



**PDC Energy, Inc.**  
Third Quarter 2022 Groundwater Monitoring Summary

July 25, 2022

Former Loloff 35-5 Tank Battery  
NENE Section 35 T5N R64W  
Remediation # 19818

This groundwater monitoring summary has been prepared by Tasman, Inc. for the former Loloff 35-5 tank battery.

### Site History and Background

On October 15, 2021, a historic hydrocarbon release was discovered beneath the former separator during decommissioning activities. Following the discovery, mitigation activities were initiated and between October 15, and December 3, 2021, approximately 980 cubic yards of impacted material were removed from the former excavation. During excavation activities, groundwater was encountered in the excavation at approximately 3 feet below ground surface (bgs). Groundwater vacuum recovery was conducted concurrent with excavation activities and approximately 220 barrels (bbls) of groundwater were removed from location. On April 14, and April 15, 2022, seventeen (17) monitoring wells (BH01 – BH17) were installed to confirm the absence of dissolved-phase hydrocarbon impacts within and adjacent to the former excavation extent.

### Groundwater Monitoring Activities

On July 15, 2022, groundwater monitoring was conducted at all 17 monitoring wells (BH01 – BH17). Seventeen groundwater samples were submitted to Summit Scientific Laboratory for analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX), naphthalene, 1,2,4-trimethylbenzene (TMB), and 1,3,5-TMB by EPA Method 8260B, chloride and sulfate anions by EPA Method 300.0 and total dissolved solids (TDS) by Method SM 2540C.

Third quarter 2022 analytical results indicated that organic compound concentrations were in compliance with the applicable COGCC Table 915-1 groundwater standards in all 17 monitoring well locations. Additionally, inorganic parameters were in compliance with the applicable COGCC Table 915-1 regulatory standards or within 1.25x the background concentration of the up- and cross-gradient monitoring wells (BH15 and BH17) in all 17 monitoring well locations. Sample locations and corresponding analytical results are illustrated on Figures 1 and 2. Groundwater

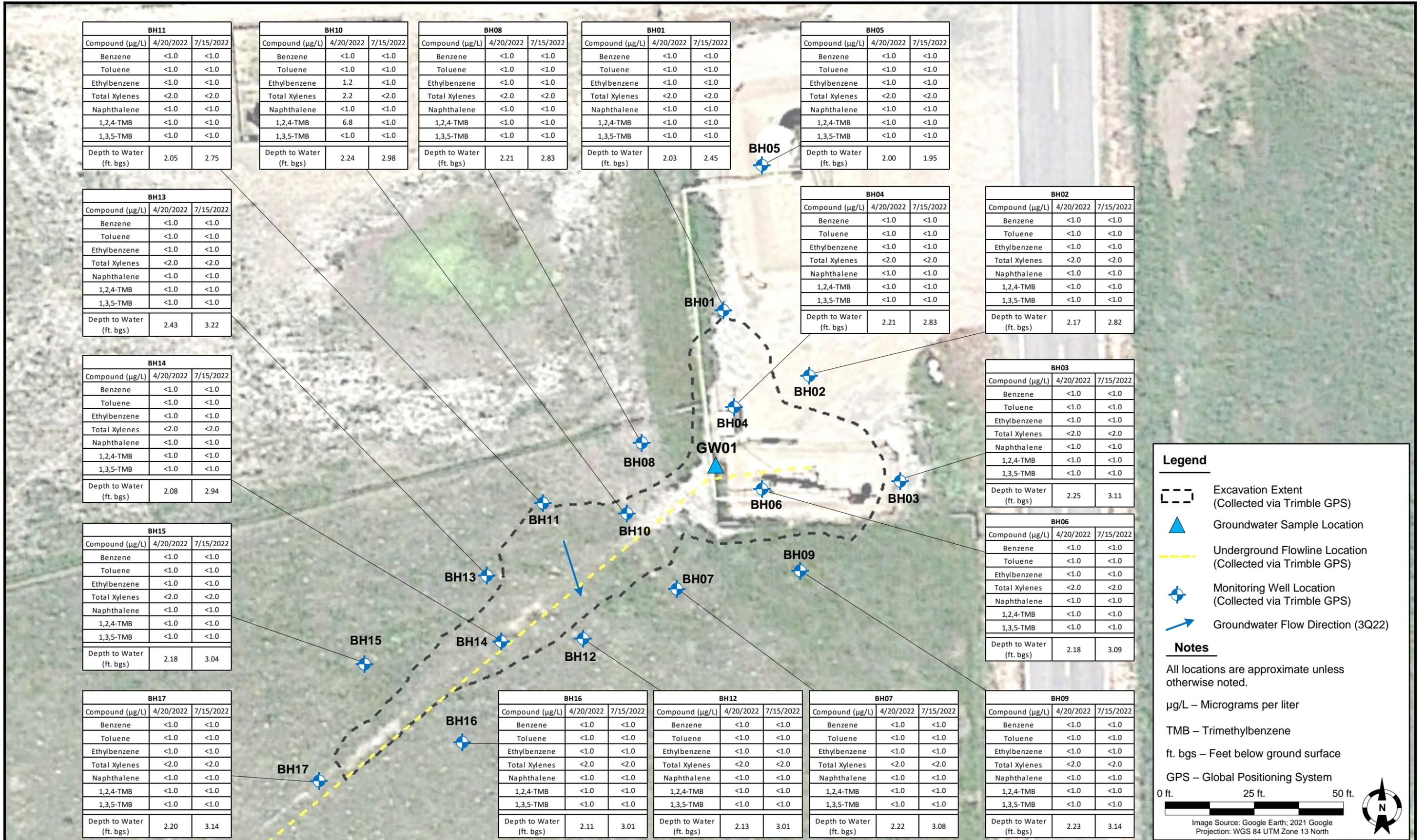
elevation data is illustrated on Figure 3. Groundwater analytical results are summarized in Tables 1 and 2. The laboratory analytical report is included as Attachment A.

### **Current Remediation Activities and Path Forward**

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

Additionally, based on analytical results received during monitoring well installation activities, further site investigation activities are required to assess pH and EC concentrations in native soil on location.

