



PDC Energy, Inc.
Second Quarter 2023 Groundwater Monitoring Summary

May 19, 2023

Former Eckhardt 43-34 Wellhead
NESE Section 34 T5N R64W
Remediation # 21647

This groundwater monitoring summary has been prepared by Tasman, Inc. for the former Eckhardt 43-34 wellhead.

Site History and Background

On March 11, 2022, a historic hydrocarbon release was discovered adjacent to the former wellhead during decommissioning activities. Following the discovery, mitigation activities were initiated and approximately 8 cubic yards of impacted material were removed from location. During excavation activities, groundwater was encountered within the excavation at approximately 6.5 feet below ground surface (bgs). On October 10, 2022, five monitoring wells (BH01 – BH05) were installed to confirm the absence of dissolved-phase hydrocarbon impacts within and adjacent to the former excavation extent. Per the approved Supplemental Form 27 (Document No. 403221432), chloride and sulfate anions and TDS were removed from the quarterly sampling and analysis plan following the fourth quarter 2022.

Supplemental Site Investigation Activities

On March 29, 2023, nine soil borings (SB01 – SB09) were advanced to approximately 7 feet and 10 feet bgs to vertically and horizontally delineate arsenic and lead exceedances recorded during excavation activities. Volatile organic concentrations (VOC) using a photoionization detector (PID) and lithologic descriptions were recorded for each borehole. Forty-two (42) soil samples were collected from the soil borings at depths ranging from 4 feet to 10 feet bgs and were submitted to Summit Scientific Laboratory (Summit) for analysis of arsenic and lead.

Soil analytical results indicated that arsenic and/or lead concentrations were in exceedance of the applicable COGCC Table 915-1 regulatory standards in 36 sample locations. Soil boring locations are illustrated on Figure 1. Soil analytical results are summarized in Table 1. GPS coordinates and field observed VOC concentrations are summarized in Table 2. The laboratory analytical report is included in Attachment A. Soil boring logs are included in Attachment B.

Groundwater Monitoring Activities

On April 19, 2023, groundwater monitoring was conducted at all five monitoring wells (BH01 – BH05). Five groundwater samples were submitted to 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.

Second quarter 2023 analytical results indicated that organic compound concentrations were in compliance with the applicable COGCC Table 915-1 groundwater standards in all five monitoring well locations. Sample locations and corresponding analytical results are illustrated on Figure 2. Groundwater elevation data is illustrated on Figure 3. Groundwater analytical results are summarized in Table 3. The laboratory analytical report is included in Attachment A.

Current Remediation Activities and Path Forward

Monitored natural attenuation (MNA) was selected as the remediation strategy for this site during the fourth quarter 2022 and will remain the selected remediation strategy through the third quarter 2023.

Based on the soil analytical results received during March 2023 supplemental site investigation activities, further delineation is necessary to vertically and horizontally define the arsenic and lead exceedance on location. The proposed soil boring locations are illustrated on Figure 4.

Third quarter 2023 groundwater sampling will be conducted in July 2023.



DATE:	June 6, 2023
DESIGNED BY:	C. Hamlin
DRAWN BY:	J. Marcus

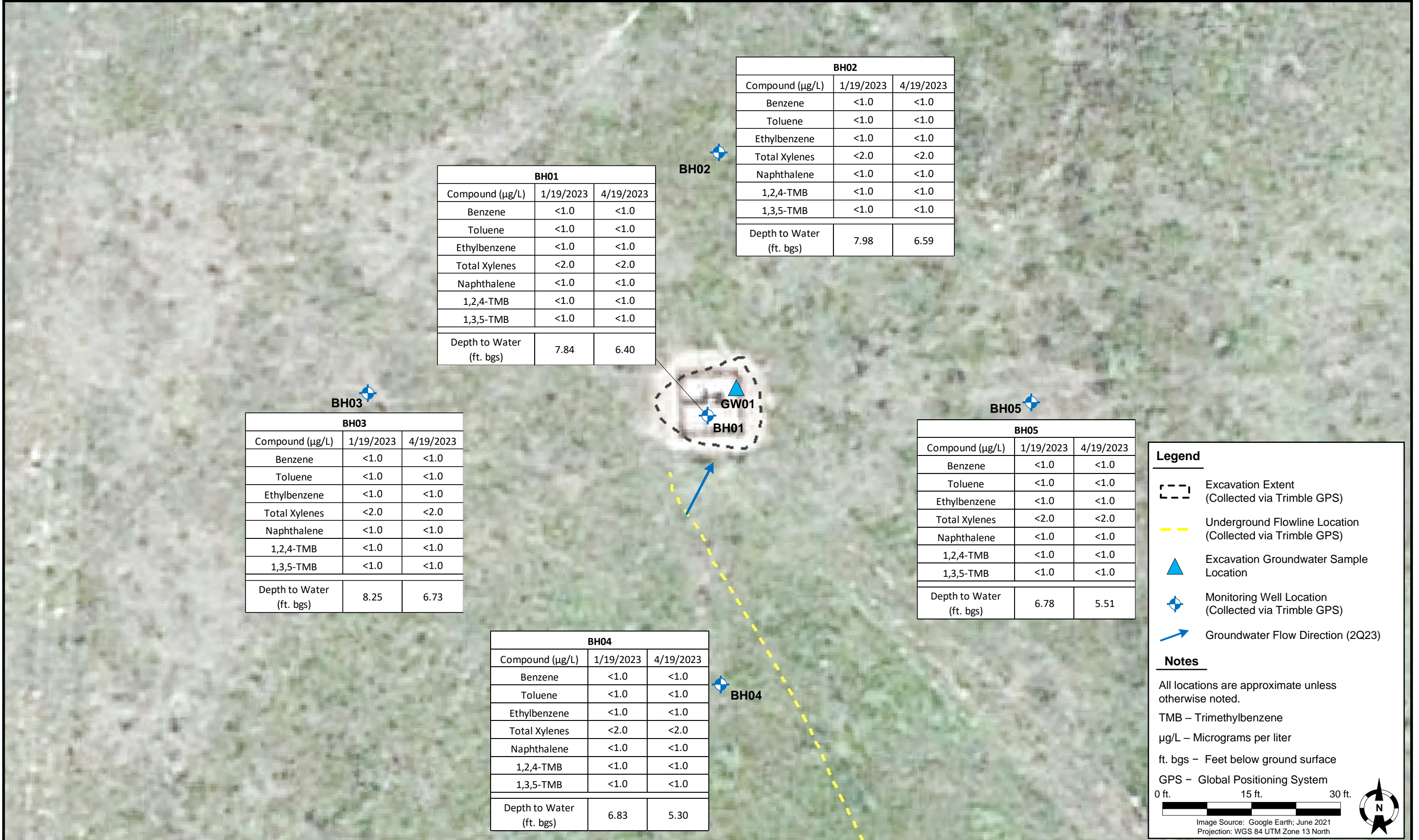
**TASMAN**

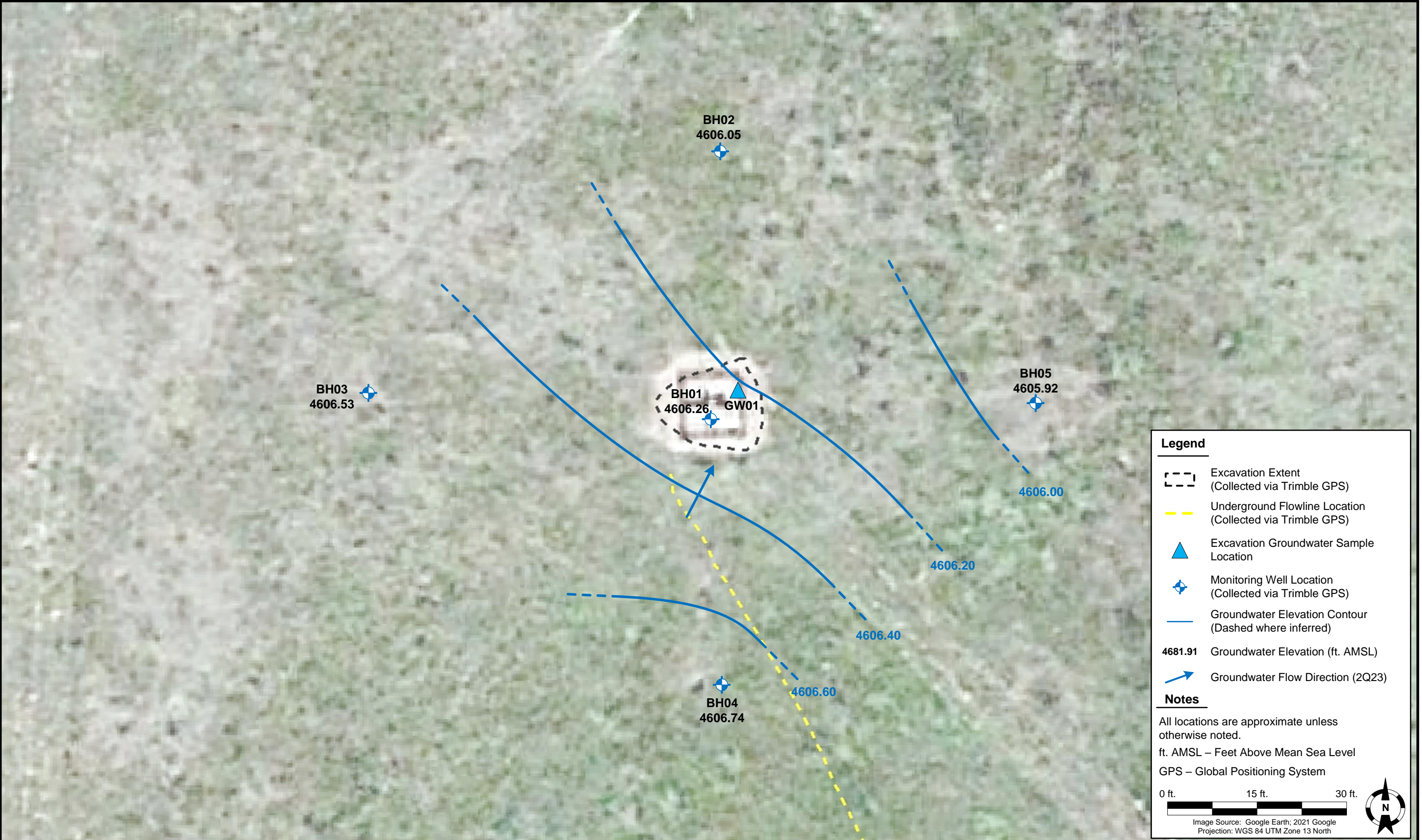
Tasman, Inc.
6855 W. 119th Ave.
Broomfield, CO 80020

