

TABLE 1
FORMER LARSON FARMS 3,4,5,6,7-24 TANK BATTERY
CENTER 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)	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	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	0.54	0.006	0.019
PWV03-B @ 5'	8/4/2021	5 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	NA	NA	NA
PWV03-W @ 2.5'	8/4/2021	2.5 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	NA	NA	NA
S01 @ 5'	8/4/2021	5 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	0.00778	0.0137	0.0245
S02 @ 7'	8/5/2021	7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	<0.00500
S03 @ 5'	8/5/2021	5 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	<0.00500
S04 @ 5'	8/5/2021	5 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	<0.00500
S05 @ 5'	8/5/2021	5 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	<0.00500
S06 @ 5'	8/5/2021	5 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	<0.00500
S07 @ 2.5'	8/5/2021	2.5 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	<0.00500

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 and above 1.25x background concentration.
NA = Constituent not analyzed

TABLE 2
FORMER LARSON FARMS 3,4,5,6,7-24 TANK BATTERY
CENTER 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
PWV03-B @ 5'	8/4/2021	5 ft. bgs	8.56	0.688	7.44	0.787
PWV03-W @ 2.5'	8/4/2021	2.5 ft. bgs	8.39	0.301	1.01	0.280
S01 @ 5'	8/4/2021	5 ft. bgs	8.41	7.23	30.6	0.570
S07 @ 2.5'	8/5/2021	2.5 ft. bgs	8.41	0.680	5.90	0.428
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
CENTER 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
S01 @ 5'	8/4/2021	5 ft. bgs	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00778	<0.00500	<0.00500	0.0137	0.0245

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
CENTER 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
S01 @ 5'	8/4/2021	5 ft. bgs	4.20	133	0.269	<0.30 ⁽⁴⁾	10.8	9.62	8.88	1.14	0.0525	39.2
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
CENTER PWV FIELD DATA SUMMARY TABLE

Sample ID	Date Sampled	Depth	GPS Data ⁽¹⁾ Latitude / Longitude		PDOP Value	VOC Concentration ⁽²⁾ (ppm)
PWV03-B @ 5'	8/4/2021	5 ft. bgs	40.470588	-104.498788	NC	1.6
PWV03-W @ 2.5'	8/4/2021	2.5 ft. bgs	40.470587	-104.498824	NC	2.1
S01 @ 5'	8/4/2021	5 ft. bgs	40.470544	-104.498889	NC	123.9
S02 @ 7'	8/5/2021	7 ft. bgs	40.470552	-104.498885	NC	0.3
S03 @ 5'	8/5/2021	5 ft. bgs	40.470566	-104.498906	NC	4.0
S04 @ 5'	8/5/2021	5 ft. bgs	40.470532	-104.498910	NC	0.1
S05 @ 5'	8/5/2021	5 ft. bgs	40.470529	-104.498862	NC	0.5
S06 @ 5'	8/5/2021	5 ft. bgs	40.470560	-104.498868	NC	1.3
S07 @ 2.5'	8/5/2021	2.5 ft. bgs	40.470560	-104.498868	NC	0.3
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 Center PWV
Attachment A

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

August 13, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

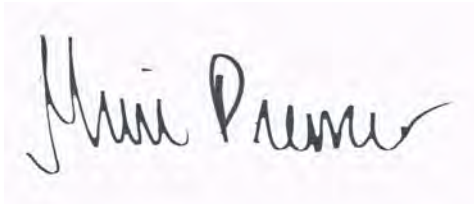
Denver, CO 80203

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

Work Order #2108060

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, 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:
08/13/21 11:34

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PWV03-B@5'	2108060-01	Soil	08/04/21 10:46	08/04/21 18:20
PWV03-W@2.5'	2108060-03	Soil	08/04/21 10:48	08/04/21 18:20

Summit Scientific

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

Summit Scientific
S₂

303-277-9310

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: N/A

ID	Sample Description	Date Sampled	Time Sampled	# of containers	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	ON HOLD				Special Instructions
1	PWV03-B @ 5'	8/4/2021	1046	3			x			x			x	x	x	x	x					pH, EC, SAR by saturated paste
2	PWV03-N @ 2.5'	8/4/2021	1047	3			x			x								x				
3	PWV03-W @ 2.5'	8/4/2021	1048	3			x			x			x	x	x	x	x					
4	PWV03-S @ 2.5'	8/4/2021	1049	3			x			x								x				
5	PWV03-E @ 2.5'	8/4/2021	1050	3			x			x								x				
6																						
7																						
8																						
9																						
10																						

Relinquished by: [Signature] Date/Time: 8/4/21 1745 Received by: Tasman's Lock Box Date/Time:

Turn Around Time (Check)
Same Day ___ 72 hours ___
24 hours ___ Standard _x_
48 hours ___

Sample Integrity:
Temperature Upon Receipt: 5.6
Samples Intact: Yes No

Sample Receipt Checklist

S2 Work Order 2108060

Client: PDC/Tasman

Client Project ID: Larson Farms 3,4,5,6,7-24 TB

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

Airbill #: _____

☒ ☐ ☐ ☐ ☐

Matrix (check all that apply):

☐ Air

☒ Soil/Solid

☐ Water

☐ Other:

(Describe)

Temp (°C)	5.6
-----------	-----

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.				
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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect				
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.

