

TABLE 1
FORMER LATHAM 2-31; LATHAM RESERVOIR 1 TANK BATTERY
SOIL ANALYTICAL RESULTS SUMMARY TABLE

Sample ID	Date Sampled	Depth (ft. bgs)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Naphthalene (mg/kg)	TPH ⁽²⁾ (mg/kg)
COGCC Table 910-1 Soil Standard (mg/kg) ⁽¹⁾			0.17	85	100	175	23	500
BH01 @ 7'	9/2/2020	7	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
BH02 @ 7'	9/2/2020	7	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
BH03 @ 7'	9/2/2020	7	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
BH04 @ 7'	9/2/2020	7	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
BH05 @ 7'	9/2/2020	7	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
BH06 @ 7'	9/2/2020	7	0.032	<0.0050	0.026	0.39	<0.010	5.7
BH06 @ 9-10'	9/2/2020	9-10	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
BH07 @ 7'	9/2/2020	7	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
BH08 @ 1-2'	10/14/2020	1-2	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
BH08 @ 7'	10/14/2020	7	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
BH09 @ 7'	10/14/2020	7	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50

Notes:

1. Standards for soil are taken from 2 CCR 404-1, Table 910-1, effective May 1, 2018.

2. TPH - Total volatile and extractable petroleum hydrocarbons. Value calculated by adding GRO and DRO concentrations.

COGCC = Colorado Oil and Gas Conservation Commission

(<) = Analytical result is less than the indicated laboratory reporting limit.

GRO = Total volatile petroleum hydrocarbons - gasoline range organics

DRO = Total extractable petroleum hydrocarbons - diesel range organics

mg/kg = Milligrams per kilogram

ft. = Feet

bgs = Below ground surface

TABLE 2
FORMER LATHAM 2-31; LATHAM RESERVOIR 1 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⁾ (ft.)	Groundwater Elevation (ft. AMSL)
COGCC Table 910-1 Groundwater Standard (µg/L) ⁽¹⁾		5	560	700	1,400		
BH01	9/14/2020	<1.0	<1.0	<1.0	<2.0	5.20	4659.23
BH02	9/14/2020	<1.0	<1.0	<1.0	<2.0	5.75	4659.24
BH03	9/14/2020	<1.0	<1.0	<1.0	<2.0	5.60	4659.27
BH04	9/14/2020	55	<1.0	6.5	94	5.39	4659.27
BH04	9/22/2020	990	<1.0	110	630	NM	NM
BH05	9/14/2020	<1.0	<1.0	<1.0	<2.0	5.44	4659.24
BH06	9/14/2020	<1.0	<1.0	<1.0	<2.0	5.10	4659.22
BH07	9/14/2020	<1.0	<1.0	<1.0	<2.0	5.45	4659.23
BH08	10/22/2020	<1.0	<1.0	<1.0	<2.0	4.60	4659.76
BH09	10/22/2020	<1.0	<1.0	<1.0	<2.0	4.44	4659.74

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 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. = Feet

AMSL = Above Mean Sea Level

NM = Note measured

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

ATTACHMENT A

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 10, 2020

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Latham 2-31; Latham Reservoir 1

Work Order #2009029

Enclosed are the results of analyses for samples received by Summit Scientific on 09/02/20 17:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Muri Premer For Paul Shrewsbury
President



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

Project: Latham 2-31; Latham Reservoir 1

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/10/20 17:49

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01@7'	2009029-01	Soil	09/02/20 10:12	09/02/20 17:15
BH02@7'	2009029-02	Soil	09/02/20 10:35	09/02/20 17:15
BH03@7'	2009029-03	Soil	09/02/20 10:50	09/02/20 17:15
BH04@7'	2009029-04	Soil	09/02/20 11:14	09/02/20 17:15
BH05@7'	2009029-05	Soil	09/02/20 11:30	09/02/20 17:15
BH06@7'	2009029-06	Soil	09/02/20 11:47	09/02/20 17:15
BH06@9-10'	2009029-07	Soil	09/02/20 11:52	09/02/20 17:15
BH07@7'	2009029-08	Soil	09/02/20 11:59	09/02/20 17:15

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

2009029

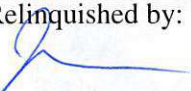

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

Page 1 of 1

Client: PDC / Tasman Project Manager: Phillip Porter
 Address: 6855 W 119th Ave E-Mail: phillip.porter@pdce.com
 City/State/Zip: Broomfield/ CO/ 80020
 Phone: 303-487-1228 Project Name: Latham 2-31; Latham Reservoir 1
 Sampler Name: Jake McLaren Project Number:

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	8260 BTEX	8260B GBTEXN	8015 DRO	pH/EC			
1	BH01@7'	9/2/20	1012	1			X			X				X	X				
2	BH02@7'		1035																
3	BH03@7'		1050																
4	BH04@7'		1114																
5	BH05@7'		1130																
6	BH06@7'		1147																
7	BH06@9-10'		1152																
8	BH07@7'		1159																
9																			
10																			

