

TABLE 1
FAGERBERG PAD
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)	Benz(a) (mg/kg)	Chrysene (mg/kg)	Fluoranthene (mg/kg)	Pyrene (mg/kg)	1-M (mg/kg)	2-M (mg/kg)	EC (mmhos/cm)	SAR (units)	Boron (mg/L)
Residential SSL ^(1,2)			1.2	490	5.8	58	30	27	2	500	1.1	110	240	180	18	24	<4	<6	2
Protection of Groundwater SSL ^(1,2,3)			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500	0.011	9	8.9	1.3	0.006	0.019	-	-	-
SS01 @ 0-6"	4/7/2022	0-6 in. bgs	1.0	17	8.1	17	1.3	3.4	4.2	6,800	0.143	0.153	0.0304	0.0860	5.34	9.65	4.58	41.4	2.28
SS02 @ 0-6"	4/7/2022	0-6 in. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	120	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	2.49	0.247	0.396
SS03 @ 0-6"	4/7/2022	0-6 in. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	0.00520	<0.00500	<0.00500	<0.00500	3.85	0.523	0.877
SS04 @ 0-6"	4/7/2022	0-6 in. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	87.68	<0.00500	0.00698	<0.00500	<0.00500	0.0283	0.0391	1.70	0.493	0.635
SS05 @ 0-6"	4/7/2022	0-6 in. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	1.0	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0103	1.16	0.105	0.532
SS06 @ 0-6"	4/7/2022	0-6 in. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	1.0	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00667	0.154	0.0781	0.368
SS07 @ 0-6"	4/7/2022	0-6 in. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	0.80	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	4.51	0.184	0.561
SS08 @ 0-6"	4/7/2022	0-6 in. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	0.69	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.276	0.0623	0.391
SS09 @ 0-6"	4/7/2022	0-6 in. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	0.64	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	2.26	0.793	1.35
SS10 @ 0-6"	4/7/2022	0-6 in. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	0.62	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	3.47	1.03	1.50
SS11 @ 2'	4/7/2022	2 ft. bgs	0.033	1.8	0.94	7.7	5.0	1.7	0.89	558	<0.00500	0.0211	0.00774	<0.00500	0.263	0.0714	1.40	0.351	0.422
SS12 @ 0-6"	4/8/2022	0-6 in. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	4.11	0.130	0.629
SS13 @ 0-6"	4/8/2022	0-6 in. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.394	0.0269	0.397
SS14 @ 0-6"	4/8/2022	0-6 in. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.475	0.0218	0.413
SS15 @ 4'	4/8/2022	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	2.55	0.0627	0.601
SS16 @ 2'	4/14/2022	2 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	1.13	0.0932	0.378
SS17 @ 2'	4/14/2022	2 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.648	0.0648	0.320
SS18 @ 2'	4/14/2022	2 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.561	0.0501	0.317
SS19 @ 2'	4/14/2022	2 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.671	0.0681	0.346
SS20 @ 4'	4/14/2022	4 ft. bgs	<0.0020	0.0058	<0.0050	0.030	0.015	0.012	<0.0038	1.2	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.641	0.0428	0.514
SS23 @ 7'	4/15/2022	7 ft. bgs	<0.0020	0.0087	<0.0050	0.011	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	1.51	0.0623	0.372
SS24 @ 4'	4/18/2022	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	2.03	0.0665	0.495
SS25 @ 7'	4/18/2022	7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	1.35	0.0660	0.425
SS26 @ 4'	4/18/2022	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	2.13	0.0497	0.611
SS27 @ 7'	4/18/2022	7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	1.08	0.0731	0.429
SS28 @ 4'	4/18/2022	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.826	0.0375	0.466
SS29 @ 7'	4/18/2022	7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	1.03	0.0701	0.477
SS30 @ 4'	4/18/2022	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	2.06	0.0421	0.522
SS31 @ 7'	4/18/2022	7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	0.00614	<0.00500	<0.00500	<0.00500	<0.00500	3.76	0.181	0.465

Notes:

- Compounds referenced from the COGCC 2 CCR 404-1, Table 915-1, effective January 15, 2021.
- Soil Screening Levels (SSL) referenced from EPA Regional Screening Levels (EPA RSLs) for Chemical Contaminants at Superfund Sites, effective November 2020.
- SSLs are applicable if a pathway for communication with groundwater is present.
- Value calculated by adding TVPH-GRO, TEPH-DRO, and TEPH-ORO concentrations.

COGCC = Colorado Oil and Gas Conservation Commission

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

TVPH-GRO = Total volatile petroleum hydrocarbons - gasoline range organics

TEPH-DRO = Total extractable petroleum hydrocarbons - diesel range organics

TEPH-ORO = Total extractable petroleum hydrocarbons - oil range organics

mg/kg = Milligrams per kilogram

TMB = Trimethylbenzene

Benz(a) = Benzanthracene

M = Methylanthracene

EC = Electrical conductivity

SAR = Sodium adsorption ratio

mmhos/cm = millimhos per centimeter

Source material characterization sample

ft. = Feet

in. = Inches

bgs = Below ground surface

BOLD = Analytical result is in exceedance of applicable standard.

TABLE 2
FAGERBERG PAD
SOIL ANALYTICAL RESULTS SUMMARY TABLE
INORGANIC COMPOUNDS

Sample ID	Date Sampled	Depth	pH (units)	EC (mmhos/cm)	SAR (units)	Boron (mg/L)
Soil Suitability for Reclamation Standard ⁽¹⁾			6-8.3	<4	<6	2
SS01 @ 0-6"	4/7/2022	0-6 in. bgs	7.88	4.58	41.4	2.28
SS21 @ 2.5'	4/14/2022	2.5 ft. bgs	7.75	1.95	1.07	0.261
BKG01 @ 2'	4/14/2022	2 ft. bgs	NA	0.485	0.0434	0.321
BKG01 @ 2.5'	4/14/2022	2.5 ft. bgs	NA	0.534	0.0504	0.381
BKG01 @ 4'	4/14/2022	4 ft. bgs	NA	2.51	0.0848	0.636

Notes:

1. Compounds referenced from the COGCC 2 CCR 404-1, Table 915-1, effective January 15, 2021.

COGCC = Colorado Oil and Gas Conservation Commission

EC = Electrical conductivity

SAR = Sodium adsorption ratio

mmhos/cm = millimhos per centimeter

mg/L = milligram per liter

ft. = Feet

in. = Inches

bgs = Below ground surface

BOLD = Analytical result is in exceedance of applicable standard.

 = Source material characterization sample

NA = Constituent not analyzed

TABLE 3
FAGERBERG PAD
SOIL ANALYTICAL RESULTS SUMMARY TABLE
ORGANIC COMPOUNDS - PAHs

Sample ID	Date Sampled	Depth	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benz(a) (mg/kg)	Benzo(a) (mg/kg)	Benzo(b) (mg/kg)	Benzo(k) (mg/kg)	Chrysene (mg/kg)	A,H (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	Pyrene (mg/kg)	1-M (mg/kg)	2-M (mg/kg)
Residential SSL ^(1,2)			360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
Protection of Groundwater SSL ^(1,2,3)			0.55	5.8	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
SS01 @ 0-6"	4/7/2022	0-6 in. bgs	<0.00500	<0.00500	0.143	<0.00500	<0.00500	<0.00500	0.153	<0.00500	0.0304	<0.00500	<0.00500	0.0860	5.34	9.65

Notes:

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

COGCC = Colorado Oil and Gas Conservation Commission

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

PAHs = Polycyclic aromatic hydrocarbons

Benz(a) = Benzanthracene

Benzo(a) = Benzopyrene

Benzo(b) = Benzofluoranthene

Benzo(k) = Benzofluoranthene

A,H = Dibenzoanthracene

1,2,3-CD = Indenopyrene

M = Methylnaphthalene

mg/kg = Milligrams per kilogram

= Source material characterization sample

in. = Inches

bgs = Below ground surface

BOLD = Analytical result is in exceedance of applicable standard.

TABLE 4
FAGERBERG FACILITY
SOIL ANALYTICAL RESULTS SUMMARY TABLE
METALS

Sample ID	Date Sampled	Depth	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
Residential SSL ^(1,2)			0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
Protection of Groundwater SSL ^(1,2,3)			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
SS01 @ 0-6"	4/7/2022	0-6 in. bgs	2.44	63.3	0.368	<0.30 ⁽⁴⁾	5.95	3.50	4.76	0.426	<0.0225	20.4
BKG01 @ 2'	4/14/2022	2 ft. bgs	5.98	295	0.965	<0.30 ⁽⁴⁾	12.7	8.05	16.2	1.02	0.0486	51.3
BKG01 @ 2.5'	4/14/2022	2.5 ft. bgs	6.08	202	0.265	<0.30 ⁽⁴⁾	12.9	8.25	15.6	1.07	0.0485	51.4
BKG01 @ 4'	4/14/2022	4 ft. bgs	7.67	187	0.811	<0.30 ⁽⁴⁾	11.6	8.29	14.2	0.973	0.0471	50.8

Notes:

- Compounds referenced from the COGCC 2 CCR 404-1, Table 915-1, effective January 15, 2021.
 - Soil Screening Levels (SSL) referenced from EPA Regional Screening Levels (EPA RSLs) for Chemical Contaminants at Superfund Sites, effective November 2020.
 - SSLs are applicable if a pathway for communication with groundwater is present.
 - Compound falls within COGCC Table 915-1 Footnote 9.
- COGCC = Colorado Oil and Gas Conservation Commission
 (<) = Analytical result is less than the indicated laboratory reporting limit.
 mg/kg = Milligrams per kilogram
 = Source material characterization sample

ft. = Feet

in. = Inches

bgs = Below ground surface

BOLD = Analytical result is in exceedance of applicable standard.

BOLD = Analytical result is in exceedance of applicable standard, but below background concentration.

Arsenic and Selenium exceedances observed in SS01 were below the respective concentrations observed in all 3x BKG01 samples.

TABLE 5
FAGERBERG PAD
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	4/15/2022	120	690	84	700	23	150	56	7 ft.	NA

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
BOLD = Analytical result is in exceedance of applicable standard.
NA = Not applicable

TABLE 6
FAGERBERG PAD
FIELD DATA SUMMARY TABLE

Sample ID	Date Sampled	Depth	GPS Data ⁽¹⁾ Latitude / Longitude		PDOP Value	VOC Concentration ⁽²⁾ (ppm)
SS01 @ 0-6"	4/7/2022	0-6 in. bgs	40.502545	-104.733874	1.0	4,608
SS02 @ 0-6"	4/7/2022	0-6 in. bgs	40.502549	-104.733891	1.0	0.0
SS03 @ 0-6"	4/7/2022	0-6 in. bgs	40.502522	-104.733842	1.0	0.0
SS04 @ 0-6"	4/7/2022	0-6 in. bgs	40.502531	-104.733790	1.0	0.0
SS05 @ 0-6"	4/7/2022	0-6 in. bgs	40.502525	-104.733734	1.0	0.0
SS06 @ 0-6"	4/7/2022	0-6 in. bgs	40.502542	-104.733643	1.0	0.0
SS07 @ 0-6"	4/7/2022	0-6 in. bgs	40.502552	-104.733593	1.0	0.0
SS08 @ 0-6"	4/7/2022	0-6 in. bgs	40.502560	-104.733730	1.0	0.0
SS09 @ 0-6"	4/7/2022	0-6 in. bgs	40.502562	-104.733801	1.0	0.0
SS10 @ 0-6"	4/7/2022	0-6 in. bgs	40.502566	-104.733859	1.0	0.0
SS11 @ 2'	4/7/2022	2 ft. bgs	40.502545	-104.733874	1.0	1,750
SS12 @ 0-6"	4/8/2022	0-6 in. bgs	40.502550	-104.733544	1.0	0.0
SS13 @ 0-6"	4/8/2022	0-6 in. bgs	40.502578	-104.733452	1.0	0.0
SS14 @ 0-6"	4/8/2022	0-6 in. bgs	40.502509	-104.733454	1.0	0.0
SS15 @ 4'	4/8/2022	4 ft. bgs	NC	NC	NA	29.5
SS16 @ 2'	4/14/2022	2 ft. bgs	40.502533	-104.733825	1.0	9.6
SS17 @ 2'	4/14/2022	2 ft. bgs	40.502546	-104.733851	1.0	0.9
SS18 @ 2'	4/14/2022	2 ft. bgs	40.502533	-104.733873	1.0	1.0
SS19 @ 2'	4/14/2022	2 ft. bgs	40.502523	-104.733851	1.0	4.5
SS20 @ 4'	4/14/2022	4 ft. bgs	40.502537	-104.733840	1.0	3.3
SS21 @ 2.5'	4/14/2022	2.5 ft. bgs	40.502549	-104.733869	1.0	0.8
SS22 @ 2.5'	4/14/2022	2.5 ft. bgs	40.502525	-104.733867	1.0	0.4
BKG01 @ 2'	4/14/2022	2 ft. bgs	40.502530	-104.733422	1.1	0.3
BKG01 @ 2.5'	4/14/2022	2.5 ft. bgs	40.502530	-104.733422	1.1	0.4
BKG01 @ 4'	4/14/2022	4 ft. bgs	40.502530	-104.733422	1.1	0.2
SS23 @ 7'	4/15/2022	7 ft. bgs	NC	NC	NA	4.7
GW01	4/15/2022	7 ft. bgs	NC	NC	NA	NA
SS24 @ 4'	4/18/2022	4 ft. bgs	40.502505	-104.733792	1.2	2.2
SS25 @ 7'	4/18/2022	7 ft. bgs	40.502505	-104.733792	1.2	4.1
SS26 @ 4'	4/18/2022	4 ft. bgs	40.502527	-104.733859	1.0	1.8
SS27 @ 7'	4/18/2022	7 ft. bgs	40.502527	-104.733859	1.0	34.8
SS28 @ 4'	4/18/2022	4 ft. bgs	40.502540	-104.733873	1.1	6.1
SS29 @ 7'	4/18/2022	7 ft. bgs	40.502540	-104.733873	1.1	1.9
SS30 @ 4'	4/18/2022	4 ft. bgs	40.502548	-104.733855	1.2	3.7
SS31 @ 7'	4/18/2022	7 ft. bgs	40.502548	-104.733855	1.2	1.5

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

NA = Not applicable

 = Source material characterization sample

ATTACHMENT A

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 23, 2022

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Fagerberg Release

Work Order #2204123

Enclosed are the results of analyses for samples received by Summit Scientific on 04/07/22 17:25. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, flowing script.

Paul Shrewsbury

President



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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01@0-6"	2204123-01	Soil	04/07/22 14:35	04/07/22 17:25
SS02@0-6"	2204123-02	Soil	04/07/22 14:36	04/07/22 17:25
SS03@0-6"	2204123-03	Soil	04/07/22 14:37	04/07/22 17:25
SS04@0-6"	2204123-04	Soil	04/07/22 14:38	04/07/22 17:25
SS05@0-6"	2204123-05	Soil	04/07/22 14:39	04/07/22 17:25
SS06@0-6"	2204123-06	Soil	04/07/22 14:40	04/07/22 17:25
SS07@0-6"	2204123-07	Soil	04/07/22 14:41	04/07/22 17:25
SS08@0-6"	2204123-08	Soil	04/07/22 14:42	04/07/22 17:25
SS09@0-6"	2204123-09	Soil	04/07/22 14:43	04/07/22 17:25
SS10@0-6"	2204123-10	Soil	04/07/22 14:44	04/07/22 17:25
SS11@2'	2204123-11	Soil	04/07/22 14:45	04/07/22 17:25

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Summit Scientific

S₂

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

2204123-1

Page 1 of 2

Client: PDC / Tasman

Project Manager: Mark Longhurst

Address: 6855 W 119th Ave

E-Mail: mark.longhurst@PDCE.com

City/State/Zip: Broomfield/ CO/ 80020


Phone: 303-487-1228

Project Name: Fayerberg Release

Sampler Name: J. Marcus

Project Number: n/a

					Preservative				Matrix				Analysis Requested							Special Instruction	
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	PAH-q15	Metals-q15		pH, EC, SAR by saturate paste
1	SS01 @ 0-6"	4/7/22	1435	3			X			X			X	X	X	X	X	X	X		
2	SS02 @ 0-6"		1436	3			X			X			X	X	X	X	X	X	X		
3	SS03 @ 0-6"		1437	3			X			X			X	X	X	X					
4	SS04 @ 0-6"		1438	3			X			X			X	X	X	X					
5	SS05 @ 0-6"		1439	3			X			X			X	X	X	X					
6	SS06 @ 0-6"		1440	3			X			X			X	X	X	X					
7	SS07 @ 0-6"		1441	3			X			X			X	X	X	X					
8	SS08 @ 0-6"		1442	3			X			X			X	X	X	X					
9	SS09 @ 0-6"		1443	3			X			X			X	X	X	X					
10	SS10 @ 0-6"		1444	3			X			X			X	X	X	X					

Relinquished by:  Date/Time: 4/7/22 1700

Received by: Tasman's Lock Box Date/Time: 4/7/22 1700

Relinquished by: Tasman's Lock Box Date/Time:

Received by: Date/Time:

Relinquished by: Date/Time:

Received by: Date/Time:

Turn Around Time (Check)
Same Day ☒ 72 hours ☐
24 hours ☐ Standard ☐
48 hours ☐
Sample Integrity:
Temperature Upon Receipt: _____
Samples Intact: Yes No

Notes:

Summit Scientific

S₂

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

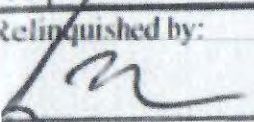
2204123.2

Page 2 of 2

Client: PDC / Tasman
Address: 6855 W 119th Ave
City/State/Zip: Broomfield/ CO/ 80020
Phone: 303-487-1228
Sampler Name: J. Marcus

Project Manager: Mark Longhurst
E-Mail: mark.longhurst@PDCE.com
Project Name: Fugate Release
Project Number: N/A

Sample Name: 5511Q2'					Preservative				Matrix				Analysis Requested							Special Instruction																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									

Relinquished by: 	Date/Time: 4/7/22 1700	Received by: Tasman's Lock Box	Date/Time: 4/7/22 1700	Turn Around Time (Check)	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Same Day <input checked="" type="checkbox"/> 72 hours	
Tasman's Lock Box				24 hours	
				48 hours	
				Sample Integrity:	
				Temperature Upon Receipt:	
				Samples Intact: Yes No	

Sample Receipt Checklist

S2 Work Order 2204123

Client: PDC/Tasman

Client Project ID: Fayerberg Release

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

Airbill #: _____

Matrix (check all that apply):

☐ Air

☒ Soil/Solid

☐ Water

☐ Other: _____

(Describe)

Temp (°C)	3.7
-----------	-----

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	COC came next day
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

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

PS

Custodian Printed Name or Initials

Signature of Custodian

4/7/22 1725

Date/Time



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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS01@0-6"
2204123-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/07/22 14:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	1.0	0.020	mg/kg	10	BFD0149	04/07/22	04/08/22	EPA 8260B	
Toluene	17	0.050	"	"	"	"	04/08/22	"	
Ethylbenzene	8.1	0.050	"	"	"	"	04/08/22	"	
Xylenes (total)	17	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	1.3	0.0050	"	1	"	"	04/08/22	"	
1,3,5-Trimethylbenzene	3.4	0.0050	"	"	"	"	"	"	
Naphthalene	4.2	0.038	"	10	"	"	"	"	
Gasoline Range Hydrocarbons	2800	50	"	100	"	"	04/08/22	"	

