



PDC Energy, Inc.
Third Quarter 2022 Groundwater Monitoring Summary

August 5, 2022

Former Latham 2-31 & Latham Reservoir 1 Tank Battery
SESW SEC 2 T4N R65W
Remediation # 16260

This groundwater monitoring summary has been prepared by Tasman, Inc. for the former Latham 2-31 & Latham Reservoir 1 Tank Battery.

Site History and Background

On September 2, 2020, pre-reclamation site investigation activities were initiated at the former Latham 2-31 & Latham Reservoir 1 tank battery location. Seven boreholes (BH01 – BH07) were advanced to a depth of 10 feet below ground surface (bgs) using direct push methods. Groundwater was encountered within the boreholes at approximately 5 feet bgs. Monitoring wells were installed in each borehole and groundwater monitoring commenced on September 14, 2020. Based on the analytical results received from groundwater monitoring activities, a historic hydrocarbon release was reported on September 23, 2020. Two additional monitoring wells (BH08 and BH09) were installed on October 13, 2020, to assess and delineate dissolved phase hydrocarbon impacts.

Groundwater Monitoring Activities

On August 1, 2022, groundwater monitoring was conducted at all nine monitoring wells (BH01 – BH09). Nine groundwater samples were submitted to Summit Scientific Laboratories (Summit) for analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX), naphthalene, 1,2,4-Trimethylbenzene (TMB), and 1,3,5-TMB by EPA Method 8260B.

Third quarter 2022 analytical results indicated that organic compound concentrations were in compliance with the applicable COGCC Table 915-1 regulatory standards in all nine monitoring well locations. Sample locations and corresponding analytical results are illustrated on Figure 1. Groundwater elevation data is illustrated on Figure 2. Groundwater analytical results are summarized in Table 1. The laboratory analytical report is included as Attachment A.

Current Remediation Strategy and Path Forward

Monitored natural attenuation (MNA) was selected as the remediation strategy for this site during third quarter 2020 and will remain the selected remediation strategy through the fourth quarter 2022.

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

BH06		
Compound (µg/L)	5/17/2022	8/1/2022
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<2.0	<2.0
Naphthalene	<1.0	<1.0
1,2,4-TMB	<1.0	<1.0
1,3,5-TMB	<1.0	<1.0
Depth to Water (ft. bgs)	2.95	4.93

BH07		
Compound (µg/L)	5/17/2022	8/1/2022
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<2.0	<2.0
Naphthalene	<1.0	<1.0
1,2,4-TMB	<1.0	<1.0
1,3,5-TMB	<1.0	<1.0
Depth to Water (ft. bgs)	3.36	5.28

BH01		
Compound (µg/L)	5/17/2022	8/1/2022
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<2.0	<2.0
Naphthalene	<1.0	<1.0
1,2,4-TMB	<1.0	<1.0
1,3,5-TMB	<1.0	<1.0
Depth to Water (ft. bgs)	3.04	4.89

BH05		
Compound (µg/L)	5/17/2022	8/1/2022
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<2.0	<2.0
Naphthalene	<1.0	<1.0
1,2,4-TMB	<1.0	<1.0
1,3,5-TMB	<1.0	<1.0
Depth to Water (ft. bgs)	3.44	5.35

BH02		
Compound (µg/L)	5/17/2022	8/1/2022
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<2.0	<2.0
Naphthalene	<1.0	<1.0
1,2,4-TMB	<1.0	<1.0
1,3,5-TMB	<1.0	<1.0
Depth to Water (ft. bgs)	3.61	5.51

BH04		
Compound (µg/L)	5/17/2022	8/1/2022
Benzene	23	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	7.1	<1.0
Total Xylenes	4.2	<2.0
Naphthalene	<1.0	<1.0
1,2,4-TMB	2.0	<1.0
1,3,5-TMB	<1.0	<1.0
Depth to Water (ft. bgs)	3.30	5.18