Relinquished by: 	Date/Time: 9/2/20 1:33 pm	Received by: Tasman's Lock Box	Date/Time:	Turn Around Time (Check)	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 09/02/2020 1715	Received by: 	Date/Time: 09/02/2020 1715	Same Day _____ 72 hours _____	
Relinquished by:	Date/Time:	Received by:	Date/Time:	24 hours _____ Standard <u>X</u>	
Relinquished by:	Date/Time:	Received by:	Date/Time:	48 hours _____	
				Sample Integrity:	
				Temperature Upon Receipt: 27	
				Samples Intact: Yes No	

Sample Receipt Checklist

S2 Work Order 2009029

Client: POC / T. B. Smith

Client Project ID: LATHAM 2-31; LATHAM RESERVATION

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

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

Temp (°C) 2.7

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"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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 checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

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

Custodian Printed Name or Initials T. B. Smith

Signature of Custodian [Signature]

Date/Time 02/01/2020



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

Project: Latham 2-31; Latham Reservoir 1

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/10/20 17:49

BH01@7'
2009029-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/02/20 10:12**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	2009056	09/08/20	09/08/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **09/02/20 10:12**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		97.1 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.3 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/02/20 10:12**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	2009057	09/08/20	09/09/20	EPA 8015M	

Date Sampled: **09/02/20 10:12**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		115 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Latham 2-31; Latham Reservoir 1
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/10/20 17:49

BH02@7'
2009029-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/02/20 10:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2009056	09/08/20	09/08/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **09/02/20 10:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		95.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.6 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/02/20 10:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2009057	09/08/20	09/09/20	EPA 8015M	

Date Sampled: **09/02/20 10:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		116 %	30-150		"	"	"	"	

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

Project: Latham 2-31; Latham Reservoir 1

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/10/20 17:49

BH03@7'
2009029-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/02/20 10:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2009056	09/08/20	09/08/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **09/02/20 10:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		100 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/02/20 10:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2009057	09/08/20	09/09/20	EPA 8015M	

Date Sampled: **09/02/20 10:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		116 %	30-150		"	"	"	"	

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

Project: Latham 2-31; Latham Reservoir 1
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/10/20 17:49

BH04@7'
2009029-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/02/20 11:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2009056	09/08/20	09/08/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **09/02/20 11:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		94.0 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.7 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.4 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/02/20 11:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2009057	09/08/20	09/09/20	EPA 8015M	

Date Sampled: **09/02/20 11:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		109 %	30-150		"	"	"	"	

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

Project: Latham 2-31; Latham Reservoir 1
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/10/20 17:49

BH05@7'
2009029-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/02/20 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2009056	09/08/20	09/08/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **09/02/20 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		98.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.8 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/02/20 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2009057	09/08/20	09/09/20	EPA 8015M	

Date Sampled: **09/02/20 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		111 %	30-150		"	"	"	"	

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

Project: Latham 2-31; Latham Reservoir 1
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/10/20 17:49

BH06@7'
2009029-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/02/20 11:47**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	0.032	0.0020	mg/kg	1	2009056	09/08/20	09/08/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.026	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.39	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	5.7	0.50	"	"	"	"	"	"	

Date Sampled: **09/02/20 11:47**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		103 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		111 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		112 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/02/20 11:47**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	2009057	09/08/20	09/09/20	EPA 8015M	

Date Sampled: **09/02/20 11:47**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		111 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Latham 2-31; Latham Reservoir 1

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/10/20 17:49

BH06@9-10'
2009029-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/02/20 11:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2009056	09/08/20	09/08/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **09/02/20 11:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		96.5 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.4 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/02/20 11:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2009057	09/08/20	09/09/20	EPA 8015M	

Date Sampled: **09/02/20 11:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		105 %	30-150		"	"	"	"	

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: Latham 2-31; Latham Reservoir 1

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/10/20 17:49

BH07@7'
2009029-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/02/20 11:59**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2009056	09/08/20	09/08/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **09/02/20 11:59**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		93.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/02/20 11:59**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2009057	09/08/20	09/09/20	EPA 8015M	

Date Sampled: **09/02/20 11:59**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		105 %	30-150		"	"	"	"	

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: Latham 2-31; Latham Reservoir 1

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/10/20 17:49

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 2009056 - EPA 5030 Soil MS

Blank (2009056-BLK1)

Prepared & Analyzed: 09/08/20

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Naphthalene	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0400		"	0.0400		100	23-173			
Surrogate: Toluene-d8	0.0396		"	0.0400		99.0	20-170			
Surrogate: 4-Bromofluorobenzene	0.0387		"	0.0400		96.8	21-167			

LCS (2009056-BS1)