Cassandra Shrewsbury
Custodian Printed Name or Initials

Signature of Custodian

8/4/21

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:
08/13/21 11:34

PWV03-B@5'
2108060-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/04/21 10:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEH0133	08/09/21	08/10/21	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 10:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		109 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/04/21 10:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEH0128	08/09/21	08/10/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/04/21 10:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		76.0 %	30-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Summit Scientific

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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:
08/13/21 11:34

PWV03-B@5'
2108060-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/04/21 10:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.787	0.0100	mg/L	1	BEH0104	08/06/21	08/07/21	EPA 6020B	

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

Date Sampled: **08/04/21 10:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	15.1	0.0684	mg/L dry	1	BEH0115	08/09/21	08/10/21	EPA 6020B	
Magnesium	4.87	0.0684	"	"	"	"	"	"	
Sodium	130	0.0684	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/04/21 10:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	7.44	0.00100	units	1	BEH0144	08/10/21	08/10/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/04/21 10:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	73.1		%	1	BEH0093	08/06/21	08/06/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/04/21 10:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.688	0.0100	mmhos/cm	1	BEH0118	08/09/21	08/09/21	EPA 120.1	

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

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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:
08/13/21 11:34

PWV03-B@5'
2108060-01 (Soil)

Summit Scientific

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

Date Sampled: **08/04/21 10:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.56			pH Units	1	BEH0117	08/09/21	08/09/21	EPA 9045D	

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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:
08/13/21 11:34

PWV03-W@2.5'
2108060-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/04/21 10:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEH0133	08/09/21	08/10/21	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 10:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		112 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/04/21 10:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEH0128	08/09/21	08/10/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/04/21 10:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		78.1 %	30-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble 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:
08/13/21 11:34

PWV03-W@2.5'
2108060-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/04/21 10:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.280	0.0100	mg/L	1	BEH0104	08/06/21	08/07/21	EPA 6020B	

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

Date Sampled: **08/04/21 10:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	19.2	0.0626	mg/L dry	1	BEH0115	08/09/21	08/10/21	EPA 6020B	
Magnesium	5.91	0.0626	"	"	"	"	"	"	
Sodium	19.7	0.0626	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/04/21 10:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.01	0.00100	units	1	BEH0144	08/10/21	08/10/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/04/21 10:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	79.9		%	1	BEH0093	08/06/21	08/06/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/04/21 10:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.301	0.0100	mmhos/cm	1	BEH0118	08/09/21	08/09/21	EPA 120.1	

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

Summit Scientific

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

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

Reported:
08/13/21 11:34

PWV03-W@2.5'
2108060-03 (Soil)

Summit Scientific

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

Date Sampled: **08/04/21 10:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.39			pH Units	1	BEH0117	08/09/21	08/09/21	EPA 9045D	

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:
08/13/21 11:34

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 BEH0133 - EPA 5030 Soil MS

Blank (BEH0133-BLK1)

Prepared: 08/09/21 Analyzed: 08/10/21

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	0.0406		"	0.0400		102	23-173			
Surrogate: Toluene-d8	0.0392		"	0.0400		97.9	20-170			
Surrogate: 4-Bromofluorobenzene	0.0402		"	0.0400		100	21-167			

LCS (BEH0133-BS1)

Prepared: 08/09/21 Analyzed: 08/10/21

Benzene	0.109	0.0020	mg/kg	0.100		109	70-130			
Toluene	0.105	0.0050	"	0.100		105	70-130			
Ethylbenzene	0.108	0.0050	"	0.100		108	70-130			
m,p-Xylene	0.224	0.010	"	0.200		112	70-130			
o-Xylene	0.103	0.0050	"	0.100		103	70-130			
1,2,4-Trimethylbenzene	0.119	0.0050	"	0.100		119	70-130			
1,3,5-Trimethylbenzene	0.112	0.0050	"	0.100		112	70-130			
Naphthalene	0.105	0.0038	"	0.100		105	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0418		"	0.0400		105	23-173			
Surrogate: Toluene-d8	0.0395		"	0.0400		98.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0403		"	0.0400		101	21-167			

Matrix Spike (BEH0133-MS1)