BH03		
Compound (µg/L)	5/17/2022	8/1/2022
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<2.0	<2.0
Naphthalene	<1.0	<1.0
1,2,4-TMB	<1.0	<1.0
1,3,5-TMB	<1.0	<1.0
Depth to Water (ft. bgs)	3.55	5.44

BH08		
Compound (µg/L)	5/17/2022	8/1/2022
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<2.0	<2.0
Naphthalene	<1.0	<1.0
1,2,4-TMB	<1.0	<1.0
1,3,5-TMB	<1.0	<1.0
Depth to Water (ft. bgs)	2.96	4.86

BH09		
Compound (µg/L)	5/17/2022	8/1/2022
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<2.0	<2.0
Naphthalene	<1.0	<1.0
1,2,4-TMB	<1.0	<1.0
1,3,5-TMB	<1.0	<1.0
Depth to Water (ft. bgs)	2.96	4.82

Legend

- Monitoring Well Location (Collected via Trimble GPS)
- Former PDC Energy (PDC) Infrastructure
- Former Occidental Petroleum (OXY) Infrastructure
- Groundwater Flow Direction (3Q22)
- Buried Infrastructure PDC Energy, Inc.
- Buried Third-Party Gas Line Noble Energy, Inc.
- Buried Third-Party Gas Line Occidental Petroleum Corp.

Notes

All locations are approximate unless otherwise noted.

GPS – Global Positioning System

µg/L – Micrograms per liter

ft. bgs – Feet below ground surface

Red text denotes an exceedance of COGCC standards

COGCC – Colorado Oil and Gas Conservation Commission

0 ft. 40 ft. 80 ft.

Image Source: Google Earth; 2012 Google Projection: WGS 84 UTM Zone 13 North

DATE: August 5 2022

DESIGNED BY: C. Hamlin

DRAWN BY: M. Connolly



TASMAN

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

PDC Energy, Inc. – DJ Basin
Former Latham 2-31 & Latham Reservoir 1 Tank Battery
SESW, Section 2, Township 4 North, Range 65 West
Weld County, Colorado

