

TABLE 1
FORMER LARSON FARMS 3,4,5,6,7-24 TANK BATTERY
WEST PWV 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)	Chrysene (mg/kg)	Fluorene (mg/kg)	1-M (mg/kg)	2-M (mg/kg)
Residential SSL ^(1,2)			1.2	490	5.8	58	30	27	2	500	110	240	18	24
Protection of Groundwater SSL ^(1,2,3)			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500	9	0.54	0.006	0.019
SS01 @ 5'	8/4/2021	5 ft. bgs	0.052	0.50	0.23	<0.010	0.73	0.14	0.36	952	0.0160	0.102	0.667	1.31
SS02 @ 7'	8/4/2021	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
SS03 @ 5'	8/4/2021	5 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
SS04 @ 5'	8/4/2021	5 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
SS05 @ 5'	8/4/2021	5 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
SS06 @ 5'	8/4/2021	5 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
AST01 @ 0-6"	8/6/2021	0-6 in. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	NA	NA	NA	NA
AST02 @ 0-6"	8/6/2021	0-6 in. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	NA	NA	NA	NA
AST03 @ 0-6"	8/6/2021	0-6 in. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	NA	NA	NA	NA
AST04 @ 0-6"	8/6/2021	0-6 in. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	NA	NA	NA	NA
AST05 @ 0-6"	8/6/2021	0-6 in. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	NA	NA	NA	NA
AST06 @ 0-6"	8/6/2021	0-6 in. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	NA	NA	NA	NA
AST07 @ 0-6"	8/6/2021	0-6 in. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	NA	NA	NA	NA

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 groundwater is present.
4. 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 extactable petroleum hydrocarbons - oil range organics
mg/kg = Milligrams per kilogram
TMB = Trimethylbenzene
= Source material characterization sample
ft. = Feet
in. = Inches
bgs = Below ground surface
BOLD = Analytical result is in exceedance of applicable standard.
NA = Constituent not analyzed

TABLE 2
FORMER LARSON FARMS 3,4,5,6,7-24 TANK BATTERY
WEST PWV 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 @ 5'	8/4/2021	5 ft. bgs	8.59	3.76	21.5	0.296
SS07 @ 2.5'	8/4/2021	2.5 ft. bgs	8.73	0.485	2.78	0.306
BKG01 @ 5'	8/6/2021	5 ft. bgs	8.96	1.62	5.20	NA
BKG01 @ 7'	8/6/2021	7 ft. bgs	8.81	NA	26.2	NA

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

 = Source material characterization sample

ft. = Feet

bgs = Below ground surface

BOLD = Analytical result is in exceedance of applicable standard.

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

NA = Constituent not analyzed

TABLE 3
FORMER LARSON FARMS 3,4,5,6,7-24 TANK BATTERY
WEST PWV 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 @ 5'	8/4/2021	5 ft. bgs	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0160	<0.00500	<0.00500	0.102	<0.00500	<0.00500	0.667	1.31

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
ft. = Feet
bgs = Below ground surface
BOLD = Analytical result is in exceedance of applicable standard.

TABLE 4
FORMER LARSON FARMS 3,4,5,6,7-24 TANK BATTERY
WEST PWV 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 @ 5'	8/4/2021	5 ft. bgs	2.23	86.3	<0.237	<0.30 ⁽⁴⁾	6.51	5.93	4.98	0.726	0.0290	24.6
BKG01 @ 5'	8/6/2021	5 ft. bgs	4.65	177	<0.254	<0.30 ⁽⁴⁾	10.7	9.83	9.58	1.02	0.0528	40.6
BKG01 @ 7'	8/6/2021	7 ft. bgs	4.42	192	<0.265	<0.30 ⁽⁴⁾	9.52	9.39	8.85	1.01	0.0510	39.1

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 groundwater is present.
4. 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

bgs = Below ground surface

BOLD = Analytical result is in exceedance of applicable standard.

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

TABLE 5
FORMER LARSON FARMS 3,4,5,6,7-24 TANK BATTERY
WEST PWV FIELD DATA SUMMARY TABLE

Sample ID	Date Sampled	Depth	GPS Data ⁽¹⁾ Latitude / Longitude		PDOP Value	VOC Concentration ⁽²⁾ (ppm)
SS01 @ 5'	8/4/2021	5 ft. bgs	40.470501	-104.499017	NC	1,576
SS02 @ 7'	8/4/2021	7 ft. bgs	40.470514	-104.499015	NC	0.9
SS03 @ 5'	8/4/2021	5 ft. bgs	40.470535	-104.499022	NC	1.8
SS04 @ 5'	8/4/2021	5 ft. bgs	40.470496	-104.499047	1.0	0.5
SS05 @ 5'	8/4/2021	5 ft. bgs	40.470469	-104.499017	1.0	0.7
SS06 @ 5'	8/4/2021	5 ft. bgs	40.470516	-104.498984	NC	1.0
SS07 @ 2.5'	8/4/2021	2.5 ft. bgs	40.470496	-104.499047	1.0	0.7
BKG01 @ 5'	8/6/2021	5 ft. bgs	40.470334	-104.499261	0.9	0.0
BKG01 @ 7'	8/6/2021	7 ft. bgs	40.470334	-104.499261	0.9	0.0
AST01 @ 0-6"	8/6/2021	0-6 in. bgs	40.470549	-104.499072	0.9	0.0
AST02 @ 0-6"	8/6/2021	0-6 in. bgs	40.470571	-104.499025	0.9	0.0
AST03 @ 0-6"	8/6/2021	0-6 in. bgs	40.470585	-104.498981	0.9	0.0
AST04 @ 0-6"	8/6/2021	0-6 in. bgs	40.470608	-104.498929	0.9	0.0
AST05 @ 0-6"	8/6/2021	0-6 in. bgs	40.470628	-104.498874	0.9	0.0
AST06 @ 0-6"	8/6/2021	0-6 in. bgs	40.470646	-104.498836	0.9	0.0
AST07 @ 0-6"	8/6/2021	0-6 in. bgs	40.470668	-104.498786	1.0	0.0
BKG01 @ 5'	8/6/2021	5 ft. bgs	40.470334	-104.499261	0.9	0.0
BKG01 @ 7'	8/6/2021	7 ft. bgs	40.470334	-104.499261	0.9	0.0

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

 = Source material characterization sample

ft. = Feet

bgs = Below ground surface

NC = Data not collected

Tank Battery West PWV
Attachment A

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

November 01, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

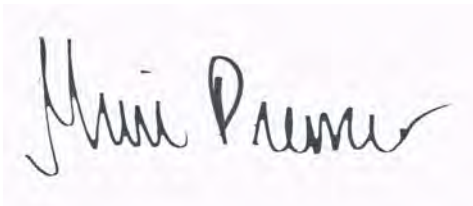
Denver, CO 80203

RE: Larson Farms 3,4,5,6,7-24 Tank Battery

Work Order #2108039

Enclosed are the results of analyses for samples received by Summit Scientific on 08/04/21 18:20. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Muri Premer For Paul Shrewsbury
President