Source: 2107436-07

Prepared: 08/09/21 Analyzed: 08/10/21

Benzene	0.0954	0.0020	mg/kg	0.100	ND	95.4	70-130			
Toluene	0.0916	0.0050	"	0.100	ND	91.6	70-130			
Ethylbenzene	0.0920	0.0050	"	0.100	ND	92.0	70-130			
m,p-Xylene	0.191	0.010	"	0.200	ND	95.3	70-130			
o-Xylene	0.0856	0.0050	"	0.100	ND	85.6	70-130			
1,2,4-Trimethylbenzene	0.0955	0.0050	"	0.100	ND	95.5	70-130			
1,3,5-Trimethylbenzene	0.0920	0.0050	"	0.100	ND	92.0	70-130			
Naphthalene	0.0854	0.0038	"	0.100	ND	85.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0434		"	0.0400		108	23-173			
Surrogate: Toluene-d8	0.0398		"	0.0400		99.5	20-170			
Surrogate: 4-Bromofluorobenzene	0.0407		"	0.0400		102	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:
08/13/21 11:34

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 BEH0133 - EPA 5030 Soil MS

Matrix Spike Dup (BEH0133-MSD1)	Source: 2107436-07			Prepared: 08/09/21 Analyzed: 08/10/21						
Benzene	0.103	0.0020	mg/kg	0.100	ND	103	70-130	7.21	30	
Toluene	0.0984	0.0050	"	0.100	ND	98.4	70-130	7.17	30	
Ethylbenzene	0.0995	0.0050	"	0.100	ND	99.5	70-130	7.86	30	
m,p-Xylene	0.206	0.010	"	0.200	ND	103	70-130	7.53	30	
o-Xylene	0.0933	0.0050	"	0.100	ND	93.3	70-130	8.55	30	
1,2,4-Trimethylbenzene	0.104	0.0050	"	0.100	ND	104	70-130	8.46	30	
1,3,5-Trimethylbenzene	0.0985	0.0050	"	0.100	ND	98.5	70-130	6.77	30	
Naphthalene	0.0892	0.0038	"	0.100	ND	89.2	70-130	4.40	30	
Surrogate: 1,2-Dichloroethane-d4	0.0434		"	0.0400		108	23-173			
Surrogate: Toluene-d8	0.0398		"	0.0400		99.4	20-170			
Surrogate: 4-Bromofluorobenzene	0.0405		"	0.0400		101	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:
08/13/21 11:34

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEH0128 - EPA 3550A

Blank (BEH0128-BLK1)

Prepared: 08/09/21 Analyzed: 08/11/21

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

LCS (BEH0128-BS1)

Prepared: 08/09/21 Analyzed: 08/11/21

C10-C28 (DRO)	560	50	mg/kg	500	112	70-130
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Matrix Spike (BEH0128-MS1)

Source: 2107436-07

Prepared: 08/09/21 Analyzed: 08/11/21

C10-C28 (DRO)	577	50	mg/kg	500	15.1	112	70-130
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Matrix Spike Dup (BEH0128-MSD1)

Source: 2107436-07

Prepared: 08/09/21 Analyzed: 08/11/21

C10-C28 (DRO)	539	50	mg/kg	500	15.1	105	70-130	6.75	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:
08/13/21 11:34

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 BEH0104 - EPA 3050B

Blank (BEH0104-BLK1)

Prepared: 08/06/21 Analyzed: 08/07/21

Boron ND 0.0100 mg/L

LCS (BEH0104-BS1)

Prepared: 08/06/21 Analyzed: 08/07/21

Boron 4.99 0.0100 mg/L 5.00 99.8 80-120

Duplicate (BEH0104-DUP1)

Source: 2108057-01

Prepared: 08/06/21 Analyzed: 08/07/21

Boron 0.517 0.0100 mg/L 0.517 0.0167 20

Matrix Spike (BEH0104-MS1)

Source: 2108057-01

Prepared: 08/06/21 Analyzed: 08/07/21

Boron 5.39 0.0100 mg/L 5.00 0.517 97.5 75-125

Matrix Spike Dup (BEH0104-MSD1)

Source: 2108057-01

Prepared: 08/06/21 Analyzed: 08/07/21

Boron 5.39 0.0100 mg/L 5.00 0.517 97.5 75-125 0.0349 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:
08/13/21 11:34

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 BEH0115 - General Preparation

Blank (BEH0115-BLK1)

Prepared & Analyzed: 08/09/21

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

LCS (BEH0115-BS1)

Prepared & Analyzed: 08/09/21

Calcium	5.12	0.0500	mg/L wet	5.00	102	70-130
Magnesium	5.02	0.0500	"	5.00	100	70-130
Sodium	4.96	0.0500	"	5.00	99.1	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:
08/13/21 11:34

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 BEH0093 - General Preparation

Duplicate (BEH0093-DUP1)			Source: 2108059-01			Prepared & Analyzed: 08/06/21				
% Solids	75.5		%			75.1		0.531	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:
08/13/21 11:34

