0 mg/L 1410 2.87 20

Summit Scientific

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

Project: Von Feldt 13-12

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
04/15/22 11:16

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