PDC Energy, Inc. – DJ Basin
Former Eckhardt 43-34 Wellhead
NESE, Section 34, Township 5 North, Range 64 West
Weld County, Colorado

**SOIL BORING
LOCATION MAP**

**FIGURE
1**





DATE:	May 4, 2023
DESIGNED BY:	C. Hamlin
DRAWN BY:	L. Reed

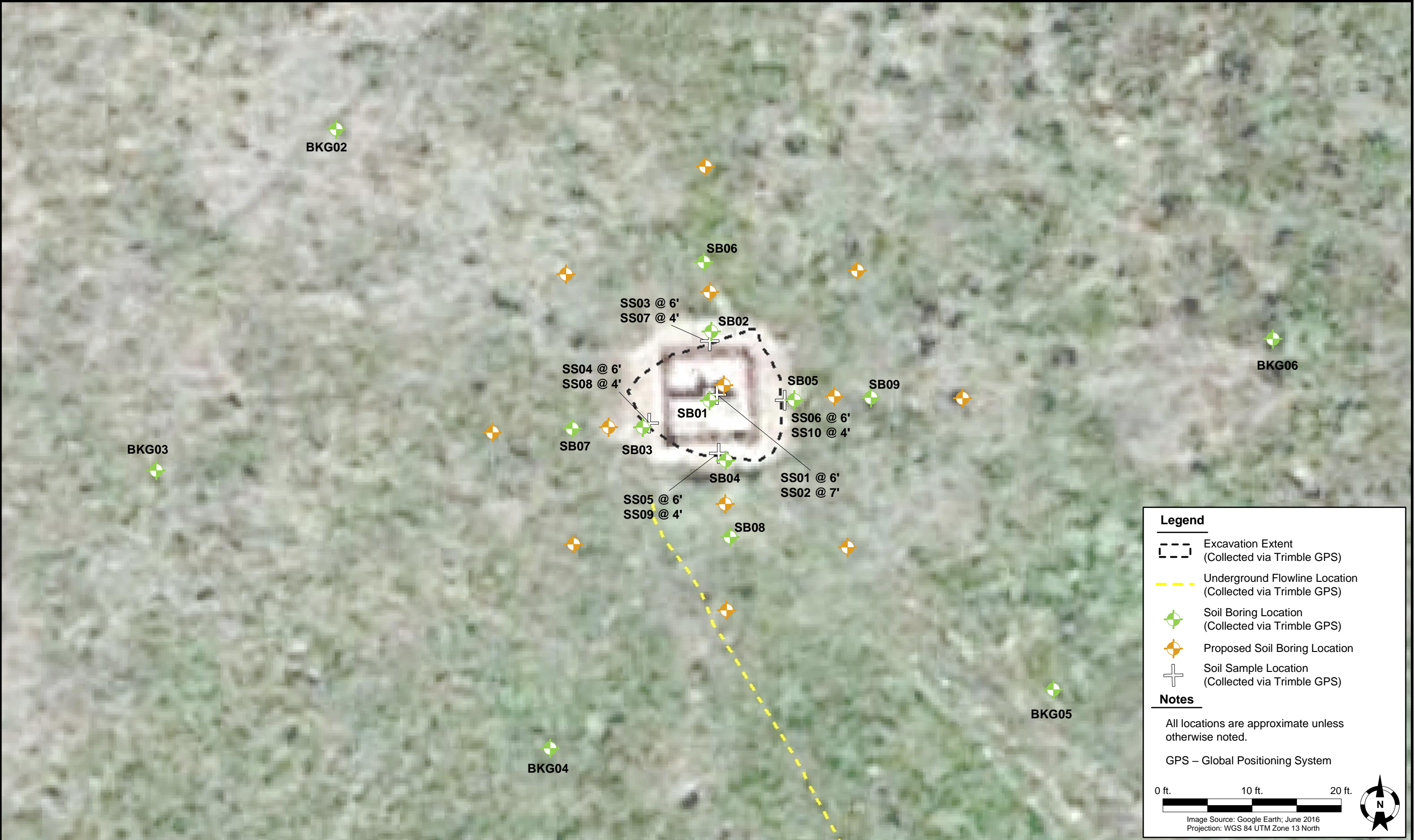


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Weld County, Colorado

**GROUNDWATER
ELEVATION CONTOUR
MAP (04/19/2023)**

**FIGURE
3**



DATE:	June 6, 2023
DESIGNED BY:	C. Hamlin
DRAWN BY:	J. Marcus



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Weld County, Colorado

**PROPOSED
SOIL BORING
LOCATION MAP**

**FIGURE
4**

Sample ID	Date Sampled	Depth	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1, 2, 4-TMB (mg/kg)	1, 3, 5-TMB (mg/kg)	Naphthalene (mg/kg)	TPH ⁽⁴⁾ (mg/kg)	Arsenic ⁽⁵⁾ (mg/kg)	Lead ⁽⁶⁾ (mg/kg)
Residential SSL ^(1,2)			1.2	490	5.8	58	30	27	2	500	0.68	400
Protection of Groundwater SSL ^(1,2,3)			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500	0.29	14
SS01 @ 6'	3/11/2022	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	1.4	11.0	15.5
SS02 @ 7'	3/11/2022	7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	10.5	15.2
SS03 @ 6'	3/11/2022	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	10.6	12.0
SS04 @ 6'	3/11/2022	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	9.83	15.4
SS05 @ 6'	3/11/2022	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	8.71	13.7
SS06 @ 6'	3/11/2022	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	14.2	14.9
SS07 @ 4'	3/11/2022	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	3.81	5.76
SS08 @ 4'	3/11/2022	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	53	3.53	7.08
SS09 @ 4'	3/11/2022	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	3.63	6.34
SS10 @ 4'	3/11/2022	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	7.59	9.66
FLR01 @ 4'	3/11/2022	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	NA	NA
FL01-01 @ 4'	3/11/2022	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	NA	NA
FL01-02 @ 4'	3/11/2022	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	NA	NA
FL01-03 @ 4'	3/11/2022	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	NA	NA
SB01 @ 7'	3/29/2023	7 ft. bgs	NA	NA	NA	NA	NA	NA	NA	NA	5.62	10.7
SB01 @ 8'	3/29/2023	8 ft. bgs	NA	NA	NA	NA	NA	NA	NA	NA	8.80	19.7
SB01 @ 9'	3/29/2023	9 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	3.14	<0.200
SB01 @ 10'	3/29/2023	10 ft. bgs	NA	NA	NA	NA	NA	NA	NA	NA	12.0	17.1
SB02 @ 4'	3/29/2023	4 ft. bgs	NA	NA	NA	NA	NA	NA	NA	NA	2.81	4.90
SB02 @ 6'	3/29/2023	6 ft. bgs	NA	NA	NA	NA	NA	NA	NA	NA	10.7	13.2
SB02 @ 7'	3/29/2023	7 ft. bgs	NA	NA	NA	NA	NA	NA	NA	NA	13.2	15.2
SB02 @ 8'	3/29/2023	8 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	12.5	18.1
SB02@10'	3/29/2023	10 ft. bgs	NA	NA	NA	NA	NA	NA	NA	NA	7.05	10.7
SB03 @ 4'	3/29/2023	4 ft. bgs	NA	NA	NA	NA	NA	NA	NA	NA	6.41	10.5
SB03 @ 6'	3/29/2023	6 ft. bgs	NA	NA	NA	NA	NA	NA	NA	NA	5.83	10.8
SB03 @ 7'	3/29/2023	7 ft. bgs	NA	NA	NA	NA	NA	NA	NA	NA	11.4	15.2
SB03 @ 8'	3/29/2023	8 ft. bgs	NA	NA	NA	NA	NA	NA	NA	NA	12.0	16.4
SB03 @ 10'	3/29/2023	10 ft. bgs	NA	NA	NA							

TABLE 1
FORMER ECKHARDT 43-34 WELLHEAD
SOIL ANALYTICAL RESULTS SUMMARY TABLE
CONTAMINANTS OF CONCERN

Sample ID	Date Sampled	Depth	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1, 2, 4-TMB (mg/kg)	1, 3, 5-TMB (mg/kg)	Naphthalene (mg/kg)	TPH ⁽⁴⁾ (mg/kg)	Arsenic ⁽⁵⁾ (mg/kg)	Lead ⁽⁶⁾ (mg/kg)
Residential SSL ^(1,2)			1.2	490	5.8	58	30	27	2	500	0.68	400
Protection of Groundwater SSL ^(1,2,3)			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500	0.29	14
BKG03 @ 2.5'	10/10/2022	2.5 ft. bgs	NA	NA	NA	NA	NA	NA	NA	NA	0.787	4.70
BKG03 @ 4'	10/10/2022	4 ft. bgs	NA	NA	NA	NA	NA	NA	NA	NA	0.606	3.31
BKG03 @ 6'	10/10/2022	6 ft. bgs	NA	NA	NA	NA	NA	NA	NA	NA	1.84	9.28
BKG03 @ 7'	10/10/2022	7 ft. bgs	NA	NA	NA	NA	NA	NA	NA	NA	3.44	14.2
BKG04 @ 2.5'	10/10/2022	2.5 ft. bgs	NA	NA	NA	NA	NA	NA	NA	NA	0.585	3.52
BKG04 @ 4'	10/10/2022	4 ft. bgs	NA	NA	NA	NA	NA	NA	NA	NA	0.795	3.77
BKG04 @ 6'	10/10/2022	6 ft. bgs	NA	NA	NA	NA	NA	NA	NA	NA	3.07	11.3
BKG04 @ 7'	10/10/2022	7 ft. bgs	NA	NA	NA	NA	NA	NA	NA	NA	2.43	10.4
BKG05 @ 2.5'	10/10/2022	2.5 ft. bgs	NA	NA	NA	NA	NA	NA	NA	NA	0.572	3.47
BKG05 @ 4'	10/10/2022	4 ft. bgs	NA	NA	NA	NA	NA	NA	NA	NA	1.02	6.16
BKG05 @ 6'	10/10/2022	6 ft. bgs	NA	NA	NA	NA	NA	NA	NA	NA	2.50	12.1
BKG05 @ 7'	10/10/2022	7 ft. bgs	NA	NA	NA	NA	NA	NA	NA	NA	2.76	11.1
BKG06 @ 2.5'	10/10/2022	2.5 ft. bgs	NA	NA	NA	NA	NA	NA	NA	NA	2.73	11.6
BKG06 @ 4'	10/10/2022	4 ft. bgs	NA	NA	NA	NA	NA	NA	NA	NA	1.89	7.78
BKG06 @ 6'	10/10/2022	6 ft. bgs	NA	NA	NA	NA	NA	NA	NA	NA	2.73	12.6
BKG06 @ 7'	10/10/2022	7 ft. bgs	NA	NA	NA	NA	NA	NA	NA	NA	2.37	11.4
Notes:							Mean Metal Concentration			2.18		
							Mean Metal Concentration x1.25			2.72		