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 BEH0118 - General Preparation

Blank (BEH0118-BLK1)

Prepared & Analyzed: 08/09/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BEH0118-BS1)

Prepared & Analyzed: 08/09/21

Specific Conductance (EC) 0.139 0.0100 mmhos/cm 0.150 92.5 90-110

Duplicate (BEH0118-DUP1)

Source: 2108057-01

Prepared & Analyzed: 08/09/21

Specific Conductance (EC) 0.750 0.0100 mmhos/cm 0.751 0.0666 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:
08/13/21 11:34

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 BEH0117 - General Preparation

LCS (BEH0117-BS1)

Prepared & Analyzed: 08/09/21

pH	9.30	pH Units	9.21	101	95-105
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Duplicate (BEH0117-DUP1)

Source: 2108057-01

Prepared & Analyzed: 08/09/21

pH	8.27	pH Units	8.27	0.00	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:
08/13/21 11:34

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 10, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

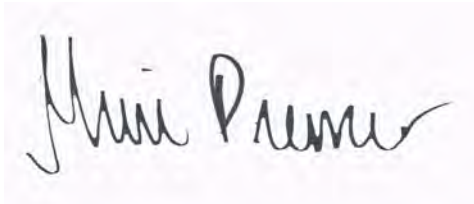
Denver, CO 80203

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

Work Order #2108038

Enclosed are the results of analyses for samples received by Summit Scientific on 08/04/21 18:29. 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 Premier", is shown on a light pink background.

Muri Premier 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:
08/10/21 16:33

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S01@5'	2108038-01	Soil	08/04/21 09:35	08/04/21 18:29

Summit Scientific

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

Summit Scientific

S₂

2108038

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

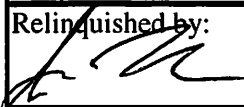

Phone: 303-487-1228

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

Sampler Name: J. Marcus

Project Number: A/a

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR	VOC-q15	PAH-q15	Metals-q15	
1	Soils	8/4/21	0935	3			X			X				X	X	X	X	X	X	X	pH, EC, SAR by saturated paste
2																					
3																					
4																					
5																					
6																					
7																					
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 ___	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 8/4/21 1800	Received by: 	Date/Time: 8/4/21 1800	Sample Integrity: 6	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Temperature Upon Receipt: ___ Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	

Sample Receipt Checklist

S2 Work Order 2108038

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.

NG
Custodian Printed Name or Initials

Neil Sahin
Signature of Custodian

8/4/21
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:
08/10/21 16:33

S01@5'
2108038-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/04/21 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		67.1 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		122 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.0 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/04/21 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		87.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

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

Reported:
08/10/21 16:33

S01@5'
2108038-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/04/21 09:35**

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	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	0.00778	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	0.0137	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	0.0245	0.00500	"	"	"	"	"	"	

Date Sampled: **08/04/21 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		50.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		70.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/04/21 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.570	0.0100	mg/L	1	BEH0081	08/05/21	08/05/21	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **08/04/21 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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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:
08/10/21 16:33

S01@5'
2108038-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	4.20	0.260	mg/kg dry	1	BEH0082	08/05/21	08/05/21	EPA 6020B
Barium	133	0.520	"	"	"	"	"	"
Cadmium	0.269	0.260	"	"	"	"	"	"
Copper	10.8	0.520	"	"	"	"	"	"
Lead	9.62	0.260	"	"	"	"	"	"
Nickel	8.88	0.520	"	"	"	"	"	"
Selenium	1.14	0.338	"	"	"	"	"	"
Silver	0.0525	0.0260	"	"	"	"	"	"
Zinc	39.2	0.520	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **08/04/21 09:35**

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 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	164	0.0650	mg/L dry	1	BEH0083	08/05/21	08/06/21	EPA 6020B	
Magnesium	79.9	0.0650	"	"	"	"	"	"	
Sodium	1910	0.0650	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/04/21 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	30.6	0.00100	units	1	BEH0116	08/09/21	08/09/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/04/21 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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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:
08/10/21 16:33

S01@5'
2108038-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	76.9	%	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 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	7.23	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 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.41		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:
08/10/21 16:33

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:
08/10/21 16:33

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:
08/10/21 16:33

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 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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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:
08/10/21 16:33

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			

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:
08/10/21 16:33

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:
08/10/21 16:33

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:
08/10/21 16:33

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

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:
08/10/21 16:33

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:
08/10/21 16:33

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:
08/10/21 16:33

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

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:
08/10/21 16:33

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	

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:
08/10/21 16:33

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:
08/10/21 16:33

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

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:
08/10/21 16:33

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

September 09, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

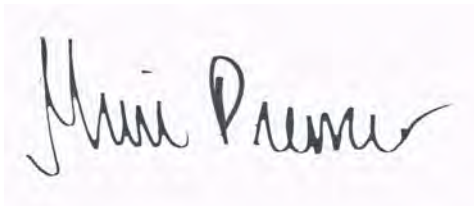
Denver, CO 80203

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

Work Order #2108061

Enclosed are the results of analyses for samples received by Summit Scientific on 08/05/21 17:50. 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:
09/09/21 16:33