Date Sampled: **04/07/22 14:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0227	56.8 %	50-150		"	"	04/08/22	"	
Surrogate: Toluene-d8	0.0716	179 %	50-150		"	"	"	"	S-02
Surrogate: 4-Bromofluorobenzene	0.684	1710 %	50-150		"	"	"	"	S-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/07/22 14:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	3800	50	mg/kg	1	BFD0150	04/07/22	04/08/22	EPA 8015M	
C28-C36 (ORO)	200	50	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	16.3	130 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS01@0-6"
2204123-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/07/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	0.143	0.00500	mg/kg	1	BFD0151	04/08/22	04/09/22	EPA 8270D SIM	
Chrysene	0.153	0.0500	"	10	"	"	"	"	
Fluoranthene	0.0304	0.00500	"	1	"	"	"	"	
Pyrene	0.0860	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	5.34	0.500	"	100	"	"	"	"	
2-Methylnaphthalene	9.65	0.500	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0334	100 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0292	87.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/07/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	2.28	0.0100	mg/L	1	BFD0185	04/11/22	04/14/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/07/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.44	0.225	mg/kg dry	1	BFD0178	04/13/22	04/14/22	EPA 6020B	
Barium	63.3	0.450	"	"	"	"	"	"	
Cadmium	0.368	0.225	"	"	"	"	"	"	
Copper	5.95	0.450	"	"	"	"	"	"	
Lead	3.50	0.225	"	"	"	"	"	"	
Nickel	4.76	0.450	"	"	"	"	"	"	
Selenium	0.426	0.292	"	"	"	"	"	"	
Silver	ND	0.0225	"	"	"	"	"	"	
Zinc	20.4	0.450	"	"	"	"	"	"	

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS01@0-6"
2204123-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/07/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFD0249	04/13/22	04/13/22	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/07/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	12.1	0.0562	mg/L dry	1	BFD0261	04/13/22	04/17/22	EPA 6020B	
Magnesium	6.61	0.0562	"	"	"	"	"	"	
Sodium	20.1	0.0562	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/07/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.15	0.00100	units	1	BFD0331	04/17/22	04/17/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/07/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.9		%	1	BFD0195	04/11/22	04/11/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/07/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.58	0.0100	mmhos/cm	1	BFD0291	04/14/22	04/14/22	EPA 120.1	

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS01@0-6"
2204123-01 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **04/07/22 14:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.88			pH Units	1	BFD0290	04/14/22	04/14/22	EPA 9045D	

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS02@0-6"
2204123-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/07/22 14:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFD0149	04/07/22	04/08/22	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: **04/07/22 14:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0569	142 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0419	105 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0437	109 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/07/22 14:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	120	50	mg/kg	1	BFD0150	04/07/22	04/08/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.7	102 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS02@0-6"
2204123-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/07/22 14:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	0.00500	mg/kg	1	BFD0400	04/20/22	04/21/22	EPA 8270D SIM	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0201	60.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0224	67.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/07/22 14:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.396	0.0100	mg/L	1	BFD0553	04/26/22	04/27/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/07/22 14:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	8.47	0.0538	mg/L dry	1	BFD0595	04/27/22	05/03/22	EPA 6020B	
Magnesium	1.67	0.0538	"	"	"	"	"	"	
Sodium	3.01	0.0538	"	"	"	"	"	"	

Calculated Analysis

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: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS02@0-6"
2204123-02 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/07/22 14:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.247	0.00100	units	1	BFE0043	05/03/22	05/03/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/07/22 14:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.9		%	1	BFD0422	04/20/22	04/20/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/07/22 14:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.49	0.0100	mmhos/cm	1	BFD0596	04/27/22	04/28/22	EPA 120.1	

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: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS03@0-6"
2204123-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/07/22 14:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFD0149	04/07/22	04/08/22	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: **04/07/22 14:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0555	139 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0412	103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0426	106 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/07/22 14:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0150	04/07/22	04/08/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.9	103 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS03@0-6"
2204123-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/07/22 14:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	0.00500	mg/kg	1	BFD0400	04/20/22	04/21/22	EPA 8270D SIM	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	0.00520	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0203	60.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0231	69.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/07/22 14:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.877	0.0100	mg/L	1	BFD0553	04/26/22	04/27/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/07/22 14:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	10.9	0.0529	mg/L dry	1	BFD0595	04/27/22	05/03/22	EPA 6020B	
Magnesium	1.75	0.0529	"	"	"	"	"	"	
Sodium	7.05	0.0529	"	"	"	"	"	"	

Calculated Analysis

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS03@0-6"
2204123-03 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/07/22 14:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.523	0.00100	units	1	BFE0043	05/03/22	05/03/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/07/22 14:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.5		%	1	BFD0422	04/20/22	04/20/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/07/22 14:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.85	0.0100	mmhos/cm	1	BFD0596	04/27/22	04/28/22	EPA 120.1	

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS04@0-6"
2204123-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/07/22 14:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFD0149	04/07/22	04/08/22	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	0.68	0.50	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0391	97.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0410	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0421	105 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/07/22 14:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	87	50	mg/kg	1	BFD0150	04/07/22	04/08/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	13.1	105 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS04@0-6"
2204123-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/07/22 14:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	0.00500	mg/kg	1	BFD0400	04/20/22	04/21/22	EPA 8270D SIM	
Chrysene	0.00698	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	0.0283	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	0.0391	0.00500	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0198	59.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0224	67.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/07/22 14:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.635	0.0100	mg/L	1	BFD0553	04/26/22	04/27/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/07/22 14:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	3.50	0.0508	mg/L dry	1	BFD0595	04/27/22	05/03/22	EPA 6020B	
Magnesium	0.637	0.0508	"	"	"	"	"	"	
Sodium	3.82	0.0508	"	"	"	"	"	"	

Calculated Analysis

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS04@0-6"
2204123-04 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/07/22 14:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.493	0.00100	units	1	BFE0043	05/03/22	05/03/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/07/22 14:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	98.4		%	1	BFD0422	04/20/22	04/20/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/07/22 14:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.70	0.0100	mmhos/cm	1	BFD0596	04/27/22	04/28/22	EPA 120.1	

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS05@0-6"
2204123-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/07/22 14:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFD0149	04/07/22	04/08/22	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	1.0	0.50	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0400	100 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0415	104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0438	110 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/07/22 14:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0150	04/07/22	04/08/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	13.1	105 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS05@0-6"
2204123-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/07/22 14:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	0.00500	mg/kg	1	BFD0400	04/20/22	04/21/22	EPA 8270D SIM	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	0.0103	0.00500	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0224	67.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0241	72.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/07/22 14:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.532	0.0100	mg/L	1	BFD0553	04/26/22	04/27/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/07/22 14:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	7.58	0.0524	mg/L dry	1	BFD0595	04/27/22	05/03/22	EPA 6020B	
Magnesium	1.37	0.0524	"	"	"	"	"	"	
Sodium	1.20	0.0524	"	"	"	"	"	"	

Calculated Analysis

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS05@0-6"
2204123-05 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/07/22 14:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.105	0.00100	units	1	BFE0043	05/03/22	05/03/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/07/22 14:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.3		%	1	BFD0422	04/20/22	04/20/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/07/22 14:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.16	0.0100	mmhos/cm	1	BFD0596	04/27/22	04/28/22	EPA 120.1	

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS06@0-6"
2204123-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/07/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFD0149	04/07/22	04/08/22	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	1.0	0.50	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0407	102 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0418	104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0434	108 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/07/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0150	04/07/22	04/08/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.9	103 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS06@0-6"
2204123-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/07/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	0.00500	mg/kg	1	BFD0400	04/20/22	04/21/22	EPA 8270D SIM	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	0.00667	0.00500	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0173	51.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0200	60.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/07/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.368	0.0100	mg/L	1	BFD0553	04/26/22	04/27/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/07/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2.18	0.0508	mg/L dry	1	BFD0595	04/27/22	05/03/22	EPA 6020B	
Magnesium	0.474	0.0508	"	"	"	"	"	"	
Sodium	0.488	0.0508	"	"	"	"	"	"	

Calculated Analysis

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS06@0-6"
2204123-06 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/07/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0781	0.00100	units	1	BFE0043	05/03/22	05/03/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/07/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	98.3		%	1	BFD0422	04/20/22	04/20/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/07/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.154	0.0100	mmhos/cm	1	BFD0596	04/27/22	04/28/22	EPA 120.1	

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS07@0-6"
2204123-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/07/22 14:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFD0149	04/07/22	04/08/22	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	0.80	0.50	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0407	102 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0415	104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0434	109 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/07/22 14:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0150	04/07/22	04/08/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.8	103 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS07@0-6"
2204123-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/07/22 14:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	0.00500	mg/kg	1	BFD0400	04/20/22	04/21/22	EPA 8270D SIM	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0194	58.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0208	62.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/07/22 14:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.561	0.0100	mg/L	1	BFD0553	04/26/22	04/27/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/07/22 14:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	14.4	0.0520	mg/L dry	1	BFD0595	04/27/22	05/03/22	EPA 6020B	
Magnesium	3.00	0.0520	"	"	"	"	"	"	
Sodium	2.94	0.0520	"	"	"	"	"	"	

Calculated Analysis

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: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS07@0-6"
2204123-07 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/07/22 14:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.184	0.00100	units	1	BFE0043	05/03/22	05/03/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/07/22 14:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.2		%	1	BFD0422	04/20/22	04/20/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/07/22 14:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.51	0.0100	mmhos/cm	1	BFD0596	04/27/22	04/28/22	EPA 120.1	

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS08@0-6"
2204123-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/07/22 14:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFD0149	04/07/22	04/08/22	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	0.69	0.50	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0394	98.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0411	103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0430	108 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/07/22 14:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0150	04/07/22	04/08/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	13.0	104 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS08@0-6"
2204123-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/07/22 14:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	0.00500	mg/kg	1	BFD0400	04/20/22	04/21/22	EPA 8270D SIM	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0183	54.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0218	65.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/07/22 14:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.391	0.0100	mg/L	1	BFD0553	04/26/22	04/27/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/07/22 14:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2.81	0.0512	mg/L dry	1	BFD0595	04/27/22	05/03/22	EPA 6020B	
Magnesium	0.566	0.0512	"	"	"	"	"	"	
Sodium	0.438	0.0512	"	"	"	"	"	"	

Calculated Analysis

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS08@0-6"
2204123-08 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/07/22 14:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0623	0.00100	units	1	BFE0043	05/03/22	05/03/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/07/22 14:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	97.6		%	1	BFD0422	04/20/22	04/20/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/07/22 14:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.276	0.0100	mmhos/cm	1	BFD0596	04/27/22	04/28/22	EPA 120.1	

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS09@0-6"
2204123-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/07/22 14:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFD0149	04/07/22	04/08/22	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	0.64	0.50	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0391	97.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0411	103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0436	109 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/07/22 14:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0150	04/07/22	04/08/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.6	101 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS09@0-6"
2204123-09 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/07/22 14:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	0.00500	mg/kg	1	BFD0400	04/20/22	04/21/22	EPA 8270D SIM	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0178	53.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0207	62.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/07/22 14:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	1.35	0.0100	mg/L	1	BFD0553	04/26/22	04/27/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/07/22 14:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	3.18	0.0516	mg/L dry	1	BFD0595	04/27/22	05/03/22	EPA 6020B	
Magnesium	1.13	0.0516	"	"	"	"	"	"	
Sodium	6.47	0.0516	"	"	"	"	"	"	

Calculated Analysis

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS09@0-6"
2204123-09 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/07/22 14:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.793	0.00100	units	1	BFE0043	05/03/22	05/03/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/07/22 14:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.9		%	1	BFD0422	04/20/22	04/20/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/07/22 14:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.26	0.0100	mmhos/cm	1	BFD0596	04/27/22	04/28/22	EPA 120.1	

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS10@0-6"
2204123-10 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/07/22 14:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFD0149	04/07/22	04/08/22	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	0.62	0.50	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0401	100 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0408	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0429	107 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/07/22 14:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0150	04/07/22	04/08/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	11.9	95.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS10@0-6"
2204123-10 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/07/22 14:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	0.00500	mg/kg	1	BFD0400	04/20/22	04/21/22	EPA 8270D SIM	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0193	57.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0218	65.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/07/22 14:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	1.50	0.0100	mg/L	1	BFD0553	04/26/22	04/27/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/07/22 14:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	12.0	0.0530	mg/L dry	1	BFD0595	04/27/22	05/03/22	EPA 6020B	
Magnesium	1.93	0.0530	"	"	"	"	"	"	
Sodium	14.6	0.0530	"	"	"	"	"	"	

Calculated Analysis

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: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS10@0-6"
2204123-10 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/07/22 14:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.03	0.00100	units	1	BFE0043	05/03/22	05/03/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/07/22 14:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.3		%	1	BFD0422	04/20/22	04/20/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/07/22 14:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.47	0.0100	mmhos/cm	1	BFD0596	04/27/22	04/28/22	EPA 120.1	

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: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS11@2'
2204123-11 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/07/22 14:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	0.033	0.0020	mg/kg	1	BFD0149	04/07/22	04/08/22	EPA 8260B	
Toluene	1.8	0.050	"	10	"	"	"	"	
Ethylbenzene	0.94	0.050	"	"	"	"	"	"	
Xylenes (total)	7.7	0.10	"	"	"	"	04/08/22	"	
1,2,4-Trimethylbenzene	5.0	0.050	"	"	"	"	04/08/22	"	
1,3,5-Trimethylbenzene	1.7	0.050	"	"	"	"	"	"	
Naphthalene	0.89	0.038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	48	5.0	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0557	139 %	50-150		"	"	"	"	
<i>Surrogate: Toluene-d8</i>	0.0415	104 %	50-150		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0748	187 %	50-150		"	"	"	"	S-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/07/22 14:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	510	50	mg/kg	1	BFD0150	04/07/22	04/08/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<i>Surrogate: o-Terphenyl</i>	12.1	96.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS11@2'
2204123-11 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/07/22 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	0.00500	mg/kg	1	BFD0400	04/20/22	04/21/22	EPA 8270D SIM	
Chrysene	0.0211	0.00500	"	"	"	"	"	"	
Fluoranthene	0.00774	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	0.263	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	0.0714	0.00500	"	"	"	"	"	"	

Date Sampled: **04/07/22 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0186	55.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0232	69.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/07/22 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.422	0.0100	mg/L	1	BFD0553	04/26/22	04/27/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/07/22 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	21.9	0.0600	mg/L dry	1	BFD0595	04/27/22	05/03/22	EPA 6020B	
Magnesium	3.55	0.0600	"	"	"	"	"	"	
Sodium	6.72	0.0600	"	"	"	"	"	"	

Calculated Analysis

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

SS11@2'
2204123-11 (Soil)

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Calculated Analysis

Date Sampled: **04/07/22 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.351	0.00100	units	1	BFE0043	05/03/22	05/03/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/07/22 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.4		%	1	BFD0422	04/20/22	04/20/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/07/22 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.40	0.0100	mmhos/cm	1	BFD0596	04/27/22	04/28/22	EPA 120.1	

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

Project: Fagerberg Release

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

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 BFD0149 - EPA 5030 Soil MS

Blank (BFD0149-BLK1)

Prepared & Analyzed: 04/07/22

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	0.0386		"	0.0400		96.4	50-150			
Surrogate: Toluene-d8	0.0413		"	0.0400		103	50-150			
Surrogate: 4-Bromofluorobenzene	0.0426		"	0.0400		106	50-150			

LCS (BFD0149-BS1)

Prepared & Analyzed: 04/07/22

Benzene	0.112	0.0020	mg/kg	0.100		112	70-130			
Toluene	0.112	0.0050	"	0.100		112	70-130			
Ethylbenzene	0.100	0.0050	"	0.100		100	70-130			
m,p-Xylene	0.194	0.010	"	0.200		97.0	70-130			
o-Xylene	0.0971	0.0050	"	0.100		97.1	70-130			
1,2,4-Trimethylbenzene	0.102	0.0050	"	0.100		102	70-130			
1,3,5-Trimethylbenzene	0.0987	0.0050	"	0.100		98.7	70-130			
Naphthalene	0.0893	0.0038	"	0.100		89.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0379		"	0.0400		94.6	50-150			
Surrogate: Toluene-d8	0.0419		"	0.0400		105	50-150			
Surrogate: 4-Bromofluorobenzene	0.0418		"	0.0400		105	50-150			

Matrix Spike (BFD0149-MS1)

Source: 2204108-01

Prepared & Analyzed: 04/07/22

Benzene	0.106	0.0020	mg/kg	0.100	ND	106	70-130			
Toluene	0.105	0.0050	"	0.100	ND	105	70-130			
Ethylbenzene	0.0963	0.0050	"	0.100	ND	96.3	70-130			
m,p-Xylene	0.188	0.010	"	0.200	ND	94.0	70-130			
o-Xylene	0.0930	0.0050	"	0.100	ND	93.0	70-130			
1,2,4-Trimethylbenzene	0.0950	0.0050	"	0.100	ND	95.0	70-130			
1,3,5-Trimethylbenzene	0.0928	0.0050	"	0.100	ND	92.8	70-130			
Naphthalene	0.0768	0.0038	"	0.100	ND	76.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0369		"	0.0400		92.2	50-150			
Surrogate: Toluene-d8	0.0410		"	0.0400		102	50-150			
Surrogate: 4-Bromofluorobenzene	0.0416		"	0.0400		104	50-150			

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

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 BFD0149 - EPA 5030 Soil MS

Matrix Spike Dup (BFD0149-MSD1)		Source: 2204108-01			Prepared: 04/07/22 Analyzed: 04/08/22					
Benzene	0.108	0.0020	mg/kg	0.100	ND	108	70-130	2.00	30	
Toluene	0.109	0.0050	"	0.100	ND	109	70-130	2.94	30	
Ethylbenzene	0.0977	0.0050	"	0.100	ND	97.7	70-130	1.52	30	
m,p-Xylene	0.187	0.010	"	0.200	ND	93.5	70-130	0.592	30	
o-Xylene	0.0935	0.0050	"	0.100	ND	93.5	70-130	0.515	30	
1,2,4-Trimethylbenzene	0.0952	0.0050	"	0.100	ND	95.2	70-130	0.252	30	
1,3,5-Trimethylbenzene	0.0932	0.0050	"	0.100	ND	93.2	70-130	0.323	30	
Naphthalene	0.0752	0.0038	"	0.100	ND	75.2	70-130	2.09	30	
<hr/>										
Surrogate: 1,2-Dichloroethane-d4	0.0373		"	0.0400		93.3	50-150			
Surrogate: Toluene-d8	0.0417		"	0.0400		104	50-150			
Surrogate: 4-Bromofluorobenzene	0.0420		"	0.0400		105	50-150			

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BFD0150 - EPA 3550A

Blank (BFD0150-BLK1)

Prepared & Analyzed: 04/07/22

C10-C28 (DRO)	ND	50	mg/kg
C28-C36 (ORO)	ND	50	"

LCS (BFD0150-BS1)

Prepared: 04/07/22 Analyzed: 04/08/22

C10-C28 (DRO)	470	50	mg/kg	500	94.0	70-130
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Matrix Spike (BFD0150-MS1)

Source: 2204108-01

Prepared: 04/07/22 Analyzed: 04/08/22

C10-C28 (DRO)	459	50	mg/kg	500	9.35	90.0	70-130
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Matrix Spike Dup (BFD0150-MSD1)

Source: 2204108-01

Prepared: 04/07/22 Analyzed: 04/08/22

C10-C28 (DRO)	503	50	mg/kg	500	9.35	98.6	70-130	8.96	20
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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFD0151 - EPA 5030 Soil MS