1. Compounds referenced from the COGCC 2 CCR 404-1, Table 915-1, effective January 15, 2021.
2. Soil Screening Levels (SSL) referenced from EPA Regional Screening Levels (EPA RSLs) for Chemical Contaminants at Superfund Sites, effective November 2020.
3. SSLs are applicable if a pathway for communication with groundwater is present.
4. Value calculated by adding TVPH-GRO, TEPH-DRO, and TEPH-ORO concentrations.
5. Mean arsenic concentration used to compare to confirmation soil samples is 2.18 mg/kg (x1.25 = 2.72 mg/kg).
6. Mean lead concentration used to compare to confirmation soil samples is 7.89 mg/kg (x1.25 = 9.86 mg/kg).

COGCC = Colorado Oil and Gas Conservation Commission
(<) = Analytical result is less than the indicated laboratory reporting limit.
TPH-GRO = Total petroleum hydrocarbons - gasoline range organics
TPH-DRO = Total petroleum hydrocarbons - diesel range organics
TPH-ORO = Total petroleum hydrocarbons - oil range organics
mg/kg = Milligrams per kilogram
TMB = Trimethylbenzene
ft. = Feet

 = Source material characterization sample
bgs = Below ground surface
BOLD = Analytical result is in exceedance of applicable standard, but within 1.25x background concentration.
BOLD = Analytical result is in exceedance of applicable standard.
NA = Constituent not analyzed

TABLE 2
FORMER ECKHARDT 43-34 WELLHEAD
FIELD DATA SUMMARY TABLE

Sample ID	Date Sampled	Depth	GPS Data ⁽¹⁾ Latitude / Longitude		PDOP Value	VOC Concentration ⁽²⁾ (ppm)
SS01 @ 6'	3/11/2022	6 ft. bgs	40.354041	-104.528642	1.1	57.8
SS02 @ 7'	3/11/2022	7 ft. bgs	40.354041	-104.528642	1.1	0.6
SS03 @ 6'	3/11/2022	6 ft. bgs	40.354053	-104.528645	1.3	0.0
SS04 @ 6'	3/11/2022	6 ft. bgs	40.354034	-104.528655	1.1	0.0
SS05 @ 6'	3/11/2022	6 ft. bgs	40.354026	-104.528650	1.2	0.0
SS06 @ 6'	3/11/2022	6 ft. bgs	40.354034	-104.528635	1.2	0.0
SS07 @ 4'	3/11/2022	4 ft. bgs	40.354053	-104.528645	1.3	0.0
SS08 @ 4'	3/11/2022	4 ft. bgs	40.354034	-104.528655	1.1	0.0
SS09 @ 4'	3/11/2022	4 ft. bgs	40.354026	-104.528650	1.2	0.0
SS10 @ 4'	3/11/2022	4 ft. bgs	40.354034	-104.528635	1.2	0.0
SS11 @ 2.5'	3/11/2022	2.5 ft. bgs	40.354053	-104.528645	1.3	0.0
WHS01-N @ 0-6"	3/11/2022	0-6 in. bgs	40.354066	-104.528660	1.0	0.0
WHS01-W @ 0-6"	3/11/2022	0-6 in. bgs	40.354003	-104.528717	0.9	0.0
WHS01-S @ 0-6"	3/11/2022	0-6 in. bgs	40.353979	-104.528639	1.1	0.0
WHS01-E @ 0-6"	3/11/2022	0-6 in. bgs	40.354054	-104.528595	0.9	0.0
FLR01 @ 4'	3/11/2022	4 ft. bgs	40.354028	-104.528662	1.0	0.0
FL01-01 @ 4'	3/11/2022	4 ft. bgs	40.352483	-104.527661	1.1	0.0
FL01-02 @ 4'	3/11/2022	4 ft. bgs	40.352416	-104.527603	0.9	0.0
FL01-03 @ 4'	3/11/2022	4 ft. bgs	40.352297	-104.527532	0.9	0.0
BKG01	3/11/2022	6 ft. bgs	40.354093	-104.528570	1.1	0.0
BKG02	10/10/2022	7 ft. bgs	40.354127	-104.528799	NC	0.4
BKG03	10/10/2022	7 ft. bgs	40.354017	-104.528876	NC	0.1
BKG04	10/10/2022	7 ft. bgs	40.353927	-104.528716	NC	0.1
BKG05	10/10/2022	7 ft. bgs	40.353946	-104.528501	NC	0.1
BKG06	10/10/2022	7 ft. bgs	40.354056	-104.528407	NC	0.0
SB01	3/29/2023	10 ft. bgs	40.354038	-104.528645	NC	0.4
SB02	3/29/2023	10 ft. bgs	40.354061	-104.528643	NC	45.4
SB03	3/29/2023	10 ft. bgs	40.354029	-104.528673	NC	1.3
SB04	3/29/2023	10 ft. bgs	40.354019	-104.528636	NC	0.1
SB05	3/29/2023	10 ft. bgs	40.354039	-104.528608	NC	0.8
SB06	3/29/2023	10 ft. bgs	40.354083	-104.528643	NC	0.1
SB07	3/29/2023	10 ft. bgs	40.354030	-104.528703	NC	0.1
SB08	3/29/2023	10 ft. bgs	40.353996	-104.528637	NC	0.9
SB09	3/29/2023	7 ft. bgs	40.354039	-104.528576	NC	0.2

TABLE 2
FORMER ECKHARDT 43-34 WELLHEAD
FIELD DATA SUMMARY TABLE

Sample ID	Date Sampled	Depth	GPS Data ⁽¹⁾ Latitude / Longitude	PDOP Value	VOC Concentration ⁽²⁾ (ppm)
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Notes:

- 1. Global Positioning System (GPS) data is provided in decimal degrees using World Geodetic System (WGS) 84 UTM Zone 13 North.
- 2. Volatile organic compound (VOC) concentrations are measured in the field using a photoionization detector (PID).

PDOP = Position Dilution of Precision

ppm = Parts per million

ft. = Feet

in. = Inches

bgs = Below ground surface

NC = Data not collected

 = Source material characterization sample

TABLE 3
FORMER ECKHARDT 43-34 WELLHEAD
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	-	-
GW01	3/11/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	~6.5	NA
BH01	10/21/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	9.10	4603.56
BH01	1/19/2023	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	7.84	4604.82
BH01	4/19/2023	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	6.40	4606.26
BH02	10/21/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	9.07	4603.57
BH02	1/19/2023	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	7.98	4604.66
BH02	4/19/2023	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	6.59	4606.05
BH03	10/21/2022	Dry - Not Sampled							Dry	Dry
BH03	1/19/2023	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	8.25	4605.01
BH03	4/19/2023	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	6.73	4606.53
BH04	10/21/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	8.20	4603.84
BH04	1/19/2023	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	6.83	4605.21
BH04	4/19/2023	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	5.30	4606.74
BH05	10/21/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	7.91	4603.52
BH05	1/19/2023	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	6.78	4604.65
BH05	4/19/2023	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	5.51	4605.92

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

AMSL = Above Mean Sea Level

NA = Not applicable

Attachment A

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 02, 2023

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Eckhardt 43-34 Wellhead

Work Order #2303710

Enclosed are the results of analyses for samples received by Summit Scientific on 03/29/23 17:43. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott Sheely".

Scott Sheely For Paul Shrewsbury
President



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

Project: Eckhardt 43-34 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB01@7'	2303710-01	Soil	03/29/23 10:30	03/29/23 17:43
SB01@8'	2303710-02	Soil	03/29/23 10:35	03/29/23 17:43
SB01@9'	2303710-03	Soil	03/29/23 10:40	03/29/23 17:43
SB01@10'	2303710-04	Soil	03/29/23 10:45	03/29/23 17:43
SB02@4'	2303710-05	Soil	03/29/23 10:23	03/29/23 17:43
SB02@6'	2303710-06	Soil	03/29/23 10:29	03/29/23 17:43
SB02@7'	2303710-07	Soil	03/29/23 10:34	03/29/23 17:43
SB02@8'	2303710-08	Soil	03/29/23 10:36	03/29/23 17:43
SB02@10'	2303710-09	Soil	03/29/23 10:41	03/29/23 17:43
SB03@4'	2303710-10	Soil	03/29/23 10:58	03/29/23 17:43
SB03@6'	2303710-11	Soil	03/29/23 11:02	03/29/23 17:43
SB03@7'	2303710-12	Soil	03/29/23 11:06	03/29/23 17:43
SB03@8'	2303710-13	Soil	03/29/23 11:09	03/29/23 17:43
SB03@10'	2303710-14	Soil	03/29/23 11:14	03/29/23 17:43
SB04@4'	2303710-15	Soil	03/29/23 11:32	03/29/23 17:43
SB04@6'	2303710-16	Soil	03/29/23 11:41	03/29/23 17:43
SB04@7'	2303710-17	Soil	03/29/23 11:47	03/29/23 17:43
SB04@8'	2303710-18	Soil	03/29/23 11:51	03/29/23 17:43
SB04@10'	2303710-19	Soil	03/29/23 11:58	03/29/23 17:43
SB05@4'	2303710-20	Soil	03/29/23 11:34	03/29/23 17:43
SB05@6'	2303710-21	Soil	03/29/23 11:39	03/29/23 17:43
SB05@7'	2303710-22	Soil	03/29/23 11:41	03/29/23 17:43
SB05@8'	2303710-23	Soil	03/29/23 11:45	03/29/23 17:43
SB05@10'	2303710-24	Soil	03/29/23 11:49	03/29/23 17:43
SB06@4'	2303710-25	Soil	03/29/23 12:12	03/29/23 17:43
SB06@6'	2303710-26	Soil	03/29/23 12:16	03/29/23 17:43
SB06@7'	2303710-27	Soil	03/29/23 12:20	03/29/23 17:43