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S02@7'	2108061-01	Soil	08/05/21 10:18	08/05/21 17:50
S03@5'	2108061-02	Soil	08/05/21 10:44	08/05/21 17:50
S04@5'	2108061-03	Soil	08/05/21 10:36	08/05/21 17:50
S05@5'	2108061-04	Soil	08/05/21 10:22	08/05/21 17:50
S06@5'	2108061-05	Soil	08/05/21 10:26	08/05/21 17:50
S07@2.5'	2108061-06	Soil	08/05/21 10:47	08/05/21 17:50

Summit Scientific

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

Summit Scientific

S₂

2408061

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

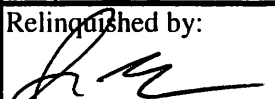
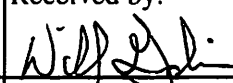
Phone: 303-487-1228

Project Name: Larson Farms S. 4, 5, 6, 7-24 Tank Battery

Sampler Name: J. Marcus

Project Number: 1/a

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested							Special Instructions				
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR							
1	S02@7'	8/5/21	1018	3			X			X				X	X	X								pH, EC, SAR by saturated paste
2	S03@5'		1044	3			X			X				X	X	X								
3	S04@5'		1036	3			X			X				X	X	X								
4	S05@5'		1022	3			X			X				X	X	X								
5	S06@5'		1026	3			X			X				X	X	X								
6	S07@7.5'	X	1047	3			X			X							X	X						
7																								
8																								
9																								
10																								

Relinquished by: 	Date/Time: 8/5/21 1630	Received by: Tasman's Lock Box	Date/Time: 8/5/21 1630	Turn Around Time (Check) Same Day <input checked="" type="checkbox"/> 72 hours ___ 24 hours ___ Standard ___ 48 hours ___ Sample Integrity: Temperature Upon Receipt: 10.2 Samples Intact: <input checked="" type="checkbox"/> Yes No	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 8/5/21 1750	Received by: 	Date/Time: 8/5/21 1750		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

Sample Receipt Checklist

S2 Work Order 2108061

Client: PDC/TASMAN

Client Project ID: Carson Farms 3,4,5,6,7-24 TB

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

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

Temp (°C)

10.2

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"/>	<u>on ice</u>
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"/>	<u>SAME day</u>
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

Will Hall
Signature of Custodian

8/5/21
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:
09/09/21 16:33

S02@7'
2108061-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/05/21 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEH0091	08/05/21	08/05/21	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: **08/05/21 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		69.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		120 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.3 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/05/21 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEH0090	08/05/21	08/05/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/05/21 10:18**

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

PAH by EPA Method 8270D SIM

Summit Scientific

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

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

Reported:
09/09/21 16:33

S02@7'
2108061-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/05/21 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Fluorene	ND	0.00500	mg/kg	1	BEI0138	09/08/21	09/08/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **08/05/21 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		66.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		59.1 %	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:
09/09/21 16:33

S03@5'
2108061-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/05/21 10:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEH0091	08/05/21	08/05/21	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: **08/05/21 10:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		65.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		120 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.1 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/05/21 10:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEH0090	08/05/21	08/05/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/05/21 10:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		81.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

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

Reported:
09/09/21 16:33

S03@5'
2108061-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/05/21 10:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Fluorene	ND	0.00500	mg/kg	1	BEI0138	09/08/21	09/09/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **08/05/21 10:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		59.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		56.1 %	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:
09/09/21 16:33

S04@5'
2108061-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/05/21 10:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEH0091	08/05/21	08/05/21	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: **08/05/21 10:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		70.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		113 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.8 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/05/21 10:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEH0090	08/05/21	08/06/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/05/21 10:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		78.4 %	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:
09/09/21 16:33

S04@5'
2108061-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/05/21 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Fluorene	ND	0.00500	mg/kg	1	BEI0138	09/08/21	09/09/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **08/05/21 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		56.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		58.7 %	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:
09/09/21 16:33

S05@5'
2108061-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/05/21 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEH0091	08/05/21	08/05/21	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: **08/05/21 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		108 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.4 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/05/21 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEH0090	08/05/21	08/06/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/05/21 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		80.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

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

Reported:
09/09/21 16:33

S05@5'
2108061-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/05/21 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Fluorene	ND	0.00500	mg/kg	1	BEI0138	09/08/21	09/09/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **08/05/21 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		51.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		50.5 %	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:
09/09/21 16:33

