

PDC Energy, Inc.
First Quarter 2019 Groundwater Monitoring Summary

March 18, 2019

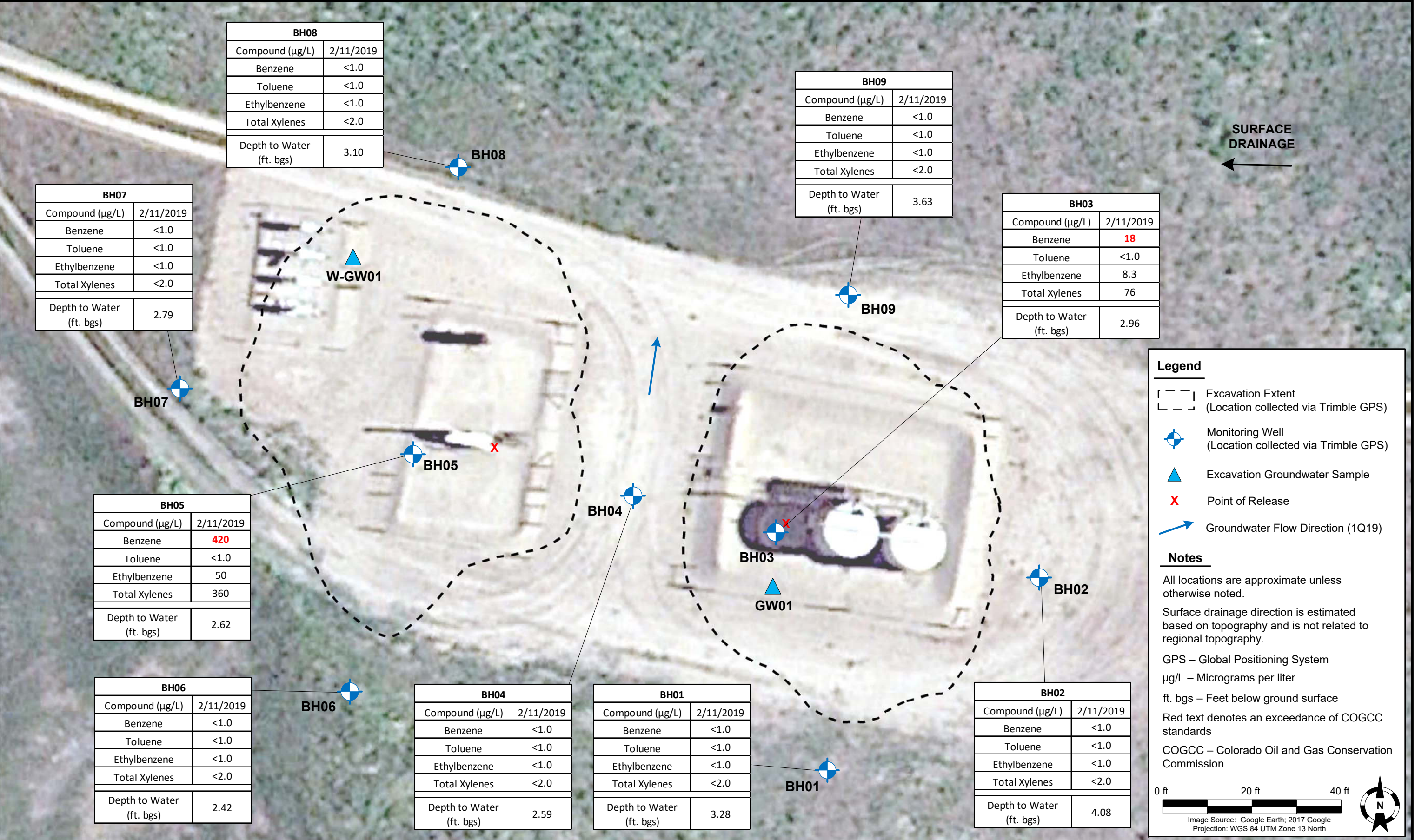
Former Mark 11, 12, 14-35 Tank Battery
NWSW Section 35 T4N R65W
Facility ID # 326785
Remediation # 12170

This groundwater monitoring summary has been prepared by Tasman Geosciences, Inc. for the former Mark 11, 12, 14-35 tank battery. On January 23, 2019, nine monitoring wells (BH01 – BH09) were installed to delineate the extent of dissolved phase hydrocarbons associated with the release discovered on November 7, 2018. On February 11, 2019, groundwater monitoring was conducted at all nine monitoring well locations (BH01 – BH09). Nine groundwater samples were submitted to Summit Scientific Laboratory for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) by USEPA Method 8260B.