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: Eckhardt 43-34 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB06@8'	2303710-28	Soil	03/29/23 12:24	03/29/23 17:43
SB06@10'	2303710-29	Soil	03/29/23 12:30	03/29/23 17:43
SB07@4'	2303710-30	Soil	03/29/23 13:00	03/29/23 17:43
SB07@6'	2303710-31	Soil	03/29/23 13:03	03/29/23 17:43
SB07@7'	2303710-32	Soil	03/29/23 13:05	03/29/23 17:43
SB07@8'	2303710-33	Soil	03/29/23 13:10	03/29/23 17:43
SB07@10'	2303710-34	Soil	03/29/23 13:13	03/29/23 17:43
SB08@4'	2303710-35	Soil	03/29/23 12:42	03/29/23 17:43
SB08@6'	2303710-36	Soil	03/29/23 12:46	03/29/23 17:43
SB08@7'	2303710-37	Soil	03/29/23 12:48	03/29/23 17:43
SB08@8'	2303710-38	Soil	03/29/23 12:53	03/29/23 17:43
SB08@10'	2303710-39	Soil	03/29/23 12:58	03/29/23 17:43
SB09@4'	2303710-40	Soil	03/29/23 10:20	03/29/23 17:43
SB09@6'	2303710-41	Soil	03/29/23 10:25	03/29/23 17:43
SB09@7'	2303710-42	Soil	03/29/23 10:28	03/29/23 17:43

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.

Client: PDC / Tasman		Send Data To: Project Manager: Mark Longhurst		Send Invoice To: Company: PDC Energy	
Address: 6855 W 119th Ave		E-Mail: mark.longhurst@PDCE.com		Project Name/Location:	
City/State/Zip: Broomfield / CO / 80220				AFE#:	
Phone: 303-487-1228		Project Name: <u>Exhaust 43-34 wellhead</u>		PO/Billing Codes:	
Sampler Name: <u>S. Anderson</u>		Project Number:		Contact: Mark Longhurst	

					Preservative				Matrix			Analysis Requested								Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	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	PAHs	Metals	Arsenic only	on HOLD
1	SB01 e 7'	3/29/23	1030	4			X			X									X		
2	SB01 e 8'		1035	4															X		
3	SB01 e 9'		1040	3									X	X	X				X		
4	SB01 e 10'		1045	3															X		
5	SB02 e 4'		1023	1															X		
6	SB02 e 6'		1024	1															X		
7	SB02 e 7'		1034	1																X	
8	SB02 e 8'		1036	3									X	X	X				X		
9	SB02 e 10'		1041	3																	X
10	SB03 e 4'		1055	1															X		
11	SB03 e 6'		1102	1															X		
12	SB03 e 7'		1106	1															X	X	
13	SB03 e 8'		1109	1																	X
14	SB03 e 10'		1114	1																	X
15	SB04 e 4'		1132	1															X		

Relinquished by: <u>[Signature]</u>	Date/Time: 3/29/23 1528	Received by: <u>Tasman Lockbox</u>	Date/Time: 3/29/23 1528	TAT Business Days	Field DO	Notes: X = Arsenic and Lead only
				Same Day	Field EC	
Relinquished by: <u>Tasman Lockbox</u>	Date/Time: 3/29/23 1743	Received by: <u>[Signature]</u>	Date/Time: 3/29/23 1743	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	X Field Turb.	
Temperature Upon Receipt: 9.2	Corrected Temperature: <u>9</u>	IR gun #: _____	HNO3 lot #: _____			

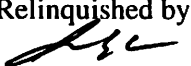
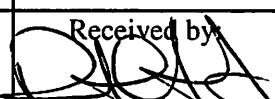
Client: PDC / Tasman		Send Data To: Project Manager: Mark Longhurst		Send Invoice To: Company: PDC Energy	
Address: 6855 W 119th Ave		E-Mail: mark.longhurst@PDCE.com		Project Name/Location:	
City/State/Zip: Broomfield / CO / 80220				AFE#:	
Phone: 303-487-1228		Project Name: Edwards 43-34 wellhead		PO/Billing Codes:	
Sampler Name: S. Anderson		Project Number:		Contact: Mark Longhurst	

					Preservative				Matrix			Analysis Requested										Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	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	PAHs	Metals *	Assemic only	ON HOLD		
1	SB04 e 6'	3/29/23	1147	1			X			X									X				
2	SB04 e 7'		1147	1																X			
3	SB04 e 6'		1151	1																	X		
4	SB04 e 10'		1158	1																	X		
5	SB05 e 4'		1134	1															X				
6	SB05 e 6'		1139	1															X				
7	SB05 e 7'		1141	1															X				
8	SB05 e 8'		1145	1																	X		
9	SB05 e 10'		1149	1																	X		
10	SB06 e 4'		1212	1																	X		
11	SB06 e 6'		1216	1																X			
12	SB06 e 7'		1220	1																	X		
13	SB06 e 8'		1224	1																	X		
14	SB06 e 10'		1230	1																	X		
15	SB07 e 4'		1200	1																	X		

Relinquished by:	Date/Time: 3/29/23 1528	Received by:	Date/Time: 3/29/23 1528	TAT Business Days	Field DO	Notes: * Assemic and Lab only
				Same Day	Field EC	
Relinquished by:	Date/Time: 3/29/23 1743	Received by:	Date/Time: 3/29/23 1743	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	X Field Turb.	
Temperature Upon Receipt: 9.2		Corrected Temperature:		IR gun #: 1		HNO3 lot #:

Client: PDC / Tasman		Send Data To: Project Manager: Mark Longhurst		Send Invoice To: Company: PDC Energy	
Address: 6855 W 119th Ave		E-Mail: mark.longhurst@PDCE.com		Project Name/Location:	
City/State/Zip: Broomfield / CO / 80220				AFE#:	
Phone: 303-487-1228		Project Name: Eckhardt 93-34 wellhead		PO/Billing Codes:	
Sampler Name: S. Anderson		Project Number:		Contact: Mark Longhurst	

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	PAHs	Metals &	Acetic only	on hold		
1	SB07 e 6'	3/24/23	1303	1			X			X								X					
2	SB07 e 7'	↓	1305	1															X				
3	SB07 e 8'		1310	1															X				
4	SB07 e 10'		1313	1															X				
5	SB08 e 4'		1242	1															X				
6	SB08 e 6'		1246	1														X					
7	SB08 e 7'		1248	1															X				
8	SB08 e 8'		1253	1															X				
9	SB08 e 10'		1258	1															X				
10	SB09 e 4'		1020	1														X					
11	SB09 e 6'		1025	1													X						
12	SB09 e 7'	↓	1028	1														X					
13																							
14																							
15																							

Relinquished by: 	Date/Time: 3/29/23 1528	Received by: Tasman Lockbox	Date/Time: 3/29/23 1528	TAT Business Days	Field DO	Notes: As = Arsenic / Lead only
				Same Day <input checked="" type="checkbox"/>	Field EC	
Relinquished by: Tasman Lockbox	Date/Time: 3/29/23 1743	Received by: 	Date/Time: 3/29/23 1743	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	<input checked="" type="checkbox"/> Field Turb.	
Temperature Upon Receipt: 9.2		Corrected Temperature: 6		IR gun #: 1	HNO3 lot #:	

S₂

3/3

Sample Receipt Checklist

S2 Work Order# 23037110Client: Bojzmann Client Project ID: Eckhardt 43-34 wellheadShipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: ☐
☐ ☐ ☐ ☐ ☐
Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 9.2Thermometer # 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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>on ICE</u>
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<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"/>	
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>sent extra sample</u>
Do the sample IDs on the bottle labels match the COC? ⁽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, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<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.

AR

Custodian Printed Name

3/29/23
Date/Time



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

Project: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB01@7'
2303710-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 10:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	5.62	0.200	mg/kg dry	1	BGD0030	04/03/23	04/04/23	EPA 6020B	
Lead	10.7	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 10:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	92.8		%	1	BGD0033	04/03/23	04/03/23	Calculation	

Summit Scientific

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

Project: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB01@8'
2303710-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 10:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	8.80	0.200	mg/kg dry	1	BGD0030	04/03/23	04/04/23	EPA 6020B	
Lead	19.7	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 10:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	93.6		%	1	BGD0033	04/03/23	04/03/23	Calculation	

Summit Scientific

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

Project: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB01@9'
2303710-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/29/23 10:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGC1046	03/31/23	04/01/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/29/23 10:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0399	99.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0406	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0430	108 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/29/23 10:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGC1049	03/31/23	04/01/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/29/23 10:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.42	67.3 %	30-150		"	"	"	"	

Total Metals by EPA 6020B

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB01@9'
2303710-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	3.14	0.200		mg/kg dry	1	BGD0030	04/03/23	04/04/23	EPA 6020B	
Lead	ND	0.200		"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	92.3			%	1	BGD0033	04/03/23	04/03/23	Calculation	