Prepared & Analyzed: 09/08/20

Benzene	0.0788	0.0020	mg/kg	0.100		78.8	70-130			
Toluene	0.0726	0.0050	"	0.100		72.6	70-130			
Ethylbenzene	0.0903	0.0050	"	0.100		90.3	70-130			
m,p-Xylene	0.186	0.010	"	0.200		93.2	70-130			
o-Xylene	0.0972	0.0050	"	0.100		97.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0398		"	0.0400		99.4	23-173			
Surrogate: Toluene-d8	0.0386		"	0.0400		96.5	20-170			
Surrogate: 4-Bromofluorobenzene	0.0392		"	0.0400		98.1	21-167			

Matrix Spike (2009056-MS1)

Source: 2008272-02

Prepared & Analyzed: 09/08/20

Benzene	0.0794	0.0020	mg/kg	0.100	ND	79.4	70-130			
Toluene	0.0742	0.0050	"	0.100	ND	74.2	70-130			
Ethylbenzene	0.0946	0.0050	"	0.100	ND	94.6	70-130			
m,p-Xylene	0.195	0.010	"	0.200	0.00645	94.2	70-130			
o-Xylene	0.103	0.0050	"	0.100	ND	103	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0394		"	0.0400		98.6	23-173			
Surrogate: Toluene-d8	0.0388		"	0.0400		97.1	20-170			
Surrogate: 4-Bromofluorobenzene	0.0402		"	0.0400		100	21-167			

Summit Scientific

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

Project: Latham 2-31; Latham Reservoir 1
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/10/20 17:49

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 2009056 - EPA 5030 Soil MS

Matrix Spike Dup (2009056-MSD1)		Source: 2008272-02			Prepared & Analyzed: 09/08/20					
Benzene	0.0836	0.0020	mg/kg	0.100	ND	83.6	70-130	5.23	30	
Toluene	0.0738	0.0050	"	0.100	ND	73.8	70-130	0.568	30	
Ethylbenzene	0.0967	0.0050	"	0.100	ND	96.7	70-130	2.20	30	
m,p-Xylene	0.197	0.010	"	0.200	0.00645	95.1	70-130	0.904	30	
o-Xylene	0.103	0.0050	"	0.100	ND	103	70-130	0.438	30	
Surrogate: 1,2-Dichloroethane-d4		0.0385	"	0.0400		96.2	23-173			
Surrogate: Toluene-d8		0.0381	"	0.0400		95.2	20-170			
Surrogate: 4-Bromofluorobenzene		0.0401	"	0.0400		100	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: Latham 2-31; Latham Reservoir 1

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/10/20 17:49

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 2009057 - EPA 3550A

Blank (2009057-BLK1)

Prepared & Analyzed: 09/08/20

C10-C28 (DRO) ND 50 mg/kg

LCS (2009057-BS1)

Prepared & Analyzed: 09/08/20

C10-C28 (DRO) 493 50 mg/kg 500 98.5 70-130

Matrix Spike (2009057-MS1)

Source: 2008261-07

Prepared & Analyzed: 09/08/20

C10-C28 (DRO) 1040 50 mg/kg 500 441 120 70-130

Matrix Spike Dup (2009057-MSD1)

Source: 2008261-07

Prepared: 09/08/20 Analyzed: 09/09/20

C10-C28 (DRO) 1180 50 mg/kg 500 441 147 70-130 12.2 20 QM-07

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: Latham 2-31; Latham Reservoir 1

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/10/20 17:49

Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 21, 2020

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

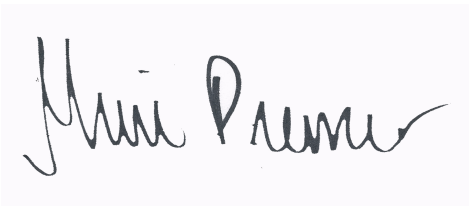
Denver, CO 80203

RE: Latham 2-31; Latham Reservoir 1

Work Order #2010184

Enclosed are the results of analyses for samples received by Summit Scientific on 10/14/20 17:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "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: Latham 2-31; Latham Reservoir 1

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
10/21/20 13:18

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH08@1-2'	2010184-01	Soil	10/13/20 10:19	10/14/20 17:30
BH08@7'	2010184-02	Soil	10/13/20 10:21	10/14/20 17:30
BH09@7'	2010184-03	Soil	10/13/20 11:01	10/14/20 17:30

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.