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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01@5'	2108039-01	Soil	08/04/21 09:33	08/04/21 18:20
SS02@7'	2108039-02	Soil	08/04/21 15:29	08/04/21 18:20
SS03@5'	2108039-03	Soil	08/04/21 15:34	08/04/21 18:20
SS04@5'	2108039-04	Soil	08/04/21 15:37	08/04/21 18:20
SS05@5'	2108039-05	Soil	08/04/21 15:40	08/04/21 18:20
SS06@5'	2108039-06	Soil	08/04/21 15:46	08/04/21 18:20
SS07@2.5'	2108039-07	Soil	08/04/21 15:49	08/04/21 18:20

Summit Scientific

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Summit Scientific

S₂

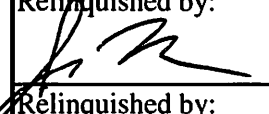
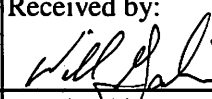
2108039

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: Larson Farms 3, 4, 5, 6, 7-24 Tank Battery
Sampler Name: J. Marcus Project Number: 1/C

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	VOC - 915	PAH - 915	Metals - 915	
1	SS01@5'	8/4/21	0933	3			X			X				X	X	X	X	X	X	X	
2	SS02@7'		1529	3			X			X				X	X	X					
3	SS03@5'		1534	3			X			X				X	X	X					
4	SS04@5'		1537	3			X			X				X	X	X					
5	SS05@5'		1540	3			X			X				X	X	X					
6	SS06@5'		1546	3			X			X				X	X	X					
7	SS07@2.5'		1549	1			X			X							X	X			
8																					
9																					
10																					

Relinquished by: 	Date/Time: 8/4/21 1745	Received by: Tasman's Lock Box	Date/Time: 8/4/21 1745	Turn Around Time (Check) Same Day <input checked="" type="checkbox"/> 72 hours ___ 24 hours ___ Standard ___ 48 hours ___ Sample Integrity: Temperature Upon Receipt: 6 Samples Intact: <input checked="" type="checkbox"/> Yes No	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 8/4/21 1800	Received by: 	Date/Time: 8/4/21 1800		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

Sample Receipt Checklist

S2 Work Order 2108039

Client: PDC/Tasman Client Project ID: Larson Farms 3, 4, 5, 6, 7 - 2nd Tank battery

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

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

Temp (°C) 6

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"/>	on ice
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"/>	same day
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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.

WG
Custodian Printed Name or Initials

Will Fah
Signature of Custodian

8/11/21
Date/Time



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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

SS01@5'
2108039-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/04/21 09:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.052	0.0020	mg/kg	1	BEH0069	08/04/21	08/04/21	EPA 8260B	
Toluene	0.50	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.23	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	0.73	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	0.14	0.0050	"	"	"	"	"	"	
Naphthalene	0.36	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	510	0.50	"	"	"	"	"	"	

Date Sampled: **08/04/21 09:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		64.2 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		76.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		127 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/04/21 09:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	390	50	mg/kg	1	BEH0070	08/04/21	08/04/21	EPA 8015M	
C28-C36 (ORO)	52	50	"	"	"	"	"	"	

Date Sampled: **08/04/21 09:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		85.5 %	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: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

SS01@5'
2108039-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/04/21 09:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEH0074	08/05/21	08/07/21	EPA 8270D SIM	
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	0.0160	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	0.102	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	0.667	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	1.31	0.00500	"	"	"	"	"	"	

Date Sampled: **08/04/21 09:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		73.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		68.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/04/21 09:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.296	0.0100	mg/L	1	BEH0081	08/05/21	08/05/21	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **08/04/21 09:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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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: Larson Farms 3,4,5,6,7-24 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

SS01@5'
2108039-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.23	0.237	mg/kg dry	1	BEH0082	08/05/21	08/05/21	EPA 6020B
Barium	86.3	0.474	"	"	"	"	"	"
Cadmium	ND	0.237	"	"	"	"	"	"
Copper	6.51	0.474	"	"	"	"	"	"
Lead	5.39	0.237	"	"	"	"	"	"
Nickel	4.98	0.474	"	"	"	"	"	"
Selenium	0.726	0.308	"	"	"	"	"	"
Silver	0.0290	0.0237	"	"	"	"	"	"
Zinc	24.6	0.474	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **08/04/21 09:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEH0080	08/05/21	08/06/21	EPA 7196A	

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

Date Sampled: **08/04/21 09:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	84.7	0.0592	mg/L dry	1	BEH0083	08/05/21	08/06/21	EPA 6020B	
Magnesium	28.7	0.0592	"	"	"	"	"	"	
Sodium	896	0.0592	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/04/21 09:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	21.5	0.00100	units	1	BEH0116	08/09/21	08/09/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/04/21 09:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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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: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

SS01@5'
2108039-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	84.4	%	1	BEH0071	08/05/21	08/05/21	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/04/21 09:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.76	0.0100	mmhos/cm	1	BEH0103	08/06/21	08/09/21	EPA 120.1	

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

Date Sampled: **08/04/21 09:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.59		pH Units	1	BEH0102	08/06/21	08/09/21	EPA 9045D	

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

SS02@7'
2108039-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/04/21 15:29**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEH0069	08/04/21	08/04/21	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: **08/04/21 15:29**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		70.0 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		137 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.4 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/04/21 15:29**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEH0070	08/04/21	08/04/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/04/21 15:29**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		87.8 %	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: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

SS02@7'
2108039-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/04/21 15:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chrysene	ND	0.00500	mg/kg	1	BEK0026	09/06/21	09/08/21	EPA 8270D SIM	
Fluorene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **08/04/21 15:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		54.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		40.8 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

SS03@5'
2108039-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/04/21 15:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEH0069	08/04/21	08/04/21	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: **08/04/21 15:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		73.0 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		126 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.7 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/04/21 15:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEH0070	08/04/21	08/04/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/04/21 15:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		86.4 %	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: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

SS03@5'
2108039-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/04/21 15:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chrysene	ND	0.00500	mg/kg	1	BEK0026	09/06/21	09/08/21	EPA 8270D SIM	
Fluorene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **08/04/21 15:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		56.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		44.4 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

SS04@5'
2108039-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/04/21 15:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEH0069	08/04/21	08/04/21	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: **08/04/21 15:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		109 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.8 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/04/21 15:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEH0070	08/04/21	08/04/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/04/21 15:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		86.0 %	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: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

SS04@5'
2108039-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/04/21 15:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chrysene	ND	0.00500	mg/kg	1	BEK0026	09/06/21	09/08/21	EPA 8270D SIM	
Fluorene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **08/04/21 15:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		37.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		46.3 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

SS05@5'
2108039-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/04/21 15:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEH0069	08/04/21	08/04/21	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: **08/04/21 15:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		109 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.1 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/04/21 15:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEH0070	08/04/21	08/04/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/04/21 15:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		87.7 %	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: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

SS05@5'
2108039-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/04/21 15:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chrysene	ND	0.00500	mg/kg	1	BEK0026	09/06/21	09/08/21	EPA 8270D SIM	
Fluorene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **08/04/21 15:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		55.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		43.6 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