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



BH11		
Compound (µg/L)	4/20/2022	7/15/2022
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)	2.05	2.75

BH10		
Compound (µg/L)	4/20/2022	7/15/2022
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	1.2	<1.0
Total Xylenes	2.2	<2.0
Naphthalene	<1.0	<1.0
1,2,4-TMB	6.8	<1.0
1,3,5-TMB	<1.0	<1.0
Depth to Water (ft. bgs)	2.24	2.98

BH08		
Compound (µg/L)	4/20/2022	7/15/2022
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)	2.21	2.83

BH01		
Compound (µg/L)	4/20/2022	7/15/2022
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)	2.03	2.45

BH05		
Compound (µg/L)	4/20/2022	7/15/2022
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)	2.00	1.95

BH13		
Compound (µg/L)	4/20/2022	7/15/2022
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)	2.43	3.22

BH04		
Compound (µg/L)	4/20/2022	7/15/2022
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)	2.21	2.83

BH02		
Compound (µg/L)	4/20/2022	7/15/2022
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)	2.17	2.82

BH14		
Compound (µg/L)	4/20/2022	7/15/2022
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)	2.08	2.94

BH03		
Compound (µg/L)	4/20/2022	7/15/2022
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)	2.25	3.11

BH15		
Compound (µg/L)	4/20/2022	7/15/2022
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)	2.18	3.04

BH06		
Compound (µg/L)	4/20/2022	7/15/2022
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)	2.18	3.09

BH17		
Compound (µg/L)	4/20/2022	7/15/2022
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)	2.20	3.14

BH16		
Compound (µg/L)	4/20/2022	7/15/2022
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)	2.11	3.01

BH12		
Compound (µg/L)	4/20/2022	7/15/2022
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)	2.13	3.01

BH07		
Compound (µg/L)	4/20/2022	7/15/2022
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)	2.22	3.08

BH09		
Compound (µg/L)	4/20/2022	7/15/2022
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)	2.23	3.14

DATE: July 25, 2022

DESIGNED BY: C. Hamlin

DRAWN BY: M. Connolly

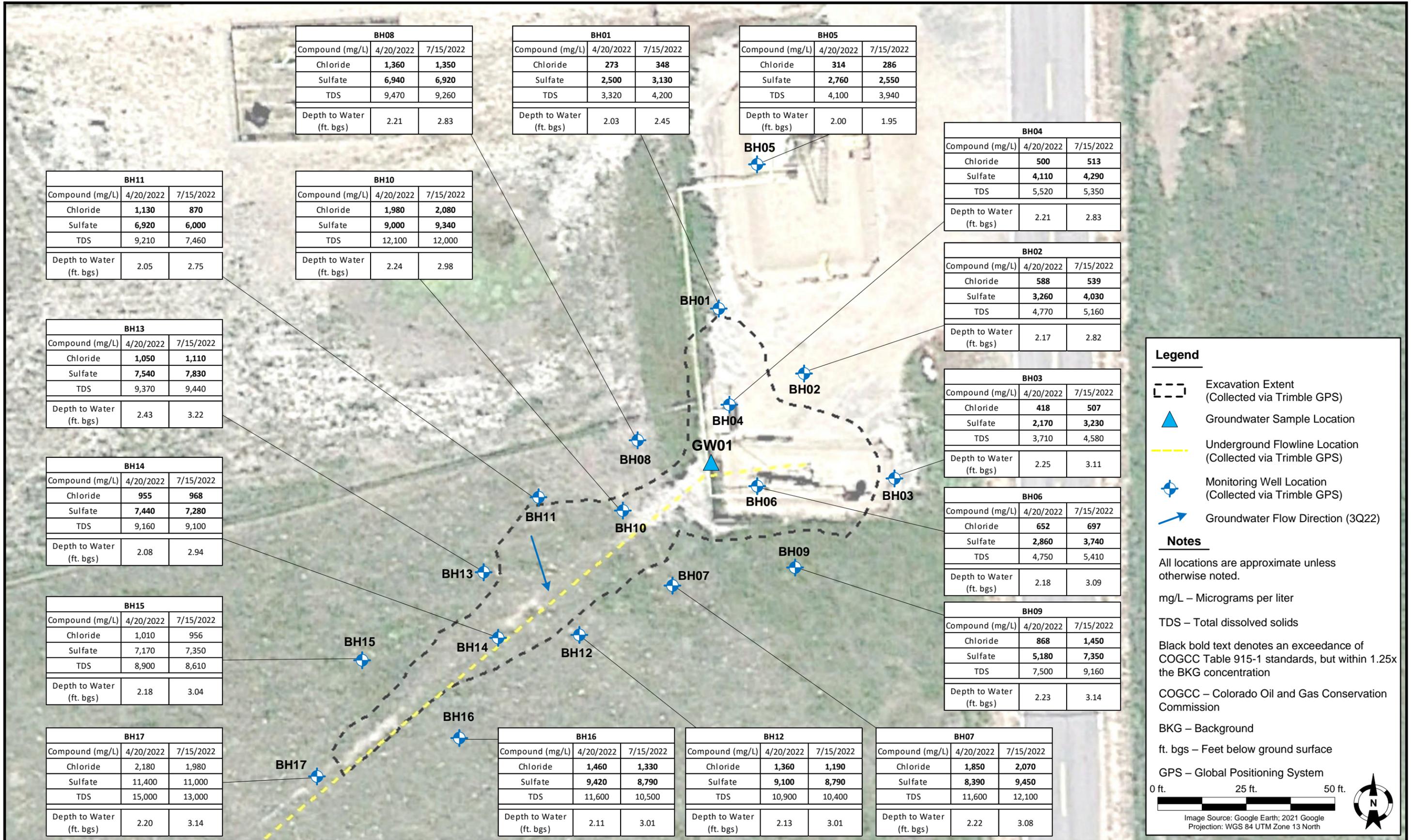


**Tasman, Inc.**  
6855 W. 119<sup>th</sup> Ave.  
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**PDC Energy, Inc. – DJ Basin**  
**Former Loloff 35-5 Tank Battery**  
NENE, Section 35, Township 5 North, Range 64 West  
Weld County, Colorado

**GROUNDWATER**  
**ANALYTICAL RESULTS**  
**MAP**

**FIGURE**  
**1**



BH08		
Compound (mg/L)	4/20/2022	7/15/2022
Chloride	<b>1,360</b>	<b>1,350</b>
Sulfate	<b>6,940</b>	<b>6,920</b>
TDS	9,470	9,260
Depth to Water (ft. bgs)	2.21	2.83

BH01		
Compound (mg/L)	4/20/2022	7/15/2022
Chloride	<b>273</b>	<b>348</b>
Sulfate	<b>2,500</b>	<b>3,130</b>
TDS	3,320	4,200
Depth to Water (ft. bgs)	2.03	2.45