GROUNDWATER
ANALYTICAL RESULTS
MAP

FIGURE
1

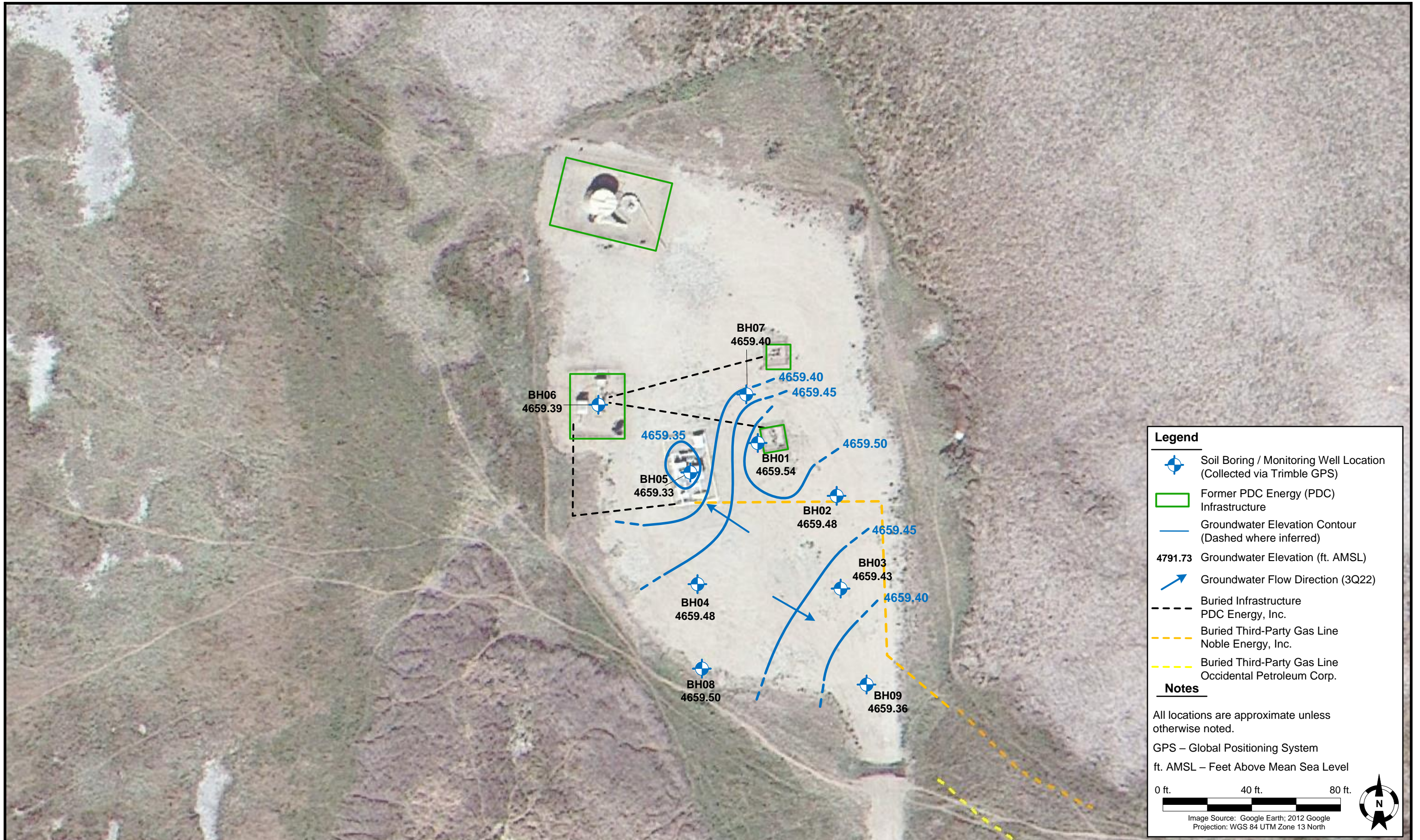


TABLE 1
FORMER LATHAM 2-31; LATHAM RESERVOIR 1 TANK BATTERY
GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE
ORGANIC COMPOUNDS

Sample ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Naphthalene (µg/L)	1,2,4-TMB (µg/L)	1,3,5-TMB (µg/L)	Depth to Water ⁽²⁾ (ft.)	Groundwater Elevation (ft. AMSL)
COGCC Table 915-1 Groundwater Standard (µg/L) ⁽¹⁾		5	560	700	1,400	140	67	67	-	-
BH01	9/14/2020	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	5.20	4659.23
BH01	2/19/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.72	4661.71
BH01	5/19/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.74	4661.69
BH01	8/23/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	4.74	4659.69
BH01	11/15/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.97	4661.46
BH01	2/2/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.68	4661.75
BH01	5/17/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.04	4661.39
BH01	8/1/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	4.89	4659.54
BH02	9/14/2020	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	5.75	4659.24
BH02	2/19/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.25	4661.74
BH02	5/19/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.20	4661.79
BH02	8/23/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	5.36	4659.63
BH02	11/15/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.51	4661.48
BH02	2/2/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.23	4661.76
BH02	5/17/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.61	4661.38
BH02	8/1/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	5.51	4659.48
BH03	9/14/2020	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	5.60	4659.27
BH03	2/19/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.14	4661.73
BH03	5/19/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.17	4661.70
BH03	8/23/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.93	4659.63
BH03	11/15/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.36	4661.51
BH03	2/2/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.10	4661.77
BH03	5/17/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.55	4661.32
BH03	8/1/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	5.44	4659.43
BH04	9/14/2020	55	<1.0	6.5	94	NA	NA	NA	5.39	4659.27
BH04	9/22/2020	990	<1.0	110	630	NA	NA	NA	NM	NM
BH04	2/19/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	20	2.89	4661.77
BH04	5/19/2021	530	<1.0	<1.0	480	4.9	70	76	2.93	4661.73
BH04	8/23/2021	250	<1.0	26	110	<1.0	18	12	5.08	4659.58
BH04	11/15/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.14	4661.52
BH04	2/2/2022	86	<1.0	<1.0	9.1	<1.0	<1.0	<1.0	2.84	4661.82
BH04	5/17/2022	23	<1.0	7.1	4.2	<1.0	2.0	<1.0	3.30	4661.36
BH04	8/1/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	5.18	4659.48
BH05	9/14/2020	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	5.44	4659.24
BH05	2/19/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.98	4661.70
BH05	5/19/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.00	4661.68
BH05	8/23/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	5.14	4659.54
BH05	11/15/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.18	4661.50
BH05	2/2/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.96	4661.72
BH05	5/17/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.44	4661.24
BH05	8/1/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	5.35	4659.33
BH06	9/14/2020	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	5.10	4659.22
BH06	2/19/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.54	4661.78
BH06	5/19/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.65	4661.67
BH06	8/23/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	4.83	4659.49
BH06	11/15/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.81	4661.51
BH06	2/2/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.53	4661.79
BH06	5/17/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.95	4661.37
BH06	8/1/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	4.93	4659.39
BH07	9/14/2020	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	5.45	4659.23
BH07	2/19/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.02	4661.66
BH07	5/19/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.02	4661.66
BH07	8/23/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	5.12	4659.56
BH07	11/15/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.20	4661.48