Blank (BFD0151-BLK1)

Prepared & Analyzed: 04/08/22

Acenaphthene	ND	0.00500	mg/kg								
Anthracene	ND	0.00500	"								
Benzo (a) anthracene	ND	0.00500	"								
Benzo (a) pyrene	ND	0.00500	"								
Benzo (b) fluoranthene	ND	0.00500	"								
Benzo (k) fluoranthene	ND	0.00500	"								
Chrysene	ND	0.00500	"								
Dibenz (a,h) anthracene	ND	0.00500	"								
Fluoranthene	ND	0.00500	"								
Fluorene	ND	0.00500	"								
Indeno (1,2,3-cd) pyrene	ND	0.00500	"								
Pyrene	ND	0.00500	"								
1-Methylnaphthalene	ND	0.00500	"								
2-Methylnaphthalene	ND	0.00500	"								
Surrogate: 2-Methylnaphthalene-d10	0.0182		"	0.0333		54.7		40-150			
Surrogate: Fluoranthene-d10	0.0177		"	0.0333		53.2		40-150			

LCS (BFD0151-BS1)

Prepared & Analyzed: 04/08/22

Acenaphthene	0.0213	0.00500	mg/kg	0.0333		63.9		31-137			
Anthracene	0.0231	0.00500	"	0.0333		69.2		30-120			
Benzo (a) anthracene	0.0230	0.00500	"	0.0333		69.0		30-120			
Benzo (a) pyrene	0.0214	0.00500	"	0.0333		64.1		30-120			
Benzo (b) fluoranthene	0.0129	0.00500	"	0.0333		38.8		30-120			
Benzo (k) fluoranthene	0.0264	0.00500	"	0.0333		79.1		30-120			
Chrysene	0.0269	0.00500	"	0.0333		80.8		30-120			
Dibenz (a,h) anthracene	0.0232	0.00500	"	0.0333		69.7		30-120			
Fluoranthene	0.0224	0.00500	"	0.0333		67.2		30-120			
Fluorene	0.0260	0.00500	"	0.0333		77.9		30-120			
Indeno (1,2,3-cd) pyrene	0.0241	0.00500	"	0.0333		72.4		30-120			
Pyrene	0.0338	0.00500	"	0.0333		101		35-142			
1-Methylnaphthalene	0.0197	0.00500	"	0.0333		59.0		35-142			
2-Methylnaphthalene	0.0179	0.00500	"	0.0333		53.8		35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0191		"	0.0333		57.4		40-150			
Surrogate: Fluoranthene-d10	0.0220		"	0.0333		66.0		40-150			

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFD0151 - EPA 5030 Soil MS

Matrix Spike (BFD0151-MS1)

Source: 2204104-01

Prepared & Analyzed: 04/08/22

Acenaphthene	0.0263	0.00500	mg/kg	0.0333	ND	78.9	31-137		
Anthracene	0.0221	0.00500	"	0.0333	ND	66.3	30-120		
Benzo (a) anthracene	0.0227	0.00500	"	0.0333	ND	68.0	30-120		
Benzo (a) pyrene	0.0215	0.00500	"	0.0333	ND	64.5	30-120		
Benzo (b) fluoranthene	0.0202	0.00500	"	0.0333	ND	60.6	30-120		
Benzo (k) fluoranthene	0.0236	0.00500	"	0.0333	ND	70.9	30-120		
Chrysene	0.0282	0.00500	"	0.0333	ND	84.6	30-120		
Dibenz (a,h) anthracene	0.0221	0.00500	"	0.0333	ND	66.3	30-120		
Fluoranthene	0.0201	0.00500	"	0.0333	ND	60.3	30-120		
Fluorene	0.0251	0.00500	"	0.0333	ND	75.4	30-120		
Indeno (1,2,3-cd) pyrene	0.0249	0.00500	"	0.0333	ND	74.6	30-120		
Pyrene	0.0326	0.00500	"	0.0333	ND	97.7	35-142		
1-Methylnaphthalene	0.0185	0.00500	"	0.0333	ND	55.6	15-130		
2-Methylnaphthalene	0.0160	0.00500	"	0.0333	ND	48.1	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0187		"	0.0333		56.1	40-150		
Surrogate: Fluoranthene-d10	0.0210		"	0.0333		62.9	40-150		

Matrix Spike Dup (BFD0151-MSD1)

Source: 2204104-01

Prepared & Analyzed: 04/08/22

Acenaphthene	0.0235	0.00500	mg/kg	0.0333	ND	70.5	31-137	11.2	30
Anthracene	0.0223	0.00500	"	0.0333	ND	66.8	30-120	0.691	30
Benzo (a) anthracene	0.0224	0.00500	"	0.0333	ND	67.2	30-120	1.19	30
Benzo (a) pyrene	0.0213	0.00500	"	0.0333	ND	63.9	30-120	0.926	30
Benzo (b) fluoranthene	0.0207	0.00500	"	0.0333	ND	62.0	30-120	2.27	30
Benzo (k) fluoranthene	0.0275	0.00500	"	0.0333	ND	82.4	30-120	15.0	30
Chrysene	0.0271	0.00500	"	0.0333	ND	81.3	30-120	3.98	30
Dibenz (a,h) anthracene	0.0226	0.00500	"	0.0333	ND	67.9	30-120	2.34	30
Fluoranthene	0.0205	0.00500	"	0.0333	ND	61.5	30-120	1.91	30
Fluorene	0.0246	0.00500	"	0.0333	ND	73.9	30-120	1.98	30
Indeno (1,2,3-cd) pyrene	0.0243	0.00500	"	0.0333	ND	72.8	30-120	2.37	30
Pyrene	0.0310	0.00500	"	0.0333	ND	92.9	35-142	5.06	30
1-Methylnaphthalene	0.0192	0.00500	"	0.0333	ND	57.6	15-130	3.62	50
2-Methylnaphthalene	0.0156	0.00500	"	0.0333	ND	46.7	15-130	2.97	50
Surrogate: 2-Methylnaphthalene-d10	0.0186		"	0.0333		55.7	40-150		
Surrogate: Fluoranthene-d10	0.0216		"	0.0333		64.8	40-150		

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFD0400 - EPA 5030 Soil MS

Blank (BFD0400-BLK1)

Prepared: 04/20/22 Analyzed: 04/21/22

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0264		"	0.0333		79.3	40-150			
Surrogate: Fluoranthene-d10	0.0310		"	0.0333		92.9	40-150			

LCS (BFD0400-BS1)

Prepared: 04/20/22 Analyzed: 04/21/22

Acenaphthene	0.0299	0.00500	mg/kg	0.0333		89.6	31-137			
Anthracene	0.0292	0.00500	"	0.0333		87.5	30-120			
Benzo (a) anthracene	0.0299	0.00500	"	0.0333		89.7	30-120			
Benzo (a) pyrene	0.0285	0.00500	"	0.0333		85.5	30-120			
Benzo (b) fluoranthene	0.0309	0.00500	"	0.0333		92.6	30-120			
Benzo (k) fluoranthene	0.0331	0.00500	"	0.0333		99.2	30-120			
Chrysene	0.0304	0.00500	"	0.0333		91.3	30-120			
Dibenz (a,h) anthracene	0.0174	0.00500	"	0.0333		52.1	30-120			
Fluoranthene	0.0307	0.00500	"	0.0333		92.0	30-120			
Fluorene	0.0300	0.00500	"	0.0333		90.0	30-120			
Indeno (1,2,3-cd) pyrene	0.0112	0.00500	"	0.0333		33.7	30-120			
Pyrene	0.0316	0.00500	"	0.0333		94.7	35-142			
1-Methylnaphthalene	0.0310	0.00500	"	0.0333		92.9	35-142			
2-Methylnaphthalene	0.0257	0.00500	"	0.0333		77.2	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0304		"	0.0333		91.3	40-150			
Surrogate: Fluoranthene-d10	0.0324		"	0.0333		97.3	40-150			

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFD0400 - EPA 5030 Soil MS

Matrix Spike (BFD0400-MS1)

Source: 2204123-02

Prepared: 04/20/22 Analyzed: 04/21/22

Acenaphthene	0.0151	0.00500	mg/kg	0.0333	ND	45.3	31-137		
Anthracene	0.0161	0.00500	"	0.0333	ND	48.4	30-120		
Benzo (a) anthracene	0.0156	0.00500	"	0.0333	ND	46.9	30-120		
Benzo (a) pyrene	0.0140	0.00500	"	0.0333	ND	41.9	30-120		
Benzo (b) fluoranthene	0.0150	0.00500	"	0.0333	ND	44.9	30-120		
Benzo (k) fluoranthene	0.0152	0.00500	"	0.0333	ND	45.5	30-120		
Chrysene	0.0150	0.00500	"	0.0333	ND	45.0	30-120		
Dibenz (a,h) anthracene	0.0184	0.00500	"	0.0333	ND	55.0	30-120		
Fluoranthene	0.0173	0.00500	"	0.0333	ND	51.8	30-120		
Fluorene	0.0157	0.00500	"	0.0333	ND	47.2	30-120		
Indeno (1,2,3-cd) pyrene	0.0191	0.00500	"	0.0333	ND	57.4	30-120		
Pyrene	0.0163	0.00500	"	0.0333	ND	49.0	35-142		
1-Methylnaphthalene	0.0149	0.00500	"	0.0333	ND	44.8	15-130		
2-Methylnaphthalene	0.0133	0.00500	"	0.0333	ND	40.0	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0143		"	0.0333		43.0	40-150		
Surrogate: Fluoranthene-d10	0.0178		"	0.0333		53.5	40-150		

Matrix Spike Dup (BFD0400-MSD1)

Source: 2204123-02

Prepared: 04/20/22 Analyzed: 04/21/22

Acenaphthene	0.0165	0.00500	mg/kg	0.0333	ND	49.4	31-137	8.64	30
Anthracene	0.0178	0.00500	"	0.0333	ND	53.4	30-120	9.78	30
Benzo (a) anthracene	0.0181	0.00500	"	0.0333	ND	54.3	30-120	14.6	30
Benzo (a) pyrene	0.0162	0.00500	"	0.0333	ND	48.6	30-120	15.0	30
Benzo (b) fluoranthene	0.0170	0.00500	"	0.0333	ND	50.9	30-120	12.5	30
Benzo (k) fluoranthene	0.0170	0.00500	"	0.0333	ND	51.0	30-120	11.5	30
Chrysene	0.0177	0.00500	"	0.0333	ND	53.0	30-120	16.3	30
Dibenz (a,h) anthracene	0.0200	0.00500	"	0.0333	ND	60.1	30-120	8.73	30
Fluoranthene	0.0195	0.00500	"	0.0333	ND	58.5	30-120	12.1	30
Fluorene	0.0176	0.00500	"	0.0333	ND	52.9	30-120	11.3	30
Indeno (1,2,3-cd) pyrene	0.0170	0.00500	"	0.0333	ND	50.9	30-120	12.1	30
Pyrene	0.0183	0.00500	"	0.0333	ND	54.8	35-142	11.2	30
1-Methylnaphthalene	0.0175	0.00500	"	0.0333	ND	52.4	15-130	15.8	50
2-Methylnaphthalene	0.0153	0.00500	"	0.0333	ND	45.9	15-130	13.8	50
Surrogate: 2-Methylnaphthalene-d10	0.0211		"	0.0333		63.3	40-150		
Surrogate: Fluoranthene-d10	0.0199		"	0.0333		59.7	40-150		

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: Fagerberg Release

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control
Summit Scientific

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

Batch BFD0185 - EPA 3050B

Blank (BFD0185-BLK1)

Prepared: 04/11/22 Analyzed: 04/14/22

Boron ND 0.0100 mg/L

LCS (BFD0185-BS1)

Prepared: 04/11/22 Analyzed: 04/14/22

Boron 4.86 0.0100 mg/L 5.00 97.2 80-120

Duplicate (BFD0185-DUP1)

Source: 2204053-01

Prepared: 04/11/22 Analyzed: 04/14/22

Boron 0.0597 0.0100 mg/L 0.0648 8.19 20

Matrix Spike (BFD0185-MS1)

Source: 2204053-01

Prepared: 04/11/22 Analyzed: 04/14/22

Boron 4.96 0.0100 mg/L 5.00 0.0648 97.8 75-125

Matrix Spike Dup (BFD0185-MSD1)

Source: 2204053-01

Prepared: 04/11/22 Analyzed: 04/14/22

Boron 5.03 0.0100 mg/L 5.00 0.0648 99.3 75-125 1.43 25

Batch BFD0553 - EPA 3050B

Blank (BFD0553-BLK1)

Prepared: 04/26/22 Analyzed: 04/27/22

Boron ND 0.0100 mg/L

LCS (BFD0553-BS1)

Prepared: 04/26/22 Analyzed: 04/27/22

Boron 4.92 0.0100 mg/L 5.00 98.4 80-120

Duplicate (BFD0553-DUP1)

Source: 2204123-02

Prepared: 04/26/22 Analyzed: 04/27/22

Boron 0.388 0.0100 mg/L 0.396 2.05 20

Matrix Spike (BFD0553-MS1)

Source: 2204123-02

Prepared: 04/26/22 Analyzed: 04/27/22

Boron 5.31 0.0100 mg/L 5.00 0.396 98.2 75-125

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: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control
Summit Scientific

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

Batch BFD0553 - EPA 3050B

Matrix Spike Dup (BFD0553-MSD1)

Source: 2204123-02

Prepared: 04/26/22 Analyzed: 04/27/22

Boron	5.11	0.0100	mg/L	5.00	0.396	94.3	75-125	3.76	25
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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: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

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 BFD0178 - EPA 3050B

Blank (BFD0178-BLK1)

Prepared: 04/13/22 Analyzed: 04/14/22

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

LCS (BFD0178-BS1)

Prepared: 04/13/22 Analyzed: 04/14/22

Arsenic	34.3	0.200	mg/kg wet	40.0	85.8	80-120
Barium	33.5	0.400	"	40.0	83.7	80-120
Cadmium	1.72	0.200	"	2.00	86.1	80-120
Copper	32.5	0.400	"	40.0	81.2	80-120
Lead	16.9	0.200	"	20.0	84.5	80-120
Nickel	35.3	0.400	"	40.0	88.3	80-120
Selenium	3.46	0.260	"	4.00	86.4	80-120
Silver	1.66	0.0200	"	2.00	82.8	80-120
Zinc	35.2	0.400	"	40.0	87.9	80-120

Duplicate (BFD0178-DUP1)

Source: 2204039-01

Prepared: 04/13/22 Analyzed: 04/14/22

Arsenic	0.862	0.236	mg/kg dry	0.820	4.97	20
Barium	17.4	0.473	"	17.0	2.31	20
Cadmium	0.0422	0.236	"	0.0446	5.47	20
Copper	3.10	0.473	"	2.81	9.94	20
Lead	4.99	0.236	"	5.07	1.48	20
Nickel	4.19	0.473	"	3.84	8.72	20
Selenium	0.470	0.307	"	0.454	3.41	20
Silver	0.0457	0.0236	"	0.0458	0.279	20
Zinc	20.3	0.473	"	18.3	10.3	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: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

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 BFD0178 - EPA 3050B

Matrix Spike (BFD0178-MS1)	Source: 2204039-01			Prepared: 04/13/22 Analyzed: 04/14/22						
Arsenic	44.5	0.236	mg/kg dry	47.3	0.820	92.4	75-125			
Barium	57.7	0.473	"	47.3	17.0	86.1	75-125			
Cadmium	2.20	0.236	"	2.36	0.0446	91.2	75-125			
Copper	42.5	0.473	"	47.3	2.81	84.0	75-125			
Lead	24.5	0.236	"	23.6	5.07	82.0	75-125			
Nickel	43.0	0.473	"	47.3	3.84	82.8	75-125			
Selenium	4.20	0.307	"	4.73	0.454	79.1	75-125			
Silver	2.06	0.0236	"	2.36	0.0458	85.4	75-125			
Zinc	62.4	0.473	"	47.3	18.3	93.1	75-125			

Matrix Spike Dup (BFD0178-MSD1)	Source: 2204039-01			Prepared: 04/13/22 Analyzed: 04/14/22						
Arsenic	42.8	0.236	mg/kg dry	47.3	0.820	88.9	75-125	3.81	25	
Barium	50.3	0.473	"	47.3	17.0	70.3	75-125	13.8	25	QM-05
Cadmium	1.90	0.236	"	2.36	0.0446	78.6	75-125	14.6	25	
Copper	41.1	0.473	"	47.3	2.81	81.1	75-125	3.33	25	
Lead	21.3	0.236	"	23.6	5.07	68.9	75-125	13.6	25	QM-05
Nickel	41.5	0.473	"	47.3	3.84	79.6	75-125	3.52	25	
Selenium	4.20	0.307	"	4.73	0.454	79.3	75-125	0.120	25	
Silver	1.78	0.0236	"	2.36	0.0458	73.3	75-125	14.8	25	QM-05
Zinc	60.4	0.473	"	47.3	18.3	88.9	75-125	3.26	25	

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: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BFD0249 - 3060A Mod

Blank (BFD0249-BLK1)

Prepared & Analyzed: 04/13/22

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BFD0249-BS1)

Prepared & Analyzed: 04/13/22

Chromium, Hexavalent 26.0 0.30 mg/kg wet 25.0 104 80-120

Duplicate (BFD0249-DUP1)

Source: 2204095-09

Prepared & Analyzed: 04/13/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BFD0249-MS1)

Source: 2204095-09

Prepared & Analyzed: 04/13/22

Chromium, Hexavalent 35.6 0.30 mg/kg dry 29.8 ND 120 75-125

Matrix Spike Dup (BFD0249-MSD1)

Source: 2204095-09

Prepared & Analyzed: 04/13/22

Chromium, Hexavalent 33.7 0.30 mg/kg dry 29.8 ND 113 75-125 5.50 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: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control
Summit Scientific

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

Batch BFD0261 - General Preparation

Blank (BFD0261-BLK1)

Prepared: 04/13/22 Analyzed: 04/16/22

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

LCS (BFD0261-BS1)

Prepared: 04/13/22 Analyzed: 04/16/22

Calcium	5.88	0.0500	mg/L wet	5.00	118	70-130
Magnesium	5.65	0.0500	"	5.00	113	70-130
Sodium	5.66	0.0500	"	5.00	113	70-130

Batch BFD0595 - General Preparation

Blank (BFD0595-BLK1)

Prepared: 04/27/22 Analyzed: 05/03/22

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

LCS (BFD0595-BS1)

Prepared: 04/27/22 Analyzed: 05/03/22

Calcium	6.14	0.0500	mg/L wet	5.00	123	70-130
Magnesium	5.72	0.0500	"	5.00	114	70-130
Sodium	6.18	0.0500	"	5.00	124	70-130

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: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

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

Summit Scientific

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

Batch BFD0195 - General Preparation

Duplicate (BFD0195-DUP1)		Source: 2204079-01			Prepared & Analyzed: 04/11/22						
% Solids	93.8		%		94.0			0.199		20	

Batch BFD0422 - General Preparation

Duplicate (BFD0422-DUP1)		Source: 2204123-02			Prepared & Analyzed: 04/20/22						
% Solids	92.4		%		92.9			0.577		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: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control
Summit Scientific

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

Batch BFD0291 - General Preparation

Blank (BFD0291-BLK1)

Prepared & Analyzed: 04/14/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFD0291-BS1)