BH05		
Compound (mg/L)	4/20/2022	7/15/2022
Chloride	<b>314</b>	<b>286</b>
Sulfate	<b>2,760</b>	<b>2,550</b>
TDS	4,100	3,940
Depth to Water (ft. bgs)	2.00	1.95

BH04		
Compound (mg/L)	4/20/2022	7/15/2022
Chloride	<b>500</b>	<b>513</b>
Sulfate	<b>4,110</b>	<b>4,290</b>
TDS	5,520	5,350
Depth to Water (ft. bgs)	2.21	2.83

BH02		
Compound (mg/L)	4/20/2022	7/15/2022
Chloride	<b>588</b>	<b>539</b>
Sulfate	<b>3,260</b>	<b>4,030</b>
TDS	4,770	5,160
Depth to Water (ft. bgs)	2.17	2.82

BH03		
Compound (mg/L)	4/20/2022	7/15/2022
Chloride	<b>418</b>	<b>507</b>
Sulfate	<b>2,170</b>	<b>3,230</b>
TDS	3,710	4,580
Depth to Water (ft. bgs)	2.25	3.11

BH06		
Compound (mg/L)	4/20/2022	7/15/2022
Chloride	<b>652</b>	<b>697</b>
Sulfate	<b>2,860</b>	<b>3,740</b>
TDS	4,750	5,410
Depth to Water (ft. bgs)	2.18	3.09

BH09		
Compound (mg/L)	4/20/2022	7/15/2022
Chloride	<b>868</b>	<b>1,450</b>
Sulfate	<b>5,180</b>	<b>7,350</b>
TDS	7,500	9,160
Depth to Water (ft. bgs)	2.23	3.14

BH11		
Compound (mg/L)	4/20/2022	7/15/2022
Chloride	<b>1,130</b>	<b>870</b>
Sulfate	<b>6,920</b>	<b>6,000</b>
TDS	9,210	7,460
Depth to Water (ft. bgs)	2.05	2.75

BH10		
Compound (mg/L)	4/20/2022	7/15/2022
Chloride	<b>1,980</b>	<b>2,080</b>
Sulfate	<b>9,000</b>	<b>9,340</b>
TDS	12,100	12,000
Depth to Water (ft. bgs)	2.24	2.98

BH13		
Compound (mg/L)	4/20/2022	7/15/2022
Chloride	<b>1,050</b>	<b>1,110</b>
Sulfate	<b>7,540</b>	<b>7,830</b>
TDS	9,370	9,440
Depth to Water (ft. bgs)	2.43	3.22

BH14		
Compound (mg/L)	4/20/2022	7/15/2022
Chloride	<b>955</b>	<b>968</b>
Sulfate	<b>7,440</b>	<b>7,280</b>
TDS	9,160	9,100
Depth to Water (ft. bgs)	2.08	2.94

BH15		
Compound (mg/L)	4/20/2022	7/15/2022
Chloride	1,010	956
Sulfate	7,170	7,350
TDS	8,900	8,610
Depth to Water (ft. bgs)	2.18	3.04

BH17		
Compound (mg/L)	4/20/2022	7/15/2022
Chloride	2,180	1,980
Sulfate	11,400	11,000
TDS	15,000	13,000
Depth to Water (ft. bgs)	2.20	3.14

BH16		
Compound (mg/L)	4/20/2022	7/15/2022
Chloride	<b>1,460</b>	<b>1,330</b>
Sulfate	<b>9,420</b>	<b>8,790</b>
TDS	11,600	10,500
Depth to Water (ft. bgs)	2.11	3.01

BH12		
Compound (mg/L)	4/20/2022	7/15/2022
Chloride	<b>1,360</b>	<b>1,190</b>
Sulfate	<b>9,100</b>	<b>8,790</b>
TDS	10,900	10,400
Depth to Water (ft. bgs)	2.13	3.01

BH07		
Compound (mg/L)	4/20/2022	7/15/2022
Chloride	<b>1,850</b>	<b>2,070</b>
Sulfate	<b>8,390</b>	<b>9,450</b>
TDS	11,600	12,100
Depth to Water (ft. bgs)	2.22	3.08

**Legend**

- Excavation Extent (Collected via Trimble GPS)
- ▲ Groundwater Sample Location
- Underground Flowline Location (Collected via Trimble GPS)
- ⊕ Monitoring Well Location (Collected via Trimble GPS)
- ➔ Groundwater Flow Direction (3Q22)

**Notes**

All locations are approximate unless otherwise noted.

mg/L – Micrograms per liter

TDS – Total dissolved solids

Black bold text denotes an exceedance of COGCC Table 915-1 standards, but within 1.25x the BKG concentration

COGCC – Colorado Oil and Gas Conservation Commission

BKG – Background

ft. bgs – Feet below ground surface

GPS – Global Positioning System

0 ft. 25 ft. 50 ft.

Image Source: Google Earth; 2021 Google  
Projection: WGS 84 UTM Zone 13 North

DATE: July 25, 2022

DESIGNED BY: C. Hamlin

DRAWN BY: M. Connolly



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**Former Loloff 35-5 Tank Battery**  
NENE, Section 35, Township 5 North, Range 64 West  
Weld County, Colorado

**GROUNDWATER ANALYTICAL RESULTS MAP (INORGANIC PARAMETERS)**

**FIGURE 2**



**Legend**

- Excavation Extent (Collected via Trimble GPS)
- Underground Flowline Location (Collected via Trimble GPS)
- Groundwater Sample Location
- Monitoring Well Location (Collected via Trimble GPS)
- Groundwater Elevation Contour (Dashed where inferred)
- 4681.91** Groundwater Elevation (ft. AMSL)
- Groundwater Flow Direction (3Q22)

**Notes**

All locations are approximate unless otherwise noted.

ft. AMSL – Feet Above Mean Sea Level

GPS – Global Positioning System

0 ft.      25 ft.      50 ft.