2010184

Summit Scientific

S₂

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

Page 1 of 1

Client: PDC / Tasman

Project Manager: Mark Longhurst

Address: 6855 W. 119th Ave

E-Mail: mark.longhurst@PDCE.com

City/State/Zip: Broomfield / CO/ 80020


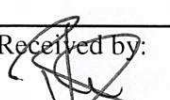
Phone: 303-487-1228

Project Name: Latham 2-31; Latham Reservoir 1

Sampler Name: Brock Nelson

Project Number:

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	8260 BTEX	8260B GBTEXN	8015 DRO	pH, EC, SAR			
1	BH080 1-2'	10/13/20	1019	1			✓			×				×	×				
2	BH080 7'	↓	1021	1			×			×				×	×				
3	BH090 7'	↓	1101	1			×			×				×	×				
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Relinquished by: 	Date/Time: 10/14/20 18:00	Received by: Tasman's Lock Box	Date/Time: 10/14/20 18:00	Turn Around Time (Check) Same Day _____ 72 hours _____ 24 hours _____ Standard <input checked="" type="checkbox"/> 48 hours _____	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 10/14/2020 1730	Received by: 	Date/Time: 10/14/2020 1730	Sample Integrity: Temperature Upon Receipt: 4.1 Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	
Relinquished by:	Date/Time:	Received by:	Date/Time:		

Sample Receipt Checklist

S2 Work Order

2010184

Client:

POC/T. Kuman

Client Project ID:

LATHAM 2-31; LATHAM

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

Airbill #:

RESERVED

Matrix (check all that apply):

☐ Air

☒ Soil/Solid

☐ Water

☐ Other:

(Describe)

Temp (°C)

4.1

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 checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input checked="" 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):

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

Custodian Printed Name or Initials

Signature of Custodian

Date/Time

10/14/2020



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

Project: Latham 2-31; Latham Reservoir 1

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/21/20 13:18

BH08@1-2'
2010184-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/13/20 10:19**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BDJ0196	10/16/20	10/17/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/13/20 10:19**

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

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/13/20 10:19**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BDJ0195	10/16/20	10/17/20	EPA 8015M	

Date Sampled: **10/13/20 10:19**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		92.7 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Latham 2-31; Latham Reservoir 1

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/21/20 13:18

BH08@7'
2010184-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/13/20 10:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BDJ0196	10/16/20	10/17/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/13/20 10:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/13/20 10:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BDJ0195	10/16/20	10/17/20	EPA 8015M	

Date Sampled: **10/13/20 10:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		95.0 %	30-150		"	"	"	"	

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: Latham 2-31; Latham Reservoir 1

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/21/20 13:18

BH09@7'
2010184-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/13/20 11:01**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BDJ0196	10/16/20	10/17/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/13/20 11:01**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		101 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.8 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/13/20 11:01**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BDJ0195	10/16/20	10/17/20	EPA 8015M	

Date Sampled: **10/13/20 11:01**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		95.2 %	30-150		"	"	"	"	

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: Latham 2-31; Latham Reservoir 1

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/21/20 13:18

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BDJ0196 - EPA 5030 Soil MS

Blank (BDJ0196-BLK1)

Prepared: 10/16/20 Analyzed: 10/17/20

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Naphthalene	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0409		"	0.0400		102	23-173			
Surrogate: Toluene-d8	0.0399		"	0.0400		99.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0398		"	0.0400		99.5	21-167			

LCS (BDJ0196-BS1)

Prepared: 10/16/20 Analyzed: 10/17/20

Benzene	0.0849	0.0020	mg/kg	0.100		84.9	70-130			
Toluene	0.0788	0.0050	"	0.100		78.8	70-130			
Ethylbenzene	0.103	0.0050	"	0.100		103	70-130			
m,p-Xylene	0.208	0.010	"	0.200		104	70-130			
o-Xylene	0.110	0.0050	"	0.100		110	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0396		"	0.0400		99.1	23-173			
Surrogate: Toluene-d8	0.0406		"	0.0400		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0395		"	0.0400		98.8	21-167			

Matrix Spike (BDJ0196-MS1)

Source: 2010183-01

Prepared: 10/16/20 Analyzed: 10/17/20

Benzene	0.0844	0.0020	mg/kg	0.100	ND	84.4	70-130			
Toluene	0.0785	0.0050	"	0.100	ND	78.5	70-130			
Ethylbenzene	0.104	0.0050	"	0.100	ND	104	70-130			
m,p-Xylene	0.207	0.010	"	0.200	0.00339	102	70-130			
o-Xylene	0.112	0.0050	"	0.100	ND	112	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0411		"	0.0400		103	23-173			
Surrogate: Toluene-d8	0.0408		"	0.0400		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0385		"	0.0400		96.3	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: Latham 2-31; Latham Reservoir 1

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/21/20 13:18

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 BDJ0196 - EPA 5030 Soil MS

Matrix Spike Dup (BDJ0196-MSD1)

Source: 2010183-01

Prepared: 10/16/20 Analyzed: 10/17/20

Benzene	0.0836	0.0020	mg/kg	0.100	ND	83.6	70-130	1.04	30	
Toluene	0.0779	0.0050	"	0.100	ND	77.9	70-130	0.729	30	
Ethylbenzene	0.104	0.0050	"	0.100	ND	104	70-130	0.115	30	
m,p-Xylene	0.213	0.010	"	0.200	0.00339	105	70-130	3.06	30	
o-Xylene	0.110	0.0050	"	0.100	ND	110	70-130	1.49	30	
Surrogate: 1,2-Dichloroethane-d4	0.0404		"	0.0400		101	23-173			
Surrogate: Toluene-d8	0.0403		"	0.0400		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0383		"	0.0400		95.8	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: Latham 2-31; Latham Reservoir 1