S06@5'
2108061-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/05/21 10:26**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEH0091	08/05/21	08/05/21	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: **08/05/21 10:26**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		106 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		90.2 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/05/21 10:26**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEH0090	08/05/21	08/06/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/05/21 10:26**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		82.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

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

Reported:
09/09/21 16:33

S06@5'
2108061-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/05/21 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Fluorene	ND	0.00500	mg/kg	1	BEI0138	09/08/21	09/09/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **08/05/21 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		54.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		53.6 %	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:
09/09/21 16:33

S07@2.5'
2108061-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/05/21 10:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEH0091	08/05/21	08/05/21	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: **08/05/21 10:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		112 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.7 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.8 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/05/21 10:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEH0090	08/05/21	08/05/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/05/21 10:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		85.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

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

Reported:
09/09/21 16:33

S07@2.5'
2108061-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/05/21 10:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Fluorene	ND	0.00500	mg/kg	1	BEI0138	09/08/21	09/09/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **08/05/21 10:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		53.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		51.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/05/21 10:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.428	0.0100	mg/L	1	BEH0104	08/06/21	08/07/21	EPA 6020B	

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

Date Sampled: **08/05/21 10:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	15.5	0.0614	mg/L dry	1	BEH0115	08/09/21	08/10/21	EPA 6020B	
Magnesium	3.82	0.0614	"	"	"	"	"	"	
Sodium	100	0.0614	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/05/21 10:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.90	0.00100	units	1	BEH0144	08/10/21	08/10/21	Calculation	

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:
09/09/21 16:33

S07@2.5'
2108061-06 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/05/21 10:47**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	81.5			%	1	BEH0123	08/09/21	08/09/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/05/21 10:47**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.680	0.0100		mmhos/cm	1	BEH0118	08/09/21	08/09/21	EPA 120.1	

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

Date Sampled: **08/05/21 10:47**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.41			pH Units	1	BEH0117	08/09/21	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:
09/09/21 16:33

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 BEH0091 - EPA 5030 Soil MS

Blank (BEH0091-BLK1)

Prepared & Analyzed: 08/05/21

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	0.0187		"	0.0400		46.8	23-173			
Surrogate: Toluene-d8	0.0542		"	0.0400		136	20-170			
Surrogate: 4-Bromofluorobenzene	0.0403		"	0.0400		101	21-167			

LCS (BEH0091-BS1)

Prepared & Analyzed: 08/05/21

Benzene	0.0955	0.0020	mg/kg	0.100		95.5	70-130			
Toluene	0.110	0.0050	"	0.100		110	70-130			
Ethylbenzene	0.116	0.0050	"	0.100		116	70-130			
m,p-Xylene	0.226	0.010	"	0.200		113	70-130			
o-Xylene	0.102	0.0050	"	0.100		102	70-130			
1,2,4-Trimethylbenzene	0.117	0.0050	"	0.100		117	70-130			
1,3,5-Trimethylbenzene	0.0879	0.0050	"	0.100		87.9	70-130			
Naphthalene	0.0782	0.0038	"	0.100		78.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0152		"	0.0400		37.9	23-173			
Surrogate: Toluene-d8	0.0470		"	0.0400		117	20-170			
Surrogate: 4-Bromofluorobenzene	0.0400		"	0.0400		99.9	21-167			

Matrix Spike (BEH0091-MS1)

Source: 2108056-01

Prepared & Analyzed: 08/05/21

Benzene	0.0999	0.0020	mg/kg	0.100	ND	99.9	70-130			
Toluene	0.0988	0.0050	"	0.100	ND	98.8	70-130			
Ethylbenzene	0.112	0.0050	"	0.100	ND	112	70-130			
m,p-Xylene	0.215	0.010	"	0.200	ND	108	70-130			
o-Xylene	0.100	0.0050	"	0.100	ND	100	70-130			
1,2,4-Trimethylbenzene	0.113	0.0050	"	0.100	ND	113	70-130			
1,3,5-Trimethylbenzene	0.0900	0.0050	"	0.100	ND	90.0	70-130			
Naphthalene	0.0916	0.0038	"	0.100	ND	91.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0177		"	0.0400		44.2	23-173			
Surrogate: Toluene-d8	0.0423		"	0.0400		106	20-170			
Surrogate: 4-Bromofluorobenzene	0.0391		"	0.0400		97.6	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:
09/09/21 16:33