Summit Scientific

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

Project: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB01@10'
2303710-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 10:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	12.0	0.200	mg/kg dry	1	BGD0030	04/03/23	04/04/23	EPA 6020B	
Lead	17.1	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 10:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	92.2		%	1	BGD0033	04/03/23	04/03/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB02@4'
2303710-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 10:23**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	2.81	0.200		mg/kg dry	1	BGD0030	04/03/23	04/04/23	EPA 6020B	
Lead	4.90	0.200		"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 10:23**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	92.3			%	1	BGD0033	04/03/23	04/03/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB02@6'
2303710-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 10:29**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	10.7	0.200	mg/kg dry	1	BGD0030	04/03/23	04/04/23	EPA 6020B	
Lead	13.2	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 10:29**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	91.5		%	1	BGD0033	04/03/23	04/03/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB02@7'
2303710-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 10:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	13.2	0.200		mg/kg dry	1	BGD0030	04/03/23	04/04/23	EPA 6020B	
Lead	15.2	0.200		"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 10:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	92.9			%	1	BGD0033	04/03/23	04/03/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB02@8'
2303710-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/29/23 10:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGC1046	03/31/23	04/01/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/29/23 10:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0384	96.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0407	102 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/29/23 10:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGC1049	03/31/23	04/01/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/29/23 10:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.11	72.9 %	30-150		"	"	"	"	

Total Metals by EPA 6020B

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB02@8'
2303710-08 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 10:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	12.5	0.200		mg/kg dry	1	BGD0030	04/03/23	04/04/23	EPA 6020B	
Lead	18.1	0.200		"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 10:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	93.6			%	1	BGD0033	04/03/23	04/03/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB02@10'
2303710-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 10:41**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	7.05	0.200		mg/kg dry	1	BGD0810	04/25/23	04/28/23	EPA 6020B	
Lead	10.7	0.200		"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 10:41**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	81.9			%	1	BGD0650	04/20/23	04/21/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB03@4'
2303710-10 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 10:58**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	6.41	0.200	mg/kg dry	1	BGD0030	04/03/23	04/04/23	EPA 6020B	
Lead	10.5	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 10:58**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	93.4		%	1	BGD0033	04/03/23	04/03/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB03@6'
2303710-11 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 11:02**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	5.83	0.200		mg/kg dry	1	BGD0030	04/03/23	04/04/23	EPA 6020B	
Lead	10.8	0.200		"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 11:02**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	93.0			%	1	BGD0033	04/03/23	04/03/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB03@7'
2303710-12 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 11:06**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	11.4	0.200		mg/kg dry	1	BGD0030	04/03/23	04/04/23	EPA 6020B	
Lead	15.2	0.200		"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 11:06**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	92.3			%	1	BGD0033	04/03/23	04/03/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB03@8'
2303710-13 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 11:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	12.0	0.200		mg/kg dry	1	BGD0810	04/25/23	04/27/23	EPA 6020B	
Lead	16.4	0.200		"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 11:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	83.6			%	1	BGD0650	04/20/23	04/21/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB03@10'
2303710-14 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 11:14**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	8.01	0.200	mg/kg dry	1	BGD0810	04/25/23	04/27/23	EPA 6020B	
Lead	12.4	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 11:14**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	83.4		%	1	BGD0650	04/20/23	04/21/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB04@4'
2303710-15 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 11:32**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.65	0.200	mg/kg dry	1	BGD0030	04/03/23	04/04/23	EPA 6020B	
Lead	5.08	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 11:32**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	92.5		%	1	BGD0033	04/03/23	04/03/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB04@6'
2303710-16 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 11:41**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	12.3	0.200		mg/kg dry	1	BGD0030	04/03/23	04/04/23	EPA 6020B	
Lead	14.7	0.200		"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 11:41**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	93.8			%	1	BGD0033	04/03/23	04/03/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB04@7'
2303710-17 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 11:47**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	13.8	0.200		mg/kg dry	1	BGD0030	04/03/23	04/04/23	EPA 6020B	
Lead	16.2	0.200		"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 11:47**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	91.2			%	1	BGD0033	04/03/23	04/03/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB04@8'
2303710-18 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 11:51**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	11.2	0.200	mg/kg dry	1	BGD0810	04/25/23	04/27/23	EPA 6020B	
Lead	14.7	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 11:51**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	82.5		%	1	BGD0650	04/20/23	04/21/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB04@10'
2303710-19 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 11:58**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	8.48	0.200	mg/kg dry	1	BGD0810	04/25/23	04/27/23	EPA 6020B	
Lead	15.1	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 11:58**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	83.4		%	1	BGD0973	04/28/23	04/28/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB05@4'
2303710-20 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 11:34**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.18	0.200	mg/kg dry	1	BGD0030	04/03/23	04/04/23	EPA 6020B	
Lead	5.16	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 11:34**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	93.2		%	1	BGD0033	04/03/23	04/03/23	Calculation	

Summit Scientific

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

Project: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB05@6'
2303710-21 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 11:39**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.86	0.200	mg/kg dry	1	BGD0030	04/03/23	04/04/23	EPA 6020B	
Lead	4.52	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 11:39**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	90.9		%	1	BGD0033	04/03/23	04/03/23	Calculation	

Summit Scientific

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

Project: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB05@7'
2303710-22 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 11:41**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	12.1	0.200	mg/kg dry	1	BGD0030	04/03/23	04/04/23	EPA 6020B	
Lead	14.0	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 11:41**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	92.1		%	1	BGD0033	04/03/23	04/03/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB05@8'
2303710-23 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 11:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	5.94	0.200	mg/kg dry	1	BGD0810	04/25/23	04/27/23	EPA 6020B	
Lead	9.21	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 11:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	83.1		%	1	BGD0973	04/28/23	04/28/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB05@10'
2303710-24 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 11:49**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	11.2	0.200	mg/kg dry	1	BGD0810	04/25/23	04/27/23	EPA 6020B	
Lead	13.6	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 11:49**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	78.3		%	1	BGD0973	04/28/23	04/28/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB06@4'
2303710-25 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 12:12**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	3.46	0.200		mg/kg dry	1	BGD0810	04/25/23	04/27/23	EPA 6020B	
Lead	5.69	0.200		"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 12:12**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	87.2			%	1	BGD0973	04/28/23	04/28/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB06@6'
2303710-26 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 12:16**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	12.2	0.200	mg/kg dry	1	BGD0030	04/03/23	04/04/23	EPA 6020B	
Lead	14.6	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 12:16**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	94.1		%	1	BGD0033	04/03/23	04/03/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB06@7'
2303710-27 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 12:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	12.5	0.200	mg/kg dry	1	BGD0810	04/25/23	04/27/23	EPA 6020B	
Lead	14.6	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 12:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	83.1		%	1	BGD0973	04/28/23	04/28/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB06@8'
2303710-28 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 12:24**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	9.34	0.200		mg/kg dry	1	BGD0810	04/25/23	04/27/23	EPA 6020B	
Lead	15.6	0.200		"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 12:24**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	84.2			%	1	BGD0973	04/28/23	04/28/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB06@10'
2303710-29 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 12:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	12.0	0.200		mg/kg dry	1	BGD0810	04/25/23	04/27/23	EPA 6020B	
Lead	19.2	0.200		"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 12:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	82.3			%	1	BGD0973	04/28/23	04/28/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB07@4'
2303710-30 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	1.53	0.200		mg/kg dry	1	BGD0810	04/25/23	04/27/23	EPA 6020B	
Lead	3.32	0.200		"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	93.9			%	1	BGD0973	04/28/23	04/28/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB07@6'
2303710-31 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 13:03**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	8.90	0.200		mg/kg dry	1	BGD0030	04/03/23	04/04/23	EPA 6020B	
Lead	11.5	0.200		"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 13:03**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	93.8			%	1	BGD0033	04/03/23	04/03/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB07@7'
2303710-32 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 13:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	10.6	0.200	mg/kg dry	1	BGD0810	04/25/23	04/27/23	EPA 6020B	
Lead	11.1	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 13:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	83.9		%	1	BGD0973	04/28/23	04/28/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB07@8'
2303710-33 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 13:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	59.3	0.200	mg/kg dry	1	BGD0810	04/25/23	04/27/23	EPA 6020B	
Lead	26.3	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 13:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	83.1		%	1	BGD0973	04/28/23	04/28/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB07@10'
2303710-34 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 13:13**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	3.61	0.200		mg/kg dry	1	BGD0828	04/25/23	05/01/23	EPA 6020B	
Lead	16.4	0.200		"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 13:13**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	84.3			%	1	BGD0973	04/28/23	04/28/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB08@4'
2303710-35 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 12:42**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.683	0.200	mg/kg dry	1	BGD0828	04/25/23	05/01/23	EPA 6020B	
Lead	3.32	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 12:42**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	93.0		%	1	BGD0973	04/28/23	04/28/23	Calculation	

Summit Scientific

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

Project: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB08@6'
2303710-36 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 12:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	8.06	0.200		mg/kg dry	1	BGD0030	04/03/23	04/04/23	EPA 6020B	
Lead	10.6	0.200		"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 12:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	94.2			%	1	BGD0033	04/03/23	04/03/23	Calculation	

Summit Scientific

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

Project: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB08@7'
2303710-37 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 12:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	3.77	0.200		mg/kg dry	1	BGD0828	04/25/23	05/01/23	EPA 6020B	
Lead	17.6	0.200		"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 12:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	84.5			%	1	BGD0973	04/28/23	04/28/23	Calculation	

Summit Scientific

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

Project: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB08@8'
2303710-38 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 12:53**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	3.15	0.200		mg/kg dry	1	BGD0828	04/25/23	05/01/23	EPA 6020B	
Lead	23.0	0.200		"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 12:53**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	83.2			%	1	BGD0973	04/28/23	04/28/23	Calculation	

Summit Scientific

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

Project: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB08@10'
2303710-39 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 12:58**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	2.17	0.200		mg/kg dry	1	BGD0828	04/25/23	05/01/23	EPA 6020B	
Lead	10.1	0.200		"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 12:58**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	84.3			%	1	BGD0973	04/28/23	04/28/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB09@4'
2303710-40 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 10:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	7.20	0.200		mg/kg dry	1	BGD0030	04/03/23	04/04/23	EPA 6020B	
Lead	12.1	0.200		"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 10:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	94.1			%	1	BGD0033	04/03/23	04/03/23	Calculation	

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB09@6'
2303710-41 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 10:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	9.12	0.200		mg/kg dry	1	BGD0030	04/03/23	04/04/23	EPA 6020B	
Lead	15.3	0.200		"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 10:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	93.6			%	1	BGD0033	04/03/23	04/03/23	Calculation	