Image Source: Google Earth; 2021 Google  
Projection: WGS 84 UTM Zone 13 North

DATE: August 17, 2022

DESIGNED BY: C. Hamlin

DRAWN BY: J. Clonts



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**GROUNDWATER ELEVATION CONTOUR MAP (07/15/2022)**

**FIGURE 3**

**TABLE 1**  
**FORMER LOLOFF 35-5 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 <sup>(2)</sup> (ft.)	Groundwater Elevation (ft. AMSL)
<b>COGCC Table 915-1 Groundwater Standard (µg/L) <sup>(1)</sup></b>		<b>5</b>	<b>560</b>	<b>700</b>	<b>1,400</b>	<b>140</b>	<b>67</b>	<b>67</b>	-	-
GW01	10/15/2021	<b>220</b>	<1.0	10	<2.0	39	<b>400</b>	<1.0	~3	NA
BH01	4/20/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.03	4576.64
BH01	7/15/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.45	4576.22
BH02	4/20/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.17	4576.59
BH02	7/15/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.82	4575.94
BH03	4/20/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.25	4576.49
BH03	7/15/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.11	4575.63
BH04	4/20/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.21	4576.61
BH04	7/15/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.83	4575.99
BH05	4/20/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.00	4576.69
BH05	7/15/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	1.95	4576.74
BH06	4/20/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.18	4576.65
BH06	7/15/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.09	4575.74
BH07	4/20/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.22	4576.55
BH07	7/15/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.08	4575.69
BH08	4/20/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.21	4576.61
BH08	7/15/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.83	4575.99
BH09	4/20/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.23	4576.47
BH09	7/15/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.14	4575.56
BH10	4/20/2022	<1.0	<1.0	1.2	2.2	<1.0	6.8	<1.0	2.24	4576.63
BH10	7/15/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.98	4575.89
BH11	4/20/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.05	4576.70
BH11	7/15/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.75	4576.00
BH12	4/20/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.13	4576.61
BH12	7/15/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.01	4575.73
BH13	4/20/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.43	4576.74
BH13	7/15/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.22	4575.95
BH14	4/20/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.08	4576.70
BH14	7/15/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.94	4575.84
BH15	4/20/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.18	4576.76
BH15	7/15/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.04	4575.90
BH16	4/20/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.11	4576.66
BH16	7/15/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.01	4575.76
BH17	4/20/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.20	4576.73
BH17	7/15/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.14	4575.79

**Notes:**

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

TMB = Trimethylbenzene

COGCC = Colorado Oil and Gas Conservation Commission

µg/L = Micrograms per liter

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

ft. = Feet

AMSL = Above Mean Sea Level

NA = Not applicable

**BOLD** = Analytical result is in exceedance of applicable standard.

**TABLE 2**  
**FORMER LOLOFF 35-5 TANK BATTERY**  
**GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE**  
**INORGANIC PARAMETERS**

Sample ID	Date Sampled	TDS (unit)	Chloride Ion (mg/L)	Sulfate Ion (mg/L)	Depth to Water <sup>(2)</sup> (ft.)	Groundwater Elevation (ft. AMSL)
<b>COGCC Table 915-1 Groundwater Standard (mg/L) <sup>(1)</sup></b>		<b>&lt;1.25 x BCKG</b>	<b>250 or &lt;1.25 x BCKG</b>	<b>250 or &lt;1.25 x BCKG</b>	-	-
BH01	4/20/2022	3,320	<b>273</b>	<b>2,500</b>	2.03	4576.64
BH01	7/15/2022	4,200	<b>348</b>	<b>3,130</b>	2.45	4576.22
BH02	4/20/2022	4,770	<b>588</b>	<b>3,260</b>	2.17	4576.59
BH02	7/15/2022	5,160	<b>539</b>	<b>4,030</b>	2.82	4575.94
BH03	4/20/2022	3,710	<b>418</b>	<b>2,170</b>	2.25	4576.49
BH03	7/15/2022	4,580	<b>507</b>	<b>3,230</b>	3.11	4575.63
BH04	4/20/2022	5,520	<b>500</b>	<b>4,110</b>	2.21	4576.61
BH04	7/15/2022	5,350	<b>513</b>	<b>4,290</b>	2.83	4575.99
BH05	4/20/2022	4,100	<b>314</b>	<b>2,760</b>	2.00	4576.69
BH05	7/15/2022	3,940	<b>286</b>	<b>2,550</b>	1.95	4576.74
BH06	4/20/2022	4,750	<b>652</b>	<b>2,860</b>	2.18	4576.65
BH06	7/15/2022	5,410	<b>697</b>	<b>3,740</b>	3.09	4575.74
BH07	4/20/2022	11,600	<b>1,850</b>	<b>8,390</b>	2.22	4576.55
BH07	7/15/2022	12,100	<b>2,070</b>	<b>9,450</b>	3.08	4575.69
BH08	4/20/2022	9,470	<b>1,360</b>	<b>6,940</b>	2.21	4576.61
BH08	7/15/2022	9,260	<b>1,350</b>	<b>6,920</b>	2.83	4575.99
BH09	4/20/2022	7,500	<b>868</b>	<b>5,180</b>	2.23	4576.47
BH09	7/15/2022	9,160	<b>1,450</b>	<b>7,350</b>	3.14	4575.56
BH10	4/20/2022	12,100	<b>1,980</b>	<b>9,000</b>	2.24	4576.63
BH10	7/15/2022	12,000	<b>2,080</b>	<b>9,340</b>	2.98	4575.89
BH11	4/20/2022	9,210	<b>1,130</b>	<b>6,920</b>	2.05	4576.70
BH11	7/15/2022	7,460	<b>870</b>	<b>6,000</b>	2.75	4576.00
BH12	4/20/2022	10,900	<b>1,360</b>	<b>9,100</b>	2.13	4576.61
BH12	7/15/2022	10,400	<b>1,190</b>	<b>8,790</b>	3.01	4575.73
BH13	4/20/2022	9,370	<b>1,050</b>	<b>7,540</b>	2.43	4576.74
BH13	7/15/2022	9,440	<b>1,110</b>	<b>7,830</b>	3.22	4575.95
BH14	4/20/2022	9,160	<b>955</b>	<b>7,440</b>	2.08	4576.70
BH14	7/15/2022	9,100	<b>968</b>	<b>7,280</b>	2.94	4575.84
BH15	4/20/2022	8,900	1,010	7,170	2.18	4576.76
BH15	7/15/2022	8,610	956	7,350	3.04	4575.90

**TABLE 2**  
**FORMER LOLOFF 35-5 TANK BATTERY**  
**GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE**  
**INORGANIC PARAMETERS**

Sample ID	Date Sampled	TDS (unit)	Chloride Ion (mg/L)	Sulfate Ion (mg/L)	Depth to Water <sup>(2)</sup> (ft.)	Groundwater Elevation (ft. AMSL)
<b>COGCC Table 915-1 Groundwater Standard (mg/L) <sup>(1)</sup></b>		<b>&lt;1.25 x BCKG</b>	<b>250 or &lt;1.25 x BCKG</b>	<b>250 or &lt;1.25 x BCKG</b>	-	-
BH16	4/20/2022	11,600	<b>1,460</b>	<b>9,420</b>	2.11	4576.66
BH16	7/15/2022	10,500	<b>1,330</b>	<b>8,790</b>	3.01	4575.76
BH17	4/20/2022	15,000	2,180	11,400	2.20	4576.73
BH17	7/15/2022	13,000	1,980	11,000	3.14	4575.79

**Notes:**

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

TDS = Total dissolved solids

COGCC = Colorado Oil and Gas Conservation Commission

BCKG = Background

mg/L = Milligrams per liter

ft. = Feet

AMSL = Above Mean Sea Level

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

Up- / cross-gradient well location used for background concentration.