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 BEH0091 - EPA 5030 Soil MS

Matrix Spike Dup (BEH0091-MSD1)	Source: 2108056-01			Prepared: 08/05/21 Analyzed: 08/06/21						
Benzene	0.0916	0.0020	mg/kg	0.100	ND	91.6	70-130	8.74	30	
Toluene	0.0849	0.0050	"	0.100	ND	84.9	70-130	15.1	30	
Ethylbenzene	0.101	0.0050	"	0.100	ND	101	70-130	10.7	30	
m,p-Xylene	0.195	0.010	"	0.200	ND	97.6	70-130	9.71	30	
o-Xylene	0.0922	0.0050	"	0.100	ND	92.2	70-130	8.44	30	
1,2,4-Trimethylbenzene	0.101	0.0050	"	0.100	ND	101	70-130	11.2	30	
1,3,5-Trimethylbenzene	0.0955	0.0050	"	0.100	ND	95.5	70-130	5.85	30	
Naphthalene	0.0883	0.0038	"	0.100	ND	88.3	70-130	3.60	30	
Surrogate: 1,2-Dichloroethane-d4	0.0192		"	0.0400		48.0	23-173			
Surrogate: Toluene-d8	0.0412		"	0.0400		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0380		"	0.0400		94.9	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:
09/09/21 16:33

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 BEH0090 - EPA 3550A

Blank (BEH0090-BLK1)

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

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

LCS (BEH0090-BS1)

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

C10-C28 (DRO)	494	50	mg/kg	500	98.8	70-130
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Matrix Spike (BEH0090-MS1)

Source: 2108056-01

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

C10-C28 (DRO)	494	50	mg/kg	500	13.9	96.0	70-130
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Matrix Spike Dup (BEH0090-MSD1)

Source: 2108056-01

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

C10-C28 (DRO)	502	50	mg/kg	500	13.9	97.6	70-130	1.60	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:
09/09/21 16:33

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 BEI0138 - EPA 5030 Soil MS

Blank (BEI0138-BLK1)

Prepared & 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	0.0303	"	0.0333	90.9	40-150
Surrogate: Fluoranthene-d10	0.0237	"	0.0333	71.2	40-150

LCS (BEI0138-BS1)

Prepared & Analyzed: 09/08/21

Acenaphthene	0.0273	0.00500	mg/kg	0.0333	81.8	31-137
Anthracene	0.0274	0.00500	"	0.0333	82.1	30-120
Benzo (a) anthracene	0.0272	0.00500	"	0.0333	81.7	30-120
Benzo (a) pyrene	0.0312	0.00500	"	0.0333	93.6	30-120
Benzo (b) fluoranthene	0.0290	0.00500	"	0.0333	86.9	30-120
Benzo (k) fluoranthene	0.0294	0.00500	"	0.0333	88.1	30-120
Chrysene	0.0266	0.00500	"	0.0333	79.7	30-120
Dibenz (a,h) anthracene	0.0355	0.00500	"	0.0333	107	30-120
Fluoranthene	0.0286	0.00500	"	0.0333	85.8	30-120
Fluorene	0.0285	0.00500	"	0.0333	85.5	30-120
Indeno (1,2,3-cd) pyrene	0.0348	0.00500	"	0.0333	104	30-120
Pyrene	0.0260	0.00500	"	0.0333	78.0	35-142
1-Methylnaphthalene	0.0299	0.00500	"	0.0333	89.8	35-142
2-Methylnaphthalene	0.0258	0.00500	"	0.0333	77.4	35-142

Surrogate: 2-Methylnaphthalene-d10	0.0197	"	0.0333	59.0	40-150
Surrogate: Fluoranthene-d10	0.0207	"	0.0333	62.0	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:
09/09/21 16:33

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 BEI0138 - EPA 5030 Soil MS

Matrix Spike (BEI0138-MS1)			Source: 2108061-01		Prepared & Analyzed: 09/08/21						
Acenaphthene	0.0210	0.00500	mg/kg	0.0333	ND	63.0	31-137				
Anthracene	0.0204	0.00500	"	0.0333	ND	61.3	30-120				
Benzo (a) anthracene	0.0203	0.00500	"	0.0333	ND	61.0	30-120				
Benzo (a) pyrene	0.0222	0.00500	"	0.0333	ND	66.5	30-120				
Benzo (b) fluoranthene	0.0209	0.00500	"	0.0333	ND	62.8	30-120				
Benzo (k) fluoranthene	0.0217	0.00500	"	0.0333	ND	65.1	30-120				
Chrysene	0.0199	0.00500	"	0.0333	ND	59.6	30-120				
Dibenz (a,h) anthracene	0.0250	0.00500	"	0.0333	ND	75.1	30-120				
Fluoranthene	0.0222	0.00500	"	0.0333	ND	66.6	30-120				
Fluorene	0.0223	0.00500	"	0.0333	ND	67.0	30-120				
Indeno (1,2,3-cd) pyrene	0.0245	0.00500	"	0.0333	ND	73.5	30-120				
Pyrene	0.0198	0.00500	"	0.0333	ND	59.5	35-142				
1-Methylnaphthalene	0.0215	0.00500	"	0.0333	ND	64.5	15-130				
2-Methylnaphthalene	0.0213	0.00500	"	0.0333	ND	63.9	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0166		"	0.0333		49.9	40-150				
Surrogate: Fluoranthene-d10	0.0156		"	0.0333		46.9	40-150				