Summit Scientific

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

Project: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

SB09@7'
2303710-42 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **03/29/23 10:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	2.26	0.200		mg/kg dry	1	BGD0828	04/25/23	05/01/23	EPA 6020B	
Lead	17.3	0.200		"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/29/23 10:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	82.8			%	1	BGD0973	04/28/23	04/28/23	Calculation	

Summit Scientific

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

Project: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

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 BGC1046 - EPA 5030 Soil MS

Blank (BGC1046-BLK1)

Prepared & Analyzed: 03/31/23

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0437		"	0.0400		109	50-150			
Surrogate: Toluene-d8	0.0392		"	0.0400		98.0	50-150			
Surrogate: 4-Bromofluorobenzene	0.0411		"	0.0400		103	50-150			

LCS (BGC1046-BS1)

Prepared & Analyzed: 03/31/23

Benzene	0.0792	0.0020	mg/kg	0.100		79.2	70-130			
Toluene	0.0825	0.0050	"	0.100		82.5	70-130			
Ethylbenzene	0.0965	0.0050	"	0.100		96.5	70-130			
m,p-Xylene	0.186	0.010	"	0.200		92.9	70-130			
o-Xylene	0.0939	0.0050	"	0.100		93.9	70-130			
1,2,4-Trimethylbenzene	0.0949	0.0050	"	0.100		94.9	70-130			
1,3,5-Trimethylbenzene	0.0952	0.0050	"	0.100		95.2	70-130			
Naphthalene	0.0980	0.0038	"	0.100		98.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0358		"	0.0400		89.6	50-150			
Surrogate: Toluene-d8	0.0396		"	0.0400		99.0	50-150			
Surrogate: 4-Bromofluorobenzene	0.0401		"	0.0400		100	50-150			

Matrix Spike (BGC1046-MS1)

Source: 2303524-11

Prepared & Analyzed: 03/31/23

Benzene	0.0788	0.0020	mg/kg	0.100	ND	78.8	70-130			
Toluene	0.0828	0.0050	"	0.100	ND	82.8	70-130			
Ethylbenzene	0.0978	0.0050	"	0.100	ND	97.8	70-130			
m,p-Xylene	0.188	0.010	"	0.200	ND	94.2	70-130			
o-Xylene	0.0934	0.0050	"	0.100	ND	93.4	70-130			
1,2,4-Trimethylbenzene	0.0956	0.0050	"	0.100	ND	95.6	70-130			
1,3,5-Trimethylbenzene	0.0975	0.0050	"	0.100	ND	97.5	70-130			
Naphthalene	0.105	0.0038	"	0.100	ND	105	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0350		"	0.0400		87.4	50-150			
Surrogate: Toluene-d8	0.0395		"	0.0400		98.7	50-150			
Surrogate: 4-Bromofluorobenzene	0.0392		"	0.0400		98.1	50-150			

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

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 BGC1046 - EPA 5030 Soil MS

Matrix Spike Dup (BGC1046-MSD1)	Source: 2303524-11			Prepared & Analyzed: 03/31/23						
Benzene	0.0773	0.0020	mg/kg	0.100	ND	77.3	70-130	1.92	30	
Toluene	0.0814	0.0050	"	0.100	ND	81.4	70-130	1.75	30	
Ethylbenzene	0.0972	0.0050	"	0.100	ND	97.2	70-130	0.616	30	
m,p-Xylene	0.186	0.010	"	0.200	ND	93.2	70-130	1.04	30	
o-Xylene	0.0940	0.0050	"	0.100	ND	94.0	70-130	0.672	30	
1,2,4-Trimethylbenzene	0.0956	0.0050	"	0.100	ND	95.6	70-130	0.0628	30	
1,3,5-Trimethylbenzene	0.0964	0.0050	"	0.100	ND	96.4	70-130	1.18	30	
Naphthalene	0.103	0.0038	"	0.100	ND	103	70-130	1.12	30	
Surrogate: 1,2-Dichloroethane-d4	0.0333		"	0.0400		83.3	50-150			
Surrogate: Toluene-d8	0.0397		"	0.0400		99.2	50-150			
Surrogate: 4-Bromofluorobenzene	0.0389		"	0.0400		97.3	50-150			

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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BGC1049 - EPA 3550A

Blank (BGC1049-BLK1)

Prepared & Analyzed: 03/31/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	8.41		"	12.5		67.2	30-150			

LCS (BGC1049-BS1)

Prepared & Analyzed: 03/31/23

C10-C28 (DRO)	374	50	mg/kg	500		74.9	70-130			
Surrogate: o-Terphenyl	7.00		"	12.5		56.0	30-150			

Matrix Spike (BGC1049-MS1)

Source: 2303577-05

Prepared & Analyzed: 03/31/23

C10-C28 (DRO)	388	50	mg/kg	500	36.6	70.3	70-130			
Surrogate: o-Terphenyl	9.65		"	12.5		77.2	30-150			

Matrix Spike Dup (BGC1049-MSD1)

Source: 2303577-05

Prepared & Analyzed: 03/31/23

C10-C28 (DRO)	387	50	mg/kg	500	36.6	70.0	70-130	0.295	20	
Surrogate: o-Terphenyl	9.34		"	12.5		74.7	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: Eckhardt 43-34 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BGD0030 - EPA 3050B

Blank (BGD0030-BLK1)

Prepared: 04/03/23 Analyzed: 04/04/23

Arsenic	ND	0.200	mg/kg wet
Lead	ND	0.200	"

LCS (BGD0030-BS1)

Prepared: 04/03/23 Analyzed: 04/04/23

Arsenic	36.7	0.200	mg/kg wet	40.0	91.7	80-120
Lead	19.3	0.200	"	20.0	96.5	80-120

Duplicate (BGD0030-DUP1)

Source: 2303710-01

Prepared: 04/03/23 Analyzed: 04/04/23

Arsenic	4.54	0.200	mg/kg dry	5.62	21.4	20	QR-03
Lead	ND	0.200	"	10.7	200	20	QR-03

Matrix Spike (BGD0030-MS1)

Source: 2303710-01

Prepared: 04/03/23 Analyzed: 04/04/23

Arsenic	45.4	0.200	mg/kg dry	43.1	5.62	92.4	75-125
Lead	30.0	0.200	"	21.6	10.7	89.2	75-125

Matrix Spike Dup (BGD0030-MSD1)

Source: 2303710-01

Prepared: 04/03/23 Analyzed: 04/04/23

Arsenic	45.5	0.200	mg/kg dry	43.1	5.62	92.4	75-125	0.0512	25
Lead	29.7	0.200	"	21.6	10.7	88.2	75-125	0.757	25

Batch BGD0810 - EPA 3050B

Blank (BGD0810-BLK1)

Prepared: 04/25/23 Analyzed: 04/27/23

Arsenic	ND	0.200	mg/kg wet
Lead	ND	0.200	"

LCS (BGD0810-BS1)

Prepared: 04/25/23 Analyzed: 04/27/23

Arsenic	37.2	0.200	mg/kg wet	40.0	93.0	80-120
Lead	17.3	0.200	"	20.0	86.4	80-120

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: Eckhardt 43-34 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BGD0810 - EPA 3050B

Duplicate (BGD0810-DUP1)		Source: 2303710-09			Prepared: 04/25/23 Analyzed: 04/28/23						
Arsenic	10.1	0.200	mg/kg dry		7.05			36.1	20		QR-04
Lead	11.5	0.200	"		10.7			7.56	20		

Matrix Spike (BGD0810-MS1)		Source: 2303710-09			Prepared: 04/25/23 Analyzed: 04/28/23						
Arsenic	49.2	0.200	mg/kg dry	48.9	7.05	86.2	75-125				
Lead	26.5	0.200	"	24.4	10.7	64.6	75-125				QM-07

Matrix Spike Dup (BGD0810-MSD1)		Source: 2303710-09			Prepared: 04/25/23 Analyzed: 04/28/23						
Arsenic	52.6	0.200	mg/kg dry	48.9	7.05	93.2	75-125	6.64	25		
Lead	26.8	0.200	"	24.4	10.7	66.0	75-125	1.20	25		QM-07

Post Spike (BGD0810-PS1)		Source: 2303710-09			Prepared: 04/25/23 Analyzed: 04/27/23						
Arsenic	113		ug/l	100	14.4	98.3	75-125				

Batch BGD0828 - EPA 3050B

Blank (BGD0828-BLK1)		Prepared: 04/25/23 Analyzed: 05/01/23									
Arsenic	ND	0.200	mg/kg wet								
Lead	ND	0.200	"								

LCS (BGD0828-BS1)		Prepared: 04/25/23 Analyzed: 05/01/23									
Arsenic	36.9	0.200	mg/kg wet	40.0		92.4	80-120				
Lead	21.1	0.200	"	20.0		106	80-120				

Duplicate (BGD0828-DUP1)		Source: 2303710-34			Prepared: 04/25/23 Analyzed: 05/01/23						
Arsenic	3.61	0.200	mg/kg dry		3.61			0.144	20		
Lead	14.0	0.200	"		16.4			15.7	20		

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: Eckhardt 43-34 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BGD0828 - EPA 3050B

Matrix Spike (BGD0828-MS1)		Source: 2303710-34			Prepared: 04/25/23 Analyzed: 05/01/23					
Arsenic	18.3	0.200	mg/kg dry	47.4	3.61	31.0	75-125			QM-07
Lead	39.9	0.200	"	23.7	16.4	98.9	75-125			
Matrix Spike Dup (BGD0828-MSD1)		Source: 2303710-34			Prepared: 04/25/23 Analyzed: 05/01/23					
Arsenic	18.8	0.200	mg/kg dry	47.4	3.61	32.1	75-125	2.60	25	QM-07
Lead	39.8	0.200	"	23.7	16.4	98.8	75-125	0.0274	25	

Summit Scientific

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

Project: Eckhardt 43-34 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
Summit Scientific

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

Batch BGD0033 - General Preparation

Duplicate (BGD0033-DUP1)		Source: 2303710-01		Prepared & Analyzed: 04/03/23	
% Solids	93.3	%		92.8	0.559 20

Batch BGD0650 - General Preparation

Duplicate (BGD0650-DUP1)		Source: 2303525-43		Prepared: 04/20/23 Analyzed: 04/21/23	
% Solids	86.3	%		86.2	0.117 20

Batch BGD0973 - General Preparation

Duplicate (BGD0973-DUP1)		Source: 2303710-19		Prepared & Analyzed: 04/28/23		
% Solids	80.8	%		83.4	3.25	20

Summit Scientific

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

Project: Eckhardt 43-34 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/02/23 10:35

Notes and Definitions

QR-04	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
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

April 26, 2023

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Eckhardt 43-34 Wellhead

Work Order #2304431

Enclosed are the results of analyses for samples received by Summit Scientific on 04/19/23 18:01. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott Sheely".