SS06@5'
2108039-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/04/21 15:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEH0069	08/04/21	08/04/21	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: **08/04/21 15:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		106 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		90.6 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/04/21 15:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEH0070	08/04/21	08/04/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/04/21 15:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		88.6 %	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: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

SS06@5'
2108039-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/04/21 15:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chrysene	ND	0.00500	mg/kg	1	BEK0026	09/06/21	09/08/21	EPA 8270D SIM	
Fluorene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **08/04/21 15:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		55.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		42.2 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

SS07@2.5'
2108039-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/04/21 15:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.306	0.0100	mg/L	1	BEH0081	08/05/21	08/05/21	EPA 6020B	

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

Date Sampled: **08/04/21 15:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	70.4	0.0682	mg/L dry	1	BEH0083	08/05/21	08/06/21	EPA 6020B	
Magnesium	11.8	0.0682	"	"	"	"	"	"	
Sodium	95.8	0.0682	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/04/21 15:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.78	0.00100	units	1	BEH0116	08/09/21	08/09/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/04/21 15:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	73.3		%	1	BEH0071	08/05/21	08/05/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/04/21 15:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.485	0.0100	mmhos/cm	1	BEH0103	08/06/21	08/09/21	EPA 120.1	

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

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: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

SS07@2.5'
2108039-07 (Soil)

Summit Scientific

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

Date Sampled: **08/04/21 15:49**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.73			pH Units	1	BEH0102	08/06/21	08/09/21	EPA 9045D	

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

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 BEH0069 - EPA 5030 Soil MS

Blank (BEH0069-BLK1)

Prepared & Analyzed: 08/04/21

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	0.0446		"	0.0400		112	23-173			
Surrogate: Toluene-d8	0.0394		"	0.0400		98.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0370		"	0.0400		92.5	21-167			

LCS (BEH0069-BS1)

Prepared: 08/04/21 Analyzed: 08/05/21

Benzene	0.134	0.0020	mg/kg	0.150		89.4	70-130			
Toluene	0.147	0.0050	"	0.150		97.8	70-130			
Ethylbenzene	0.185	0.0050	"	0.150		123	70-130			
m,p-Xylene	0.362	0.010	"	0.300		121	70-130			
o-Xylene	0.191	0.0050	"	0.150		127	70-130			
1,2,4-Trimethylbenzene	0.184	0.0050	"	0.150		123	70-130			
1,3,5-Trimethylbenzene	0.186	0.0050	"	0.150		124	70-130			
Naphthalene	0.168	0.0038	"	0.150		112	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0414		"	0.0400		104	23-173			
Surrogate: Toluene-d8	0.0400		"	0.0400		100	20-170			
Surrogate: 4-Bromofluorobenzene	0.0371		"	0.0400		92.8	21-167			

Matrix Spike (BEH0069-MS1)

Source: 2108037-01

Prepared: 08/04/21 Analyzed: 08/05/21

Benzene	0.127	0.0020	mg/kg	0.150	ND	84.9	70-130			
Toluene	0.138	0.0050	"	0.150	ND	91.9	70-130			
Ethylbenzene	0.172	0.0050	"	0.150	ND	114	70-130			
m,p-Xylene	0.327	0.010	"	0.300	ND	109	70-130			
o-Xylene	0.179	0.0050	"	0.150	ND	119	70-130			
1,2,4-Trimethylbenzene	0.153	0.0050	"	0.150	ND	102	70-130			
1,3,5-Trimethylbenzene	0.176	0.0050	"	0.150	ND	117	70-130			
Naphthalene	0.175	0.0038	"	0.150	ND	116	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0418		"	0.0400		105	23-173			
Surrogate: Toluene-d8	0.0392		"	0.0400		98.1	20-170			
Surrogate: 4-Bromofluorobenzene	0.0368		"	0.0400		92.0	21-167			

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

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 BEH0069 - EPA 5030 Soil MS

Matrix Spike Dup (BEH0069-MSD1)	Source: 2108037-01			Prepared: 08/04/21 Analyzed: 08/05/21						
Benzene	0.125	0.0020	mg/kg	0.150	ND	83.2	70-130	2.07	30	
Toluene	0.134	0.0050	"	0.150	ND	89.0	70-130	3.12	30	
Ethylbenzene	0.167	0.0050	"	0.150	ND	111	70-130	3.03	30	
m,p-Xylene	0.317	0.010	"	0.300	ND	106	70-130	3.07	30	
o-Xylene	0.174	0.0050	"	0.150	ND	116	70-130	2.71	30	
1,2,4-Trimethylbenzene	0.143	0.0050	"	0.150	ND	95.6	70-130	6.65	30	
1,3,5-Trimethylbenzene	0.171	0.0050	"	0.150	ND	114	70-130	3.19	30	
Naphthalene	0.182	0.0038	"	0.150	ND	122	70-130	4.32	30	
Surrogate: 1,2-Dichloroethane-d4	0.0417		"	0.0400		104	23-173			
Surrogate: Toluene-d8	0.0399		"	0.0400		99.7	20-170			
Surrogate: 4-Bromofluorobenzene	0.0369		"	0.0400		92.2	21-167			

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

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 BEH0070 - EPA 3550A

Blank (BEH0070-BLK1)

Prepared: 08/04/21 Analyzed: 08/05/21

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

LCS (BEH0070-BS1)

Prepared: 08/04/21 Analyzed: 08/05/21

C10-C28 (DRO)	601	50	mg/kg	500	120	70-130
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Matrix Spike (BEH0070-MS1)

Source: 2108037-01

Prepared: 08/04/21 Analyzed: 08/05/21

C10-C28 (DRO)	521	50	mg/kg	500	14.2	101	70-130
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Matrix Spike Dup (BEH0070-MSD1)

Source: 2108037-01

Prepared: 08/04/21 Analyzed: 08/05/21

C10-C28 (DRO)	510	50	mg/kg	500	14.2	99.1	70-130	2.25	20
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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

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 BEH0074 - EPA 5030 Soil MS

Blank (BEH0074-BLK1)

Prepared: 08/05/21 Analyzed: 08/06/21

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	0.0155		"	0.0333		46.5	40-150			
Surrogate: Fluoranthene-d10	0.0175		"	0.0333		52.4	40-150			

LCS (BEH0074-BS1)