First quarter 2019 analytical results indicate that benzene concentrations were above the applicable COGCC Table 910-1 groundwater standards in monitoring wells BH03 and BH05. BTEX concentrations were below regulatory standards in seven monitoring well locations.

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 second quarter 2019.

Second quarter 2019 groundwater sampling will be conducted during May 2019. Analytical results are summarized in Table 1 and the laboratory report is included as Attachment A. Sample locations and corresponding analytical results are illustrated on Figure 1. Groundwater elevation data is summarized in Figure 2.



DATE: March 18, 2019

DESIGNED BY: C. Hamlin

DRAWN BY: B. Nelson



Tasman Geosciences, Inc.
6899 Pecos Street – Unit C
Denver, CO 80221

PDC Energy, Inc. – DJ Basin
Former Mark 11, 12, 14-35 Tank Battery
SESW, Section 6, Township 4 North, Range 65 West
Weld County, Colorado

**GROUNDWATER
ANALYTICAL RESULTS
MAP**

**FIGURE
1**

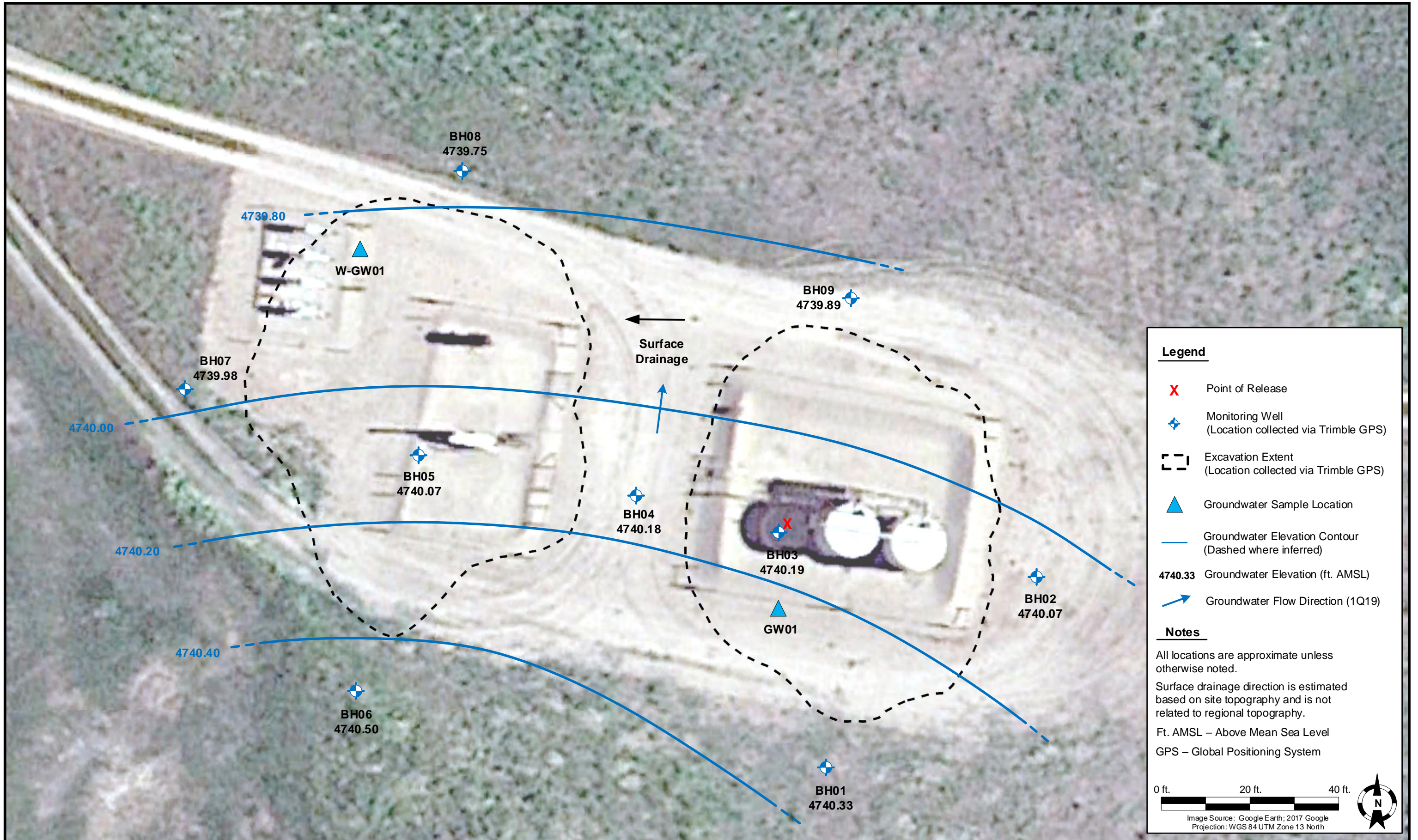


TABLE 1
FORMER MARK 11, 12, 14-35 TANK BATTERY
GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE

Sample ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Depth to Water ⁽²⁾ (feet)	Groundwater Elevation (ft AMSL)
COGCC Table 910-1 Groundwater Standard (µg/L) ⁽¹⁾		5	560	700	1,400		
GW01	11/19/2018	21	4.5	3.6	710	~ 7	NM
W-GW01	11/27/2018	2.9	<1.0	<1.0	22	~ 7	NM
BH01	2/11/2019	<1.0	<1.0	<1.0	<2.0	3.28	4740.33
BH02	2/11/2019	<1.0	<1.0	<1.0	<2.0	4.08	4740.07
BH03	2/11/2019	18	<1.0	8.3	76	2.96	4740.19
BH04	2/11/2019	<1.0	<1.0	<1.0	<2.0	2.59	4740.18
BH05	2/11/2019	420	<1.0	50	360	2.62	4740.07
BH06	2/11/2019	<1.0	<1.0	<1.0	<2.0	2.42	4740.50
BH07	2/11/2019	<1.0	<1.0	<1.0	<2.0	2.79	4739.98