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GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE
ORGANIC COMPOUNDS

Sample ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Naphthalene (µg/L)	1,2,4-TMB (µg/L)	1,3,5-TMB (µg/L)	Depth to Water ⁽²⁾ (ft.)	Groundwater Elevation (ft. AMSL)
COGCC Table 915-1 Groundwater Standard (µg/L) ⁽¹⁾		5	560	700	1,400	140	67	67	-	-
BH07	2/2/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.99	4661.69
BH07	5/17/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.36	4661.32
BH07	8/1/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	5.28	4659.40
BH08	10/22/2020	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	4.60	4659.76
BH08	2/19/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.62	4661.74
BH08	5/19/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.63	4661.73
BH08	8/23/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	4.73	4659.63
BH08	11/15/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.89	4661.47
BH08	2/2/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.52	4661.84
BH08	5/17/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.96	4661.40
BH08	8/1/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	4.86	4659.50
BH09	10/22/2020	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	4.44	4659.74
BH09	2/19/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.52	4661.66
BH09	5/19/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.53	4661.65
BH09	8/23/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	4.62	4659.56
BH09	11/15/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.75	4661.43
BH09	2/2/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.46	4661.72
BH09	5/17/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.96	4661.22
BH09	8/1/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	4.82	4659.36

Notes:

- Groundwater standards referenced from 2 CCR 404-1, Table 915-1, January 15, 2021.
- Depth to water measurements were measured from ground surface for excavation samples. Monitoring well measurements were collected from top of casing and adjusted using survey data to reflect depth of water from ground surface.

TMB = Trimethylbenzene

COGCC = Colorado Oil and Gas Conservation Commission

µg/L = Micrograms per liter

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

ft. = Feet

NA = Constituent not analyzed

NM = Not measured

AMSL = Above Mean Sea Level

BOLD = Analytical result is in exceedance of applicable standard.

Attachment A

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

August 05, 2022

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Latham 2-31, Latham Reservoir 1 Tank Battery

Work Order #2208009

Enclosed are the results of analyses for samples received by Summit Scientific on 08/01/22 17:11. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury
President



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

Project: Latham 2-31, Latham Reservoir 1 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/05/22 10:18

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	2208009-01	Water	08/01/22 11:35	08/01/22 17:11
BH02	2208009-02	Water	08/01/22 11:25	08/01/22 17:11
BH03	2208009-03	Water	08/01/22 11:15	08/01/22 17:11
BH04	2208009-04	Water	08/01/22 11:45	08/01/22 17:11
BH05	2208009-05	Water	08/01/22 11:36	08/01/22 17:11
BH06	2208009-06	Water	08/01/22 11:20	08/01/22 17:11
BH07	2208009-07	Water	08/01/22 11:40	08/01/22 17:11
BH08	2208009-08	Water	08/01/22 11:35	08/01/22 17:11
BH09	2208009-09	Water	08/01/22 11:28	08/01/22 17:11

