

PDC Energy, Inc.
Second Quarter 2018 Groundwater Monitoring Summary

June 28, 2018

Former J&L Farms 14, 24-29 Tank Battery
SWSW Section 29 T6N R63W
Spill Point ID # 451446
Remediation # 10537

This groundwater monitoring summary has been prepared by Tasman Geosciences, Inc. for the former J&L Farms 14, 24-29 tank battery. On June 20, 2018, 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. 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. Second quarter 2018 analytical results indicate that BTEX concentrations are above the applicable COGCC Table 910-1 groundwater standards in monitoring wells BH05, BH06, and BH09. BTEX concentrations are below applicable regulatory standards in monitoring wells BH01 - BH04, BH07, and BH08.

Monitored natural attenuation (MNA) was selected as the remediation strategy for this site during the fourth quarter 2017 and will remain as the selected remediation strategy through the third quarter 2018.

Third quarter 2018 groundwater sampling will be conducted during September 2018.





TABLE 1
FORMER J&L FARMS 14, 24-29 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	8/31/2017	6.4	<1.0	<1.0	<2.0	~ 18	NM
GW02	9/5/2017	60	3.4	2.2	170	~ 18	NM
BH01	12/13/2017	<1.0	<1.0	<1.0	<2.0	16.91	4644.06
BH01	3/28/2018	<1.0	<1.0	<1.0	<2.0	17.94	4643.18
BH01	6/20/2018	<1.0	<1.0	<1.0	<2.0	18.00	4643.12
BH02	12/13/2017	<1.0	<1.0	<1.0	<2.0	17.91	4643.82
BH02	3/28/2018	<1.0	<1.0	<1.0	<2.0	18.61	4642.97
BH02	6/20/2018	<1.0	<1.0	<1.0	<2.0	18.61	4642.97
BH03	12/13/2017	<1.0	<1.0	<1.0	<2.0	16.93	4644.07
BH03	3/28/2018	<1.0	<1.0	<1.0	<2.0	17.79	4643.22
BH03	6/20/2018	<1.0	<1.0	<1.0	<2.0	17.87	4643.14
BH04	12/13/2017	<1.0	<1.0	<1.0	<2.0	16.78	4643.99
BH04	3/28/2018	<1.0	<1.0	<1.0	<2.0	17.63	4643.15
BH04	6/20/2018	<1.0	<1.0	<1.0	<2.0	17.74	4643.04
BH05	12/13/2017	67	<1.0	260	300	17.44	4643.74
BH05	3/28/2018	<1.0	<1.0	<1.0	<2.0	18.31	4642.90
BH05	6/20/2018	6.7	<1.0	18	8.8	18.35	4642.86
BH06 ⁽³⁾	12/13/2017	490	540	600	2,700	17.26	4643.96
BH06 ⁽³⁾	3/28/2018	250	48	220	1,200	18.11	4643.09
BH06 ⁽³⁾	6/20/2018	240	170	390	2,100	18.22	4642.98
BH07	3/28/2018	<1.0	<1.0	<1.0	<2.0	17.75	4642.99
BH07	6/20/2018	<1.0	<1.0	<1.0	<2.0	17.86	4642.88
BH08	3/28/2018	<1.0	<1.0	<1.0	<2.0	18.67	4642.89
BH08	6/20/2018	<1.0	<1.0	<1.0	<2.0	18.83	4642.73
BH09	3/28/2018	<1.0	<1.0	<1.0	<2.0	18.52	4642.90
BH09	6/20/2018	46	<1.0	69	30	18.65	4642.77

Notes:

- Groundwater standards referenced from 2 CCR 404-1, Table 910-1, effective May 1, 2018.
 - Depth to water measurements were measured from top of casing or ground surface for monitoring well samples and excavation samples respectively. Subsequent monitoring well measurements were collected from top of casing and adjusted using survey data and product thickness to reflect depth of water from ground surface.
 - Sheen observed on groundwater.
- 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

ATTACHMENT A

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

June 27, 2018

Mark Longhurst
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: J&L Farms 14, 24-29