Prepared & Analyzed: 04/14/22

Specific Conductance (EC) 0.151 0.0100 mmhos/cm 0.150 101 95-105

Duplicate (BFD0291-DUP1)

Source: 2204037-04

Prepared & Analyzed: 04/14/22

Specific Conductance (EC) 1.15 0.0100 mmhos/cm 1.15 0.435 20

Batch BFD0596 - General Preparation

Blank (BFD0596-BLK1)

Prepared: 04/27/22 Analyzed: 04/28/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFD0596-BS1)

Prepared: 04/27/22 Analyzed: 04/28/22

Specific Conductance (EC) 0.153 0.0100 mmhos/cm 0.150 102 95-105

Duplicate (BFD0596-DUP1)

Source: 2204123-02

Prepared: 04/27/22 Analyzed: 04/28/22

Specific Conductance (EC) 2.34 0.0100 mmhos/cm 2.49 6.30 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: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control
Summit Scientific

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

Batch BFD0290 - General Preparation

LCS (BFD0290-BS1)

Prepared & Analyzed: 04/14/22

pH	9.10	pH Units	9.18	99.1	95-105
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Duplicate (BFD0290-DUP1)

Source: 2204037-04

Prepared & Analyzed: 04/14/22

pH	7.94	pH Units	7.85	1.14	20
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Summit Scientific

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

Project: Fagerberg Release

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
05/23/22 14:45

Notes and Definitions

S-02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
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 28, 2022

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Fagerberg Release

Work Order #2204126

Enclosed are the results of analyses for samples received by Summit Scientific on 04/08/22 17:12. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury

President



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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/28/22 13:04

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS12@0-6"	2204126-01	Soil	04/08/22 13:37	04/08/22 17:12
SS13@0-6"	2204126-02	Soil	04/08/22 13:38	04/08/22 17:12
SS14@0-6"	2204126-03	Soil	04/08/22 13:39	04/08/22 17:12
SS15@4'	2204126-04	Soil	04/08/22 13:40	04/08/22 17:12

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Summit Scientific

S₂

2204126

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

Page 1 of 1

Client: PDC / Tasman

Project Manager: Mark Longhurst

Address: 6855 W 119th Ave

E-Mail: mark.longhurst@PDCE.com

City/State/Zip: Broomfield/ CO/ 80020

Phone: 303-487-1228

Project Name: Fagerberg Release

Sampler Name: J. Marcus

Project Number: 1/a

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				
1	SS12 @ 0-6"	4/8/22	1337	3			X			X				X	X	X					pH, EC, SAR by saturated paste
2	SS13 @ 0-6"	↓	1338	3			X			X				X	X	X					
3	SS14 @ 0-6"	↓	1339	3			X			X				X	X	X					
4	SS15 @ 4'	↓	1340	3			X			X											
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by: <u>[Signature]</u>	Date/Time: <u>4/8/22 1615</u>	Received by: <u>Tasman's Lock Box</u>	Date/Time: <u>4/8/22 1615</u>	Turn Around Time (Check) Same Day <u>X</u> 72 hours <u>—</u> 24 hours <u>—</u> Standard <u>—</u> 48 hours <u>—</u>	Notes:
Relinquished by: <u>Tasman's Lock Box</u>	Date/Time: <u>4822 1712</u>	Received by: <u>[Signature]</u>	Date/Time: <u>4822 1712</u>	Sample Integrity: Temperature Upon Receipt: <u>8.1</u> Samples Intact: <u>(Yes)</u> No	
Relinquished by:	Date/Time:	Received by:	Date/Time:		

S₂

Sample Receipt Checklist

S2 Work Order# 2204126

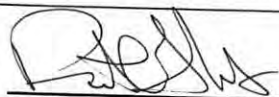
Client: Pectasman Client Project ID: Fagerberg Release

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

	-			
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Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 8.1 Thermometer # 1

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

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


Custodian Printed Name

48.22

Date/Time



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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/28/22 13:04

SS12@0-6"
2204126-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/08/22 13:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFD0179	04/08/22	04/09/22	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: **04/08/22 13:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		142 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/08/22 13:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0180	04/08/22	04/09/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/08/22 13:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		95.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/28/22 13:04

SS12@0-6"
2204126-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/08/22 13:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	0.00500	mg/kg	1	BFD0401	04/20/22	04/22/22	EPA 8270D SIM	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/08/22 13:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		52.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		53.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/08/22 13:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.629	0.0100	mg/L	1	BFD0553	04/26/22	04/27/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/08/22 13:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	16.1	0.0508	mg/L dry	1	BFD0497	04/22/22	04/27/22	EPA 6020B	
Magnesium	2.70	0.0508	"	"	"	"	"	"	
Sodium	2.14	0.0508	"	"	"	"	"	"	

Calculated Analysis

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/28/22 13:04

SS12@0-6"
2204126-01 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/08/22 13:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.130	0.00100	units	1	BFD0607	04/27/22	04/27/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/08/22 13:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	98.4		%	1	BFD0422	04/20/22	04/20/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/08/22 13:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.11	0.0100	mmhos/cm	1	BFD0501	04/22/22	04/25/22	EPA 120.1	

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/28/22 13:04

SS13@0-6"
2204126-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/08/22 13:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFD0179	04/08/22	04/09/22	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: **04/08/22 13:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		132 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/08/22 13:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0180	04/08/22	04/09/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/08/22 13:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		97.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/28/22 13:04

SS13@0-6"
2204126-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/08/22 13:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	0.00500	mg/kg	1	BFD0401	04/20/22	04/22/22	EPA 8270D SIM	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/08/22 13:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		52.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		50.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/08/22 13:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.397	0.0100	mg/L	1	BFD0553	04/26/22	04/27/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/08/22 13:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	7.78	0.0624	mg/L dry	1	BFD0497	04/22/22	04/27/22	EPA 6020B	
Magnesium	0.990	0.0624	"	"	"	"	"	"	
Sodium	0.300	0.0624	"	"	"	"	"	"	

Calculated Analysis

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/28/22 13:04

SS13@0-6"
2204126-02 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/08/22 13:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0269	0.00100	units	1	BFD0607	04/27/22	04/27/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/08/22 13:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	80.1		%	1	BFD0422	04/20/22	04/20/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/08/22 13:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.394	0.0100	mmhos/cm	1	BFD0501	04/22/22	04/25/22	EPA 120.1	

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/28/22 13:04

SS14@0-6"
2204126-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/08/22 13:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFD0179	04/08/22	04/09/22	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: **04/08/22 13:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		135 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/08/22 13:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0180	04/08/22	04/09/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/08/22 13:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		95.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/28/22 13:04

SS14@0-6"
2204126-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/08/22 13:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	0.00500	mg/kg	1	BFD0401	04/20/22	04/22/22	EPA 8270D SIM	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/08/22 13:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		47.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		49.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/08/22 13:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.413	0.0100	mg/L	1	BFD0553	04/26/22	04/27/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/08/22 13:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	10.4	0.0508	mg/L dry	1	BFD0497	04/22/22	04/27/22	EPA 6020B	
Magnesium	1.41	0.0508	"	"	"	"	"	"	
Sodium	0.282	0.0508	"	"	"	"	"	"	

Calculated Analysis

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/28/22 13:04

SS14@0-6"
2204126-03 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/08/22 13:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0218	0.00100	units	1	BFD0607	04/27/22	04/27/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/08/22 13:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	98.4		%	1	BFD0422	04/20/22	04/20/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/08/22 13:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.475	0.0100	mmhos/cm	1	BFD0501	04/22/22	04/25/22	EPA 120.1	

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/28/22 13:04

SS15@4'
2204126-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/08/22 13:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFD0179	04/08/22	04/09/22	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: **04/08/22 13:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		141 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/08/22 13:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0180	04/08/22	04/09/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/08/22 13:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		98.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/28/22 13:04

SS15@4'
2204126-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/08/22 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	0.00500	mg/kg	1	BFD0401	04/20/22	04/22/22	EPA 8270D SIM	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/08/22 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		46.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		47.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/08/22 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.601	0.0100	mg/L	1	BFD0553	04/26/22	04/27/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/08/22 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	69.8	0.0609	mg/L dry	1	BFD0497	04/22/22	04/27/22	EPA 6020B	
Magnesium	7.86	0.0609	"	"	"	"	"	"	
Sodium	2.07	0.0609	"	"	"	"	"	"	

Calculated Analysis

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/28/22 13:04

SS15@4'
2204126-04 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/08/22 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0627	0.00100	units	1	BFD0607	04/27/22	04/27/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/08/22 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.1		%	1	BFD0422	04/20/22	04/20/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/08/22 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.55	0.0100	mmhos/cm	1	BFD0501	04/22/22	04/25/22	EPA 120.1	

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/28/22 13:04

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BFD0179 - EPA 5030 Soil MS

Blank (BFD0179-BLK1)

Prepared: 04/08/22 Analyzed: 04/09/22

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	0.0562		"	0.0400		141	50-150			
Surrogate: Toluene-d8	0.0421		"	0.0400		105	50-150			
Surrogate: 4-Bromofluorobenzene	0.0418		"	0.0400		104	50-150			

LCS (BFD0179-BS1)

Prepared: 04/08/22 Analyzed: 04/09/22

Benzene	0.0995	0.0020	mg/kg	0.100		99.5	70-130			
Toluene	0.106	0.0050	"	0.100		106	70-130			
Ethylbenzene	0.0916	0.0050	"	0.100		91.6	70-130			
m,p-Xylene	0.189	0.010	"	0.200		94.7	70-130			
o-Xylene	0.0982	0.0050	"	0.100		98.2	70-130			
1,2,4-Trimethylbenzene	0.104	0.0050	"	0.100		104	70-130			
1,3,5-Trimethylbenzene	0.0980	0.0050	"	0.100		98.0	70-130			
Naphthalene	0.108	0.0038	"	0.100		108	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0547		"	0.0400		137	50-150			
Surrogate: Toluene-d8	0.0414		"	0.0400		104	50-150			
Surrogate: 4-Bromofluorobenzene	0.0446		"	0.0400		111	50-150			

Matrix Spike (BFD0179-MS1)

Source: 2204125-01

Prepared: 04/08/22 Analyzed: 04/09/22

Benzene	0.0936	0.0020	mg/kg	0.100	ND	93.6	70-130			
Toluene	0.102	0.0050	"	0.100	ND	102	70-130			
Ethylbenzene	0.0909	0.0050	"	0.100	ND	90.9	70-130			
m,p-Xylene	0.190	0.010	"	0.200	ND	95.2	70-130			
o-Xylene	0.0965	0.0050	"	0.100	ND	96.5	70-130			
1,2,4-Trimethylbenzene	0.102	0.0050	"	0.100	ND	102	70-130			
1,3,5-Trimethylbenzene	0.0979	0.0050	"	0.100	ND	97.9	70-130			
Naphthalene	0.100	0.0038	"	0.100	ND	100	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0504		"	0.0400		126	50-150			
Surrogate: Toluene-d8	0.0412		"	0.0400		103	50-150			
Surrogate: 4-Bromofluorobenzene	0.0420		"	0.0400		105	50-150			

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/28/22 13:04

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 BFD0179 - EPA 5030 Soil MS

Matrix Spike Dup (BFD0179-MSD1)		Source: 2204125-01			Prepared: 04/08/22 Analyzed: 04/09/22					
Benzene	0.0982	0.0020	mg/kg	0.100	ND	98.2	70-130	4.85	30	
Toluene	0.108	0.0050	"	0.100	ND	108	70-130	5.65	30	
Ethylbenzene	0.0954	0.0050	"	0.100	ND	95.4	70-130	4.83	30	
m,p-Xylene	0.199	0.010	"	0.200	ND	99.3	70-130	4.12	30	
o-Xylene	0.0996	0.0050	"	0.100	ND	99.6	70-130	3.15	30	
1,2,4-Trimethylbenzene	0.105	0.0050	"	0.100	ND	105	70-130	3.47	30	
1,3,5-Trimethylbenzene	0.102	0.0050	"	0.100	ND	102	70-130	3.70	30	
Naphthalene	0.115	0.0038	"	0.100	ND	115	70-130	13.7	30	
Surrogate: 1,2-Dichloroethane-d4		0.0503	"	0.0400		126	50-150			
Surrogate: Toluene-d8		0.0419	"	0.0400		105	50-150			
Surrogate: 4-Bromofluorobenzene		0.0430	"	0.0400		107	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: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/28/22 13:04

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 BFD0180 - EPA 3550A

Blank (BFD0180-BLK1)

Prepared & Analyzed: 04/08/22

C10-C28 (DRO)	ND	50	mg/kg
C28-C36 (ORO)	ND	50	"

LCS (BFD0180-BS1)

Prepared & Analyzed: 04/08/22

C10-C28 (DRO)	486	50	mg/kg	500	97.2	70-130
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Matrix Spike (BFD0180-MS1)

Source: 2204125-01

Prepared & Analyzed: 04/08/22

C10-C28 (DRO)	462	50	mg/kg	500	21.5	88.1	70-130
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Matrix Spike Dup (BFD0180-MSD1)

Source: 2204125-01

Prepared & Analyzed: 04/08/22

C10-C28 (DRO)	417	50	mg/kg	500	21.5	79.0	70-130	10.4	20
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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: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/28/22 13:04

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFD0401 - EPA 5030 Soil MS

Blank (BFD0401-BLK1)

Prepared: 04/20/22 Analyzed: 04/22/22

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0225		"	0.0333		67.6	40-150			
Surrogate: Fluoranthene-d10	0.0213		"	0.0333		63.8	40-150			

LCS (BFD0401-BS1)

Prepared: 04/20/22 Analyzed: 04/22/22

Acenaphthene	0.0303	0.00500	mg/kg	0.0333	91.0	31-137
Anthracene	0.0316	0.00500	"	0.0333	94.7	30-120
Benzo (a) anthracene	0.0310	0.00500	"	0.0333	93.1	30-120
Benzo (a) pyrene	0.0269	0.00500	"	0.0333	80.7	30-120
Benzo (b) fluoranthene	0.0339	0.00500	"	0.0333	102	30-120
Benzo (k) fluoranthene	0.0371	0.00500	"	0.0333	111	30-120
Chrysene	0.0289	0.00500	"	0.0333	86.7	30-120
Dibenz (a,h) anthracene	0.0162	0.00500	"	0.0333	48.6	30-120
Fluoranthene	0.0238	0.00500	"	0.0333	71.5	30-120
Fluorene	0.0314	0.00500	"	0.0333	94.3	30-120
Indeno (1,2,3-cd) pyrene	0.0173	0.00500	"	0.0333	51.9	30-120
Pyrene	0.0398	0.00500	"	0.0333	120	35-142
1-Methylnaphthalene	0.0237	0.00500	"	0.0333	71.2	35-142
2-Methylnaphthalene	0.0279	0.00500	"	0.0333	83.8	35-142
Surrogate: 2-Methylnaphthalene-d10	0.0276		"	0.0333	82.8	40-150
Surrogate: Fluoranthene-d10	0.0256		"	0.0333	76.9	40-150

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/28/22 13:04

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFD0401 - EPA 5030 Soil MS

Matrix Spike (BFD0401-MS1)

Source: 2204126-01

Prepared: 04/20/22 Analyzed: 04/22/22

Acenaphthene	0.0183	0.00500	mg/kg	0.0333	ND	55.0	31-137		
Anthracene	0.0200	0.00500	"	0.0333	ND	59.9	30-120		
Benzo (a) anthracene	0.0187	0.00500	"	0.0333	ND	56.2	30-120		
Benzo (a) pyrene	0.0182	0.00500	"	0.0333	ND	54.6	30-120		
Benzo (b) fluoranthene	0.0236	0.00500	"	0.0333	ND	70.7	30-120		
Benzo (k) fluoranthene	0.0234	0.00500	"	0.0333	ND	70.3	30-120		
Chrysene	0.0172	0.00500	"	0.0333	ND	51.6	30-120		
Dibenz (a,h) anthracene	0.0150	0.00500	"	0.0333	ND	44.9	30-120		
Fluoranthene	0.0158	0.00500	"	0.0333	ND	47.5	30-120		
Fluorene	0.0196	0.00500	"	0.0333	ND	58.8	30-120		
Indeno (1,2,3-cd) pyrene	0.0221	0.00500	"	0.0333	ND	66.3	30-120		
Pyrene	0.0403	0.00500	"	0.0333	ND	121	35-142		
1-Methylnaphthalene	0.0161	0.00500	"	0.0333	ND	48.4	15-130		
2-Methylnaphthalene	0.0188	0.00500	"	0.0333	ND	56.4	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0184		"	0.0333		55.3	40-150		
Surrogate: Fluoranthene-d10	0.0165		"	0.0333		49.5	40-150		

Matrix Spike Dup (BFD0401-MSD1)

Source: 2204126-01

Prepared: 04/20/22 Analyzed: 04/22/22

Acenaphthene	0.0194	0.00500	mg/kg	0.0333	ND	58.1	31-137	5.53	30
Anthracene	0.0210	0.00500	"	0.0333	ND	62.9	30-120	4.92	30
Benzo (a) anthracene	0.0200	0.00500	"	0.0333	ND	60.1	30-120	6.72	30
Benzo (a) pyrene	0.0219	0.00500	"	0.0333	ND	65.8	30-120	18.5	30
Benzo (b) fluoranthene	0.0251	0.00500	"	0.0333	ND	75.4	30-120	6.45	30
Benzo (k) fluoranthene	0.0280	0.00500	"	0.0333	ND	84.1	30-120	17.8	30
Chrysene	0.0186	0.00500	"	0.0333	ND	55.8	30-120	7.76	30
Dibenz (a,h) anthracene	0.0145	0.00500	"	0.0333	ND	43.6	30-120	3.13	30
Fluoranthene	0.0173	0.00500	"	0.0333	ND	51.9	30-120	8.94	30
Fluorene	0.0206	0.00500	"	0.0333	ND	61.9	30-120	5.14	30
Indeno (1,2,3-cd) pyrene	0.0174	0.00500	"	0.0333	ND	52.3	30-120	23.5	30
Pyrene	0.0399	0.00500	"	0.0333	ND	120	35-142	1.00	30
1-Methylnaphthalene	0.0180	0.00500	"	0.0333	ND	53.9	15-130	10.8	50
2-Methylnaphthalene	0.0197	0.00500	"	0.0333	ND	59.0	15-130	4.53	50
Surrogate: 2-Methylnaphthalene-d10	0.0178		"	0.0333		53.4	40-150		
Surrogate: Fluoranthene-d10	0.0181		"	0.0333		54.3	40-150		

Summit Scientific

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

Project: Fagerberg Release

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/28/22 13:04

Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control
Summit Scientific

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

Batch BFD0553 - EPA 3050B

Blank (BFD0553-BLK1)

Prepared: 04/26/22 Analyzed: 04/27/22

Boron ND 0.0100 mg/L

LCS (BFD0553-BS1)

Prepared: 04/26/22 Analyzed: 04/27/22

Boron 4.92 0.0100 mg/L 5.00 98.4 80-120

Duplicate (BFD0553-DUP1)

Source: 2204123-02

Prepared: 04/26/22 Analyzed: 04/27/22

Boron 0.388 0.0100 mg/L 0.396 2.05 20

Matrix Spike (BFD0553-MS1)

Source: 2204123-02

Prepared: 04/26/22 Analyzed: 04/27/22

Boron 5.31 0.0100 mg/L 5.00 0.396 98.2 75-125

Matrix Spike Dup (BFD0553-MSD1)