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/21/20 13:18

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BDJ0195 - EPA 3550A

Blank (BDJ0195-BLK1)

Prepared: 10/16/20 Analyzed: 10/17/20

C10-C28 (DRO) ND 50 mg/kg

LCS (BDJ0195-BS1)

Prepared: 10/16/20 Analyzed: 10/17/20

C10-C28 (DRO) 570 50 mg/kg 500 114 70-130

Matrix Spike (BDJ0195-MS1)

Source: 2010176-01

Prepared: 10/16/20 Analyzed: 10/17/20

C10-C28 (DRO) 3490 50 mg/kg 500 2700 158 70-130 QM-07

Matrix Spike Dup (BDJ0195-MSD1)

Source: 2010176-01

Prepared: 10/16/20 Analyzed: 10/17/20

C10-C28 (DRO) 2260 50 mg/kg 500 2700 NR 70-130 42.7 20 QM-07

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: Latham 2-31; Latham Reservoir 1

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/21/20 13:18

Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 21, 2020

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

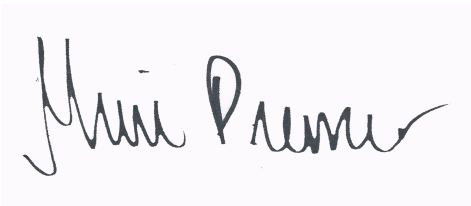
Denver, CO 80203

RE: Latham 2-31; Latham Reservoir 1

Work Order #2009149

Enclosed are the results of analyses for samples received by Summit Scientific on 09/14/20 17:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Muri Premer", is displayed on a light purple rectangular background.

Muri Premer For Paul Shrewsbury
President



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

Project: Latham 2-31; Latham Reservoir 1

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/21/20 11:49

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	2009149-01	Water	09/14/20 12:25	09/14/20 17:30
BH02	2009149-02	Water	09/14/20 12:20	09/14/20 17:30
BH03	2009149-03	Water	09/14/20 12:15	09/14/20 17:30
BH04	2009149-04	Water	09/14/20 12:35	09/14/20 17:30
BH05	2009149-05	Water	09/14/20 12:30	09/14/20 17:30
BH06	2009149-06	Water	09/14/20 12:31	09/14/20 17:30
BH07	2009149-07	Water	09/14/20 12:23	09/14/20 17:30

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



2009149

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Page 1 of 1

Client: PDC / Tasman 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: Latham 2-31; Latham Reservoir 1
Sampler Name: Take note for Max Dahlgren Project Number:

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	8260 BTEX	8260B-GBTEXN	8015 DRO	pH, EC, SAR			
1	B1A01	9/14/20	1225	3	X				X				X						
2	B1A02	↓	1220	↓	↓				↓				↓						
3	B1A03	↓	1215	↓															
4	B1A04	↓	1235	↓															
5	B1A05	↓	1230	↓															
6	B1A06	↓	1231	↓															
7	B1A07	↓	1225	↓	↓				↓				↓						
8																			
9																			
10																			

Relinquished by: 	Date/Time: 9/14/20 1300	Received by: Tasman's Lock Box	Date/Time: 09/14/2020 1300	Turn Around Time (Check) Same Day _____ 72 hours _____ 24 hours _____ Standard <input checked="" type="checkbox"/> 48 hours _____ Sample Integrity: 3.7 Temperature Upon Receipt: _____ Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 09/14/2020 1730	Received by: 	Date/Time: 09/14/2020 1730		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

Sample Receipt Checklist

S2 Work Order 2009149

Client: DC TABMAN

Client Project ID: LATHAM 2-31, LATHAM RESERVOIR

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

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

Temp (°C) 3.7

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.	X			
Were all samples received intact ⁽¹⁾ ?	X			
Was adequate sample volume provided ⁽¹⁾ ?	X			
If custody seals are present, are they intact ⁽¹⁾ ?			X	
Are samples with holding times due within 48 hours sample due within 48 hours present?		X		
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	X			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	X			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	X			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	X			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.		X		
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	X			HCL
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			X	
If dissolved metals are requested, were samples field filtered?			X	
Additional Comments (if any):				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				

Custodian Printed Name or Initials JS

Signature of Custodian [Signature]

Date/Time 09/14/2000



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

Project: Latham 2-31; Latham Reservoir 1
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/21/20 11:49

BH01
2009149-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/14/20 12:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2009165	09/15/20	09/16/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **09/14/20 12:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		104 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		97.4 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		84.6 %		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: Latham 2-31; Latham Reservoir 1
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/21/20 11:49

BH02
2009149-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/14/20 12:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	2009165	09/15/20	09/16/20	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **09/14/20 12:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		103 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		80.3 %	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: Latham 2-31; Latham Reservoir 1
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/21/20 11:49