Enclosed are the results of analyses for samples received by Summit Scientific on 06/20/18 15:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury For Ben Shrewsbury
Laboratory Manager



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

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/27/18 16:24

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	1806263-01	Water	06/20/18 12:38	06/20/18 15:45
BH02	1806263-02	Water	06/20/18 13:10	06/20/18 15:45
BH03	1806263-03	Water	06/20/18 12:50	06/20/18 15:45
BH04	1806263-04	Water	06/20/18 12:00	06/20/18 15:45
BH05	1806263-05	Water	06/20/18 12:53	06/20/18 15:45
BH06	1806263-06	Water	06/20/18 13:26	06/20/18 15:45
BH07	1806263-07	Water	06/20/18 12:17	06/20/18 15:45
BH08	1806263-08	Water	06/20/18 12:40	06/20/18 15:45
BH09	1806263-09	Water	06/20/18 13:13	06/20/18 15:45

Summit Scientific

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Summit Scientific

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

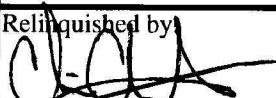
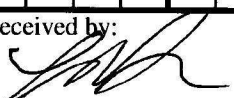
1806263

Page 1 of 1

Client: PDC
Address: _____
City/State/Zip: _____
Phone: _____ Fax: _____
Sampler Name: Chris Armbruster

Project Manager: Mark Longhurst
E-Mail: Mark.Longhurst@pdce.com
Project Name: J&L Farms 14, 24-29
Project Number: _____

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	6/20/2018	12:38	3			X		X					X													
BH02	6/20/2018	1:10	3			X		X					X													
BH03	6/20/2018	12:50	3			X		X					X													
BH04	6/20/2018	12:00	3			X		X					X													
BH05 <i>Broken 1 can</i>	6/20/2018	12:53	3			X		X					X													
BH06	6/20/2018	1:26	3			X		X					X													
BH07	6/20/2018	12:17	3			X		X					X													
BH08	6/20/2018	12:40	3			X		X					X													
BH09	6/20/2018	1:13	3			X		X					X													

Relinquished by: 	Date/Time: <u>6/20/18 1545</u>	Received by: 	Date/Time: <u>6-20-18 1545</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:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Sample Integrity: Temperature Upon Receipt: <u>53</u> Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Relinquished by:	Date/Time:	Received in Lab by:	Date/Time:		

Sample Receipt Checklist

S2 Work Order: 1806263

Client: DDC Client Project ID: J.L. Farms 14,24-29

Shipped Via: P. J. J. Airbill #: _____
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

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

Temp (°C)	<u>5-3</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⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.				
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Record the pH in Comments.				
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				
<p>⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.</p>				

Custodian Printed Name or Initials

Signature or Initials of Custodian

Date/Time

6.20.18 1850



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

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/27/18 16:24

BH01
1806263-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/20/18 12:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1806345	06/23/18	06/26/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **06/20/18 12:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		103 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.7 %	21-167		"	"	"	"	

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

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/27/18 16:24

BH02
1806263-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/20/18 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1806345	06/23/18	06/26/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **06/20/18 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		107 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.1 %	21-167		"	"	"	"	

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1775 Sherman St. STE. 3000
Denver CO, 80203

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/27/18 16:24

BH03
1806263-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/20/18 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1806345	06/23/18	06/26/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **06/20/18 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		94.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.0 %	21-167		"	"	"	"	

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1775 Sherman St. STE. 3000
Denver CO, 80203

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/27/18 16:24

BH04
1806263-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/20/18 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1806345	06/23/18	06/26/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **06/20/18 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		95.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	21-167		"	"	"	"	

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Denver CO, 80203

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/27/18 16:24

BH05
1806263-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/20/18 12:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	6.7	1.0	ug/l	1	1806345	06/23/18	06/27/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	18	1.0	"	"	"	"	"	"	
Xylenes (total)	8.8	2.0	"	"	"	"	"	"	