Prepared: 08/05/21 Analyzed: 08/06/21

Acenaphthene	0.0274	0.00500	mg/kg	0.0333	82.3	31-137
Anthracene	0.0289	0.00500	"	0.0333	86.8	30-120
Benzo (a) anthracene	0.0254	0.00500	"	0.0333	76.1	30-120
Benzo (a) pyrene	0.0205	0.00500	"	0.0333	61.4	30-120
Benzo (b) fluoranthene	0.0230	0.00500	"	0.0333	68.9	30-120
Benzo (k) fluoranthene	0.0204	0.00500	"	0.0333	61.2	30-120
Chrysene	0.0253	0.00500	"	0.0333	76.0	30-120
Dibenz (a,h) anthracene	0.0242	0.00500	"	0.0333	72.6	30-120
Fluoranthene	0.0282	0.00500	"	0.0333	84.7	30-120
Fluorene	0.0292	0.00500	"	0.0333	87.7	30-120
Indeno (1,2,3-cd) pyrene	0.0377	0.00500	"	0.0333	113	30-120
Pyrene	0.0133	0.00500	"	0.0333	40.0	35-142
1-Methylnaphthalene	0.0312	0.00500	"	0.0333	93.5	35-142
2-Methylnaphthalene	0.0319	0.00500	"	0.0333	95.8	35-142
Surrogate: 2-Methylnaphthalene-d10	0.0282		"	0.0333	84.7	40-150
Surrogate: Fluoranthene-d10	0.0298		"	0.0333	89.4	40-150

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

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 BEH0074 - EPA 5030 Soil MS

Matrix Spike (BEH0074-MS1)

Source: 2108033-01

Prepared: 08/05/21 Analyzed: 08/06/21

Acenaphthene	0.0267	0.00500	mg/kg	0.0333	ND	80.1	31-137		
Anthracene	0.0319	0.00500	"	0.0333	ND	95.6	30-120		
Benzo (a) anthracene	0.0257	0.00500	"	0.0333	ND	77.0	30-120		
Benzo (a) pyrene	0.0238	0.00500	"	0.0333	ND	71.4	30-120		
Benzo (b) fluoranthene	0.0222	0.00500	"	0.0333	ND	66.5	30-120		
Benzo (k) fluoranthene	0.0206	0.00500	"	0.0333	ND	61.9	30-120		
Chrysene	0.0256	0.00500	"	0.0333	ND	76.9	30-120		
Dibenz (a,h) anthracene	0.0291	0.00500	"	0.0333	ND	87.2	30-120		
Fluoranthene	0.0276	0.00500	"	0.0333	ND	82.9	30-120		
Fluorene	0.0308	0.00500	"	0.0333	ND	92.5	30-120		
Indeno (1,2,3-cd) pyrene	0.0271	0.00500	"	0.0333	ND	81.4	30-120		
Pyrene	0.0297	0.00500	"	0.0333	ND	89.0	35-142		
1-Methylnaphthalene	0.0296	0.00500	"	0.0333	ND	88.8	15-130		
2-Methylnaphthalene	0.0311	0.00500	"	0.0333	ND	93.2	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0280		"	0.0333		83.9	40-150		
Surrogate: Fluoranthene-d10	0.0300		"	0.0333		89.9	40-150		

Matrix Spike Dup (BEH0074-MSD1)

Source: 2108033-01

Prepared: 08/05/21 Analyzed: 08/06/21

Acenaphthene	0.0286	0.00500	mg/kg	0.0333	ND	85.9	31-137	6.96	30
Anthracene	0.0297	0.00500	"	0.0333	ND	89.0	30-120	7.13	30
Benzo (a) anthracene	0.0258	0.00500	"	0.0333	ND	77.3	30-120	0.390	30
Benzo (a) pyrene	0.0208	0.00500	"	0.0333	ND	62.3	30-120	13.6	30
Benzo (b) fluoranthene	0.0213	0.00500	"	0.0333	ND	63.8	30-120	4.23	30
Benzo (k) fluoranthene	0.0194	0.00500	"	0.0333	ND	58.2	30-120	6.18	30
Chrysene	0.0257	0.00500	"	0.0333	ND	77.2	30-120	0.471	30
Dibenz (a,h) anthracene	0.0271	0.00500	"	0.0333	ND	81.3	30-120	7.01	30
Fluoranthene	0.0257	0.00500	"	0.0333	ND	77.2	30-120	7.10	30
Fluorene	0.0298	0.00500	"	0.0333	ND	89.4	30-120	3.41	30
Indeno (1,2,3-cd) pyrene	0.0252	0.00500	"	0.0333	ND	75.6	30-120	7.35	30
Pyrene	0.0279	0.00500	"	0.0333	ND	83.7	35-142	6.17	30
1-Methylnaphthalene	0.0303	0.00500	"	0.0333	ND	90.8	15-130	2.22	50
2-Methylnaphthalene	0.0281	0.00500	"	0.0333	ND	84.4	15-130	9.94	50
Surrogate: 2-Methylnaphthalene-d10	0.0263		"	0.0333		78.8	40-150		
Surrogate: Fluoranthene-d10	0.0424		"	0.0333		127	40-150		

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

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 BEK0026 - EPA 5030 Soil MS

Blank (BEK0026-BLK1)

Prepared: 09/06/21 Analyzed: 09/08/21

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	0.0144		"	0.0333		43.2	40-150			
Surrogate: Fluoranthene-d10	0.0155		"	0.0333		46.4	40-150			

LCS (BEK0026-BS1)

Prepared: 09/06/21 Analyzed: 09/08/21

Acenaphthene	0.0263	0.00500	mg/kg	0.0333		78.9	31-137			
Anthracene	0.0260	0.00500	"	0.0333		78.1	30-120			
Benzo (a) anthracene	0.0244	0.00500	"	0.0333		73.3	30-120			
Benzo (a) pyrene	0.0274	0.00500	"	0.0333		82.2	30-120			
Benzo (b) fluoranthene	0.0212	0.00500	"	0.0333		63.6	30-120			
Benzo (k) fluoranthene	0.0283	0.00500	"	0.0333		84.8	30-120			
Chrysene	0.0238	0.00500	"	0.0333		71.5	30-120			
Dibenz (a,h) anthracene	0.0208	0.00500	"	0.0333		62.3	30-120			
Fluoranthene	0.0272	0.00500	"	0.0333		81.5	30-120			
Fluorene	0.0279	0.00500	"	0.0333		83.7	30-120			
Indeno (1,2,3-cd) pyrene	0.0225	0.00500	"	0.0333		67.4	30-120			
Pyrene	0.0243	0.00500	"	0.0333		72.8	35-142			
1-Methylnaphthalene	0.0271	0.00500	"	0.0333		81.4	35-142			
2-Methylnaphthalene	0.0243	0.00500	"	0.0333		73.0	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0158		"	0.0333		47.3	40-150			
Surrogate: Fluoranthene-d10	0.0141		"	0.0333		42.4	40-150			

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

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 BEK0026 - EPA 5030 Soil MS

Matrix Spike (BEK0026-MS1)