**BOLD** = Analytical result is in exceedance of applicable standard but within 1.25x background concentration.

## Attachment A

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

July 22, 2022

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Loloff 35-5 Tank Battery

Work Order #2207212

Enclosed are the results of analyses for samples received by Summit Scientific on 07/15/22 17:23. 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: Loloff 35-5 Tank Battery

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
07/22/22 12:57

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	2207212-01	Water	07/15/22 08:52	07/15/22 17:23
BH02	2207212-02	Water	07/15/22 08:59	07/15/22 17:23
BH03	2207212-03	Water	07/15/22 09:05	07/15/22 17:23
BH04	2207212-04	Water	07/15/22 09:11	07/15/22 17:23
BH05	2207212-05	Water	07/15/22 09:16	07/15/22 17:23
BH06	2207212-06	Water	07/15/22 10:30	07/15/22 17:23
BH07	2207212-07	Water	07/15/22 10:36	07/15/22 17:23
BH08	2207212-08	Water	07/15/22 10:40	07/15/22 17:23
BH09	2207212-09	Water	07/15/22 10:46	07/15/22 17:23
BH10	2207212-10	Water	07/15/22 10:49	07/15/22 17:23
BH11	2207212-11	Water	07/15/22 12:00	07/15/22 17:23
BH12	2207212-12	Water	07/15/22 12:04	07/15/22 17:23
BH13	2207212-13	Water	07/15/22 12:08	07/15/22 17:23
BH14	2207212-14	Water	07/15/22 12:13	07/15/22 17:23
BH15	2207212-15	Water	07/15/22 12:16	07/15/22 17:23
BH16	2207212-16	Water	07/15/22 12:21	07/15/22 17:23
BH17	2207212-17	Water	07/15/22 12:25	07/15/22 17:23

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

S<sub>2</sub>

2207212.1

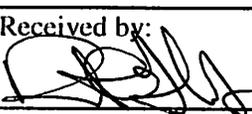
4653 Table Mountain Drive ♦ Golden, Colorado 80403  
303-277-9310

Page 1 of 2

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: Loloff 35-5<sup>st</sup> Tank Battery  
Sampler Name: Sam Anderson Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions	
					HCl	HNO <sub>3</sub>	None	Other	Water	Soil	Air-Canister #	Other	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR	TDS <sub>10</sub> , 50 <sub>y</sub>		
1	B401	7/15/22	852	4			X		X					X		X				pH, EC, SAR by saturated paste
2	B402		859																	
3	B403		905																	
4	B404		911																	
5	B405		916																	
6	B406		1030																	
7	B407		1036																	
8	B408		1040																	
9	B409		1046																	
10	B410		1049																	

Relinquished by:  Date/Time: 7/15/22 1347	Received by: Tasman's Lock Box Date/Time: 7/15/22 1347	<b>Turn Around Time (Check)</b> Same Day _____ 72 hours 24 hours _____ Standard <input checked="" type="checkbox"/> 48 hours _____ <b>Sample Integrity:</b> Temperature Upon Receipt: <u>4.1</u> Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	<b>Notes:</b>
Relinquished by: Tasman's Lock Box Date/Time: 71522 1723	Received by:  Date/Time: 71522 1723		
Relinquished by: Date/Time:	Received by: Date/Time:		

# Summit Scientific

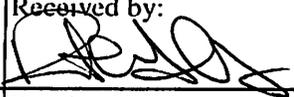
2207212.2

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

Page 2 of 2

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: Loloff 35-5, <sup>9A</sup> Tonic Battery  
Sampler Name: *San Anderson* 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)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR		TDS, Cl, SO4	
1	BH11	7/15/22	1200	4			X		X				X		X					pH, EC, SAR by saturated paste
2	BH12		1204				X						X		X					
3	BH13		1208				X						X		X					
4	BH14		1213				X						X		X					
5	BH15		1216				X						X		X					
6	BH16		1221				X						X		X					
7	BH17		1225				X						X		X					
8																				
9																				
10																				

Relinquished by: 	Date/Time: 7/15/22 1347	Received by: Tasman's Lock Box	Date/Time: 7/15/22 1347	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: 7/15/22 1723	Received by: 	Date/Time: 7/15/22 1723	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:		

S<sub>2</sub>

2/2

2207212

Sample Receipt Checklist

S2 Work Order# \_\_\_\_\_

Client: POC/Tasman Client Project ID: Loloff 35-S Tank Battery

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

-

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

Temp (°C)  Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6 °C <sup>(1)</sup> ? <b>NOTE:</b> 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 <sup>(1)</sup> ?	-			
Was adequate sample volume provided <sup>(1)</sup> ?	-			
If custody seals are present, are they intact <sup>(1)</sup> ?	-			
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 <sup>2+</sup> ), Hexavalent Chromium (Cr <sup>6+</sup> , 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 <sup>(1)</sup> ?	-			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	-			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	-			
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	-			
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>		-		
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ? Note the type of preservative in the comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.			-	
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? Record the pH in Comments.			-	
If dissolved metals are requested, were samples field filtered?			-	
Additional Comments (if any):				
<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.				