BH03
2009149-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/14/20 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	2009165	09/15/20	09/16/20	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **09/14/20 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		101 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		83.6 %	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: Latham 2-31; Latham Reservoir 1
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/21/20 11:49

BH04
2009149-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/14/20 12:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	55	1.0		ug/l	1	2009165	09/15/20	09/16/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	6.5	1.0		"	"	"	"	"	"	
Xylenes (total)	94	2.0		"	"	"	"	"	"	

Date Sampled: **09/14/20 12:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		108 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		90.8 %		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: Latham 2-31; Latham Reservoir 1
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/21/20 11:49

BH05
2009149-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/14/20 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	2009165	09/15/20	09/16/20	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **09/14/20 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		100 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		87.1 %	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: Latham 2-31; Latham Reservoir 1
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/21/20 11:49

BH06
2009149-06 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/14/20 12:31**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	2009165	09/15/20	09/16/20	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **09/14/20 12:31**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		98.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		83.3 %	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: Latham 2-31; Latham Reservoir 1
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/21/20 11:49

BH07
2009149-07 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/14/20 12:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	2009165	09/15/20	09/16/20	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **09/14/20 12:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		98.7 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		83.3 %	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: Latham 2-31; Latham Reservoir 1
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/21/20 11:49

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 2009165 - EPA 5030 Water MS

Blank (2009165-BLK1)

Prepared: 09/15/20 Analyzed: 09/16/20

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Surrogate: 1,2-Dichloroethane-d4	12.9		"	13.3		97.1	23-173			
Surrogate: Toluene-d8	13.7		"	13.3		103	20-170			
Surrogate: 4-Bromofluorobenzene	12.2		"	13.3		91.3	21-167			

LCS (2009165-BS1)

Prepared: 09/15/20 Analyzed: 09/16/20

Benzene	30.7	1.0	ug/l	33.3		92.2	51-132			
Toluene	37.8	1.0	"	33.3		113	51-138			
Ethylbenzene	38.6	1.0	"	33.3		116	58-146			
m,p-Xylene	79.0	2.0	"	66.7		118	57-144			
o-Xylene	37.6	1.0	"	33.3		113	53-146			
Surrogate: 1,2-Dichloroethane-d4	13.5		"	13.3		101	23-173			
Surrogate: Toluene-d8	14.3		"	13.3		107	20-170			
Surrogate: 4-Bromofluorobenzene	12.6		"	13.3		94.9	21-167			

Matrix Spike (2009165-MS1)

Source: 2009148-01

Prepared: 09/15/20 Analyzed: 09/16/20

Benzene	31.4	1.0	ug/l	33.3	ND	94.1	34-141			
Toluene	39.7	1.0	"	33.3	ND	119	27-151			
Ethylbenzene	38.2	1.0	"	33.3	ND	115	29-160			
m,p-Xylene	79.8	2.0	"	66.7	ND	120	20-166			
o-Xylene	37.9	1.0	"	33.3	ND	114	33-159			
Surrogate: 1,2-Dichloroethane-d4	13.8		"	13.3		104	23-173			
Surrogate: Toluene-d8	14.0		"	13.3		105	20-170			
Surrogate: 4-Bromofluorobenzene	12.9		"	13.3		96.9	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: Latham 2-31; Latham Reservoir 1

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/21/20 11:49

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 2009165 - EPA 5030 Water MS

Matrix Spike Dup (2009165-MSD1)	Source: 2009148-01			Prepared: 09/15/20 Analyzed: 09/16/20						
Benzene	30.9	1.0	ug/l	33.3	ND	92.7	34-141	1.45	30	
Toluene	38.8	1.0	"	33.3	ND	116	27-151	2.17	30	
Ethylbenzene	38.6	1.0	"	33.3	ND	116	29-160	0.886	30	
m,p-Xylene	79.7	2.0	"	66.7	ND	120	20-166	0.0627	30	
o-Xylene	38.2	1.0	"	33.3	ND	115	33-159	0.841	30	
Surrogate: 1,2-Dichloroethane-d4	14.3		"	13.3		108	23-173			
Surrogate: Toluene-d8	14.4		"	13.3		108	20-170			
Surrogate: 4-Bromofluorobenzene	12.7		"	13.3		95.3	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: Latham 2-31; Latham Reservoir 1

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
09/21/20 11:49

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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 23, 2020

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Latham 2-31; Latham Reservoir 1

Work Order #2009245

Enclosed are the results of analyses for samples received by Summit Scientific on 09/22/20 17:45. 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

President



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

Project: Latham 2-31; Latham Reservoir 1

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
09/23/20 10:00

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH04	2009245-01	Water	09/22/20 15:20	09/22/20 17:45

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

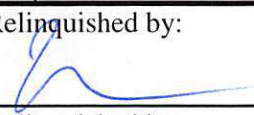

2009245

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Page 1 of 1

Client: PDC / Tasman 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: Latham 2-31; Latham Reservoir
Sampler Name: J. McFarver Project Number: 1