Source: 2108039-02

Prepared: 09/06/21 Analyzed: 09/08/21

Acenaphthene	0.0247	0.00500	mg/kg	0.0333	ND	74.2	31-137				
Anthracene	0.0255	0.00500	"	0.0333	ND	76.4	30-120				
Benzo (a) anthracene	0.0247	0.00500	"	0.0333	ND	74.0	30-120				
Benzo (a) pyrene	0.0258	0.00500	"	0.0333	ND	77.3	30-120				
Benzo (b) fluoranthene	0.0213	0.00500	"	0.0333	ND	63.9	30-120				
Benzo (k) fluoranthene	0.0258	0.00500	"	0.0333	ND	77.5	30-120				
Chrysene	0.0239	0.00500	"	0.0333	ND	71.8	30-120				
Dibenz (a,h) anthracene	0.0178	0.00500	"	0.0333	ND	53.3	30-120				
Fluoranthene	0.0258	0.00500	"	0.0333	ND	77.3	30-120				
Fluorene	0.0259	0.00500	"	0.0333	ND	77.7	30-120				
Indeno (1,2,3-cd) pyrene	0.0185	0.00500	"	0.0333	ND	55.6	30-120				
Pyrene	0.0247	0.00500	"	0.0333	ND	74.2	35-142				
1-Methylnaphthalene	0.0250	0.00500	"	0.0333	ND	74.9	15-130				
2-Methylnaphthalene	0.0223	0.00500	"	0.0333	ND	66.8	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0208		"	0.0333		62.3	40-150				
Surrogate: Fluoranthene-d10	0.0135		"	0.0333		40.6	40-150				

Matrix Spike Dup (BEK0026-MSD1)

Source: 2108039-02

Prepared: 09/06/21 Analyzed: 09/08/21

Acenaphthene	0.0242	0.00500	mg/kg	0.0333	ND	72.7	31-137	1.99	30		
Anthracene	0.0234	0.00500	"	0.0333	ND	70.2	30-120	8.50	30		
Benzo (a) anthracene	0.0233	0.00500	"	0.0333	ND	69.8	30-120	5.88	30		
Benzo (a) pyrene	0.0254	0.00500	"	0.0333	ND	76.2	30-120	1.46	30		
Benzo (b) fluoranthene	0.0231	0.00500	"	0.0333	ND	69.3	30-120	8.22	30		
Benzo (k) fluoranthene	0.0258	0.00500	"	0.0333	ND	77.5	30-120	0.0645	30		
Chrysene	0.0227	0.00500	"	0.0333	ND	68.2	30-120	5.17	30		
Dibenz (a,h) anthracene	0.0181	0.00500	"	0.0333	ND	54.2	30-120	1.64	30		
Fluoranthene	0.0249	0.00500	"	0.0333	ND	74.8	30-120	3.33	30		
Fluorene	0.0257	0.00500	"	0.0333	ND	77.0	30-120	0.962	30		
Indeno (1,2,3-cd) pyrene	0.0186	0.00500	"	0.0333	ND	55.9	30-120	0.592	30		
Pyrene	0.0233	0.00500	"	0.0333	ND	70.0	35-142	5.90	30		
1-Methylnaphthalene	0.0222	0.00500	"	0.0333	ND	66.7	15-130	11.7	50		
2-Methylnaphthalene	0.0228	0.00500	"	0.0333	ND	68.5	15-130	2.63	50		
Surrogate: 2-Methylnaphthalene-d10	0.0179		"	0.0333		53.8	40-150				
Surrogate: Fluoranthene-d10	0.0231		"	0.0333		69.4	40-150				

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

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 BEH0081 - EPA 3050B

Blank (BEH0081-BLK1)

Prepared & Analyzed: 08/05/21

Boron ND 0.0100 mg/L

LCS (BEH0081-BS1)

Prepared & Analyzed: 08/05/21

Boron 4.92 0.0100 mg/L 5.00 98.4 80-120

Duplicate (BEH0081-DUP1)

Source: 2108038-01

Prepared & Analyzed: 08/05/21

Boron 0.600 0.0100 mg/L 0.570 5.14 20

Matrix Spike (BEH0081-MS1)

Source: 2108038-01

Prepared & Analyzed: 08/05/21

Boron 5.15 0.0100 mg/L 5.00 0.570 91.7 75-125

Matrix Spike Dup (BEH0081-MSD1)

Source: 2108038-01

Prepared & Analyzed: 08/05/21

Boron 5.12 0.0100 mg/L 5.00 0.570 90.9 75-125 0.752 25

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

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 BEH0082 - EPA 3050B

Blank (BEH0082-BLK1)

Prepared & Analyzed: 08/05/21

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 (BEH0082-BS1)

Prepared & Analyzed: 08/05/21

Arsenic	44.2	0.200	mg/kg wet	40.0	111	80-120
Barium	43.6	0.400	"	40.0	109	80-120
Cadmium	2.38	0.200	"	2.00	119	80-120
Copper	44.2	0.400	"	40.0	111	80-120
Lead	22.2	0.200	"	20.0	111	80-120
Nickel	41.7	0.400	"	40.0	104	80-120
Selenium	4.41	0.260	"	4.00	110	80-120
Silver	2.15	0.0200	"	2.00	107	80-120
Zinc	42.6	0.400	"	40.0	106	80-120

Duplicate (BEH0082-DUP1)

Source: 2107418-01

Prepared & Analyzed: 08/05/21

Arsenic	1.98	0.234	mg/kg dry	1.90	4.42	20
Barium	57.4	0.468	"	54.7	4.79	20
Cadmium	0.169	0.234	"	0.184	8.06	20
Copper	8.94	0.468	"	9.59	7.00	20
Lead	7.69	0.234	"	7.99	3.80	20
Nickel	7.55	0.468	"	8.11	7.18	20
Selenium	0.706	0.304	"	0.714	1.11	20
Silver	0.0299	0.0234	"	0.0318	6.26	20
Zinc	38.0	0.468	"	41.0	7.70	20

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

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 BEH0082 - EPA 3050B

Matrix Spike (BEH0082-MS1)

Source: 2107418-01

Prepared & Analyzed: 08/05/21

Arsenic	51.6	0.234	mg/kg dry	46.8	1.90	106	75-125
Barium	93.2	0.468	"	46.8	54.7	82.3	75-125
Cadmium	2.66	0.234	"	2.34	0.184	106	75-125
Copper	54.3	0.468	"	46.8	9.59	95.6	75-125
Lead	29.0	0.234	"	23.4	7.99	90.0	75-125
Nickel	51.0	0.468	"	46.8	8.11	91.6	75-125
Selenium	4.61	0.304	"	4.68	0.714	83.2	75-125
Silver	2.30	0.0234	"	2.34	0.0318	96.8	75-125
Zinc	89.1	0.468	"	46.8	41.0	103	75-125

Matrix Spike Dup (BEH0082-MSD1)

Source: 2107418-01

Prepared & Analyzed: 08/05/21

Arsenic	50.5	0.234	mg/kg dry	46.8	1.90	104	75-125	2.03	25
Barium	90.3	0.468	"	46.8	54.7	76.1	75-125	3.18	25
Cadmium	2.59	0.234	"	2.34	0.184	103	75-125	2.76	25
Copper	54.2	0.468	"	46.8	9.59	95.4	75-125	0.0965	25
Lead	29.9	0.234	"	23.4	7.99	93.5	75-125	2.76	25
Nickel	50.3	0.468	"	46.8	8.11	90.2	75-125	1.29	25
Selenium	4.63	0.304	"	4.68	0.714	83.8	75-125	0.585	25
Silver	2.28	0.0234	"	2.34	0.0318	96.1	75-125	0.693	25
Zinc	86.5	0.468	"	46.8	41.0	97.3	75-125	2.91	25

