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June 27, 2024

Jessica Johannsen
PDC Energy
1775 Sherman Street
Suite 3000
Denver, CO 80203

Work Order: **HS24060913**

Laboratory Results for: **R.Ewing 24-11 #1**

Dear Jessica Johannsen,

ALS Environmental received 1 sample(s) on Jun 14, 2024 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
Tyler Monroe

Client: PDC Energy
Project: R.Ewing 24-11 #1
Work Order: HS24060913

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS24060913-01	R.Ewing 24-11 #1	Water		13-Jun-2024 13:10	14-Jun-2024 09:20	<input type="checkbox"/>

Client: PDC Energy
Project: R.Ewing 24-11 #1
Work Order: HS24060913

CASE NARRATIVE

GC Semivolatiles by Method RSK-175**Batch ID: R470521**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

GC Semivolatiles by Method SW8015M**Batch ID: 213534**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

GC Volatile Organics by Method SW8015**Batch ID: R470342****Sample ID: LCSD-240624**

- The RPD between the LCS and LCSD was outside of the control limit.

GC Volatiles by Method SW8015**Batch ID: R470342****Sample ID: R.Ewing 24-11 #1 (HS24060913-01)**

- Lowest possible dilution due to sample matrix.

GCMS Volatiles by Method SW8260**Batch ID: R470314****Sample ID: R.Ewing 24-11 #1 (HS24060913-01)**

- Lowest possible dilution due to sample matrix.

Sample ID: VLCSW-240621

- Insufficient sample received to perform MS/MSD. An LCS/LCSD was performed as batch quality control.

Metals by Method E200.8**Batch ID: 213738****Sample ID: HS24060619-10MS**

- MS and MSD are for an unrelated sample

Sample ID: HS24060619-11MS

- MS and MSD are for an unrelated sample

Client: PDC Energy
Project: R.Ewing 24-11 #1
Work Order: HS24060913

CASE NARRATIVE

WetChemistry by Method E300

Batch ID: R470551

Sample ID: HS24061564-02MS

- MS and MSD are for an unrelated sample (Sulfate)

Sample ID: HS24061564-04MS

- MS and MSD are for an unrelated sample (Chloride,Sulfate)

WetChemistry by Method SM2320B

Batch ID: R470491

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method M2540C

Batch ID: R469873

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.
-

Client: PDC Energy
 Project: R.Ewing 24-11 #1
 Sample ID: R.Ewing 24-11 #1
 Collection Date: 13-Jun-2024 13:10