Date Sampled: **06/20/18 12:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		96.5 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

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

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/27/18 16:24

BH06
1806263-06 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/20/18 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	240	10	ug/l	10	1806345	06/23/18	06/27/18	EPA 8260B	
Toluene	170	10	"	"	"	"	"	"	
Ethylbenzene	390	10	"	"	"	"	"	"	
Xylenes (total)	2100	20	"	"	"	"	"	"	

Date Sampled: **06/20/18 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		93.6 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		101 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %	21-167		"	"	"	"	

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

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/27/18 16:24

BH07
1806263-07 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/20/18 12:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1806345	06/23/18	06/26/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **06/20/18 12:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

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1775 Sherman St. STE. 3000
Denver CO, 80203

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/27/18 16:24

BH08
1806263-08 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/20/18 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1806345	06/23/18	06/26/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **06/20/18 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		99.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	21-167		"	"	"	"	

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

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/27/18 16:24

BH09
1806263-09 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/20/18 13:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	46	1.0	ug/l	1	1806345	06/23/18	06/26/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	69	1.0	"	"	"	"	"	"	
Xylenes (total)	30	2.0	"	"	"	"	"	"	

Date Sampled: **06/20/18 13:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		101 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	21-167		"	"	"	"	

Summit Scientific

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

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/27/18 16:24

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 1806345 - EPA 5030 Water MS

Blank (1806345-BLK1)

Prepared: 06/23/18 Analyzed: 06/27/18

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Surrogate: 1,2-Dichloroethane-d4	ND		"	13.2			23-173			
Surrogate: Toluene-d8	ND		"	13.3			20-170			
Surrogate: 4-Bromofluorobenzene	ND		"	13.3			21-167			

LCS (1806345-BS1)

Prepared: 06/23/18 Analyzed: 06/27/18

Benzene	ND	1.0	ug/l	33.3			70-130			
Toluene	ND	1.0	"	33.3			70-130			
Ethylbenzene	ND	1.0	"	33.3			70-130			
m,p-Xylene	ND	2.0	"	66.7			70-130			
o-Xylene	ND	1.0	"	33.3			70-130			
Surrogate: 1,2-Dichloroethane-d4	ND		"	13.2			23-173			
Surrogate: Toluene-d8	ND		"	13.3			20-170			
Surrogate: 4-Bromofluorobenzene	ND		"	13.3			21-167			

Matrix Spike (1806345-MS1)

Source: 1806263-01

Prepared: 06/23/18 Analyzed: 06/27/18

Benzene	ND	1.0	ug/l	33.3	ND		70-130			
Toluene	ND	1.0	"	33.3	ND		70-130			
Ethylbenzene	ND	1.0	"	33.3	ND		70-130			
m,p-Xylene	ND	2.0	"	66.7	ND		70-130			
o-Xylene	ND	1.0	"	33.3	ND		70-130			
Surrogate: 1,2-Dichloroethane-d4	ND		"	13.2			23-173			
Surrogate: Toluene-d8	ND		"	13.3			20-170			
Surrogate: 4-Bromofluorobenzene	ND		"	13.3			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: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/27/18 16:24

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 1806345 - EPA 5030 Water MS

Matrix Spike Dup (1806345-MSD1)	Source: 1806263-01			Prepared: 06/23/18		Analyzed: 06/27/18	
Benzene	ND	1.0	ug/l	33.3	ND	70-130	30
Toluene	ND	1.0	"	33.3	ND	70-130	30
Ethylbenzene	ND	1.0	"	33.3	ND	70-130	30
m,p-Xylene	ND	2.0	"	66.7	ND	70-130	30
o-Xylene	ND	1.0	"	33.3	ND	70-130	30
Surrogate: 1,2-Dichloroethane-d4	ND		"	13.2		23-173	
Surrogate: Toluene-d8	ND		"	13.3		20-170	
Surrogate: 4-Bromofluorobenzene	ND		"	13.3		21-167	

Summit Scientific

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

Project: J&L Farms 14, 24-29

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/27/18 16:24

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