  
Custodian Printed Name

71522  
Date/Time



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

Project: Loloff 35-5 Tank Battery

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
07/22/22 12:57

**BH01**  
**2207212-01 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **07/15/22 08:52**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFG0316	07/19/22	07/20/22	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: **07/15/22 08:52**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		108 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		112 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		110 %		21-167		"	"	"	"	

**Anions by EPA Method 300.0**

Date Sampled: **07/15/22 08:52**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	<b>348</b>	12.0		mg/L	200	BFG0392	07/21/22	07/21/22	EPA 300.0	
Sulfate	<b>3130</b>	60.0		"	"	"	"	"	"	

**Total Dissolved Solids by SM2540C**

Date Sampled: **07/15/22 08:52**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Total Dissolved Solids</b>	<b>4200</b>	10.0		mg/L	1	BFG0313	07/18/22	07/18/22	SM2540C	

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: Loloff 35-5 Tank Battery

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
07/22/22 12:57

**BH02**  
**2207212-02 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **07/15/22 08:59**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFG0316	07/19/22	07/20/22	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: **07/15/22 08:59**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		102 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		108 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %		21-167		"	"	"	"	

**Anions by EPA Method 300.0**

Date Sampled: **07/15/22 08:59**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	<b>539</b>	12.0		mg/L	200	BFG0392	07/21/22	07/21/22	EPA 300.0	
Sulfate	<b>4030</b>	60.0		"	"	"	"	"	"	

**Total Dissolved Solids by SM2540C**

Date Sampled: **07/15/22 08:59**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Total Dissolved Solids</b>	<b>5160</b>	10.0		mg/L	1	BFG0313	07/18/22	07/18/22	SM2540C	

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: Loloff 35-5 Tank Battery

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
07/22/22 12:57

**BH03**  
**2207212-03 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **07/15/22 09:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFG0316	07/19/22	07/20/22	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: **07/15/22 09:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		64.7 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		114 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		112 %		21-167		"	"	"	"	

**Anions by EPA Method 300.0**

Date Sampled: **07/15/22 09:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	<b>507</b>	12.0		mg/L	200	BFG0392	07/21/22	07/21/22	EPA 300.0	
Sulfate	<b>3230</b>	60.0		"	"	"	"	"	"	

**Total Dissolved Solids by SM2540C**

Date Sampled: **07/15/22 09:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Total Dissolved Solids</b>	<b>4580</b>	10.0		mg/L	1	BFG0313	07/18/22	07/18/22	SM2540C	

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: Loloff 35-5 Tank Battery

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
07/22/22 12:57

**BH04**  
**2207212-04 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **07/15/22 09:11**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFG0316	07/19/22	07/20/22	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: **07/15/22 09:11**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		105 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		114 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %		21-167		"	"	"	"	

**Anions by EPA Method 300.0**

Date Sampled: **07/15/22 09:11**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	<b>513</b>	12.0		mg/L	200	BFG0392	07/21/22	07/21/22	EPA 300.0	
Sulfate	<b>4290</b>	60.0		"	"	"	"	"	"	

**Total Dissolved Solids by SM2540C**

Date Sampled: **07/15/22 09:11**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Total Dissolved Solids</b>	<b>5350</b>	10.0		mg/L	1	BFG0313	07/18/22	07/18/22	SM2540C	

Summit Scientific

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

Project: Loloff 35-5 Tank Battery

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
07/22/22 12:57

**BH05**  
**2207212-05 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **07/15/22 09:16**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFG0316	07/19/22	07/20/22	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: **07/15/22 09:16**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		108 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		115 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		116 %		21-167		"	"	"	"	

**Anions by EPA Method 300.0**

Date Sampled: **07/15/22 09:16**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	<b>286</b>	12.0		mg/L	200	BFG0392	07/21/22	07/21/22	EPA 300.0	
Sulfate	<b>2550</b>	60.0		"	"	"	"	"	"	

**Total Dissolved Solids by SM2540C**

Date Sampled: **07/15/22 09:16**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Total Dissolved Solids</b>	<b>3940</b>	10.0		mg/L	1	BFG0313	07/18/22	07/18/22	SM2540C	

Summit Scientific

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

Project: Loloff 35-5 Tank Battery

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
07/22/22 12:57

**BH06**  
**2207212-06 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **07/15/22 10:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFG0316	07/19/22	07/20/22	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: **07/15/22 10:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		110 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		121 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		113 %		21-167		"	"	"	"	

**Anions by EPA Method 300.0**

Date Sampled: **07/15/22 10:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	<b>697</b>	12.0		mg/L	200	BFG0392	07/21/22	07/21/22	EPA 300.0	
Sulfate	<b>3740</b>	60.0		"	"	"	"	"	"	

**Total Dissolved Solids by SM2540C**

Date Sampled: **07/15/22 10:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Total Dissolved Solids</b>	<b>5410</b>	10.0		mg/L	1	BFG0313	07/18/22	07/18/22	SM2540C	

Summit Scientific

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

Project: Loloff 35-5 Tank Battery

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
07/22/22 12:57

**BH07**  
**2207212-07 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **07/15/22 10:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFG0316	07/19/22	07/20/22	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: **07/15/22 10:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		99.8 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		115 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		115 %		21-167		"	"	"	"	

**Anions by EPA Method 300.0**

Date Sampled: **07/15/22 10:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Chloride</b>	<b>2070</b>	12.0		mg/L	200	BFG0392	07/21/22	07/21/22	EPA 300.0	
<b>Sulfate</b>	<b>9450</b>	60.0		"	"	"	"	"	"	

**Total Dissolved Solids by SM2540C**

Date Sampled: **07/15/22 10:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Total Dissolved Solids</b>	<b>12100</b>	10.0		mg/L	1	BFG0313	07/18/22	07/18/22	SM2540C	

Summit Scientific

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

Project: Loloff 35-5 Tank Battery

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
07/22/22 12:57

**BH08**  
**2207212-08 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **07/15/22 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFG0316	07/19/22	07/20/22	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: **07/15/22 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		108 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		110 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %		21-167		"	"	"	"	

**Anions by EPA Method 300.0**

Date Sampled: **07/15/22 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	<b>1350</b>	12.0		mg/L	200	BFG0392	07/21/22	07/21/22	EPA 300.0	
Sulfate	<b>6920</b>	60.0		"	"	"	"	"	"	

**Total Dissolved Solids by SM2540C**

Date Sampled: **07/15/22 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Total Dissolved Solids</b>	<b>9260</b>	10.0		mg/L	1	BFG0313	07/18/22	07/18/22	SM2540C	

Summit Scientific

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

Project: Loloff 35-5 Tank Battery

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
07/22/22 12:57

**BH09**  
**2207212-09 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **07/15/22 10:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFG0316	07/19/22	07/20/22	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: **07/15/22 10:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		98.0 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		117 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %		21-167		"	"	"	"	

**Anions by EPA Method 300.0**

Date Sampled: **07/15/22 10:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	<b>1450</b>	12.0		mg/L	200	BFG0392	07/21/22	07/21/22	EPA 300.0	
Sulfate	<b>7350</b>	60.0		"	"	"	"	"	"	