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

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 BEH0080 - 3060A Mod

Blank (BEH0080-BLK1)

Prepared: 08/05/21 Analyzed: 08/06/21

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BEH0080-BS1)

Prepared: 08/05/21 Analyzed: 08/06/21

Chromium, Hexavalent 26.2 0.30 mg/kg wet 25.0 105 80-120

Duplicate (BEH0080-DUP1)

Source: 2108053-05

Prepared: 08/05/21 Analyzed: 08/06/21

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BEH0080-MS1)

Source: 2108053-05

Prepared: 08/05/21 Analyzed: 08/06/21

Chromium, Hexavalent 30.2 0.30 mg/kg dry 29.6 ND 102 75-125

Matrix Spike Dup (BEH0080-MSD1)

Source: 2108053-05

Prepared: 08/05/21 Analyzed: 08/06/21

Chromium, Hexavalent 30.2 0.30 mg/kg dry 29.6 ND 102 75-125 0.196 20

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

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 BEH0083 - General Preparation

Blank (BEH0083-BLK1)

Prepared: 08/05/21 Analyzed: 08/06/21

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

LCS (BEH0083-BS1)

Prepared: 08/05/21 Analyzed: 08/06/21

Calcium	5.11	0.0500	mg/L wet	5.00	102	70-130
Magnesium	5.45	0.0500	"	5.00	109	70-130
Sodium	4.94	0.0500	"	5.00	98.8	70-130

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

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 BEH0071 - General Preparation

Duplicate (BEH0071-DUP1)

Source: 2108038-01

Prepared & Analyzed: 08/05/21

% Solids	77.0	%	76.9	0.129	20
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Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

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 BEH0103 - General Preparation

Blank (BEH0103-BLK1)

Prepared: 08/06/21 Analyzed: 08/09/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BEH0103-BS1)

Prepared: 08/06/21 Analyzed: 08/09/21

Specific Conductance (EC) 0.144 0.0100 mmhos/cm 0.150 95.9 90-110

Duplicate (BEH0103-DUP1)

Source: 2108038-01

Prepared: 08/06/21 Analyzed: 08/09/21

Specific Conductance (EC) 7.23 0.0100 mmhos/cm 7.23 0.0553 20

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

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 BEH0102 - General Preparation

LCS (BEH0102-BS1)

Prepared: 08/06/21 Analyzed: 08/09/21

pH	9.31	pH Units	9.21	101	95-105
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Duplicate (BEH0102-DUP1)

Source: 2108038-01

Prepared: 08/06/21 Analyzed: 08/09/21

pH	8.43	pH Units	8.41	0.238	20
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Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:30

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

August 18, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

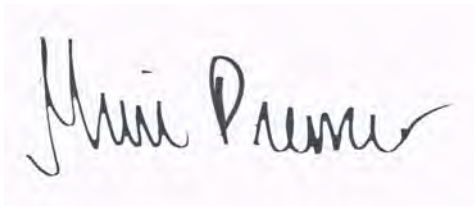
Denver, CO 80203

RE: Larson Farms 3,4,5,6,7-24 Tank Battery

Work Order #2108107

Enclosed are the results of analyses for samples received by Summit Scientific on 08/06/21 18:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Muri Premer", is shown on a light pink background.

Muri Premer For Paul Shrewsbury

President



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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 12:12

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AST01@0-6"	2108107-01	Soil	08/06/21 12:25	08/06/21 18:00
AST02@0-6"	2108107-02	Soil	08/06/21 12:26	08/06/21 18:00
AST03@0-6"	2108107-03	Soil	08/06/21 12:27	08/06/21 18:00
AST04@0-6"	2108107-04	Soil	08/06/21 12:28	08/06/21 18:00
AST05@0-6"	2108107-05	Soil	08/06/21 12:29	08/06/21 18:00
AST06@0-6"	2108107-06	Soil	08/06/21 12:30	08/06/21 18:00
AST07@0-6"	2108107-07	Soil	08/06/21 12:31	08/06/21 18:00
BKG01@5'	2108107-09	Soil	08/06/21 12:10	08/06/21 18:00
BKG01@7'	2108107-10	Soil	08/06/21 12:11	08/06/21 18:00

Summit Scientific


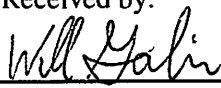
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2108107

303-277-9310

Page 1 of 1

Project Number: 719

					Preservative				Matrix				Analysis Requested							Special Instructions				
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR	ON HOLD					pH, EC, SAR by saturated paste	
1	ASTO100-6"	8/6/21	1225	2			X			X			X	X	X									
2	ASTO200-6"		1226	2			X			X			X	X	X									
3	ASTO300-6"		1227	2			X			X			X	X	X									
4	ASTO400-6"		1228	2			X			X			X	X	X									
5	ASTO500-6"		1229	2			X			X			X	X	X									
6	ASTO600-6"		1230	2			X			X			X	X	X									
7	ASTO700-6"		1231	2			X			X			X	X	X									
8	BKG01CZ.5'		1204	1			X			X									X					
9	BKG01CS'		1210	1			X			X									X					
10	BKG01CT'		1211	1			X			X									X					
Relinquished by:		Date/Time:		Received by:		Date/Time:		Turn Around Time		(Check)		Notes:												
		8/6/21 1430		Tasman's Lock Box		8/6/21 1430		Same Day		72 hours														
								24 hours		Standard														
								48 hours																
Relinquished by:		Date/Time:		Received by:		Date/Time:		Sample Integrity:																
Tasman's Lock Box		8/6/21 1800				8/6/21 1800		Temperature Upon Receipt:		6														
Relinquished by:		Date/Time:		Received by:		Date/Time:		Samples Intact:		Yes No														

Sample Receipt Checklist

S2 Work Order 2108107

Client: PDC/TASMAN Client Project ID: Larson Farms 3,4,5,6, 7-24 Tank Battery

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

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

Temp (°C) 6

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"/>	on ice
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"/>	same day
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

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

WG
Custodian Printed Name or Initials

W.H. Miller
Signature of Custodian

8/6/20
Date/Time



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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 12:12

AST01@0-6"
2108107-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/06/21 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEH0195	08/12/21	08/12/21	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: **08/06/21 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		91.0 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		125 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/06/21 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEH0196	08/12/21	08/12/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/06/21 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		75.9 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 12:12

AST02@0-6"
2108107-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/06/21 12:26**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEH0195	08/12/21	08/12/21	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: **08/06/21 12:26**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		84.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		122 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		112 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/06/21 12:26**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEH0196	08/12/21	08/12/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/06/21 12:26**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		78.4 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 12:12

AST03@0-6"
2108107-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/06/21 12:27**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEH0195	08/12/21	08/12/21	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: **08/06/21 12:27**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		82.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		117 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/06/21 12:27**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEH0196	08/12/21	08/12/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/06/21 12:27**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		87.5 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 12:12

AST04@0-6"
2108107-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/06/21 12:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEH0195	08/12/21	08/12/21	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: **08/06/21 12:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		81.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		119 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/06/21 12:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEH0196	08/12/21	08/12/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/06/21 12:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		81.0 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 12:12