Source: 2204123-02

Prepared: 04/26/22 Analyzed: 04/27/22

Boron 5.11 0.0100 mg/L 5.00 0.396 94.3 75-125 3.76 25

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/28/22 13:04

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control

Summit Scientific

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

Batch BFD0497 - General Preparation

Blank (BFD0497-BLK1)

Prepared: 04/22/22 Analyzed: 04/27/22

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

LCS (BFD0497-BS1)

Prepared: 04/22/22 Analyzed: 04/27/22

Calcium	5.45	0.0500	mg/L wet	5.00	109	70-130
Magnesium	5.61	0.0500	"	5.00	112	70-130
Sodium	5.61	0.0500	"	5.00	112	70-130

Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/28/22 13:04

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

Summit Scientific

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

Batch BFD0422 - General Preparation

Duplicate (BFD0422-DUP1)

Source: 2204123-02

Prepared & Analyzed: 04/20/22

% Solids	92.4	%	92.9	0.577	20
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Summit Scientific

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

Project: Fagerberg Release
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
04/28/22 13:04

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control
Summit Scientific

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

Batch BFD0501 - General Preparation

Blank (BFD0501-BLK1)

Prepared: 04/22/22 Analyzed: 04/25/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFD0501-BS1)

Prepared: 04/22/22 Analyzed: 04/25/22

Specific Conductance (EC) 0.155 0.0100 mmhos/cm 0.150 103 95-105

Duplicate (BFD0501-DUP1)

Source: 2204126-01

Prepared: 04/22/22 Analyzed: 04/25/22

Specific Conductance (EC) 3.94 0.0100 mmhos/cm 4.11 4.28 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: Fagerberg Release

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
04/28/22 13:04

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 24, 2022

Mark Longhurst
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Fagerberg Pad
Work Order #2204216

Enclosed are the results of analyses for samples received by Summit Scientific on 04/14/22 17:14. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury
President



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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS16@2'	2204216-01	Soil	04/14/22 08:50	04/14/22 17:14
SS17@2'	2204216-02	Soil	04/14/22 09:10	04/14/22 17:14
SS18@2'	2204216-03	Soil	04/14/22 09:30	04/14/22 17:14
SS19@2'	2204216-04	Soil	04/14/22 09:50	04/14/22 17:14
SS20@4'	2204216-05	Soil	04/14/22 10:10	04/14/22 17:14
SS21@2.5'	2204216-06	Soil	04/14/22 10:29	04/14/22 17:14
BKG01@2'	2204216-08	Soil	04/14/22 11:00	04/14/22 17:14
BKG01@2.5'	2204216-09	Soil	04/14/22 11:04	04/14/22 17:14
BKG01@4'	2204216-10	Soil	04/14/22 11:08	04/14/22 17:14

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Summit Scientific

S₂



2204216

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

Page 1 of 1

Client: PDC / Tasman Project Manager: Mark Longhurst
Address: 6855 W 119th Ave E-Mail: mark.longhurst@PDCE.com
City/State/Zip: Broomfield/ CO/ 80020
Phone: 303-487-1228 Project Name: Fagerberg Pad
Sampler Name: Sam Anderson Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions	
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR	Metals	ON HOLD			
1	SS16 e 2'	4/19/22	850	3			X			X				X	X	X						pH, EC, SAR by saturated paste
2	SS17 e 2'		910	3			X			X				X	X	X						
3	SS18 e 2'		930	3			X			X				X	X	X						
4	SS19 e 2'		950	3			X			X				X	X	X						
5	SS20 e 4'		1010	3			X			X				X	X	X						
6	SS21 e 2.5'		1029	1			X			X							X	X				
7	SS22 e 2.5'		1039	1			X			X									X			
8	BK601 e 2'		1100	1			X			X									X			
9	BK601 e 2.5'		1104	1			X			X									X			
10	BK601 e 4'	✓	1108	1			X			X									X			

Relinquished by: 	Date/Time: 4/14/22	Received by: Tasman's Lock Box	Date/Time: 4/14/22	Turn Around Time (Check) Same Day <input checked="" type="checkbox"/> 72 hours 24 hours <input type="checkbox"/> Standard 48 hours <input type="checkbox"/>	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 4/14/22 1714	Received by: 	Date/Time: 4/14/22 1714	Sample Integrity:	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Temperature Upon Receipt: 5.1 Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	

S₂

Sample Receipt Checklist

S2 Work Order#

2204216

Client: Pac/Tasman

Client Project ID:

Fagerberg Pad

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

Airbill #:

	-			
--	---	--	--	--

Matrix (Check all that apply)

☐

Air

☐

Soil/Solid

☐

Water

☐

Other

☐

Temp (°C)

Thermometer #

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

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

Custodian Printed Name

4.14.22

Date/Time



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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

SS16@2'
2204216-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/14/22 08:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFD0298	04/14/22	04/14/22	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: **04/14/22 08:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0398	99.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0437	109 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0450	112 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/14/22 08:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0299	04/14/22	04/14/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/14/22 08:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	10.5	84.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

SS16@2'
2204216-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/14/22 08:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	0.00500	mg/kg	1	BFD0401	04/20/22	04/22/22	EPA 8270D SIM	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/14/22 08:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0160	48.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0159	47.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/14/22 08:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.378	0.0100	mg/L	1	BFD0555	04/26/22	05/02/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/14/22 08:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	14.1	0.0599	mg/L dry	1	BFD0595	04/27/22	05/03/22	EPA 6020B	
Magnesium	4.83	0.0599	"	"	"	"	"	"	
Sodium	1.59	0.0599	"	"	"	"	"	"	

Calculated Analysis

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: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

SS16@2'
2204216-01 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/14/22 08:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0932	0.00100	units	1	BFE0043	05/03/22	05/03/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/14/22 08:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.4		%	1	BFD0422	04/20/22	04/20/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/14/22 08:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.13	0.0100	mmhos/cm	1	BFD0596	04/27/22	04/28/22	EPA 120.1	

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

SS17@2'
2204216-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/14/22 09:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFD0298	04/14/22	04/14/22	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: **04/14/22 09:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0382	95.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0427	107 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0447	112 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/14/22 09:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0299	04/14/22	04/14/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/14/22 09:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.7	85.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

SS17@2'
2204216-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/14/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	0.00500	mg/kg	1	BFD0401	04/20/22	04/22/22	EPA 8270D SIM	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/14/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0165	49.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0159	47.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/14/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.320	0.0100	mg/L	1	BFD0555	04/26/22	05/02/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/14/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	16.0	0.0597	mg/L dry	1	BFD0595	04/27/22	05/03/22	EPA 6020B	
Magnesium	3.81	0.0597	"	"	"	"	"	"	
Sodium	1.11	0.0597	"	"	"	"	"	"	

Calculated Analysis

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

SS17@2'
2204216-02 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/14/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0648	0.00100	units	1	BFE0043	05/03/22	05/03/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/14/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.7		%	1	BFD0422	04/20/22	04/20/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/14/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.648	0.0100	mmhos/cm	1	BFD0596	04/27/22	04/28/22	EPA 120.1	

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

SS18@2'
2204216-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/14/22 09:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFD0298	04/14/22	04/14/22	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: **04/14/22 09:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0381	95.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0426	107 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0437	109 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/14/22 09:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0299	04/14/22	04/14/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/14/22 09:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.1	81.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

SS18@2'
2204216-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/14/22 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	0.00500	mg/kg	1	BFD0401	04/20/22	04/22/22	EPA 8270D SIM	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/14/22 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0160	47.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0157	47.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/14/22 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.317	0.0100	mg/L	1	BFD0555	04/26/22	05/02/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/14/22 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	29.3	0.0595	mg/L dry	1	BFD0595	04/27/22	05/03/22	EPA 6020B	
Magnesium	5.67	0.0595	"	"	"	"	"	"	
Sodium	1.13	0.0595	"	"	"	"	"	"	

Calculated Analysis

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

SS18@2'
2204216-03 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/14/22 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0501	0.00100	units	1	BFE0043	05/03/22	05/03/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/14/22 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.0		%	1	BFD0422	04/20/22	04/20/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/14/22 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.561	0.0100	mmhos/cm	1	BFD0596	04/27/22	04/28/22	EPA 120.1	

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

SS19@2'
2204216-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/14/22 09:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFD0298	04/14/22	04/14/22	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: **04/14/22 09:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0383	95.7 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0442	110 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0450	113 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/14/22 09:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0299	04/14/22	04/14/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/14/22 09:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.6	84.7 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

SS19@2'
2204216-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/14/22 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	0.00500	mg/kg	1	BFD0401	04/20/22	04/22/22	EPA 8270D SIM	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/14/22 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0159	47.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0157	47.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/14/22 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.346	0.0100	mg/L	1	BFD0555	04/26/22	05/02/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/14/22 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	21.0	0.0595	mg/L dry	1	BFD0595	04/27/22	05/03/22	EPA 6020B	
Magnesium	5.08	0.0595	"	"	"	"	"	"	
Sodium	1.34	0.0595	"	"	"	"	"	"	

Calculated Analysis

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: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

SS19@2'
2204216-04 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/14/22 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0681	0.00100	units	1	BFE0043	05/03/22	05/03/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/14/22 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.0		%	1	BFD0422	04/20/22	04/20/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/14/22 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.671	0.0100	mmhos/cm	1	BFD0596	04/27/22	04/28/22	EPA 120.1	

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: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

SS20@4'
2204216-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/14/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFD0298	04/14/22	04/14/22	EPA 8260B	
Toluene	0.0058	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.030	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	0.015	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	0.012	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1.2	0.50	"	"	"	"	"	"	

Date Sampled: **04/14/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0372	92.9 %	50-150		"	"	"	"	
<i>Surrogate: Toluene-d8</i>	0.0435	109 %	50-150		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0456	114 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/14/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0299	04/14/22	04/14/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/14/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>	10.6	84.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

SS20@4'
2204216-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/14/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	0.00500	mg/kg	1	BFD0401	04/20/22	04/22/22	EPA 8270D SIM	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/14/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0159	47.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0165	49.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/14/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.514	0.0100	mg/L	1	BFD0555	04/26/22	05/02/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/14/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	53.5	0.0631	mg/L dry	1	BFD0595	04/27/22	05/03/22	EPA 6020B	
Magnesium	4.26	0.0631	"	"	"	"	"	"	
Sodium	1.21	0.0631	"	"	"	"	"	"	

Calculated Analysis

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: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

SS20@4'
2204216-05 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/14/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0428	0.00100	units	1	BFE0043	05/03/22	05/03/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/14/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	79.2		%	1	BFD0422	04/20/22	04/20/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/14/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.641	0.0100	mmhos/cm	1	BFD0596	04/27/22	04/28/22	EPA 120.1	

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

SS21@2.5'
2204216-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/14/22 10:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.261	0.0100	mg/L	1	BFD0308	04/15/22	04/16/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/14/22 10:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	106	0.0605	mg/L dry	1	BFD0374	04/19/22	04/22/22	EPA 6020B	
Magnesium	82.1	0.0605	"	"	"	"	"	"	
Sodium	60.1	0.0605	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/14/22 10:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.07	0.00100	units	1	BFD0509	04/23/22	04/23/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/14/22 10:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.7		%	1	BFD0314	04/15/22	04/15/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/14/22 10:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.95	0.0100	mmhos/cm	1	BFD0419	04/20/22	04/20/22	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

SS21@2.5'
2204216-06 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **04/14/22 10:29**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.75			pH Units	1	BFD0420	04/20/22	04/20/22	EPA 9045D	

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

BKG01@2'
2204216-08 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/14/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.321	0.0100	mg/L	1	BFD0555	04/26/22	05/02/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/14/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	5.98	0.243	mg/kg dry	1	BFD0316	04/15/22	04/21/22	EPA 6020B	
Barium	295	0.487	"	"	"	"	"	"	
Cadmium	0.965	0.243	"	"	"	"	"	"	
Copper	12.7	0.487	"	"	"	"	"	"	
Lead	8.05	0.243	"	"	"	"	"	"	
Nickel	16.2	0.487	"	"	"	"	"	"	
Selenium	1.02	0.316	"	"	"	"	"	"	
Silver	0.0486	0.0243	"	"	"	"	"	"	
Zinc	51.3	0.487	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/14/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFD0405	04/20/22	04/20/22	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/14/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	25.5	0.0608	mg/L dry	1	BFD0595	04/27/22	05/03/22	EPA 6020B	
Magnesium	6.00	0.0608	"	"	"	"	"	"	
Sodium	0.938	0.0608	"	"	"	"	"	"	

Calculated Analysis

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

BKG01@2'
2204216-08 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/14/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0434	0.00100	units	1	BFE0043	05/03/22	05/03/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/14/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.2		%	1	BFD0314	04/15/22	04/15/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/14/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.485	0.0100	mmhos/cm	1	BFD0596	04/27/22	04/28/22	EPA 120.1	

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

BKG01@2.5'
2204216-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/14/22 11:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	0.381	0.0100	mg/L	1	BFD0555	04/26/22	05/02/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/14/22 11:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	6.08	0.245	mg/kg dry	1	BFD0316	04/15/22	04/21/22	EPA 6020B	
Barium	202	0.490	"	"	"	"	"	"	
Cadmium	0.265	0.245	"	"	"	"	"	"	
Copper	12.9	0.490	"	"	"	"	"	"	
Lead	8.25	0.245	"	"	"	"	"	"	
Nickel	15.6	0.490	"	"	"	"	"	"	
Selenium	1.07	0.319	"	"	"	"	"	"	
Silver	0.0485	0.0245	"	"	"	"	"	"	
Zinc	51.4	0.490	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/14/22 11:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFD0405	04/20/22	04/20/22	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/14/22 11:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	17.5	0.0613	mg/L dry	1	BFD0595	04/27/22	05/03/22	EPA 6020B	
Magnesium	5.58	0.0613	"	"	"	"	"	"	
Sodium	0.945	0.0613	"	"	"	"	"	"	

Calculated Analysis

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

BKG01@2.5'
2204216-09 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/14/22 11:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0504	0.00100	units	1	BFE0043	05/03/22	05/03/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/14/22 11:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	81.6		%	1	BFD0314	04/15/22	04/15/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/14/22 11:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.534	0.0100	mmhos/cm	1	BFD0596	04/27/22	04/28/22	EPA 120.1	

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

BKG01@4'
2204216-10 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/14/22 11:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.636	0.0100	mg/L	1	BFD0555	04/26/22	05/02/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/14/22 11:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	7.67	0.251	mg/kg dry	1	BFD0316	04/15/22	04/21/22	EPA 6020B	
Barium	187	0.502	"	"	"	"	"	"	
Cadmium	0.811	0.251	"	"	"	"	"	"	
Copper	11.6	0.502	"	"	"	"	"	"	
Lead	8.29	0.251	"	"	"	"	"	"	
Nickel	14.2	0.502	"	"	"	"	"	"	
Selenium	0.973	0.326	"	"	"	"	"	"	
Silver	0.0471	0.0251	"	"	"	"	"	"	
Zinc	50.8	0.502	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/14/22 11:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFD0405	04/20/22	04/20/22	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/14/22 11:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	34.3	0.0627	mg/L dry	1	BFD0595	04/27/22	05/03/22	EPA 6020B	
Magnesium	9.04	0.0627	"	"	"	"	"	"	
Sodium	2.16	0.0627	"	"	"	"	"	"	

Calculated Analysis

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

BKG01@4'
2204216-10 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/14/22 11:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0848	0.00100	units	1	BFE0043	05/03/22	05/03/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/14/22 11:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	79.7		%	1	BFD0314	04/15/22	04/15/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/14/22 11:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.51	0.0100	mmhos/cm	1	BFD0596	04/27/22	04/28/22	EPA 120.1	

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

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 BFD0298 - EPA 5030 Soil MS

Blank (BFD0298-BLK1)

Prepared & Analyzed: 04/14/22

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	0.0376		"	0.0400		94.0	50-150			
Surrogate: Toluene-d8	0.0436		"	0.0400		109	50-150			
Surrogate: 4-Bromofluorobenzene	0.0447		"	0.0400		112	50-150			

LCS (BFD0298-BS1)

Prepared & Analyzed: 04/14/22

Benzene	0.118	0.0020	mg/kg	0.100		118	70-130			
Toluene	0.120	0.0050	"	0.100		120	70-130			
Ethylbenzene	0.0858	0.0050	"	0.100		85.8	70-130			
m,p-Xylene	0.164	0.010	"	0.200		82.2	70-130			
o-Xylene	0.0843	0.0050	"	0.100		84.3	70-130			
1,2,4-Trimethylbenzene	0.0873	0.0050	"	0.100		87.3	70-130			
1,3,5-Trimethylbenzene	0.0848	0.0050	"	0.100		84.8	70-130			
Naphthalene	0.0764	0.0038	"	0.100		76.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0374		"	0.0400		93.4	50-150			
Surrogate: Toluene-d8	0.0441		"	0.0400		110	50-150			
Surrogate: 4-Bromofluorobenzene	0.0444		"	0.0400		111	50-150			

Matrix Spike (BFD0298-MS1)

Source: 2204216-01

Prepared & Analyzed: 04/14/22

Benzene	0.125	0.0020	mg/kg	0.100	ND	125	70-130			
Toluene	0.125	0.0050	"	0.100	ND	125	70-130			
Ethylbenzene	0.0878	0.0050	"	0.100	ND	87.8	70-130			
m,p-Xylene	0.170	0.010	"	0.200	ND	85.0	70-130			
o-Xylene	0.0865	0.0050	"	0.100	ND	86.5	70-130			
1,2,4-Trimethylbenzene	0.0910	0.0050	"	0.100	ND	91.0	70-130			
1,3,5-Trimethylbenzene	0.0877	0.0050	"	0.100	ND	87.7	70-130			
Naphthalene	0.0781	0.0038	"	0.100	ND	78.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0378		"	0.0400		94.6	50-150			
Surrogate: Toluene-d8	0.0437		"	0.0400		109	50-150			
Surrogate: 4-Bromofluorobenzene	0.0448		"	0.0400		112	50-150			

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BFD0299 - EPA 3550A

Blank (BFD0299-BLK1)

Prepared & Analyzed: 04/14/22

C10-C28 (DRO)	ND	50	mg/kg
C28-C36 (ORO)	ND	50	"

LCS (BFD0299-BS1)

Prepared & Analyzed: 04/14/22

C10-C28 (DRO)	389	50	mg/kg	500	77.8	70-130
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Matrix Spike (BFD0299-MS1)

Source: 2204216-01

Prepared & Analyzed: 04/14/22

C10-C28 (DRO)	388	50	mg/kg	500	11.2	75.3	70-130
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Matrix Spike Dup (BFD0299-MSD1)

Source: 2204216-01

Prepared & Analyzed: 04/14/22

C10-C28 (DRO)	387	50	mg/kg	500	11.2	75.1	70-130	0.214	20
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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: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFD0401 - EPA 5030 Soil MS

Blank (BFD0401-BLK1)

Prepared: 04/20/22 Analyzed: 04/22/22

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0225		"	0.0333		67.6	40-150			
Surrogate: Fluoranthene-d10	0.0213		"	0.0333		63.8	40-150			

LCS (BFD0401-BS1)