Matrix Spike Dup (BEI0138-MSD1)			Source: 2108061-01		Prepared & Analyzed: 09/08/21						
Acenaphthene	0.0250	0.00500	mg/kg	0.0333	ND	74.9	31-137	17.3	30		
Anthracene	0.0212	0.00500	"	0.0333	ND	63.6	30-120	3.74	30		
Benzo (a) anthracene	0.0222	0.00500	"	0.0333	ND	66.6	30-120	8.82	30		
Benzo (a) pyrene	0.0236	0.00500	"	0.0333	ND	70.9	30-120	6.40	30		
Benzo (b) fluoranthene	0.0265	0.00500	"	0.0333	ND	79.5	30-120	23.6	30		
Benzo (k) fluoranthene	0.0263	0.00500	"	0.0333	ND	78.8	30-120	19.1	30		
Chrysene	0.0214	0.00500	"	0.0333	ND	64.2	30-120	7.44	30		
Dibenz (a,h) anthracene	0.0244	0.00500	"	0.0333	ND	73.1	30-120	2.77	30		
Fluoranthene	0.0206	0.00500	"	0.0333	ND	61.7	30-120	7.74	30		
Fluorene	0.0257	0.00500	"	0.0333	ND	77.1	30-120	13.9	30		
Indeno (1,2,3-cd) pyrene	0.0323	0.00500	"	0.0333	ND	96.9	30-120	27.5	30		
Pyrene	0.0255	0.00500	"	0.0333	ND	76.4	35-142	24.8	30		
1-Methylnaphthalene	0.0229	0.00500	"	0.0333	ND	68.6	15-130	6.03	50		
2-Methylnaphthalene	0.0241	0.00500	"	0.0333	ND	72.3	15-130	12.3	50		
Surrogate: 2-Methylnaphthalene-d10	0.0178		"	0.0333		53.3	40-150				
Surrogate: Fluoranthene-d10	0.0211		"	0.0333		63.4	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:
09/09/21 16:33

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 BEH0104 - EPA 3050B

Blank (BEH0104-BLK1)

Prepared: 08/06/21 Analyzed: 08/07/21

Boron ND 0.0100 mg/L

LCS (BEH0104-BS1)

Prepared: 08/06/21 Analyzed: 08/07/21

Boron 4.99 0.0100 mg/L 5.00 99.8 80-120

Duplicate (BEH0104-DUP1)

Source: 2108057-01

Prepared: 08/06/21 Analyzed: 08/07/21

Boron 0.517 0.0100 mg/L 0.517 0.0167 20

Matrix Spike (BEH0104-MS1)

Source: 2108057-01

Prepared: 08/06/21 Analyzed: 08/07/21

Boron 5.39 0.0100 mg/L 5.00 0.517 97.5 75-125

Matrix Spike Dup (BEH0104-MSD1)

Source: 2108057-01

Prepared: 08/06/21 Analyzed: 08/07/21

Boron 5.39 0.0100 mg/L 5.00 0.517 97.5 75-125 0.0349 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:

09/09/21 16:33

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 BEH0115 - General Preparation

Blank (BEH0115-BLK1)

Prepared & Analyzed: 08/09/21

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

LCS (BEH0115-BS1)

Prepared & Analyzed: 08/09/21

Calcium	5.12	0.0500	mg/L wet	5.00	102	70-130
Magnesium	5.02	0.0500	"	5.00	100	70-130
Sodium	4.96	0.0500	"	5.00	99.1	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:
09/09/21 16:33

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 BEH0123 - General Preparation

Duplicate (BEH0123-DUP1)			Source: 2106181-16			Prepared & Analyzed: 08/09/21				
% Solids	85.5		%			85.7		0.216	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:
09/09/21 16:33

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 BEH0118 - General Preparation

Blank (BEH0118-BLK1)

Prepared & Analyzed: 08/09/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BEH0118-BS1)

Prepared & Analyzed: 08/09/21

Specific Conductance (EC) 0.139 0.0100 mmhos/cm 0.150 92.5 90-110

Duplicate (BEH0118-DUP1)

Source: 2108057-01

Prepared & Analyzed: 08/09/21

Specific Conductance (EC) 0.750 0.0100 mmhos/cm 0.751 0.0666 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:
09/09/21 16:33

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 BEH0117 - General Preparation

LCS (BEH0117-BS1)

Prepared & Analyzed: 08/09/21

pH	9.30	pH Units	9.21	101	95-105
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Duplicate (BEH0117-DUP1)

Source: 2108057-01

Prepared & Analyzed: 08/09/21

pH	8.27	pH Units	8.27	0.00	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:
09/09/21 16:33

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