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	8260 BTEX	8260B-GPTEXN	8015-DRO	pH/EC					
1	BH04	9/22/20	1520	3	X				X					X							
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by: 	Date/Time: 9/22/20 1615	Received by: Tasman's Lock Box	Date/Time: 09/22/2020 1615	Turn Around Time (Check) Same Day <input checked="" type="checkbox"/> 72 hours ___ 24 hours ___ Standard ___ 48 hours ___ Sample Integrity: Temperature Upon Receipt: ___ Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 09/22/2020 1745	Received by: 	Date/Time: 09/22/2020 1745		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

Sample Receipt Checklist

S2 Work Order 2009245

Client: POC/TAGman

Client Project ID: LATHAM 2-31; LATHAM RESERVOIR

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

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

Temp (°C) 3.1

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"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HCL
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				

Custodian Printed Name or Initials PC

Signature of Custodian [Signature]

Date/Time 09/22/2010



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

Project: Latham 2-31; Latham Reservoir 1
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/23/20 10:00

BH04
2009245-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/22/20 15:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	990	100		ug/l	100	2009255	09/22/20	09/22/20	EPA 8260B	
Toluene	ND	1.0		"	1	"	"	"	"	
Ethylbenzene	110	1.0		"	"	"	"	"	"	
Xylenes (total)	630	200		"	100	"	"	"	"	

Date Sampled: **09/22/20 15:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		117 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		108 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %		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: Latham 2-31; Latham Reservoir 1

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/23/20 10:00

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 2009255 - EPA 5030 Water MS

Blank (2009255-BLK1)

Prepared & Analyzed: 09/22/20

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Surrogate: 1,2-Dichloroethane-d4	12.9		"	13.3		96.5	23-173			
Surrogate: Toluene-d8	14.4		"	13.3		108	20-170			
Surrogate: 4-Bromofluorobenzene	12.5		"	13.3		93.9	21-167			

LCS (2009255-BS1)

Prepared & Analyzed: 09/22/20

Benzene	29.2	1.0	ug/l	33.3		87.7	51-132			
Toluene	39.5	1.0	"	33.3		119	51-138			
Ethylbenzene	36.6	1.0	"	33.3		110	58-146			
m,p-Xylene	71.3	2.0	"	66.7		107	57-144			
o-Xylene	35.6	1.0	"	33.3		107	53-146			
Surrogate: 1,2-Dichloroethane-d4	13.8		"	13.3		103	23-173			
Surrogate: Toluene-d8	15.0		"	13.3		113	20-170			
Surrogate: 4-Bromofluorobenzene	12.6		"	13.3		94.3	21-167			

Matrix Spike (2009255-MS1)

Source: 2009216-01

Prepared & Analyzed: 09/22/20

Benzene	29.4	1.0	ug/l	33.3	ND	88.3	34-141			
Toluene	39.7	1.0	"	33.3	ND	119	27-151			
Ethylbenzene	36.8	1.0	"	33.3	ND	111	29-160			
m,p-Xylene	72.2	2.0	"	66.7	ND	108	20-166			
o-Xylene	35.9	1.0	"	33.3	ND	108	33-159			
Surrogate: 1,2-Dichloroethane-d4	13.8		"	13.3		104	23-173			
Surrogate: Toluene-d8	14.7		"	13.3		110	20-170			
Surrogate: 4-Bromofluorobenzene	12.6		"	13.3		94.5	21-167			

Summit Scientific

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

Project: Latham 2-31; Latham Reservoir 1
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/23/20 10:00

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 2009255 - EPA 5030 Water MS

Matrix Spike Dup (2009255-MSD1)	Source: 2009216-01			Prepared & Analyzed: 09/22/20						
Benzene	29.0	1.0	ug/l	33.3	ND	87.1	34-141	1.37	30	
Toluene	38.4	1.0	"	33.3	ND	115	27-151	3.10	30	
Ethylbenzene	36.3	1.0	"	33.3	ND	109	29-160	1.48	30	
m,p-Xylene	71.2	2.0	"	66.7	ND	107	20-166	1.32	30	
o-Xylene	35.5	1.0	"	33.3	ND	107	33-159	0.981	30	
Surrogate: 1,2-Dichloroethane-d4	14.3		"	13.3		107	23-173			
Surrogate: Toluene-d8	14.7		"	13.3		110	20-170			
Surrogate: 4-Bromofluorobenzene	12.5		"	13.3		93.6	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: Latham 2-31; Latham Reservoir 1

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
09/23/20 10:00

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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 29, 2020

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Latham 2-31; Latham Reservoir 1

Work Order #2010290

Enclosed are the results of analyses for samples received by Summit Scientific on 10/22/20 17:45. 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

President



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

Project: Latham 2-31; Latham Reservoir 1

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
10/29/20 12:19

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH08	2010290-01	Water	10/22/20 16:00	10/22/20 17:45
BH09	2010290-02	Water	10/22/20 16:05	10/22/20 17:45

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.