AST05@0-6"
2108107-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/06/21 12:29**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEH0195	08/12/21	08/12/21	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: **08/06/21 12:29**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		106 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		114 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/06/21 12:29**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEH0196	08/12/21	08/13/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/06/21 12:29**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		79.5 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 12:12

AST06@0-6"
2108107-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/06/21 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEH0195	08/12/21	08/12/21	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: **08/06/21 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		93.0 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		115 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/06/21 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEH0196	08/12/21	08/13/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/06/21 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		86.8 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 12:12

AST07@0-6"
2108107-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/06/21 12:31**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEH0195	08/12/21	08/12/21	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: **08/06/21 12:31**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		86.5 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		119 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/06/21 12:31**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEH0196	08/12/21	08/13/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/06/21 12:31**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		79.8 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 12:12

BKG01@5'
2108107-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **08/06/21 12:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	4.65	0.254	mg/kg dry	1	BEH0189	08/12/21	08/13/21	EPA 6020B	
Barium	177	0.508	"	"	"	"	"	"	
Cadmium	ND	0.254	"	"	"	"	"	"	
Copper	10.7	0.508	"	"	"	"	"	"	
Lead	9.83	0.254	"	"	"	"	"	"	
Nickel	9.58	0.508	"	"	"	"	"	"	
Selenium	1.02	0.330	"	"	"	"	"	"	
Silver	0.0528	0.0254	"	"	"	"	"	"	
Zinc	40.6	0.508	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **08/06/21 12:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEH0162	08/11/21	08/12/21	EPA 7196A	

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

Date Sampled: **08/06/21 12:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	18.9	0.0635	mg/L dry	1	BEH0194	08/12/21	08/17/21	EPA 6020B	
Magnesium	4.96	0.0635	"	"	"	"	"	"	
Sodium	98.2	0.0635	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/06/21 12:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	5.20	0.00100	units	1	BEH0293	08/18/21	08/18/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 12:12

BKG01@5'
2108107-09 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/06/21 12:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	78.7			%	1	BEH0243	08/16/21	08/16/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/06/21 12:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	1.62	0.0100		mmhos/cm	1	BEH0202	08/13/21	08/13/21	EPA 120.1	

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

Date Sampled: **08/06/21 12:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.96			pH Units	1	BEH0201	08/13/21	08/13/21	EPA 9045D	

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 12:12

BKG01@7'
2108107-10 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **08/06/21 12:11**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	4.42	0.265	mg/kg dry	1	BEH0189	08/12/21	08/13/21	EPA 6020B	
Barium	192	0.530	"	"	"	"	"	"	
Cadmium	ND	0.265	"	"	"	"	"	"	
Copper	9.52	0.530	"	"	"	"	"	"	
Lead	9.39	0.265	"	"	"	"	"	"	
Nickel	8.85	0.530	"	"	"	"	"	"	
Selenium	1.01	0.345	"	"	"	"	"	"	
Silver	0.0510	0.0265	"	"	"	"	"	"	
Zinc	39.1	0.530	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **08/06/21 12:11**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEH0162	08/11/21	08/12/21	EPA 7196A	

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

Date Sampled: **08/06/21 12:11**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	17.3	0.0663	mg/L dry	1	BEH0194	08/12/21	08/17/21	EPA 6020B	
Magnesium	7.80	0.0663	"	"	"	"	"	"	
Sodium	523	0.0663	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/06/21 12:11**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	26.2	0.00100	units	1	BEH0293	08/18/21	08/18/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 12:12

BKG01@7'
2108107-10 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/06/21 12:11**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	75.4			%	1	BEH0243	08/16/21	08/16/21	Calculation	

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

Date Sampled: **08/06/21 12:11**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.81			pH Units	1	BEH0201	08/13/21	08/13/21	EPA 9045D	

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 12:12

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 BEH0195 - EPA 5030 Soil MS

LCS (BEH0195-BS1)

Prepared & Analyzed: 08/12/21

Benzene	0.0911	0.0020	mg/kg	0.125		72.9	70-130			
Toluene	0.0978	0.0050	"	0.125		78.3	70-130			
Ethylbenzene	0.0996	0.0050	"	0.125		79.7	70-130			
m,p-Xylene	0.215	0.010	"	0.250		85.8	70-130			
o-Xylene	0.0955	0.0050	"	0.125		76.4	70-130			
1,2,4-Trimethylbenzene	0.118	0.0050	"	0.125		94.7	70-130			
1,3,5-Trimethylbenzene	0.0998	0.0050	"	0.125		79.8	70-130			
Naphthalene	0.0940	0.0038	"	0.125		75.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0358		"	0.0400		89.6	23-173			
Surrogate: Toluene-d8	0.0457		"	0.0400		114	20-170			
Surrogate: 4-Bromofluorobenzene	0.0401		"	0.0400		100	21-167			

Matrix Spike (BEH0195-MS1)

Source: 2108107-01

Prepared & Analyzed: 08/12/21

Benzene	0.0910	0.0020	mg/kg	0.125	ND	72.8	70-130			
Toluene	0.104	0.0050	"	0.125	ND	83.1	70-130			
Ethylbenzene	0.0975	0.0050	"	0.125	ND	78.0	70-130			
m,p-Xylene	0.212	0.010	"	0.250	ND	84.8	70-130			
o-Xylene	0.0969	0.0050	"	0.125	ND	77.5	70-130			
1,2,4-Trimethylbenzene	0.115	0.0050	"	0.125	ND	92.2	70-130			
1,3,5-Trimethylbenzene	0.0960	0.0050	"	0.125	ND	76.8	70-130			
Naphthalene	0.102	0.0038	"	0.125	ND	81.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0362		"	0.0400		90.4	23-173			
Surrogate: Toluene-d8	0.0496		"	0.0400		124	20-170			
Surrogate: 4-Bromofluorobenzene	0.0415		"	0.0400		104	21-167			

Matrix Spike Dup (BEH0195-MSD1)

Source: 2108107-01

Prepared & Analyzed: 08/12/21

Benzene	0.0914	0.0020	mg/kg	0.125	ND	73.2	70-130	0.460	30	
Toluene	0.0988	0.0050	"	0.125	ND	79.0	70-130	4.97	30	
Ethylbenzene	0.0936	0.0050	"	0.125	ND	74.9	70-130	4.02	30	
m,p-Xylene	0.203	0.010	"	0.250	ND	81.2	70-130	4.34	30	
o-Xylene	0.0926	0.0050	"	0.125	ND	74.1	70-130	4.53	30	
1,2,4-Trimethylbenzene	0.116	0.0050	"	0.125	ND	92.5	70-130	0.338	30	
1,3,5-Trimethylbenzene	0.0897	0.0050	"	0.125	ND	71.7	70-130	6.85	30	
Naphthalene	0.104	0.0038	"	0.125	ND	83.2	70-130	2.19	30	
Surrogate: 1,2-Dichloroethane-d4	0.0411		"	0.0400		103	23-173			
Surrogate: Toluene-d8	0.0474		"	0.0400		118	20-170			
Surrogate: 4-Bromofluorobenzene	0.0398		"	0.0400		99.5	21-167			