Prepared: 04/20/22 Analyzed: 04/22/22

Acenaphthene	0.0303	0.00500	mg/kg	0.0333	91.0	31-137	
Anthracene	0.0316	0.00500	"	0.0333	94.7	30-120	
Benzo (a) anthracene	0.0310	0.00500	"	0.0333	93.1	30-120	
Benzo (a) pyrene	0.0269	0.00500	"	0.0333	80.7	30-120	
Benzo (b) fluoranthene	0.0339	0.00500	"	0.0333	102	30-120	
Benzo (k) fluoranthene	0.0371	0.00500	"	0.0333	111	30-120	
Chrysene	0.0289	0.00500	"	0.0333	86.7	30-120	
Dibenz (a,h) anthracene	0.0162	0.00500	"	0.0333	48.6	30-120	
Fluoranthene	0.0238	0.00500	"	0.0333	71.5	30-120	
Fluorene	0.0314	0.00500	"	0.0333	94.3	30-120	
Indeno (1,2,3-cd) pyrene	0.0173	0.00500	"	0.0333	51.9	30-120	
Pyrene	0.0398	0.00500	"	0.0333	120	35-142	
1-Methylnaphthalene	0.0237	0.00500	"	0.0333	71.2	35-142	
2-Methylnaphthalene	0.0279	0.00500	"	0.0333	83.8	35-142	
Surrogate: 2-Methylnaphthalene-d10	0.0276		"	0.0333	82.8	40-150	
Surrogate: Fluoranthene-d10	0.0256		"	0.0333	76.9	40-150	

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: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFD0401 - EPA 5030 Soil MS

Matrix Spike (BFD0401-MS1)

Source: 2204126-01

Prepared: 04/20/22 Analyzed: 04/22/22

Acenaphthene	0.0183	0.00500	mg/kg	0.0333	ND	55.0	31-137		
Anthracene	0.0200	0.00500	"	0.0333	ND	59.9	30-120		
Benzo (a) anthracene	0.0187	0.00500	"	0.0333	ND	56.2	30-120		
Benzo (a) pyrene	0.0182	0.00500	"	0.0333	ND	54.6	30-120		
Benzo (b) fluoranthene	0.0236	0.00500	"	0.0333	ND	70.7	30-120		
Benzo (k) fluoranthene	0.0234	0.00500	"	0.0333	ND	70.3	30-120		
Chrysene	0.0172	0.00500	"	0.0333	ND	51.6	30-120		
Dibenz (a,h) anthracene	0.0150	0.00500	"	0.0333	ND	44.9	30-120		
Fluoranthene	0.0158	0.00500	"	0.0333	ND	47.5	30-120		
Fluorene	0.0196	0.00500	"	0.0333	ND	58.8	30-120		
Indeno (1,2,3-cd) pyrene	0.0221	0.00500	"	0.0333	ND	66.3	30-120		
Pyrene	0.0403	0.00500	"	0.0333	ND	121	35-142		
1-Methylnaphthalene	0.0161	0.00500	"	0.0333	ND	48.4	15-130		
2-Methylnaphthalene	0.0188	0.00500	"	0.0333	ND	56.4	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0184		"	0.0333		55.3	40-150		
Surrogate: Fluoranthene-d10	0.0165		"	0.0333		49.5	40-150		

Matrix Spike Dup (BFD0401-MSD1)

Source: 2204126-01

Prepared: 04/20/22 Analyzed: 04/22/22

Acenaphthene	0.0194	0.00500	mg/kg	0.0333	ND	58.1	31-137	5.53	30
Anthracene	0.0210	0.00500	"	0.0333	ND	62.9	30-120	4.92	30
Benzo (a) anthracene	0.0200	0.00500	"	0.0333	ND	60.1	30-120	6.72	30
Benzo (a) pyrene	0.0219	0.00500	"	0.0333	ND	65.8	30-120	18.5	30
Benzo (b) fluoranthene	0.0251	0.00500	"	0.0333	ND	75.4	30-120	6.45	30
Benzo (k) fluoranthene	0.0280	0.00500	"	0.0333	ND	84.1	30-120	17.8	30
Chrysene	0.0186	0.00500	"	0.0333	ND	55.8	30-120	7.76	30
Dibenz (a,h) anthracene	0.0145	0.00500	"	0.0333	ND	43.6	30-120	3.13	30
Fluoranthene	0.0173	0.00500	"	0.0333	ND	51.9	30-120	8.94	30
Fluorene	0.0206	0.00500	"	0.0333	ND	61.9	30-120	5.14	30
Indeno (1,2,3-cd) pyrene	0.0174	0.00500	"	0.0333	ND	52.3	30-120	23.5	30
Pyrene	0.0399	0.00500	"	0.0333	ND	120	35-142	1.00	30
1-Methylnaphthalene	0.0180	0.00500	"	0.0333	ND	53.9	15-130	10.8	50
2-Methylnaphthalene	0.0197	0.00500	"	0.0333	ND	59.0	15-130	4.53	50
Surrogate: 2-Methylnaphthalene-d10	0.0178		"	0.0333		53.4	40-150		
Surrogate: Fluoranthene-d10	0.0181		"	0.0333		54.3	40-150		

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: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control
Summit Scientific

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

Batch BFD0308 - EPA 3050B

Blank (BFD0308-BLK1)

Prepared: 04/15/22 Analyzed: 04/16/22

Boron ND 0.0100 mg/L

LCS (BFD0308-BS1)

Prepared: 04/15/22 Analyzed: 04/16/22

Boron 5.16 0.0100 mg/L 5.00 103 80-120

Duplicate (BFD0308-DUP1)

Source: 2204141-01

Prepared: 04/15/22 Analyzed: 04/16/22

Boron 0.192 0.0100 mg/L 0.200 3.78 20

Matrix Spike (BFD0308-MS1)

Source: 2204141-01

Prepared: 04/15/22 Analyzed: 04/16/22

Boron 5.48 0.0100 mg/L 5.00 0.200 106 75-125

Matrix Spike Dup (BFD0308-MSD1)

Source: 2204141-01

Prepared: 04/15/22 Analyzed: 04/16/22

Boron 5.20 0.0100 mg/L 5.00 0.200 100 75-125 5.23 25

Batch BFD0555 - EPA 3050B

Blank (BFD0555-BLK1)

Prepared: 04/26/22 Analyzed: 05/02/22

Boron ND 0.0100 mg/L

LCS (BFD0555-BS1)

Prepared: 04/26/22 Analyzed: 05/02/22

Boron 5.34 0.0100 mg/L 5.00 107 80-120

Duplicate (BFD0555-DUP1)

Source: 2204216-01

Prepared: 04/26/22 Analyzed: 05/02/22

Boron 0.369 0.0100 mg/L 0.378 2.40 20

Matrix Spike (BFD0555-MS1)

Source: 2204216-01

Prepared: 04/26/22 Analyzed: 05/02/22

Boron 5.15 0.0100 mg/L 5.00 0.378 95.5 75-125

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: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control
Summit Scientific

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

Batch BFD0555 - EPA 3050B

Matrix Spike Dup (BFD0555-MSD1)

Source: 2204216-01

Prepared: 04/26/22 Analyzed: 05/02/22

Boron	5.21	0.0100	mg/L	5.00	0.378	96.6	75-125	1.01	25
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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: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BFD0316 - EPA 3050B

Blank (BFD0316-BLK1)

Prepared: 04/15/22 Analyzed: 04/21/22

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

LCS (BFD0316-BS1)

Prepared: 04/15/22 Analyzed: 04/21/22

Arsenic	35.2	0.200	mg/kg wet	40.0	88.0	80-120
Barium	33.1	0.400	"	40.0	82.8	80-120
Cadmium	1.76	0.200	"	2.00	87.9	80-120
Copper	32.9	0.400	"	40.0	82.3	80-120
Lead	16.5	0.200	"	20.0	82.6	80-120
Nickel	32.4	0.400	"	40.0	80.9	80-120
Selenium	3.55	0.260	"	4.00	88.9	80-120
Silver	1.66	0.0200	"	2.00	82.9	80-120
Zinc	36.2	0.400	"	40.0	90.4	80-120

Duplicate (BFD0316-DUP1)

Source: 2204183-01

Prepared: 04/15/22 Analyzed: 04/21/22

Arsenic	4.97	0.239	mg/kg dry	5.04	1.57	20
Barium	105	0.477	"	105	0.129	20
Cadmium	0.223	0.239	"	0.224	0.435	20
Copper	9.36	0.477	"	9.28	0.918	20
Lead	8.18	0.239	"	8.18	0.0701	20
Nickel	11.2	0.477	"	11.0	1.32	20
Selenium	0.899	0.310	"	0.898	0.165	20
Silver	0.0200	0.0239	"	0.0221	10.2	20
Zinc	38.9	0.477	"	38.4	1.34	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: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

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 BFD0316 - EPA 3050B

Matrix Spike (BFD0316-MS1)		Source: 2204183-01			Prepared: 04/15/22 Analyzed: 04/21/22					
Arsenic	48.1	0.239	mg/kg dry	47.7	5.04	90.3	75-125			
Barium	142	0.477	"	47.7	105	77.6	75-125			
Cadmium	2.49	0.239	"	2.39	0.224	94.9	75-125			
Copper	43.4	0.477	"	47.7	9.28	71.6	75-125			QM-05
Lead	22.9	0.239	"	23.9	8.18	61.8	75-125			QM-05
Nickel	48.9	0.477	"	47.7	11.0	79.3	75-125			
Selenium	4.52	0.310	"	4.77	0.898	75.9	75-125			
Silver	2.10	0.0239	"	2.39	0.0221	87.0	75-125			
Zinc	74.2	0.477	"	47.7	38.4	75.1	75-125			

Matrix Spike Dup (BFD0316-MSD1)		Source: 2204183-01			Prepared: 04/15/22 Analyzed: 04/21/22					
Arsenic	49.6	0.239	mg/kg dry	47.7	5.04	93.4	75-125	2.99	25	
Barium	144	0.477	"	47.7	105	81.0	75-125	1.13	25	
Cadmium	2.04	0.239	"	2.39	0.224	76.3	75-125	19.6	25	
Copper	45.0	0.477	"	47.7	9.28	74.8	75-125	3.49	25	QM-05
Lead	23.1	0.239	"	23.9	8.18	62.7	75-125	0.907	25	QM-05
Nickel	50.6	0.477	"	47.7	11.0	83.0	75-125	3.57	25	
Selenium	4.65	0.310	"	4.77	0.898	78.6	75-125	2.78	25	
Silver	2.12	0.0239	"	2.39	0.0221	88.0	75-125	1.17	25	
Zinc	76.6	0.477	"	47.7	38.4	80.0	75-125	3.06	25	

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BFD0405 - 3060A Mod

Blank (BFD0405-BLK1)

Prepared & Analyzed: 04/20/22

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BFD0405-BS1)

Prepared & Analyzed: 04/20/22

Chromium, Hexavalent 29.4 0.30 mg/kg wet 25.0 117 80-120

Duplicate (BFD0405-DUP1)

Source: 2204188-01

Prepared & Analyzed: 04/20/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BFD0405-MS1)

Source: 2204188-01

Prepared & Analyzed: 04/20/22

Chromium, Hexavalent 26.2 0.30 mg/kg dry 25.6 ND 102 75-125

Matrix Spike Dup (BFD0405-MSD1)

Source: 2204188-01

Prepared & Analyzed: 04/20/22

Chromium, Hexavalent 28.3 0.30 mg/kg dry 25.6 ND 110 75-125 7.71 20

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control
Summit Scientific

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

Batch BFD0374 - General Preparation

Blank (BFD0374-BLK1)

Prepared: 04/19/22 Analyzed: 04/22/22

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

LCS (BFD0374-BS1)

Prepared: 04/19/22 Analyzed: 04/22/22

Calcium	5.65	0.0500	mg/L wet	5.00	113	70-130
Magnesium	5.67	0.0500	"	5.00	113	70-130
Sodium	5.25	0.0500	"	5.00	105	70-130

Batch BFD0595 - General Preparation

Blank (BFD0595-BLK1)

Prepared: 04/27/22 Analyzed: 05/03/22

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

LCS (BFD0595-BS1)

Prepared: 04/27/22 Analyzed: 05/03/22

Calcium	6.14	0.0500	mg/L wet	5.00	123	70-130
Magnesium	5.72	0.0500	"	5.00	114	70-130
Sodium	6.18	0.0500	"	5.00	124	70-130

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

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

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

Batch BFD0314 - General Preparation

Duplicate (BFD0314-DUP1) **Source: 2204170-01** Prepared & Analyzed: 04/15/22

% Solids	88.1	%		88.3		0.194	20
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Batch BFD0422 - General Preparation

Duplicate (BFD0422-DUP1) **Source: 2204123-02** Prepared & Analyzed: 04/20/22

% Solids	92.4	%		92.9		0.577	20
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Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control
Summit Scientific

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

Batch BFD0419 - General Preparation

Blank (BFD0419-BLK1)

Prepared & Analyzed: 04/20/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFD0419-BS1)

Prepared & Analyzed: 04/20/22

Specific Conductance (EC) 0.158 0.0100 mmhos/cm 0.150 105 95-105

Duplicate (BFD0419-DUP1)

Source: 2204141-01

Prepared & Analyzed: 04/20/22

Specific Conductance (EC) 3.82 0.0100 mmhos/cm 3.84 0.627 20

Batch BFD0596 - General Preparation

Blank (BFD0596-BLK1)

Prepared: 04/27/22 Analyzed: 04/28/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFD0596-BS1)

Prepared: 04/27/22 Analyzed: 04/28/22

Specific Conductance (EC) 0.153 0.0100 mmhos/cm 0.150 102 95-105

Duplicate (BFD0596-DUP1)

Source: 2204123-02

Prepared: 04/27/22 Analyzed: 04/28/22

Specific Conductance (EC) 2.34 0.0100 mmhos/cm 2.49 6.30 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: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control

Summit Scientific

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

Batch BFD0420 - General Preparation

LCS (BFD0420-BS1)

Prepared & Analyzed: 04/20/22

pH	9.02	pH Units	9.18	98.3	95-105
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Duplicate (BFD0420-DUP1)

Source: 2204141-01

Prepared & Analyzed: 04/20/22

pH	7.69	pH Units	7.66	0.391	20
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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: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/24/22 07:29

Notes and Definitions

QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.

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

May 23, 2022

Mark Longhurst
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Fagerberg Pad
Work Order #2204229

Enclosed are the results of analyses for samples received by Summit Scientific on 04/15/22 17:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury
President



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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:53

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS23@7'	2204229-01	Soil	04/15/22 11:20	04/15/22 17:30
GW01	2204229-02	Water	04/15/22 11:25	04/15/22 17:30

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Summit Scientific

S₂

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

2204229

Page 1 of 1

Client: PDC / Tasman Project Manager: Mark Longhurst
 Address: 6855 W 119th Ave E-Mail: mark.longhurst@PDCE.com
 City/State/Zip: Broomfield/ CO/ 80020
 Phone: 303-487-1228 Project Name: Fagerberg Pad
 Sampler Name: Boyce Goldridge Project Number: N/A

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions		
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	GBTEXN - 8260B	TPH - (C6 - C36)	pH, EC, SAR	Boron - HWS	VOC - 915	PAH - 915	Metals - 915				
1	SS23 @ 7'	4-15-22	1120	3			X							X	X							X	pH, EC, SAR by saturated paste 1,2,4 & 1,3,5 TMB
2	GW01	4	1125	3			X		X					X								X	
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							

Relinquished by: <u>Boyce J Goldridge</u>	Date/Time: <u>4/15/22 1610</u>	Received by: <u>Tasman's Lock Box</u>	Date/Time: <u>4/15/22 1610</u>	Turn Around Time (Check) Same Day <u>X</u> 72 hours ___ 24 hours ___ Standard ___ 48 hours ___	Notes:
Relinquished by: <u>Tasman's Lock Box</u>	Date/Time: <u>4/15/22 1730</u>	Received by: <u>[Signature]</u>	Date/Time: <u>4/15/22 1730</u>	Sample Integrity: Temperature Upon Receipt: <u>5.6</u> Samples Intact: <u>(Yes)</u> No	
Relinquished by:	Date/Time:	Received by:	Date/Time:		

S₂

Sample Receipt Checklist

S2 Work Order#

2204229

Client: Bochtasman

Client Project ID:

Fagerberg Pad

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

Airbill #:

	-			
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Matrix (Check all that apply)

Air

☐

Soil/Solid

☒

Water

☒

Other

☐

Temp (°C)

5.6

Thermometer #

1

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

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


Custodian Printed Name

41522

Date/Time



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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:53

SS23@7'
2204229-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/15/22 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFD0329	04/15/22	04/16/22	EPA 8260B	
Toluene	0.0087	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.011	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: **04/15/22 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0367	91.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0436	109 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0464	116 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/15/22 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0330	04/15/22	04/16/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/15/22 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.4	98.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:53

SS23@7'
2204229-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/15/22 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	0.00500	mg/kg	1	BFD0401	04/20/22	04/23/22	EPA 8270D SIM	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/15/22 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0189	56.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0197	59.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/15/22 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.372	0.0100	mg/L	1	BFD0555	04/26/22	05/02/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/15/22 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	13.1	0.0659	mg/L dry	1	BFD0497	04/22/22	04/27/22	EPA 6020B	
Magnesium	3.64	0.0659	"	"	"	"	"	"	
Sodium	0.989	0.0659	"	"	"	"	"	"	

Calculated Analysis

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:53

SS23@7'
2204229-01 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/15/22 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0623	0.00100	units	1	BFD0607	04/27/22	04/27/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/15/22 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	75.9		%	1	BFD0481	04/22/22	04/22/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/15/22 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.51	0.0100	mmhos/cm	1	BFD0501	04/22/22	04/25/22	EPA 120.1	

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:53

GW01
2204229-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/15/22 11:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	120	1.0	ug/l	1	BFD0328	04/15/22	04/15/22	EPA 8260B	
Toluene	690	100	"	100	"	"	04/15/22	"	
Ethylbenzene	84	1.0	"	1	"	"	04/15/22	"	
Xylenes (total)	700	2.0	"	"	"	"	04/15/22	"	
Naphthalene	23	1.0	"	"	"	"	04/15/22	"	
1,2,4-Trimethylbenzene	150	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	56	1.0	"	"	"	"	"	"	

Date Sampled: **04/15/22 11:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.2	99.2 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>	14.8	111 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	15.8	119 %	21-167		"	"	"	"	

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:53

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 BFD0328 - EPA 5030 Water MS

Blank (BFD0328-BLK1)

Prepared & Analyzed: 04/15/22

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Naphthalene	ND	1.0	"							
1,2,4-Trimethylbenzene	ND	1.0	"							
1,3,5-Trimethylbenzene	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	12.2		"	13.3		91.7	23-173			
Surrogate: Toluene-d8	14.9		"	13.3		112	20-170			
Surrogate: 4-Bromofluorobenzene	15.4		"	13.3		116	21-167			

LCS (BFD0328-BS1)

Prepared: 04/15/22 Analyzed: 04/16/22

Benzene	36.8	1.0	ug/l	33.3		110	51-132			
Toluene	33.0	1.0	"	33.3		99.0	51-138			
Ethylbenzene	32.1	1.0	"	33.3		96.3	58-146			
m,p-Xylene	61.8	2.0	"	66.7		92.7	57-144			
o-Xylene	30.9	1.0	"	33.3		92.7	53-146			
Naphthalene	27.2	1.0	"	33.3		81.5	70-130			
1,2,4-Trimethylbenzene	33.2	1.0	"	33.3		99.6	70-130			
1,3,5-Trimethylbenzene	31.8	1.0	"	33.3		95.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	12.6		"	13.3		94.4	23-173			
Surrogate: Toluene-d8	15.0		"	13.3		113	20-170			
Surrogate: 4-Bromofluorobenzene	15.2		"	13.3		114	21-167			

Matrix Spike (BFD0328-MS1)