2010290

303-277-9310 ♦ 303-374-5933 Fax

Page 1 of 1

Sampler Name: Brandon V.

Project Number:

www.s2scientific.com

2010290

Sample Receipt Checklist

S2 Work Order _____

Client: DOC/TASMANClient Project ID: LATHAM 2-31; LATHAM RESERVEShipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: _____Matrix (check all that apply): Air Soil/Solid X Water Other: _____
(Describe)

Temp (°C)	<u>34</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.	<u>X</u>			
Were all samples received intact ⁽¹⁾ ?	<u>X</u>			
Was adequate sample volume provided ⁽¹⁾ ?	<u>X</u>			
If custody seals are present, are they intact ⁽¹⁾ ?			<u>X</u>	
Are samples with holding times due within 48 hours sample due within 48 hours present?		<u>X</u>		
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<u>X</u>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<u>X</u>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<u>X</u>			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<u>X</u>			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.		<u>X</u>		
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<u>X</u>			<u>HCL</u>
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			<u>X</u>	
If dissolved metals are requested, were samples field filtered?			<u>✓</u>	

Additional Comments (if any):

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.Custodian Printed Name or Initials BZSignature of Custodian [Signature]Date/Time 10/22/2020



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

Project: Latham 2-31; Latham Reservoir 1
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/29/20 12:19

BH08
2010290-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/22/20 16:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	BDJ0313	10/26/20	10/26/20	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **10/22/20 16:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		93.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		110 %	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: Latham 2-31; Latham Reservoir 1
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/29/20 12:19

BH09
2010290-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/22/20 16:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BDJ0313	10/26/20	10/26/20	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **10/22/20 16:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		94.0 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	21-167		"	"	"	"	

Summit Scientific

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

Project: Latham 2-31; Latham Reservoir 1

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/29/20 12:19

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 BDJ0313 - EPA 5030 Water MS

Blank (BDJ0313-BLK1)

Prepared & Analyzed: 10/26/20

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Surrogate: 1,2-Dichloroethane-d4	11.9		"	13.3		89.0	23-173			
Surrogate: Toluene-d8	14.5		"	13.3		109	20-170			
Surrogate: 4-Bromofluorobenzene	14.6		"	13.3		110	21-167			

LCS (BDJ0313-BS1)

Prepared & Analyzed: 10/26/20

Benzene	27.8	1.0	ug/l	33.3		83.3	51-132			
Toluene	32.3	1.0	"	33.3		96.8	51-138			
Ethylbenzene	31.6	1.0	"	33.3		94.9	58-146			
m,p-Xylene	65.0	2.0	"	66.7		97.5	57-144			
o-Xylene	35.1	1.0	"	33.3		105	53-146			
Surrogate: 1,2-Dichloroethane-d4	12.0		"	13.3		89.9	23-173			
Surrogate: Toluene-d8	14.3		"	13.3		107	20-170			
Surrogate: 4-Bromofluorobenzene	14.5		"	13.3		109	21-167			

Matrix Spike (BDJ0313-MS1)

Source: 2010290-01

Prepared & Analyzed: 10/26/20

Benzene	17.4	1.0	ug/l	33.3	ND	52.1	34-141			
Toluene	31.2	1.0	"	33.3	ND	93.8	27-151			
Ethylbenzene	31.7	1.0	"	33.3	ND	95.1	29-160			
m,p-Xylene	66.9	2.0	"	66.7	ND	100	20-166			
o-Xylene	35.9	1.0	"	33.3	ND	108	33-159			
Surrogate: 1,2-Dichloroethane-d4	12.1		"	13.3		90.8	23-173			
Surrogate: Toluene-d8	13.9		"	13.3		104	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: Latham 2-31; Latham Reservoir 1
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/29/20 12:19

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 BDJ0313 - EPA 5030 Water MS

Matrix Spike Dup (BDJ0313-MSD1)	Source: 2010290-01			Prepared & Analyzed: 10/26/20						
Benzene	18.1	1.0	ug/l	33.3	ND	54.2	34-141	3.89	30	
Toluene	32.9	1.0	"	33.3	ND	98.8	27-151	5.27	30	
Ethylbenzene	32.0	1.0	"	33.3	ND	95.9	29-160	0.848	30	
m,p-Xylene	66.6	2.0	"	66.7	ND	99.9	20-166	0.464	30	
o-Xylene	36.1	1.0	"	33.3	ND	108	33-159	0.639	30	
Surrogate: 1,2-Dichloroethane-d4	13.8		"	13.3		103	23-173			
Surrogate: Toluene-d8	14.0		"	13.3		105	20-170			
Surrogate: 4-Bromofluorobenzene	14.2		"	13.3		107	21-167			

Summit Scientific

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

Project: Latham 2-31; Latham Reservoir 1

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/29/20 12:19

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