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
08/18/21 12:12

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 BEH0196 - EPA 3550A

LCS (BEH0196-BS1)

Prepared & Analyzed: 08/12/21

C10-C28 (DRO)	429	50	mg/kg	500	85.8	70-130
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Matrix Spike (BEH0196-MS1)

Source: 2108107-01

Prepared & Analyzed: 08/12/21

C10-C28 (DRO)	502	50	mg/kg	500	16.6	97.0	70-130
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Matrix Spike Dup (BEH0196-MSD1)

Source: 2108107-01

Prepared & Analyzed: 08/12/21

C10-C28 (DRO)	487	50	mg/kg	500	16.6	94.1	70-130	2.96	20
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Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 12:12

Total Metals by EPA 6020B - Quality Control

Summit Scientific

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

Batch BEH0189 - EPA 3050B

Blank (BEH0189-BLK1)

Prepared & Analyzed: 08/12/21

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 (BEH0189-BS1)

Prepared & Analyzed: 08/12/21

Arsenic	37.9	0.200	mg/kg wet	40.0	94.8	80-120
Barium	35.0	0.400	"	40.0	87.4	80-120
Cadmium	1.82	0.200	"	2.00	91.1	80-120
Copper	34.1	0.400	"	40.0	85.2	80-120
Lead	17.0	0.200	"	20.0	85.2	80-120
Nickel	33.6	0.400	"	40.0	83.9	80-120
Selenium	3.39	0.260	"	4.00	84.9	80-120
Silver	1.65	0.0200	"	2.00	82.6	80-120
Zinc	38.4	0.400	"	40.0	96.0	80-120

Duplicate (BEH0189-DUP1)

Source: 2106461-01

Prepared & Analyzed: 08/12/21

Arsenic	5.81	0.242	mg/kg dry	5.93	1.94	20
Barium	24.4	0.484	"	27.2	10.6	20
Cadmium	0.0836	0.242	"	0.0851	1.75	20
Copper	10.2	0.484	"	12.2	17.3	20
Lead	9.50	0.242	"	10.6	10.9	20
Nickel	12.6	0.484	"	12.6	0.430	20
Selenium	0.745	0.314	"	0.744	0.174	20
Silver	0.0478	0.0242	"	0.0561	15.9	20
Zinc	59.1	0.484	"	63.5	7.29	20

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 12:12

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 BEH0189 - EPA 3050B

Matrix Spike (BEH0189-MS1)			Source: 2106461-01		Prepared & Analyzed: 08/12/21					
Arsenic	52.9	0.242	mg/kg dry	48.4	5.93	97.1	75-125			
Barium	71.7	0.484	"	48.4	27.2	92.1	75-125			
Cadmium	2.33	0.242	"	2.42	0.0851	92.7	75-125			
Copper	53.4	0.484	"	48.4	12.2	85.2	75-125			
Lead	33.3	0.242	"	24.2	10.6	94.0	75-125			
Nickel	56.4	0.484	"	48.4	12.6	90.5	75-125			
Selenium	4.48	0.314	"	4.84	0.744	77.2	75-125			
Silver	2.09	0.0242	"	2.42	0.0561	84.2	75-125			
Zinc	103	0.484	"	48.4	63.5	82.2	75-125			

Matrix Spike Dup (BEH0189-MSD1)			Source: 2106461-01		Prepared & Analyzed: 08/12/21					
Arsenic	54.9	0.242	mg/kg dry	48.4	5.93	101	75-125	3.64	25	
Barium	66.6	0.484	"	48.4	27.2	81.6	75-125	7.34	25	
Cadmium	2.42	0.242	"	2.42	0.0851	96.7	75-125	4.04	25	
Copper	54.2	0.484	"	48.4	12.2	86.8	75-125	1.43	25	
Lead	32.9	0.242	"	24.2	10.6	92.1	75-125	1.39	25	
Nickel	58.5	0.484	"	48.4	12.6	94.8	75-125	3.64	25	
Selenium	4.64	0.314	"	4.84	0.744	80.5	75-125	3.48	25	
Silver	2.15	0.0242	"	2.42	0.0561	86.5	75-125	2.62	25	
Zinc	100	0.484	"	48.4	63.5	75.8	75-125	3.00	25	

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 12:12

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 BEH0162 - 3060A Mod

Blank (BEH0162-BLK1)

Prepared: 08/11/21 Analyzed: 08/12/21

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BEH0162-BS1)

Prepared: 08/11/21 Analyzed: 08/12/21

Chromium, Hexavalent 24.2 0.30 mg/kg wet 25.0 97.0 80-120

Duplicate (BEH0162-DUP1)

Source: 2108093-01

Prepared: 08/11/21 Analyzed: 08/12/21

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BEH0162-MS1)

Source: 2108093-01

Prepared: 08/11/21 Analyzed: 08/12/21

Chromium, Hexavalent 26.0 0.30 mg/kg dry 30.6 ND 85.0 75-125

Matrix Spike Dup (BEH0162-MSD1)

Source: 2108093-01

Prepared: 08/11/21 Analyzed: 08/12/21

Chromium, Hexavalent 26.1 0.30 mg/kg dry 30.6 ND 85.4 75-125 0.469 20

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 12:12

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 BEH0194 - General Preparation

Blank (BEH0194-BLK1)

Prepared: 08/12/21 Analyzed: 08/17/21

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

LCS (BEH0194-BS1)

Prepared: 08/12/21 Analyzed: 08/17/21

Calcium	5.31	0.0500	mg/L wet	5.00	106	70-130
Magnesium	5.04	0.0500	"	5.00	101	70-130
Sodium	4.98	0.0500	"	5.00	99.6	70-130

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery

Project Number: [none]

Project Manager: Mark Longhurst

Reported:

08/18/21 12:12

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 BEH0243 - General Preparation

Duplicate (BEH0243-DUP1)

Source: 2108009-04

Prepared & Analyzed: 08/16/21

% Solids	91.7	%		92.0		0.375	20
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Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 12:12

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 BEH0202 - General Preparation

Blank (BEH0202-BLK1)

Prepared & Analyzed: 08/13/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BEH0202-BS1)

Prepared & Analyzed: 08/13/21

Specific Conductance (EC) 0.148 0.0100 mmhos/cm 0.150 98.4 90-110

Duplicate (BEH0202-DUP1)

Source: 2108107-09

Prepared & Analyzed: 08/13/21

Specific Conductance (EC) 1.61 0.0100 mmhos/cm 1.62 0.433 20

Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 12:12

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 BEH0201 - General Preparation

LCS (BEH0201-BS1)

Prepared & Analyzed: 08/13/21

pH	9.26	pH Units	9.21	101	95-105
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Duplicate (BEH0201-DUP1)

Source: 2108107-09

Prepared & Analyzed: 08/13/21

pH	8.95	pH Units	8.96	0.112	20
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Summit Scientific

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

Project: Larson Farms 3,4,5,6,7-24 Tank Battery

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/18/21 12:12

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