Scott Sheely For Paul Shrewsbury
President



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

Project: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/26/23 13:48

ANALYTICAL REPORT FOR SAMPLES

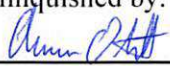
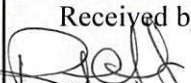
Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	2304431-01	Water	04/19/23 12:40	04/19/23 18:01
BH02	2304431-02	Water	04/19/23 12:50	04/19/23 18:01
BH03	2304431-03	Water	04/19/23 13:00	04/19/23 18:01
BH04	2304431-04	Water	04/19/23 13:10	04/19/23 18:01
BH05	2304431-05	Water	04/19/23 13:20	04/19/23 18:01

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.

Client: PDC / Tasman		Send Data To: Project Manager: Mark Longhurst		Send Invoice To: Company: PDC Energy	
Address: 6855 W 119th Ave		E-Mail: mark.longhurst@PDCE.com		Project Name/Location:	
City/State/Zip: Broomfield / CO / 80220				AFE#:	
Phone: 303-487-1228		Project Name: Eckhardt 43-34 Wellhead		PO/Billing Codes:	
Sampler Name: Aaron Otillar		Project Number:		Contact: Mark Longhurst	

					Preservative				Matrix				Analysis Requested								Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	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				
1	BH01	4/19/23	1240	3	3				X				X		X						
2	BH02		1250																		
3	AH03		1300																		
4	BH04		1310																		
5	BH05		1320																		
6																					
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					

Relinquished by: 	Date/Time: 4/19/23 1450	Received by: TASMAL LOCKBOX	Date/Time: 4/19/23 1450	TAT Business Days	Field DO	Notes:
Relinquished by: Tasman Lockbox	Date/Time: 4/19/23 1801	Received by: 	Date/Time: 4/19/23 1801	Same Day	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
Temperature Upon Receipt: 8.1	Corrected Temperature: 6	IR gun #: 1	HNO3 lot #:	Standard	X	Field Turb.

S₂

Sample Receipt Checklist

S2 Work Order# 2304431Client: Doctasman Client Project ID: Eckhardt 43-34 wellheadShipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: _____

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Matrix (Check all that apply) Air ☐ Soil/Solid ☐ Water ☒ Other ☐Temp (°C) 8.3 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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CR JOE
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<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"/>	
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"/>	
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, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HA
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

4-19-23 180
Date/Time



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

Project: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/26/23 13:48

BH01
2304431-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/19/23 12:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	BGD0792	04/24/23	04/25/23	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: **04/19/23 12:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	11.8	88.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8	13.0	97.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	14.0	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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/26/23 13:48

BH02
2304431-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/19/23 12:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BGD0792	04/24/23	04/25/23	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: **04/19/23 12:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	11.7	87.5 %	23-173		"	"	"	"	
Surrogate: Toluene-d8	13.0	97.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	13.6	102 %	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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/26/23 13:48

BH03
2304431-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/19/23 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BGD0792	04/24/23	04/25/23	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: **04/19/23 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	11.9	89.3 %		23-173		"	"	"	"	
Surrogate: Toluene-d8	13.1	98.1 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	13.7	103 %		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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/26/23 13:48

BH04
2304431-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/19/23 13:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BGD0792	04/24/23	04/25/23	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: **04/19/23 13:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	12.1	90.5 %	23-173		"	"	"	"	
Surrogate: Toluene-d8	13.2	98.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	13.8	104 %	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: Eckhardt 43-34 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/26/23 13:48

BH05
2304431-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/19/23 13:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BGD0792	04/24/23	04/25/23	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: **04/19/23 13:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	11.7	87.5 %		23-173		"	"	"	"	
Surrogate: Toluene-d8	13.1	98.3 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	13.5	102 %		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: Eckhardt 43-34 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/26/23 13:48

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 BGD0792 - EPA 5030 Water MS

Blank (BGD0792-BLK1)

Prepared: 04/24/23 Analyzed: 04/25/23

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	11.9		"	13.3		89.2	23-173			
Surrogate: Toluene-d8	13.5		"	13.3		101	20-170			
Surrogate: 4-Bromofluorobenzene	14.1		"	13.3		106	21-167			

LCS (BGD0792-BS1)

Prepared: 04/24/23 Analyzed: 04/25/23

Benzene	31.2	1.0	ug/l	33.3		93.6	51-132			
Toluene	29.9	1.0	"	33.3		89.8	51-138			
Ethylbenzene	30.7	1.0	"	33.3		92.0	58-146			
m,p-Xylene	54.6	2.0	"	66.7		81.9	57-144			
o-Xylene	28.1	1.0	"	33.3		84.2	53-146			
Naphthalene	27.7	1.0	"	33.3		83.2	70-130			
1,2,4-Trimethylbenzene	29.6	1.0	"	33.3		88.8	70-130			
1,3,5-Trimethylbenzene	30.0	1.0	"	33.3		89.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	11.8		"	13.3		88.6	23-173			
Surrogate: Toluene-d8	13.9		"	13.3		104	20-170			
Surrogate: 4-Bromofluorobenzene	13.8		"	13.3		103	21-167			

Matrix Spike (BGD0792-MS1)

Source: 2304430-01

Prepared: 04/24/23 Analyzed: 04/25/23

Benzene	31.2	1.0	ug/l	33.3	ND	93.7	34-141			
Toluene	30.2	1.0	"	33.3	ND	90.6	27-151			
Ethylbenzene	30.6	1.0	"	33.3	ND	91.8	29-160			
m,p-Xylene	54.8	2.0	"	66.7	ND	82.1	20-166			
o-Xylene	28.0	1.0	"	33.3	ND	84.0	33-159			
Naphthalene	29.5	1.0	"	33.3	ND	88.4	70-130			
1,2,4-Trimethylbenzene	29.9	1.0	"	33.3	ND	89.6	70-130			
1,3,5-Trimethylbenzene	30.4	1.0	"	33.3	ND	91.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	11.9		"	13.3		89.3	23-173			
Surrogate: Toluene-d8	14.0		"	13.3		105	20-170			
Surrogate: 4-Bromofluorobenzene	13.8		"	13.3		104	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: Eckhardt 43-34 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/26/23 13:48

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 BGD0792 - EPA 5030 Water MS

Matrix Spike Dup (BGD0792-MSD1)	Source: 2304430-01			Prepared: 04/24/23 Analyzed: 04/25/23						
Benzene	31.7	1.0	ug/l	33.3	ND	95.1	34-141	1.46	30	
Toluene	30.8	1.0	"	33.3	ND	92.4	27-151	1.97	30	
Ethylbenzene	32.1	1.0	"	33.3	ND	96.4	29-160	4.85	30	
m,p-Xylene	57.2	2.0	"	66.7	ND	85.8	20-166	4.41	30	
o-Xylene	29.1	1.0	"	33.3	ND	87.3	33-159	3.85	30	
Naphthalene	32.7	1.0	"	33.3	ND	98.0	70-130	10.3	30	
1,2,4-Trimethylbenzene	31.2	1.0	"	33.3	ND	93.7	70-130	4.49	30	
1,3,5-Trimethylbenzene	31.6	1.0	"	33.3	ND	94.8	70-130	4.03	30	
Surrogate: 1,2-Dichloroethane-d4	13.1		"	13.3		98.4	23-173			
Surrogate: Toluene-d8	13.9		"	13.3		104	20-170			
Surrogate: 4-Bromofluorobenzene	13.8		"	13.3		104	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: Eckhardt 43-34 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/26/23 13:48

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

Attachment B



Borehole Logging Form

BOREHOLE ID: SB01		SITE NAME: Eckhardt 43-32 WH		CLIENT NAME: PDC ENERGY			
Date Completed: 3/29/2023		Location: Source					
Drilling Company: Tasman		Surface Completion: NA		DTW: 9' TD: 10'			
Type of Drill: Band Auger		Geologist: E. Wozniak		Project Manager: B. Nelson			
Bit Size: 2 3/8"		Logging Method:					
Well Const. Material: Diameter: 1" Screen: Sch 40 PVC Slotted 0.010 Riser: Sch 40 PVC Blank							
Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1	↑	↑	↑	0.1		SW	(0-2') Tan, sand, fine to medium grain, poorly sorted, dry, no odor, no staining
2				0.4			
3				0.1		SM	(2-4') Tan, silty sand, fine to medium grain, poorly sorted, dry, no odor, no staining
4				0.1			
5	NA	HA	100	0.0		SC	(4-8') Tan, clayey sand, poorly sorted (ew) fine to medium grain, poorly sorted, moist, no odor, no staining
6				0.4			
7				0.0	SB01@7' (1030)		
8				0.0	SB01@8' (1035)		
9				0.1	SB01@9' (1040)	CL	(8-9') Tan, clay, moderate plasticity, moist, black staining, organic odor
10	↓	↓	↓	0.0	SB01@10' (1045)		(9-10') As above, no staining, no odor, saturated
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							



TASMAN

Borehole Logging Form

BOREHOLE ID: SB02

SITE NAME: Eckhardt 43-32-WH

CLIENT NAME: PDC ENERGY

Date Completed: 3/29/2023

Location: N of source

Drilling Company: Tasman

Surface Completion: ~~N of source~~ NA DTW: 9' TD: 10'

Type of Drill: Hand auger

Geologist: E. Wozniak

Project Manager: B. Nelson

Bit Size: 2 3/8"

Logging Method:

Well Const. Material: Diameter: 1"