BH08	2/11/2019	<1.0	<1.0	<1.0	<2.0	3.10	4739.75
BH09	2/11/2019	<1.0	<1.0	<1.0	<2.0	3.63	4739.89

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 AMSL = Feet Above Mean Sea Level

BOLD = Analytical result is in exceedance of COGCC groundwater standards.

ATTACHMENT A

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 04, 2019

Mark Longhurst

PDC Energy


1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Mark E Mark 11-35 - Mark 11, 12, 14-35

Enclosed are the results of analyses for samples received by Summit Scientific on 02/11/19 17:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Muri Premier For Paul Shrewsbury

President



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

Project: Mark E Mark 11-35 - Mark 11, 12, 14-35

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
03/04/19 11:59

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	1902099-01	Water	02/11/19 14:55	02/11/19 17:10
BH02	1902099-02	Water	02/11/19 15:00	02/11/19 17:10
BH03	1902099-03	Water	02/11/19 15:05	02/11/19 17:10
BH04	1902099-04	Water	02/11/19 15:10	02/11/19 17:10
BH05	1902099-05	Water	02/11/19 15:15	02/11/19 17:10
BH06	1902099-06	Water	02/11/19 15:22	02/11/19 17:10
BH07	1902099-07	Water	02/11/19 15:14	02/11/19 17:10
BH08	1902099-08	Water	02/11/19 14:58	02/11/19 17:10
BH09	1902099-09	Water	02/11/19 15:06	02/11/19 17:10

Summit Scientific

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1902099

Summit Scientific

741 Corporate Circle Suite I ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933 Fax

Page 1 of 1

Client: PDC / Tasman Geosciences
Address: 6899 Pecos St, Unit C
City/State/Zip: Denver, CO 80221
Phone: 303-487-1228 Fax:
Sampler Name: Alison Dahl, Brian Gabel