Source: 2204226-03

Prepared: 04/15/22 Analyzed: 04/16/22

Benzene	38.0	1.0	ug/l	33.3	ND	114	34-141			
Toluene	39.1	1.0	"	33.3	ND	117	27-151			
Ethylbenzene	31.4	1.0	"	33.3	ND	94.1	29-160			
m,p-Xylene	60.6	2.0	"	66.7	ND	91.0	20-166			
o-Xylene	30.6	1.0	"	33.3	ND	91.7	33-159			
Naphthalene	27.1	1.0	"	33.3	ND	81.4	70-130			
1,2,4-Trimethylbenzene	32.9	1.0	"	33.3	ND	98.8	70-130			
1,3,5-Trimethylbenzene	31.5	1.0	"	33.3	ND	94.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	13.0		"	13.3		97.7	23-173			
Surrogate: Toluene-d8	15.3		"	13.3		115	20-170			
Surrogate: 4-Bromofluorobenzene	15.2		"	13.3		114	21-167			

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:53

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 BFD0328 - EPA 5030 Water MS

Matrix Spike Dup (BFD0328-MSD1)

Source: 2204226-03

Prepared: 04/15/22 Analyzed: 04/16/22

Benzene	37.3	1.0	ug/l	33.3	ND	112	34-141	1.62	30	
Toluene	38.4	1.0	"	33.3	ND	115	27-151	1.86	30	
Ethylbenzene	31.1	1.0	"	33.3	ND	93.3	29-160	0.864	30	
m,p-Xylene	60.3	2.0	"	66.7	ND	90.4	20-166	0.595	30	
o-Xylene	31.2	1.0	"	33.3	ND	93.5	33-159	1.94	30	
Naphthalene	27.8	1.0	"	33.3	ND	83.3	70-130	2.33	30	
1,2,4-Trimethylbenzene	32.8	1.0	"	33.3	ND	98.3	70-130	0.518	30	
1,3,5-Trimethylbenzene	31.2	1.0	"	33.3	ND	93.5	70-130	0.958	30	
Surrogate: 1,2-Dichloroethane-d4	12.2		"	13.3		91.3	23-173			
Surrogate: Toluene-d8	14.7		"	13.3		110	20-170			
Surrogate: 4-Bromofluorobenzene	15.0		"	13.3		112	21-167			

Batch BFD0329 - EPA 5030 Soil MS

Blank (BFD0329-BLK1)

Prepared: 04/15/22 Analyzed: 04/16/22

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	0.0380		"	0.0400		95.0	50-150			
Surrogate: Toluene-d8	0.0442		"	0.0400		111	50-150			
Surrogate: 4-Bromofluorobenzene	0.0462		"	0.0400		116	50-150			

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:53

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 BFD0329 - EPA 5030 Soil MS

LCS (BFD0329-BS1)

Prepared: 04/15/22 Analyzed: 04/16/22

Benzene	0.109	0.0020	mg/kg	0.100		109	70-130			
Toluene	0.107	0.0050	"	0.100		107	70-130			
Ethylbenzene	0.0873	0.0050	"	0.100		87.3	70-130			
m,p-Xylene	0.168	0.010	"	0.200		83.9	70-130			
o-Xylene	0.0861	0.0050	"	0.100		86.1	70-130			
1,2,4-Trimethylbenzene	0.0880	0.0050	"	0.100		88.0	70-130			
1,3,5-Trimethylbenzene	0.0847	0.0050	"	0.100		84.7	70-130			
Naphthalene	0.0731	0.0038	"	0.100		73.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0368		"	0.0400		92.0	50-150			
Surrogate: Toluene-d8	0.0446		"	0.0400		112	50-150			
Surrogate: 4-Bromofluorobenzene	0.0450		"	0.0400		112	50-150			

Matrix Spike (BFD0329-MS1)

Source: 2204229-01

Prepared: 04/15/22 Analyzed: 04/16/22

Benzene	0.107	0.0020	mg/kg	0.100	ND	107	70-130			
Toluene	0.139	0.0050	"	0.100	0.00870	130	70-130			
Ethylbenzene	0.0875	0.0050	"	0.100	ND	87.5	70-130			
m,p-Xylene	0.171	0.010	"	0.200	0.00771	81.5	70-130			
o-Xylene	0.0866	0.0050	"	0.100	0.00312	83.5	70-130			
1,2,4-Trimethylbenzene	0.0895	0.0050	"	0.100	0.00348	86.0	70-130			
1,3,5-Trimethylbenzene	0.0865	0.0050	"	0.100	ND	86.5	70-130			
Naphthalene	0.0705	0.0038	"	0.100	ND	70.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0372		"	0.0400		93.0	50-150			
Surrogate: Toluene-d8	0.0458		"	0.0400		114	50-150			
Surrogate: 4-Bromofluorobenzene	0.0463		"	0.0400		116	50-150			

Matrix Spike Dup (BFD0329-MSD1)

Source: 2204229-01

Prepared: 04/15/22 Analyzed: 04/16/22

Benzene	0.104	0.0020	mg/kg	0.100	ND	104	70-130	2.10	30	
Toluene	0.137	0.0050	"	0.100	0.00870	128	70-130	1.26	30	
Ethylbenzene	0.0857	0.0050	"	0.100	ND	85.7	70-130	2.08	30	
m,p-Xylene	0.168	0.010	"	0.200	0.00771	80.0	70-130	1.81	30	
o-Xylene	0.0852	0.0050	"	0.100	0.00312	82.1	70-130	1.61	30	
1,2,4-Trimethylbenzene	0.0905	0.0050	"	0.100	0.00348	87.1	70-130	1.17	30	
1,3,5-Trimethylbenzene	0.0858	0.0050	"	0.100	ND	85.8	70-130	0.836	30	
Naphthalene	0.0729	0.0038	"	0.100	ND	72.9	70-130	3.39	30	
Surrogate: 1,2-Dichloroethane-d4	0.0380		"	0.0400		95.1	50-150			
Surrogate: Toluene-d8	0.0462		"	0.0400		115	50-150			
Surrogate: 4-Bromofluorobenzene	0.0468		"	0.0400		117	50-150			

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:53

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BFD0330 - EPA 3550A

Blank (BFD0330-BLK1)

Prepared: 04/15/22 Analyzed: 04/16/22

C10-C28 (DRO)	ND	50	mg/kg
C28-C36 (ORO)	ND	50	"

LCS (BFD0330-BS1)

Prepared: 04/15/22 Analyzed: 04/16/22

C10-C28 (DRO)	463	50	mg/kg	500	92.5	70-130
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Matrix Spike (BFD0330-MS1)

Source: 2204229-01

Prepared: 04/15/22 Analyzed: 04/16/22

C10-C28 (DRO)	437	50	mg/kg	500	29.9	81.5	70-130
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Matrix Spike Dup (BFD0330-MSD1)

Source: 2204229-01

Prepared: 04/15/22 Analyzed: 04/16/22

C10-C28 (DRO)	525	50	mg/kg	500	29.9	99.0	70-130	18.2	20
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Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:53

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFD0401 - EPA 5030 Soil MS

Blank (BFD0401-BLK1)

Prepared: 04/20/22 Analyzed: 04/22/22

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0225		"	0.0333		67.6	40-150			
Surrogate: Fluoranthene-d10	0.0213		"	0.0333		63.8	40-150			

LCS (BFD0401-BS1)

Prepared: 04/20/22 Analyzed: 04/22/22

Acenaphthene	0.0303	0.00500	mg/kg	0.0333	91.0	31-137
Anthracene	0.0316	0.00500	"	0.0333	94.7	30-120
Benzo (a) anthracene	0.0310	0.00500	"	0.0333	93.1	30-120
Benzo (a) pyrene	0.0269	0.00500	"	0.0333	80.7	30-120
Benzo (b) fluoranthene	0.0339	0.00500	"	0.0333	102	30-120
Benzo (k) fluoranthene	0.0371	0.00500	"	0.0333	111	30-120
Chrysene	0.0289	0.00500	"	0.0333	86.7	30-120
Dibenz (a,h) anthracene	0.0162	0.00500	"	0.0333	48.6	30-120
Fluoranthene	0.0238	0.00500	"	0.0333	71.5	30-120
Fluorene	0.0314	0.00500	"	0.0333	94.3	30-120
Indeno (1,2,3-cd) pyrene	0.0173	0.00500	"	0.0333	51.9	30-120
Pyrene	0.0398	0.00500	"	0.0333	120	35-142
1-Methylnaphthalene	0.0237	0.00500	"	0.0333	71.2	35-142
2-Methylnaphthalene	0.0279	0.00500	"	0.0333	83.8	35-142
Surrogate: 2-Methylnaphthalene-d10	0.0276		"	0.0333	82.8	40-150
Surrogate: Fluoranthene-d10	0.0256		"	0.0333	76.9	40-150

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:53

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFD0401 - EPA 5030 Soil MS

Matrix Spike (BFD0401-MS1)

Source: 2204126-01

Prepared: 04/20/22 Analyzed: 04/22/22

Acenaphthene	0.0183	0.00500	mg/kg	0.0333	ND	55.0	31-137		
Anthracene	0.0200	0.00500	"	0.0333	ND	59.9	30-120		
Benzo (a) anthracene	0.0187	0.00500	"	0.0333	ND	56.2	30-120		
Benzo (a) pyrene	0.0182	0.00500	"	0.0333	ND	54.6	30-120		
Benzo (b) fluoranthene	0.0236	0.00500	"	0.0333	ND	70.7	30-120		
Benzo (k) fluoranthene	0.0234	0.00500	"	0.0333	ND	70.3	30-120		
Chrysene	0.0172	0.00500	"	0.0333	ND	51.6	30-120		
Dibenz (a,h) anthracene	0.0150	0.00500	"	0.0333	ND	44.9	30-120		
Fluoranthene	0.0158	0.00500	"	0.0333	ND	47.5	30-120		
Fluorene	0.0196	0.00500	"	0.0333	ND	58.8	30-120		
Indeno (1,2,3-cd) pyrene	0.0221	0.00500	"	0.0333	ND	66.3	30-120		
Pyrene	0.0403	0.00500	"	0.0333	ND	121	35-142		
1-Methylnaphthalene	0.0161	0.00500	"	0.0333	ND	48.4	15-130		
2-Methylnaphthalene	0.0188	0.00500	"	0.0333	ND	56.4	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0184		"	0.0333		55.3	40-150		
Surrogate: Fluoranthene-d10	0.0165		"	0.0333		49.5	40-150		

Matrix Spike Dup (BFD0401-MSD1)

Source: 2204126-01

Prepared: 04/20/22 Analyzed: 04/22/22

Acenaphthene	0.0194	0.00500	mg/kg	0.0333	ND	58.1	31-137	5.53	30
Anthracene	0.0210	0.00500	"	0.0333	ND	62.9	30-120	4.92	30
Benzo (a) anthracene	0.0200	0.00500	"	0.0333	ND	60.1	30-120	6.72	30
Benzo (a) pyrene	0.0219	0.00500	"	0.0333	ND	65.8	30-120	18.5	30
Benzo (b) fluoranthene	0.0251	0.00500	"	0.0333	ND	75.4	30-120	6.45	30
Benzo (k) fluoranthene	0.0280	0.00500	"	0.0333	ND	84.1	30-120	17.8	30
Chrysene	0.0186	0.00500	"	0.0333	ND	55.8	30-120	7.76	30
Dibenz (a,h) anthracene	0.0145	0.00500	"	0.0333	ND	43.6	30-120	3.13	30
Fluoranthene	0.0173	0.00500	"	0.0333	ND	51.9	30-120	8.94	30
Fluorene	0.0206	0.00500	"	0.0333	ND	61.9	30-120	5.14	30
Indeno (1,2,3-cd) pyrene	0.0174	0.00500	"	0.0333	ND	52.3	30-120	23.5	30
Pyrene	0.0399	0.00500	"	0.0333	ND	120	35-142	1.00	30
1-Methylnaphthalene	0.0180	0.00500	"	0.0333	ND	53.9	15-130	10.8	50
2-Methylnaphthalene	0.0197	0.00500	"	0.0333	ND	59.0	15-130	4.53	50
Surrogate: 2-Methylnaphthalene-d10	0.0178		"	0.0333		53.4	40-150		
Surrogate: Fluoranthene-d10	0.0181		"	0.0333		54.3	40-150		

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:53

Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control
Summit Scientific

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

Batch BFD0555 - EPA 3050B

Blank (BFD0555-BLK1)

Prepared: 04/26/22 Analyzed: 05/02/22

Boron ND 0.0100 mg/L

LCS (BFD0555-BS1)

Prepared: 04/26/22 Analyzed: 05/02/22

Boron 5.34 0.0100 mg/L 5.00 107 80-120

Duplicate (BFD0555-DUP1)

Source: 2204216-01

Prepared: 04/26/22 Analyzed: 05/02/22

Boron 0.369 0.0100 mg/L 0.378 2.40 20

Matrix Spike (BFD0555-MS1)

Source: 2204216-01

Prepared: 04/26/22 Analyzed: 05/02/22

Boron 5.15 0.0100 mg/L 5.00 0.378 95.5 75-125

Matrix Spike Dup (BFD0555-MSD1)

Source: 2204216-01

Prepared: 04/26/22 Analyzed: 05/02/22

Boron 5.21 0.0100 mg/L 5.00 0.378 96.6 75-125 1.01 25

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:53

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control
Summit Scientific

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

Batch BFD0497 - General Preparation

Blank (BFD0497-BLK1)

Prepared: 04/22/22 Analyzed: 04/27/22

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

LCS (BFD0497-BS1)

Prepared: 04/22/22 Analyzed: 04/27/22

Calcium	5.45	0.0500	mg/L wet	5.00	109	70-130
Magnesium	5.61	0.0500	"	5.00	112	70-130
Sodium	5.61	0.0500	"	5.00	112	70-130

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:53

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

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

Batch BFD0481 - General Preparation

Duplicate (BFD0481-DUP1)		Source: 2204225-01			Prepared & Analyzed: 04/22/22					
% Solids	89.3		%		88.1		1.35		20	

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:53

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control
Summit Scientific

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

Batch BFD0501 - General Preparation

Blank (BFD0501-BLK1)

Prepared: 04/22/22 Analyzed: 04/25/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFD0501-BS1)

Prepared: 04/22/22 Analyzed: 04/25/22

Specific Conductance (EC) 0.155 0.0100 mmhos/cm 0.150 103 95-105

Duplicate (BFD0501-DUP1)

Source: 2204126-01

Prepared: 04/22/22 Analyzed: 04/25/22

Specific Conductance (EC) 3.94 0.0100 mmhos/cm 4.11 4.28 20

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:53

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 23, 2022

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Fagerberg Pad

Work Order #2204273

Enclosed are the results of analyses for samples received by Summit Scientific on 04/18/22 17:14. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury

President



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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS24@4'	2204273-01	Soil	04/18/22 12:50	04/18/22 17:14
SS25@7'	2204273-02	Soil	04/18/22 12:55	04/18/22 17:14
SS26@4'	2204273-03	Soil	04/18/22 13:00	04/18/22 17:14
SS27@7'	2204273-04	Soil	04/18/22 13:05	04/18/22 17:14
SS28@4'	2204273-05	Soil	04/18/22 13:10	04/18/22 17:14
SS29@7'	2204273-06	Soil	04/18/22 13:15	04/18/22 17:14
SS30@4'	2204273-07	Soil	04/18/22 13:20	04/18/22 17:14
SS31@7'	2204273-08	Soil	04/18/22 13:25	04/18/22 17:14

Summit Scientific

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Summit Scientific

2204273

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

Page 1 of 1

Client: PDC / Tasman

Project Manager: Mark Longhurst

Address: 6855 W 119th Ave

E-Mail: mark.longhurst@PDCE.com

City/State/Zip: Broomfield/ CO/ 80020

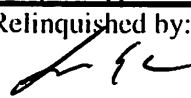

Phone: 303-487-1228

Project Name: Fagerberg Pad

Sampler Name: Sam Anderson

Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR			
1	SS24 e 4'	4/14/22	1250	3			X			X				X	X	X				pH, EC, SAR by saturated paste
2	SS25 e 7'		1255	3			X			X				X	X	X				
3	SS26 e 4'		1300	3			X			X				X	X	X				
4	SS27 e 7'		1305	3			X			X				X	X	X				
5	SS28 e 4'		1310	3			X			X				X	X	X				
6	SS29 e 7'		1315	3			X			X				X	X	X				
7	SS30 e 4'		1320	3			X			X				X	X	X				
8	SS31 e 7'		1325	3			X			X				X	X	X				
9																				
10																				

Relinquished by: 	Date/Time:	Received by: Tasman's Lock Box	Date/Time:	Turn Around Time (Check)	Notes:
				Same Day <input checked="" type="checkbox"/> 72 hours <input type="checkbox"/>	
				24 hours <input type="checkbox"/> Standard <input type="checkbox"/>	
				48 hours <input type="checkbox"/>	
Relinquished by: Tasman's Lock Box	Date/Time: 4/18/22 1714	Received by: 	Date/Time: 4/18/22 1714	Sample Integrity:	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Temperature Upon Receipt: 3.6	
				Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	

S₂

2204273

S2 Work Order#

Sample Receipt Checklist

Client: Poc Tasman Client Project ID: Fagerberg Pad

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

	-			
--	---	--	--	--

Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 3.6 Thermometer # 1

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

[Signature]
Custodian Printed Name

41822
Date/Time



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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

SS24@4'
2204273-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/18/22 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFD0360	04/18/22	04/18/22	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: **04/18/22 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0436	109 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0406	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0396	98.9 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/18/22 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0361	04/18/22	04/18/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/18/22 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	11.3	90.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

SS24@4'
2204273-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/18/22 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	0.00500	mg/kg	1	BFD0401	04/20/22	04/23/22	EPA 8270D SIM	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/18/22 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0162	48.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0178	53.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/18/22 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.495	0.0100	mg/L	1	BFD0555	04/26/22	05/02/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/18/22 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	27.2	0.0618	mg/L dry	1	BFD0602	04/27/22	05/04/22	EPA 6020B	
Magnesium	4.16	0.0618	"	"	"	"	"	"	
Sodium	1.41	0.0618	"	"	"	"	"	"	

Calculated Analysis

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

SS24@4'
2204273-01 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/18/22 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0665	0.00100	units	1	BFE0077	05/04/22	05/04/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/18/22 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	80.9		%	1	BFD0527	04/25/22	04/27/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/18/22 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.03	0.0100	mmhos/cm	1	BFD0604	04/27/22	04/28/22	EPA 120.1	

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

SS25@7'
2204273-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/18/22 12:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFD0360	04/18/22	04/18/22	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: **04/18/22 12:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0417	104 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0399	99.7 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0401	100 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/18/22 12:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0361	04/18/22	04/18/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/18/22 12:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.0	87.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

SS25@7'
2204273-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/18/22 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	0.00500	mg/kg	1	BFD0401	04/20/22	04/23/22	EPA 8270D SIM	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/18/22 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0148	44.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0167	50.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/18/22 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.425	0.0100	mg/L	1	BFD0555	04/26/22	05/02/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/18/22 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	20.7	0.0659	mg/L dry	1	BFD0602	04/27/22	05/04/22	EPA 6020B	
Magnesium	2.38	0.0659	"	"	"	"	"	"	
Sodium	1.19	0.0659	"	"	"	"	"	"	

Calculated Analysis

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: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

SS25@7'
2204273-02 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/18/22 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0660	0.00100	units	1	BFE0077	05/04/22	05/04/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/18/22 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	75.9		%	1	BFD0527	04/25/22	04/27/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/18/22 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.35	0.0100	mmhos/cm	1	BFD0604	04/27/22	04/28/22	EPA 120.1	