Screen: Sch 40 PVC Slotted 0.010

Riser: Sch 40 PVC Blank

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1	↑	↑	↑	0.0		SW	(0-3) Tan, sand, fine to medium grain, poorly sorted, dry, no odor, no staining
2				0.0			
3				0.0			
4				0.0	SB02@4' (1023)	CL	(3-9) Tan, clay, moderate plasticity, moist, no odor, no staining
5	NA	HA	100	0.0			
6				0.0	SB02@6' (1029)		
7				4.5	SB02@7' (1034)		
8				45.4	SB02@8' (1036)		
9	↓	↓	↓	5.1			
10	↓	↓	↓	1.9	SB02@10' (1041)		(9-10) As above, saturated
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							



Borehole Logging Form

BOREHOLE ID: <u>SB03</u>		SITE NAME: <u>Eckhardt 43-32 WH</u>		CLIENT NAME: <u>PDC ENERGY</u>			
Date Completed: <u>3/29/2023</u>		Location: <u>W of source</u>					
Drilling Company: <u>Tasman</u>		Surface Completion: <u>NA</u>		DTW: <u>9'</u> TD: <u>10'</u>			
Type of Drill: <u>Hand Auger</u>		Geologist: <u>E. Wozniak</u>		Project Manager: <u>B. Nelson</u>			
Bit Size: <u>2 3/8"</u>		Logging Method:					
Well Const. Material: Diameter: <u>1"</u> Screen: <u>Sch 40 PVC Slotted 0.010</u> Riser: <u>Sch 40 PVC Blank</u>							
Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1	NA	↑	↑	1.3		SM	(0-3) Tan, silty sand, fine to medium grain, poorly sorted, dry, no odor, no staining
2				1.1			
3				1.3			
4				0.8	SB03@4' (1058)	SLW	(3-5) Tan, sand, fine to medium grain, poorly sorted, moist, no odor, no staining
5				0.4			
6				0.0	SB03@6' (1102)		
7				0.0	SB03@7' (1106)	CL	(6-9) Tan, clay, moderate plasticity, no odor, no staining
8				0.1	SB03@8' (1109)		
9				0.6			
10				0.2	SB03@10' (1114)		(9-10) AS above, saturated
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

**TASMAN****Borehole Logging Form**

BOREHOLE ID: SB04		SITE NAME: Eckhardt 43-34 WH		CLIENT NAME: PDC ENERGY			
Date Completed: 3/29/2023		Location: S of source					
Drilling Company: Tasman		Surface Completion:		DTW: 9' TD: 10'			
Type of Drill: Hand auger		Geologist: E. Wozniak		Project Manager: B.Nelson			
Bit Size: 2 3/8"		Logging Method:					
Well Const. Material: Diameter: 1" Screen: Sch 40 PVC Slotted 0.010 Riser: Sch 40 PVC Blank							
Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1	↑	↑	↑	0.1		SW	(0-4) Tan, sand, fine to medium grain, poorly sorted, dry, no odor, no staining
2				0.1			
3				0.0			
4				0.0	SB04@ 4' (1132)		
5	NA	NA	100	0.0		CL	(4-9) Tan, clay, moderate plasticity, moist, no odor, no staining
6				0.0	SB04@ 6' (1141)		
7				0.0	SB04@ 7' (1147)		
8				0.1	SB04@ 8' (1151)		
9	↓			0.0			
10	↓	↓	↓	0.0	SB04@ 10' (1158)		(9-10) As above, saturated
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							



TASMAN

Borehole Logging Form

BOREHOLE ID: <u>SB05</u>		SITE NAME: <u>Eckhardt 43-34 WH</u>		CLIENT NAME: <u>PDC ENERGY</u>			
Date Completed: <u>3/29/2023</u>		Location: <u>E of source</u>					
Drilling Company: <u>Tasman</u>		Surface Completion: <u>NA</u>		DTW: <u>9'</u>	TD: <u>10'</u>		
Type of Drill: <u>Hand Auger</u>		Geologist: <u>E. Wozniak</u>		Project Manager: <u>B. Nelson</u>			
Bit Size: <u>2 3/8"</u>		Logging Method:					
Well Const. Material: Diameter: <u>1"</u> Screen: <u>Sch 40 PVC Slotted 0.010</u> Riser: <u>Sch 40 PVC Blank</u>							
Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1	↑	↑	↑	0.0		SW	(0-1) Brown sand, fine to medium grain, poorly sorted, dry, no odor/staining
2				0.0		CL	(1-6) Brown/Tan, sandy clay, moderate plasticity, dry, no odor/staining
3				0.0			
4				0.0	SB05@4' (1134)		
5	NA	HA	100	0.0			
6				0.2	SB05@6' (1137)		
7				0.5	SB05@7' (1141)	CL	(6-9) Tan, clay, moderate plasticity, moist, no odor, no staining
8				0.8	SB05@8' (1145)		
9	↓			0.0			
10	↓	↓	↓	0.0	SB05@10' (1149)		(9-10) As above, saturated
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

**TASMAN****Borehole Logging Form**

BOREHOLE ID: SB06		SITE NAME: Eckhardt 43-34 WH		CLIENT NAME: PDC ENERGY			
Date Completed: 3/29/2023		Location: N of source					
Drilling Company: Tasman		Surface Completion: NA		DTW: 9' TD: 10'			
Type of Drill: Hand Auger		Geologist: E. Wozniak		Project Manager: B. Nelson			
Bit Size: 2 3/8"		Logging Method:					
Well Const. Material: Diameter: 1"		Screen: Sch 40 PVC Slotted 0.010		Riser: Sch 40 PVC Blank			
Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1	↑	↑	↑	0.0		SW	(0-4) Tan, sand fine to medium grain, poorly sorted, dry, no odor / staining
2				0.1			
3				0.0	SB06@4'		
4				0.1	(1212)		
5	NA	HA	100	0.0	SB06@6'	CL	(4-9) Tan, clay, moderate plasticity, moist, no odor, no staining
6				0.0	(1216)		
7				0.0	SB06@7'		
8				0.0	(1220)		
9				0.0	SB06@8'		
10	↓	↓	↓	0.0	(1224)		
10				0.0	SB06@10'		(9-10) As above, saturated
10				0.0	(1230)		
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							



Borehole Logging Form

BOREHOLE ID: <u>SB07</u>		SITE NAME: <u>Eckhardt 43-34 WH</u>		CLIENT NAME: <u>PDC ENERGY</u>			
Date Completed: <u>3/29/2023</u>		Location: <u>W of source</u>					
Drilling Company: <u>Tasman</u>		Surface Completion: <u>NA</u>		DTW: <u>9'</u> TD: <u>10'</u>			
Type of Drill: <u>hand auger</u>		Geologist: <u>E. Wozniak</u>		Project Manager: <u>B. Nelson</u>			
Bit Size: <u>2 3/8"</u>		Logging Method:					
Well Const. Material: Diameter: <u>1"</u> Screen: <u>Sch 40 PVC Slotted 0.010</u> Riser: <u>Sch 40 PVC Blank</u>							
Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1	↑	↑	↑	0.0		SW	(0-6) Tan, sand, fine to medium grain, poorly sorted, dry, no odor, no staining
2				0.0			
3				0.1			
4				0.0	SB07@4' (1300)		
5	NA	HA	100	0.0			
6				0.0	SB07@6' (1303)		
7				0.0	SB07@7' (1305)	CL	(6-7) Tan, clay, moderate plasticity, moist, no odor, no staining
8				0.0	SB07@8' (1310)		
9	▽			0.0			
10	↓	↓	↓	0.0	SB07@10' (1315)		(9-10) As above, saturated
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							



Borehole Logging Form

BOREHOLE ID: <u>SB08</u>		SITE NAME: <u>Eckhardt 43-34 WH</u>		CLIENT NAME: <u>PDC ENERGY</u>			
Date Completed: <u>3/29/2023</u>		Location: <u>S of source</u>					
Drilling Company: <u>Tasman</u>		Surface Completion: <u>NA</u>		DTW: <u>9'</u>	TD: <u>10'</u>		
Type of Drill: <u>Hand Auger</u>		Geologist: <u>E. Wozniak</u>		Project Manager: <u>B. Nelson</u>			
Bit Size: <u>2 3/8"</u>		Logging Method:					
Well Const. Material: <u>Diameter: 1"</u>		Screen: <u>Sch 40 PVC Slotted 0.010</u>		Riser: <u>Sch 40 PVC Blank</u>			
Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1	↑	↑	↑	0.9		SW	(0-4) Tan, sand fine to medium grain, poorly sorted, dry, no odor, no staining
2				0.3			
3				0.4			
4				0.0	SB08(9) 4' (1243)		
5	NA	HA	100	0.0		CL	(4-9) Tan, clay, moderate plasticity, moist, no odor, no staining
6				0.0	SB08(6) 6' (1246)		
7				0.0	SB08(7) 7' (1248)		
8				0.0	SB08(8) 8' (1253)		
9				0.0	SB08(9) 9' (1255)		
10	↓	↓	↓	0.0	SB08(10) 10' (1258)		(9-10) As above, saturated
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							



Borehole Logging Form

BOREHOLE ID: <u>SB09</u>		SITE NAME: <u>Eckhardt 43-34 WH</u>		CLIENT NAME: <u>PDC ENERGY</u>			
Date Completed: <u>3/29/2023</u>		Location: <u>E of source</u>					
Drilling Company: <u>Tasman</u>		Surface Completion: <u>NA</u>		DTW: <u>NA</u> TD: <u>7'</u>			
Type of Drill: <u>Hand auger</u>		Geologist: <u>E. Wozniak</u>		Project Manager: <u>B. Nelson</u>			
Bit Size: <u>2 3/8"</u>		Logging Method:					
Well Const. Material: Diameter: <u>1"</u> Screen: <u>Sch 40 PVC Slotted 0.010</u> Riser: <u>Sch 40 PVC Blank</u>							
Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1	↑	↑	↑	0.0		SW	(0-1') Tan, sand, fine to medium grain, poorly sorted, dry, no odor/staining
2				0.0		CL	(1-7') Tan, sandy clay, moderate plasticity, no odor, no staining, moist
3				0.0			
4	NA	HA	100	0.0	SB09@4' (1020)		
5				0.1			
6				0.2	SB09@6' (1025)		
7	↓	↓	↓	0.1	SB09@7' (1028)		
8							(7') Refusal at 7'
9							groundwater was not encountered
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							