Project Manager: Mark Longhurst
E-Mail: mark.longhurst@pdce.com
Project Name: Mark E Mark 11-35
Project Number: N/A

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix			Analyze For:										Special Instructions				
				HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	BTEX - 8260													
BH01	2/11/2019	1455	3	X				X				X													
BH02		1500																							
BH03		1505																							
BH04		1510																							
BH05		1515																							
BH06		1522				X																			
BH07		1514																							
BH08		1458																							
BH09		1506																							

Relinquished by: <u>Alison Dahl</u>	Date/Time: <u>2/11/2019 1630</u>	Received by: <u>Tasman Lock Box</u>	Date/Time: <u>2/11/2019 1630</u>	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: <u>ON ICE</u>
Relinquished by: <u>Tasman Lock Box</u>	Date/Time: <u>2-11-19 17:10</u>	Received by: <u>AS</u>	Date/Time: <u>2-11-19 17:10</u>	Sample Integrity: Temperature Upon Receipt: <u>.2</u> Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Relinquished by:	Date/Time:	Received in Lab by:	Date/Time:		

Sample Receipt Checklist

S2 Work Order 1902099

Client: PDC / TASMAN Client Project ID: MARK E MARK 11-35

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

Matrix (check all that apply): _____ Air _____ Soil/Solid ☒ Water _____ Other: _____
(Describe)

Temp (°C)	<u>.2</u>
-----------	-----------

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"/>			
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact ⁽¹⁾ ?			<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?			<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.		<input checked="" type="checkbox"/>		
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ?	<input checked="" type="checkbox"/>			HCl (some)
Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect				
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ?			<input checked="" type="checkbox"/>	
Record the pH in Comments.				
If dissolved metals are requested, were samples field filtered?			<input checked="" type="checkbox"/>	

Additional Comments (if any):

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.

Muri
Custodian Printed Name or Initials

MA 2-11-19
Signature of Custodian

17:50
Date/Time



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

Project: Mark E Mark 11-35 - Mark 11, 12, 14-35

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/19 11:59

BH01
1902099-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/11/19 14:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1902154	02/12/19	02/13/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **02/11/19 14:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		95.9 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		96.8 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		87.9 %		21-167		"	"	"	"	

Summit Scientific

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

Project: Mark E Mark 11-35 - Mark 11, 12, 14-35

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/19 11:59

BH02
1902099-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/11/19 15:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	1902154	02/12/19	02/13/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **02/11/19 15:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		85.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		89.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		87.7 %	21-167		"	"	"	"	

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

Project: Mark E Mark 11-35 - Mark 11, 12, 14-35

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/19 11:59

BH03
1902099-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/11/19 15:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	18	1.0	ug/l	1	1902154	02/12/19	02/13/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	8.3	1.0	"	"	"	"	"	"	
Xylenes (total)	76	2.0	"	"	"	"	"	"	

Date Sampled: **02/11/19 15:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		87.9 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		90.7 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.0 %	21-167		"	"	"	"	

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

Project: Mark E Mark 11-35 - Mark 11, 12, 14-35

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/19 11:59

BH04
1902099-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/11/19 15:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	1902154	02/12/19	02/13/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **02/11/19 15:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		86.1 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		89.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		87.5 %	21-167		"	"	"	"	

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

Project: Mark E Mark 11-35 - Mark 11, 12, 14-35

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/19 11:59

BH05
1902099-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/11/19 15:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	420	10	ug/l	10	1902154	02/12/19	02/13/19	EPA 8260B	
Toluene	ND	1.0	"	1	"	"	"	"	
Ethylbenzene	50	1.0	"	"	"	"	"	"	
Xylenes (total)	360	2.0	"	"	"	"	"	"	

Date Sampled: **02/11/19 15:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		89.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		93.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.4 %	21-167		"	"	"	"	

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

Project: Mark E Mark 11-35 - Mark 11, 12, 14-35

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/19 11:59

BH06
1902099-06 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/11/19 15:22**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	1902154	02/12/19	02/13/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **02/11/19 15:22**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		87.5 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		91.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		84.6 %	21-167		"	"	"	"	