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

2208009

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 Tank Battery

Sampler Name: David Vigil

Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested							Special Instructions				
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEXN - 8260B	TPH - (C6 - C36)	pH, EC, SAR	Boron - HWS	TMBs (1,2,4)&(1,3,5)	PAH - 915	Metals - 915					
1	B1401	8/1/22	1135	3			X		X					X				X						pH, EC, SAR by saturated paste
2	B1402		1125																					
3	B1403		1115																					
4	B1404		1145																					
5	B1405		1136																					
6	B1406		1120																					
7	B1407		1140																					
8	B1408		1135																					
9	B1409		1124																					
10																								

Relinquished by: <u>David Vigil</u>	Date/Time: <u>8/1/22 1610</u>	Received by: <u>Tasman's Lock Box</u>	Date/Time: <u>8/1/22 1610</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: <u>Tasman's Lock Box</u>	Date/Time: <u>8/1/22 1711</u>	Received by: <u>[Signature]</u>	Date/Time: <u>8/1/22 1711</u>	Sample Integrity: Temperature Upon Receipt: <u>5.3</u> Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	
Relinquished by:	Date/Time:	Received by:	Date/Time:		

S₂

Sample Receipt Checklist

S2 Work Order# 2208009

Client: PacTusman Client Project ID: Latham 2-31, Latham Res 1 Tank
Battam

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

	-			
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Matrix (Check all that apply) Air ☐ Soil/Solid ☐ Water ☒ Other ☐

Temp (°C) 5.3 Thermometer # 1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6 °C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	-			on ice
Were all samples received intact ⁽¹⁾ ?	-			
Was adequate sample volume provided ⁽¹⁾ ?	-			
If custody seals are present, are they intact ⁽¹⁾ ?	-			
Are samples due within 48 hours present?		-		
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen			-	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	-			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	-			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	-			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	-			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.		-		
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.			-	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			-	
If dissolved metals are requested, were samples field filtered?			-	
Additional Comments (if any):				

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



Custodian Printed Name

8122

Date/Time



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

Project: Latham 2-31, Latham Reservoir 1 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/05/22 10:18

BH01
2208009-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/01/22 11:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	BFH0057	08/02/22	08/03/22	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

Date Sampled: **08/01/22 11:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		105 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		131 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		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 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/05/22 10:18

BH02
2208009-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/01/22 11:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BFH0057	08/02/22	08/03/22	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

Date Sampled: **08/01/22 11:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		94.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		133 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	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 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/05/22 10:18

BH03
2208009-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/01/22 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BFH0057	08/02/22	08/03/22	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

Date Sampled: **08/01/22 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		85.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		135 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	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 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/05/22 10:18

BH04
2208009-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/01/22 11:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BFH0057	08/02/22	08/03/22	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

Date Sampled: **08/01/22 11:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		83.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		125 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %	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 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/05/22 10:18

BH05
2208009-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/01/22 11:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BFH0057	08/02/22	08/03/22	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

Date Sampled: **08/01/22 11:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		91.7 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		129 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		110 %	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 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/05/22 10:18

BH06
2208009-06 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/01/22 11:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BFH0057	08/02/22	08/03/22	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

Date Sampled: **08/01/22 11:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		95.0 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		129 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	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 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/05/22 10:18

BH07
2208009-07 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/01/22 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BFH0057	08/02/22	08/03/22	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

Date Sampled: **08/01/22 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		99.2 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		127 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	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 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/05/22 10:18

BH08
2208009-08 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/01/22 11:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BFH0057	08/02/22	08/03/22	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

Date Sampled: **08/01/22 11:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		97.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		128 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	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 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/05/22 10:18

BH09
2208009-09 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/01/22 11:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BFH0057	08/02/22	08/03/22	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