**Total Dissolved Solids by SM2540C**

Date Sampled: **07/15/22 10:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Total Dissolved Solids</b>	<b>9160</b>	10.0		mg/L	1	BFG0313	07/18/22	07/18/22	SM2540C	

Summit Scientific

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

Project: Loloff 35-5 Tank Battery

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
07/22/22 12:57

**BH10**  
**2207212-10 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **07/15/22 10:49**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFG0316	07/19/22	07/20/22	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: **07/15/22 10:49**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		109 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		117 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		118 %		21-167		"	"	"	"	

**Anions by EPA Method 300.0**

Date Sampled: **07/15/22 10:49**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	<b>2080</b>	12.0		mg/L	200	BFG0392	07/21/22	07/21/22	EPA 300.0	
Sulfate	<b>9340</b>	60.0		"	"	"	"	"	"	

**Total Dissolved Solids by SM2540C**

Date Sampled: **07/15/22 10:49**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Total Dissolved Solids</b>	<b>12000</b>	10.0		mg/L	1	BFG0313	07/18/22	07/18/22	SM2540C	

Summit Scientific

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

Project: Loloff 35-5 Tank Battery

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
07/22/22 12:57

**BH11**  
**2207212-11 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **07/15/22 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFG0316	07/19/22	07/20/22	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: **07/15/22 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		102 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		115 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		110 %		21-167		"	"	"	"	

**Anions by EPA Method 300.0**

Date Sampled: **07/15/22 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	<b>870</b>	12.0		mg/L	200	BFG0392	07/21/22	07/21/22	EPA 300.0	
Sulfate	<b>6000</b>	60.0		"	"	"	"	"	"	

**Total Dissolved Solids by SM2540C**

Date Sampled: **07/15/22 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Total Dissolved Solids</b>	<b>7460</b>	10.0		mg/L	1	BFG0313	07/18/22	07/18/22	SM2540C	

Summit Scientific

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

Project: Loloff 35-5 Tank Battery

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
07/22/22 12:57

**BH12**  
**2207212-12 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **07/15/22 12:04**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFG0316	07/19/22	07/20/22	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: **07/15/22 12:04**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		105 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		113 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %		21-167		"	"	"	"	

**Anions by EPA Method 300.0**

Date Sampled: **07/15/22 12:04**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	<b>1190</b>	12.0		mg/L	200	BFG0392	07/21/22	07/21/22	EPA 300.0	
Sulfate	<b>8790</b>	60.0		"	"	"	"	"	"	

**Total Dissolved Solids by SM2540C**

Date Sampled: **07/15/22 12:04**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Total Dissolved Solids</b>	<b>10400</b>	10.0		mg/L	1	BFG0313	07/18/22	07/18/22	SM2540C	

Summit Scientific

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

Project: Loloff 35-5 Tank Battery

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
07/22/22 12:57

**BH13**  
**2207212-13 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **07/15/22 12:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFG0316	07/19/22	07/21/22	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: **07/15/22 12:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		105 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		116 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		113 %		21-167		"	"	"	"	

**Anions by EPA Method 300.0**

Date Sampled: **07/15/22 12:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	<b>1110</b>	12.0		mg/L	200	BFG0392	07/21/22	07/21/22	EPA 300.0	
Sulfate	<b>7830</b>	60.0		"	"	"	"	"	"	

**Total Dissolved Solids by SM2540C**

Date Sampled: **07/15/22 12:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Total Dissolved Solids</b>	<b>9440</b>	10.0		mg/L	1	BFG0313	07/18/22	07/18/22	SM2540C	

Summit Scientific

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

Project: Loloff 35-5 Tank Battery

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
07/22/22 12:57

**BH14**  
**2207212-14 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **07/15/22 12:13**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFG0316	07/19/22	07/21/22	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: **07/15/22 12:13**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		98.6 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		114 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		114 %		21-167		"	"	"	"	

**Anions by EPA Method 300.0**

Date Sampled: **07/15/22 12:13**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	<b>968</b>	12.0		mg/L	200	BFG0392	07/21/22	07/21/22	EPA 300.0	
Sulfate	<b>7280</b>	60.0		"	"	"	"	"	"	

**Total Dissolved Solids by SM2540C**

Date Sampled: **07/15/22 12:13**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Total Dissolved Solids</b>	<b>9100</b>	10.0		mg/L	1	BFG0313	07/18/22	07/18/22	SM2540C	

Summit Scientific

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

Project: Loloff 35-5 Tank Battery

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
07/22/22 12:57

**BH15**  
**2207212-15 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **07/15/22 12:16**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFG0316	07/19/22	07/21/22	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: **07/15/22 12:16**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		111 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		119 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		110 %		21-167		"	"	"	"	

**Anions by EPA Method 300.0**

Date Sampled: **07/15/22 12:16**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	<b>956</b>	12.0		mg/L	200	BFG0392	07/21/22	07/21/22	EPA 300.0	
Sulfate	<b>7350</b>	60.0		"	"	"	"	"	"	

**Total Dissolved Solids by SM2540C**

Date Sampled: **07/15/22 12:16**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Total Dissolved Solids</b>	<b>8610</b>	10.0		mg/L	1	BFG0313	07/18/22	07/18/22	SM2540C	

Summit Scientific

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

Project: Loloff 35-5 Tank Battery

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
07/22/22 12:57

**BH16**  
**2207212-16 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **07/15/22 12:21**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFG0316	07/19/22	07/21/22	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: **07/15/22 12:21**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		111 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		117 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %		21-167		"	"	"	"	

**Anions by EPA Method 300.0**

Date Sampled: **07/15/22 12:21**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	<b>1330</b>	12.0		mg/L	200	BFG0392	07/21/22	07/21/22	EPA 300.0	
Sulfate	<b>8790</b>	60.0		"	"	"	"	"	"	

**Total Dissolved Solids by SM2540C**

Date Sampled: **07/15/22 12:21**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Total Dissolved Solids</b>	<b>10500</b>	10.0		mg/L	1	BFG0313	07/18/22	07/18/22	SM2540C	

Summit Scientific

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

Project: Loloff 35-5 Tank Battery

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
07/22/22 12:57

**BH17**  
**2207212-17 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **07/15/22 12:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFG0316	07/19/22	07/21/22	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: **07/15/22 12:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		104 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		119 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %		21-167		"	"	"	"	