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: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

SS26@4'
2204273-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/18/22 13:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFD0360	04/18/22	04/18/22	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: **04/18/22 13:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0348	86.9 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0480	120 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0483	121 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/18/22 13:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0361	04/18/22	04/18/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/18/22 13:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.3	82.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

SS26@4'
2204273-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/18/22 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	0.00500	mg/kg	1	BFD0401	04/20/22	04/23/22	EPA 8270D SIM	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/18/22 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0181	54.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0200	60.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/18/22 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.611	0.0100	mg/L	1	BFD0555	04/26/22	05/02/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/18/22 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	43.8	0.0618	mg/L dry	1	BFD0602	04/27/22	05/04/22	EPA 6020B	
Magnesium	4.40	0.0618	"	"	"	"	"	"	
Sodium	1.29	0.0618	"	"	"	"	"	"	

Calculated Analysis

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

SS26@4'
2204273-03 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/18/22 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0497	0.00100	units	1	BFE0077	05/04/22	05/04/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/18/22 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	81.0		%	1	BFD0527	04/25/22	04/27/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/18/22 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.13	0.0100	mmhos/cm	1	BFD0604	04/27/22	04/28/22	EPA 120.1	

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

SS27@7'
2204273-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/18/22 13:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFD0360	04/18/22	04/18/22	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: **04/18/22 13:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0374	93.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0480	120 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0475	119 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/18/22 13:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0361	04/18/22	04/18/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/18/22 13:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.4	83.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

SS27@7'
2204273-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/18/22 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	0.00500	mg/kg	1	BFD0401	04/20/22	04/23/22	EPA 8270D SIM	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/18/22 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0192	57.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0201	60.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/18/22 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.429	0.0100	mg/L	1	BFD0555	04/26/22	05/02/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/18/22 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	16.8	0.0613	mg/L dry	1	BFD0602	04/27/22	05/04/22	EPA 6020B	
Magnesium	2.42	0.0613	"	"	"	"	"	"	
Sodium	1.21	0.0613	"	"	"	"	"	"	

Calculated Analysis

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

SS27@7'
2204273-04 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/18/22 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0731	0.00100	units	1	BFE0077	05/04/22	05/04/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/18/22 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	81.6		%	1	BFD0527	04/25/22	04/27/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/18/22 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.08	0.0100	mmhos/cm	1	BFD0604	04/27/22	04/28/22	EPA 120.1	

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

SS28@4'
2204273-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/18/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFD0360	04/18/22	04/18/22	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: **04/18/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0373	93.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0474	118 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0482	120 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/18/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0361	04/18/22	04/18/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/18/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	10.2	81.7 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

SS28@4'
2204273-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/18/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	0.00500	mg/kg	1	BFD0401	04/20/22	04/23/22	EPA 8270D SIM	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/18/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0189	56.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0198	59.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/18/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.466	0.0100	mg/L	1	BFD0555	04/26/22	05/02/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/18/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	59.6	0.0615	mg/L dry	1	BFD0602	04/27/22	05/04/22	EPA 6020B	
Magnesium	4.22	0.0615	"	"	"	"	"	"	
Sodium	1.11	0.0615	"	"	"	"	"	"	

Calculated Analysis

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: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

SS28@4'
2204273-05 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/18/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0375	0.00100	units	1	BFE0077	05/04/22	05/04/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/18/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	81.3		%	1	BFD0527	04/25/22	04/27/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/18/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.826	0.0100	mmhos/cm	1	BFD0604	04/27/22	04/28/22	EPA 120.1	

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: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

SS29@7'
2204273-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/18/22 13:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFD0360	04/18/22	04/18/22	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: **04/18/22 13:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0381	95.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0474	119 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0467	117 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/18/22 13:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0361	04/18/22	04/18/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/18/22 13:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.7	85.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

SS29@7'
2204273-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/18/22 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	0.00500	mg/kg	1	BFD0401	04/20/22	04/23/22	EPA 8270D SIM	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/18/22 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0156	46.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0172	51.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/18/22 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.477	0.0100	mg/L	1	BFD0555	04/26/22	05/02/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/18/22 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	38.4	0.0628	mg/L dry	1	BFD0602	04/27/22	05/04/22	EPA 6020B	
Magnesium	4.75	0.0628	"	"	"	"	"	"	
Sodium	1.73	0.0628	"	"	"	"	"	"	

Calculated Analysis

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: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

SS29@7'
2204273-06 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/18/22 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0701	0.00100	units	1	BFE0077	05/04/22	05/04/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/18/22 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	79.6		%	1	BFD0527	04/25/22	04/27/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/18/22 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.03	0.0100	mmhos/cm	1	BFD0604	04/27/22	04/28/22	EPA 120.1	

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

SS30@4'
2204273-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/18/22 13:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFD0360	04/18/22	04/18/22	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: **04/18/22 13:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0368	92.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0476	119 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0483	121 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/18/22 13:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0361	04/18/22	04/18/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/18/22 13:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.4	83.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

SS30@4'
2204273-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/18/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	0.00500	mg/kg	1	BFD0401	04/20/22	04/23/22	EPA 8270D SIM	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/18/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0187	56.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0156	46.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/18/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.522	0.0100	mg/L	1	BFD0555	04/26/22	05/02/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/18/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	97.3	0.0620	mg/L dry	1	BFD0602	04/27/22	05/04/22	EPA 6020B	
Magnesium	5.82	0.0620	"	"	"	"	"	"	
Sodium	1.58	0.0620	"	"	"	"	"	"	

Calculated Analysis

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

SS30@4'
2204273-07 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/18/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0421	0.00100	units	1	BFE0077	05/04/22	05/04/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/18/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	80.7		%	1	BFD0527	04/25/22	04/27/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/18/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.06	0.0100	mmhos/cm	1	BFD0604	04/27/22	04/28/22	EPA 120.1	

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

SS31@7'
2204273-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/18/22 13:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFD0360	04/18/22	04/18/22	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: **04/18/22 13:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0383	95.7 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0470	118 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0475	119 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/18/22 13:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0361	04/18/22	04/18/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/18/22 13:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.6	84.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

SS31@7'
2204273-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/18/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	0.00500	mg/kg	1	BFD0401	04/20/22	04/23/22	EPA 8270D SIM	
Chrysene	0.00614	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/18/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0217	65.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0157	47.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/18/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.465	0.0100	mg/L	1	BFD0555	04/26/22	05/02/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **04/18/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	24.0	0.0608	mg/L dry	1	BFD0602	04/27/22	05/04/22	EPA 6020B	
Magnesium	6.05	0.0608	"	"	"	"	"	"	
Sodium	3.83	0.0608	"	"	"	"	"	"	

Calculated Analysis

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

SS31@7'
2204273-08 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/18/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.181	0.00100	units	1	BFE0077	05/04/22	05/04/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/18/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.2		%	1	BFD0527	04/25/22	04/27/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/18/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.76	0.0100	mmhos/cm	1	BFD0604	04/27/22	04/28/22	EPA 120.1	

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

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 BFD0360 - EPA 5030 Soil MS

Blank (BFD0360-BLK1)

Prepared & Analyzed: 04/18/22

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	0.0412		"	0.0400		103	50-150			
Surrogate: Toluene-d8	0.0397		"	0.0400		99.2	50-150			
Surrogate: 4-Bromofluorobenzene	0.0396		"	0.0400		99.1	50-150			

LCS (BFD0360-BS1)

Prepared & Analyzed: 04/18/22

Benzene	0.0591	0.0020	mg/kg	0.0750		78.8	70-130			
Toluene	0.0619	0.0050	"	0.0750		82.5	70-130			
Ethylbenzene	0.0609	0.0050	"	0.0750		81.2	70-130			
m,p-Xylene	0.127	0.010	"	0.150		84.6	70-130			
o-Xylene	0.0614	0.0050	"	0.0750		81.9	70-130			
1,2,4-Trimethylbenzene	0.0660	0.0050	"	0.0750		88.0	70-130			
1,3,5-Trimethylbenzene	0.0627	0.0050	"	0.0750		83.6	70-130			
Naphthalene	0.0713	0.0038	"	0.0750		95.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0416		"	0.0400		104	50-150			
Surrogate: Toluene-d8	0.0400		"	0.0400		100	50-150			
Surrogate: 4-Bromofluorobenzene	0.0423		"	0.0400		106	50-150			

Matrix Spike (BFD0360-MS1)

Source: 2204271-01

Prepared: 04/18/22 Analyzed: 04/19/22

Benzene	0.214	0.0020	mg/kg	0.0750	0.157	76.4	70-130			
Toluene	2.33	0.0050	"	0.0750	2.74	NR	70-130			E, QM-07
Ethylbenzene	0.818	0.0050	"	0.0750	1.19	NR	70-130			E, QM-07
m,p-Xylene	2.72	0.010	"	0.150	3.96	NR	70-130			E, QM-07
o-Xylene	1.83	0.0050	"	0.0750	2.55	NR	70-130			E, QM-07
1,2,4-Trimethylbenzene	2.06	0.0050	"	0.0750	2.75	NR	70-130			E, QM-07
1,3,5-Trimethylbenzene	0.811	0.0050	"	0.0750	0.899	NR	70-130			E, QM-07
Naphthalene	0.228	0.0038	"	0.0750	0.177	67.4	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	0.0458		"	0.0400		115	50-150			
Surrogate: Toluene-d8	0.0296		"	0.0400		74.0	50-150			
Surrogate: 4-Bromofluorobenzene	0.0791		"	0.0400		198	50-150			S-02

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

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 BFD0360 - EPA 5030 Soil MS

Matrix Spike Dup (BFD0360-MSD1)		Source: 2204271-01			Prepared: 04/18/22 Analyzed: 04/19/22					
Benzene	0.338	0.0020	mg/kg	0.0750	0.157	242	70-130	45.0	30	QM-07
Toluene	2.65	0.0050	"	0.0750	2.74	NR	70-130	13.1	30	E, QM-07
Ethylbenzene	0.905	0.0050	"	0.0750	1.19	NR	70-130	10.1	30	E, QM-07
m,p-Xylene	3.22	0.010	"	0.150	3.96	NR	70-130	16.9	30	E, QM-07
o-Xylene	1.92	0.0050	"	0.0750	2.55	NR	70-130	4.89	30	E, QM-07
1,2,4-Trimethylbenzene	2.13	0.0050	"	0.0750	2.75	NR	70-130	3.34	30	E, QM-07
1,3,5-Trimethylbenzene	0.790	0.0050	"	0.0750	0.899	NR	70-130	2.69	30	E, QM-07
Naphthalene	0.246	0.0038	"	0.0750	0.177	91.3	70-130	7.57	30	
Surrogate: 1,2-Dichloroethane-d4		0.0403	"	0.0400		101	50-150			
Surrogate: Toluene-d8		0.0246	"	0.0400		61.6	50-150			
Surrogate: 4-Bromofluorobenzene		0.0836	"	0.0400		209	50-150			S-02

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: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

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 BFD0361 - EPA 3550A

Blank (BFD0361-BLK1)

Prepared & Analyzed: 04/18/22

C10-C28 (DRO)	ND	50	mg/kg
C28-C36 (ORO)	ND	50	"

LCS (BFD0361-BS1)

Prepared: 04/18/22 Analyzed: 04/19/22

C10-C28 (DRO)	462	50	mg/kg	500	92.3	70-130
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Matrix Spike (BFD0361-MS1)

Source: 2204271-01

Prepared: 04/18/22 Analyzed: 04/19/22

C10-C28 (DRO)	806	50	mg/kg	500	294	102	70-130
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Matrix Spike Dup (BFD0361-MSD1)

Source: 2204271-01

Prepared: 04/18/22 Analyzed: 04/19/22

C10-C28 (DRO)	786	50	mg/kg	500	294	98.4	70-130	2.45	20
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Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFD0401 - EPA 5030 Soil MS

Blank (BFD0401-BLK1)

Prepared: 04/20/22 Analyzed: 04/22/22

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0225		"	0.0333		67.6	40-150			
Surrogate: Fluoranthene-d10	0.0213		"	0.0333		63.8	40-150			

LCS (BFD0401-BS1)

Prepared: 04/20/22 Analyzed: 04/22/22

Acenaphthene	0.0303	0.00500	mg/kg	0.0333	91.0	31-137
Anthracene	0.0316	0.00500	"	0.0333	94.7	30-120
Benzo (a) anthracene	0.0310	0.00500	"	0.0333	93.1	30-120
Benzo (a) pyrene	0.0269	0.00500	"	0.0333	80.7	30-120
Benzo (b) fluoranthene	0.0339	0.00500	"	0.0333	102	30-120
Benzo (k) fluoranthene	0.0371	0.00500	"	0.0333	111	30-120
Chrysene	0.0289	0.00500	"	0.0333	86.7	30-120
Dibenz (a,h) anthracene	0.0162	0.00500	"	0.0333	48.6	30-120
Fluoranthene	0.0238	0.00500	"	0.0333	71.5	30-120
Fluorene	0.0314	0.00500	"	0.0333	94.3	30-120
Indeno (1,2,3-cd) pyrene	0.0173	0.00500	"	0.0333	51.9	30-120
Pyrene	0.0398	0.00500	"	0.0333	120	35-142
1-Methylnaphthalene	0.0237	0.00500	"	0.0333	71.2	35-142
2-Methylnaphthalene	0.0279	0.00500	"	0.0333	83.8	35-142
Surrogate: 2-Methylnaphthalene-d10	0.0276		"	0.0333	82.8	40-150
Surrogate: Fluoranthene-d10	0.0256		"	0.0333	76.9	40-150

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFD0401 - EPA 5030 Soil MS

Matrix Spike (BFD0401-MS1)

Source: 2204126-01

Prepared: 04/20/22 Analyzed: 04/22/22

Acenaphthene	0.0183	0.00500	mg/kg	0.0333	ND	55.0	31-137		
Anthracene	0.0200	0.00500	"	0.0333	ND	59.9	30-120		
Benzo (a) anthracene	0.0187	0.00500	"	0.0333	ND	56.2	30-120		
Benzo (a) pyrene	0.0182	0.00500	"	0.0333	ND	54.6	30-120		
Benzo (b) fluoranthene	0.0236	0.00500	"	0.0333	ND	70.7	30-120		
Benzo (k) fluoranthene	0.0234	0.00500	"	0.0333	ND	70.3	30-120		
Chrysene	0.0172	0.00500	"	0.0333	ND	51.6	30-120		
Dibenz (a,h) anthracene	0.0150	0.00500	"	0.0333	ND	44.9	30-120		
Fluoranthene	0.0158	0.00500	"	0.0333	ND	47.5	30-120		
Fluorene	0.0196	0.00500	"	0.0333	ND	58.8	30-120		
Indeno (1,2,3-cd) pyrene	0.0221	0.00500	"	0.0333	ND	66.3	30-120		
Pyrene	0.0403	0.00500	"	0.0333	ND	121	35-142		
1-Methylnaphthalene	0.0161	0.00500	"	0.0333	ND	48.4	15-130		
2-Methylnaphthalene	0.0188	0.00500	"	0.0333	ND	56.4	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0184		"	0.0333		55.3	40-150		
Surrogate: Fluoranthene-d10	0.0165		"	0.0333		49.5	40-150		

Matrix Spike Dup (BFD0401-MSD1)

Source: 2204126-01

Prepared: 04/20/22 Analyzed: 04/22/22

Acenaphthene	0.0194	0.00500	mg/kg	0.0333	ND	58.1	31-137	5.53	30
Anthracene	0.0210	0.00500	"	0.0333	ND	62.9	30-120	4.92	30
Benzo (a) anthracene	0.0200	0.00500	"	0.0333	ND	60.1	30-120	6.72	30
Benzo (a) pyrene	0.0219	0.00500	"	0.0333	ND	65.8	30-120	18.5	30
Benzo (b) fluoranthene	0.0251	0.00500	"	0.0333	ND	75.4	30-120	6.45	30
Benzo (k) fluoranthene	0.0280	0.00500	"	0.0333	ND	84.1	30-120	17.8	30
Chrysene	0.0186	0.00500	"	0.0333	ND	55.8	30-120	7.76	30
Dibenz (a,h) anthracene	0.0145	0.00500	"	0.0333	ND	43.6	30-120	3.13	30
Fluoranthene	0.0173	0.00500	"	0.0333	ND	51.9	30-120	8.94	30
Fluorene	0.0206	0.00500	"	0.0333	ND	61.9	30-120	5.14	30
Indeno (1,2,3-cd) pyrene	0.0174	0.00500	"	0.0333	ND	52.3	30-120	23.5	30
Pyrene	0.0399	0.00500	"	0.0333	ND	120	35-142	1.00	30
1-Methylnaphthalene	0.0180	0.00500	"	0.0333	ND	53.9	15-130	10.8	50
2-Methylnaphthalene	0.0197	0.00500	"	0.0333	ND	59.0	15-130	4.53	50
Surrogate: 2-Methylnaphthalene-d10	0.0178		"	0.0333		53.4	40-150		
Surrogate: Fluoranthene-d10	0.0181		"	0.0333		54.3	40-150		

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control
Summit Scientific

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

Batch BFD0555 - EPA 3050B

Blank (BFD0555-BLK1)

Prepared: 04/26/22 Analyzed: 05/02/22

Boron ND 0.0100 mg/L

LCS (BFD0555-BS1)

Prepared: 04/26/22 Analyzed: 05/02/22

Boron 5.34 0.0100 mg/L 5.00 107 80-120

Duplicate (BFD0555-DUP1)

Source: 2204216-01

Prepared: 04/26/22 Analyzed: 05/02/22

Boron 0.369 0.0100 mg/L 0.378 2.40 20

Matrix Spike (BFD0555-MS1)

Source: 2204216-01

Prepared: 04/26/22 Analyzed: 05/02/22

Boron 5.15 0.0100 mg/L 5.00 0.378 95.5 75-125

Matrix Spike Dup (BFD0555-MSD1)

Source: 2204216-01

Prepared: 04/26/22 Analyzed: 05/02/22

Boron 5.21 0.0100 mg/L 5.00 0.378 96.6 75-125 1.01 25

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control
Summit Scientific

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

Batch BFD0602 - General Preparation

Blank (BFD0602-BLK1)

Prepared: 04/27/22 Analyzed: 05/04/22

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

LCS (BFD0602-BS1)

Prepared: 04/27/22 Analyzed: 05/04/22

Calcium	5.39	0.0500	mg/L wet	5.00	108	70-130
Magnesium	4.83	0.0500	"	5.00	96.5	70-130
Sodium	4.81	0.0500	"	5.00	96.2	70-130

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

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

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

Batch BFD0527 - General Preparation

Duplicate (BFD0527-DUP1)		Source: 2204265-01			Prepared: 04/25/22 Analyzed: 04/27/22					
% Solids	85.7		%		87.0		1.45		20	

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control
Summit Scientific

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

Batch BFD0604 - General Preparation

Blank (BFD0604-BLK1)

Prepared: 04/27/22 Analyzed: 04/28/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFD0604-BS1)

Prepared: 04/27/22 Analyzed: 04/28/22

Specific Conductance (EC) 0.153 0.0100 mmhos/cm 0.150 102 95-105

Duplicate (BFD0604-DUP1)

Source: 2204273-01

Prepared: 04/27/22 Analyzed: 04/28/22

Specific Conductance (EC) 2.10 0.0100 mmhos/cm 2.03 3.00 20

Summit Scientific

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

Project: Fagerberg Pad
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/23/22 13:55

Notes and Definitions

S-02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
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.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.
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