Date Sampled: **08/01/22 11:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		85.1 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		129 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	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 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/05/22 10:18

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 BFH0057 - EPA 5030 Water MS

Blank (BFH0057-BLK1)

Prepared: 08/02/22 Analyzed: 08/03/22

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Naphthalene	ND	1.0	"							
1,2,4-Trimethylbenzene	ND	1.0	"							
1,3,5-Trimethylbenzene	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	12.1		"	13.3		91.1	23-173			
Surrogate: Toluene-d8	13.6		"	13.3		102	20-170			
Surrogate: 4-Bromofluorobenzene	13.6		"	13.3		102	21-167			

LCS (BFH0057-BS1)

Prepared: 08/02/22 Analyzed: 08/03/22

Benzene	48.1	1.0	ug/l	50.0		96.3	51-132			
Toluene	49.5	1.0	"	50.0		99.0	51-138			
Ethylbenzene	45.2	1.0	"	50.0		90.4	58-146			
m,p-Xylene	85.7	2.0	"	100		85.7	57-144			
o-Xylene	45.5	1.0	"	50.0		91.0	53-146			
Naphthalene	48.1	1.0	"	50.0		96.2	70-130			
1,2,4-Trimethylbenzene	46.5	1.0	"	50.0		93.0	70-130			
1,3,5-Trimethylbenzene	46.8	1.0	"	50.0		93.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	11.1		"	13.3		83.6	23-173			
Surrogate: Toluene-d8	13.5		"	13.3		101	20-170			
Surrogate: 4-Bromofluorobenzene	12.8		"	13.3		96.4	21-167			

Matrix Spike (BFH0057-MS1)

Source: 2208011-01

Prepared: 08/02/22 Analyzed: 08/03/22

Benzene	39.7	1.0	ug/l	50.0	ND	79.5	34-141			
Toluene	41.0	1.0	"	50.0	ND	82.1	27-151			
Ethylbenzene	37.3	1.0	"	50.0	ND	74.5	29-160			
m,p-Xylene	70.4	2.0	"	100	ND	70.4	20-166			
o-Xylene	37.2	1.0	"	50.0	ND	74.4	33-159			
Naphthalene	40.8	1.0	"	50.0	ND	81.6	70-130			
1,2,4-Trimethylbenzene	38.2	1.0	"	50.0	ND	76.4	70-130			
1,3,5-Trimethylbenzene	38.2	1.0	"	50.0	ND	76.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	11.5		"	13.3		86.3	23-173			
Surrogate: Toluene-d8	13.7		"	13.3		103	20-170			
Surrogate: 4-Bromofluorobenzene	13.0		"	13.3		97.6	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 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/05/22 10:18

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 BFH0057 - EPA 5030 Water MS

Matrix Spike Dup (BFH0057-MSD1)	Source: 2208011-01			Prepared: 08/02/22 Analyzed: 08/03/22						
Benzene	46.3	1.0	ug/l	50.0	ND	92.7	34-141	15.3	30	
Toluene	47.5	1.0	"	50.0	ND	95.0	27-151	14.7	30	
Ethylbenzene	43.6	1.0	"	50.0	ND	87.3	29-160	15.8	30	
m,p-Xylene	83.1	2.0	"	100	ND	83.1	20-166	16.6	30	
o-Xylene	43.6	1.0	"	50.0	ND	87.3	33-159	15.9	30	
Naphthalene	47.7	1.0	"	50.0	ND	95.4	70-130	15.5	30	
1,2,4-Trimethylbenzene	44.7	1.0	"	50.0	ND	89.4	70-130	15.8	30	
1,3,5-Trimethylbenzene	44.7	1.0	"	50.0	ND	89.4	70-130	15.6	30	
Surrogate: 1,2-Dichloroethane-d4	11.6		"	13.3		86.7	23-173			
Surrogate: Toluene-d8	13.5		"	13.3		101	20-170			
Surrogate: 4-Bromofluorobenzene	13.0		"	13.3		97.7	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 Tank Battery

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
08/05/22 10:18

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