**Anions by EPA Method 300.0**

Date Sampled: **07/15/22 12:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Chloride</b>	<b>1980</b>	12.0		mg/L	200	BFG0392	07/21/22	07/21/22	EPA 300.0	
<b>Sulfate</b>	<b>11000</b>	60.0		"	"	"	"	"	"	

**Total Dissolved Solids by SM2540C**

Date Sampled: **07/15/22 12:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Total Dissolved Solids</b>	<b>13000</b>	10.0		mg/L	1	BFG0313	07/18/22	07/18/22	SM2540C	

Summit Scientific

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

Project: Loloff 35-5 Tank Battery

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
07/22/22 12:57

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

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

#### Batch BFG0316 - EPA 5030 Water MS

##### Blank (BFG0316-BLK1)

Prepared: 07/19/22 Analyzed: 07/20/22

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	11.6		"	13.3		87.4	23-173			
Surrogate: Toluene-d8	14.0		"	13.3		105	20-170			
Surrogate: 4-Bromofluorobenzene	14.4		"	13.3		108	21-167			

##### LCS (BFG0316-BS1)

Prepared: 07/19/22 Analyzed: 07/20/22

Benzene	37.8	1.0	ug/l	41.7		90.7	51-132			
Toluene	37.7	1.0	"	41.7		90.4	51-138			
Ethylbenzene	41.0	1.0	"	41.7		98.4	58-146			
m,p-Xylene	81.2	2.0	"	83.3		97.5	57-144			
o-Xylene	39.9	1.0	"	41.7		95.7	53-146			
Naphthalene	30.2	1.0	"	41.7		72.5	70-130			
1,2,4-Trimethylbenzene	42.3	1.0	"	41.7		102	70-130			
1,3,5-Trimethylbenzene	41.9	1.0	"	41.7		101	70-130			
Surrogate: 1,2-Dichloroethane-d4	11.1		"	13.3		83.0	23-173			
Surrogate: Toluene-d8	13.9		"	13.3		104	20-170			
Surrogate: 4-Bromofluorobenzene	14.7		"	13.3		110	21-167			

##### Matrix Spike (BFG0316-MS1)

Source: 2207212-02

Prepared: 07/19/22 Analyzed: 07/20/22

Benzene	38.9	1.0	ug/l	41.7	ND	93.5	34-141			
Toluene	39.4	1.0	"	41.7	ND	94.4	27-151			
Ethylbenzene	45.6	1.0	"	41.7	ND	109	29-160			
m,p-Xylene	89.1	2.0	"	83.3	ND	107	20-166			
o-Xylene	42.2	1.0	"	41.7	ND	101	33-159			
Naphthalene	32.8	1.0	"	41.7	ND	78.6	70-130			
1,2,4-Trimethylbenzene	46.5	1.0	"	41.7	ND	112	70-130			
1,3,5-Trimethylbenzene	46.4	1.0	"	41.7	ND	111	70-130			
Surrogate: 1,2-Dichloroethane-d4	10.6		"	13.3		79.9	23-173			
Surrogate: Toluene-d8	13.9		"	13.3		104	20-170			
Surrogate: 4-Bromofluorobenzene	14.5		"	13.3		109	21-167			

Summit Scientific

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

Project: Loloff 35-5 Tank Battery

Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 07/22/22 12:57

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Summit Scientific**

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

**Batch BFG0316 - EPA 5030 Water MS**

Matrix Spike Dup (BFG0316-MSD1)	Source: 2207212-02			Prepared: 07/19/22 Analyzed: 07/20/22							
Benzene	40.8	1.0	ug/l	41.7	ND	98.0	34-141	4.74	30		
Toluene	41.4	1.0	"	41.7	ND	99.2	27-151	4.96	30		
Ethylbenzene	45.4	1.0	"	41.7	ND	109	29-160	0.439	30		
m,p-Xylene	90.0	2.0	"	83.3	ND	108	20-166	1.02	30		
o-Xylene	41.8	1.0	"	41.7	ND	100	33-159	0.858	30		
Naphthalene	32.7	1.0	"	41.7	ND	78.4	70-130	0.275	30		
1,2,4-Trimethylbenzene	47.1	1.0	"	41.7	ND	113	70-130	1.28	30		
1,3,5-Trimethylbenzene	47.1	1.0	"	41.7	ND	113	70-130	1.46	30		
Surrogate: 1,2-Dichloroethane-d4	11.3		"	13.3		84.5	23-173				
Surrogate: Toluene-d8	14.3		"	13.3		107	20-170				
Surrogate: 4-Bromofluorobenzene	14.7		"	13.3		110	21-167				

Summit Scientific

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

Project: Loloff 35-5 Tank Battery

Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 07/22/22 12:57

**Anions by EPA Method 300.0 - Quality Control**  
**Summit Scientific**

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

**Batch BFG0392 - General Preparation**

**Blank (BFG0392-BLK1)**

Prepared & Analyzed: 07/21/22

Chloride	ND	0.0600	mg/L						
Sulfate	ND	0.300	"						

**LCS (BFG0392-BS1)**

Prepared & Analyzed: 07/21/22

Chloride	3.32	0.0600	mg/L	3.00	110	90-110		
Sulfate	15.4	0.300	"	15.0	102	90-110		

**Duplicate (BFG0392-DUP1)**

Source: 2207212-01

Prepared & Analyzed: 07/21/22

Chloride	351	12.0	mg/L		348		0.744	20
Sulfate	3240	60.0	"		3130		3.45	20

**Matrix Spike (BFG0392-MS1)**

Source: 2207212-01

Prepared & Analyzed: 07/21/22

Chloride	984	12.0	mg/L	600	348	106	80-120	
Sulfate	6520	60.0	"	3000	3130	113	80-120	

Summit Scientific

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

Project: Loloff 35-5 Tank Battery

Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 07/22/22 12:57

**Total Dissolved Solids by SM2540C - Quality Control**  
**Summit Scientific**

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

**Batch BFG0313 - General Preparation**

**Blank (BFG0313-BLK1)**

Prepared & Analyzed: 07/18/22

Total Dissolved Solids                      ND                      10.0                      mg/L

**Duplicate (BFG0313-DUP1)**

**Source: 2207212-01**

Prepared & Analyzed: 07/18/22

Total Dissolved Solids                      4210                      10.0                      mg/L                      4200                      0.190                      20

Summit Scientific

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

Project: Loloff 35-5 Tank Battery

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
07/22/22 12:57

### 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