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

Project: Mark E Mark 11-35 - Mark 11, 12, 14-35

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/19 11:59

BH07
1902099-07 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/11/19 15:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	1902154	02/12/19	02/13/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **02/11/19 15:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		84.2 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		89.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		86.0 %	21-167		"	"	"	"	

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

Project: Mark E Mark 11-35 - Mark 11, 12, 14-35

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/19 11:59

BH08
1902099-08 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/11/19 14:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	1902154	02/12/19	02/13/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **02/11/19 14:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		84.2 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		91.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.7 %	21-167		"	"	"	"	

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

Project: Mark E Mark 11-35 - Mark 11, 12, 14-35

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
03/04/19 11:59

BH09
1902099-09 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/11/19 15:06**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	1902154	02/12/19	02/13/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **02/11/19 15:06**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		83.0 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		87.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		86.0 %	21-167		"	"	"	"	

Summit Scientific

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

Project: Mark E Mark 11-35 - Mark 11, 12, 14-35

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/19 11:59

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 1902154 - EPA 5030 Water MS

Blank (1902154-BLK1)

Prepared: 02/12/19 Analyzed: 02/13/19

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Surrogate: 1,2-Dichloroethane-d4	13.7		"	13.3		103	23-173			
Surrogate: Toluene-d8	12.4		"	13.3		93.2	20-170			
Surrogate: 4-Bromofluorobenzene	12.8		"	13.3		96.0	21-167			

LCS (1902154-BS1)

Prepared: 02/12/19 Analyzed: 02/13/19

Benzene	26.5	1.0	ug/l	33.3		79.4	70-130			
Toluene	27.2	1.0	"	33.3		81.5	70-130			
Ethylbenzene	32.1	1.0	"	33.3		96.2	70-130			
m,p-Xylene	53.9	2.0	"	66.7		80.8	70-130			
o-Xylene	29.4	1.0	"	33.3		88.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	14.9		"	13.3		112	23-173			
Surrogate: Toluene-d8	12.4		"	13.3		93.3	20-170			
Surrogate: 4-Bromofluorobenzene	13.5		"	13.3		101	21-167			

Matrix Spike (1902154-MS1)

Source: 1902098-06

Prepared: 02/12/19 Analyzed: 02/13/19

Benzene	25.4	1.0	ug/l	33.3	ND	76.1	70-130			
Toluene	26.5	1.0	"	33.3	ND	79.4	70-130			
Ethylbenzene	31.7	1.0	"	33.3	ND	95.0	70-130			
m,p-Xylene	54.2	2.0	"	66.7	ND	81.2	70-130			
o-Xylene	29.1	1.0	"	33.3	ND	87.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	13.8		"	13.3		104	23-173			
Surrogate: Toluene-d8	11.9		"	13.3		89.0	20-170			
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		98.7	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: Mark E Mark 11-35 - Mark 11, 12, 14-35

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/19 11:59

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 1902154 - EPA 5030 Water MS

Matrix Spike Dup (1902154-MSD1)		Source: 1902098-06			Prepared: 02/12/19 Analyzed: 02/13/19					
Benzene	26.2	1.0	ug/l	33.3	ND	78.5	70-130	3.03	30	
Toluene	27.3	1.0	"	33.3	ND	81.8	70-130	3.01	30	
Ethylbenzene	32.5	1.0	"	33.3	ND	97.5	70-130	2.56	30	
m,p-Xylene	55.8	2.0	"	66.7	ND	83.6	70-130	2.89	30	
o-Xylene	30.3	1.0	"	33.3	ND	90.9	70-130	4.07	30	
Surrogate: 1,2-Dichloroethane-d4	15.8		"	13.3		118	23-173			
Surrogate: Toluene-d8	12.5		"	13.3		93.5	20-170			
Surrogate: 4-Bromofluorobenzene	14.2		"	13.3		106	21-167			

Summit Scientific

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PDC Energy

1775 Sherman St. STE. 3000

Denver CO, 80203

Project: Mark E Mark 11-35 - Mark 11, 12, 14-35

Project Number: [none]

Project Manager: Mark Longhurst

Reported:

03/04/19 11:59

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