ANALYTICAL REPORT

WorkOrder:HS24060913
 Lab ID:HS24060913-01
 Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: TS		
Benzene	ND		500	ug/L	500	23-Jun-2024 19:47
Ethylbenzene	ND		500	ug/L	500	23-Jun-2024 19:47
m,p-Xylene	ND		1000	ug/L	500	23-Jun-2024 19:47
o-Xylene	ND		500	ug/L	500	23-Jun-2024 19:47
Toluene	ND		500	ug/L	500	23-Jun-2024 19:47
Xylenes, Total	ND		1500	ug/L	500	23-Jun-2024 19:47
Surr: 1,2-Dichloroethane-d4	103		70-126	%REC	500	23-Jun-2024 19:47
Surr: 4-Bromofluorobenzene	98.2		77-113	%REC	500	23-Jun-2024 19:47
Surr: Dibromofluoromethane	109		77-123	%REC	500	23-Jun-2024 19:47
Surr: Toluene-d8	110		82-127	%REC	500	23-Jun-2024 19:47
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015		Analyst: TS		
Gasoline Range Organics	ND		25.0	mg/L	500	24-Jun-2024 14:32
Surr: 4-Bromofluorobenzene	102		70-123	%REC	500	24-Jun-2024 14:32
DISSOLVED GASES BY RSK-175		Method:RSK-175		Analyst: RG		
Ethane	430		200	ug/L	200	26-Jun-2024 13:22
Methane	4,130		100	ug/L	200	26-Jun-2024 13:22
Propane	214		200	ug/L	200	26-Jun-2024 13:22
TPH DRO/ORO BY SW8015C		Method:SW8015M		Prep:SW3511 / 14-Jun-2024 Analyst: SAM		
TPH (Diesel Range)	0.051		0.051	mg/L	1	14-Jun-2024 17:22
Surr: 2-Fluorobiphenyl	118		60-135	%REC	1	14-Jun-2024 17:22
TOTAL METALS BY E200.8, REV 5.4, 1994		Method:E200.8		Prep:E200.8 / 18-Jun-2024 Analyst: JC		
Calcium	2.43		0.500	mg/L	1	26-Jun-2024 18:31
Magnesium	ND		0.500	mg/L	1	26-Jun-2024 18:31
Potassium	1.19		0.500	mg/L	1	26-Jun-2024 18:31
Sodium	256		4.00	mg/L	20	27-Jun-2024 12:04
ANIONS BY E300.0, REV 2.1, 1993		Method:E300		Analyst: TH		
Chloride	297		5.00	mg/L	10	26-Jun-2024 21:57
Sulfate	1.73		0.500	mg/L	1	26-Jun-2024 21:51
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		Method:M2540C		Analyst: MH		
Total Dissolved Solids (Residue, Filterable)	592		10.0	mg/L	1	18-Jun-2024 13:00
ALKALINITY BY -2011		Method:SM2320B		Analyst: AR		
Alkalinity, Bicarbonate (As CaCO3)	87.3		5.00	mg/L	1	25-Jun-2024 12:18
Alkalinity, Carbonate (As CaCO3)	61.8		5.00	mg/L	1	25-Jun-2024 12:18
Alkalinity, Total (As CaCO3)	149		5.00	mg/L	1	25-Jun-2024 12:18

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: PDC Energy
Project: R.Ewing 24-11 #1
WorkOrder: HS24060913

Batch ID: 213534	Start Date: 14 Jun 2024 08:00	End Date: 14 Jun 2024 08:00
Method: SW3511		Prep Code: 3511_DRO

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS24060913-01		32.12 (mL)	2 (mL)	0.06227	40 mL Amber

Batch ID: 213738	Start Date: 18 Jun 2024 14:00	End Date: 18 Jun 2024 14:00
Method: TOTAL METALS PREP BY E200.8, REV 5.4, 1994		Prep Code: 200.8PR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS24060913-01		10 (mL)	10 (mL)	1	250 mL plastic, HNO3 to pH <2

Client: PDC Energy
Project: R.Ewing 24-11 #1
WorkOrder: HS24060913

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 213534 (0)		Test Name : TPH DRO/ORO BY SW8015C			Matrix: Water	
HS24060913-01	R.Ewing 24-11 #1	13 Jun 2024 13:10		14 Jun 2024 08:00	14 Jun 2024 17:22	1
Batch ID: 213738 (0)		Test Name : TOTAL METALS BY E200.8, REV 5.4, 1994			Matrix: Water	
HS24060913-01	R.Ewing 24-11 #1	13 Jun 2024 13:10		18 Jun 2024 14:00	27 Jun 2024 12:04	20
HS24060913-01	R.Ewing 24-11 #1	13 Jun 2024 13:10		18 Jun 2024 14:00	26 Jun 2024 18:31	1
Batch ID: R469873 (0)		Test Name : TOTAL DISSOLVED SOLIDS BY SM2540C-2011			Matrix: Water	
HS24060913-01	R.Ewing 24-11 #1	13 Jun 2024 13:10			18 Jun 2024 13:00	1
Batch ID: R470314 (0)		Test Name : LOW LEVEL VOLATILES BY SW8260C			Matrix: Water	
HS24060913-01	R.Ewing 24-11 #1	13 Jun 2024 13:10			23 Jun 2024 19:47	500
Batch ID: R470342 (0)		Test Name : GASOLINE RANGE ORGANICS BY SW8015C			Matrix: Water	
HS24060913-01	R.Ewing 24-11 #1	13 Jun 2024 13:10			24 Jun 2024 14:32	500
Batch ID: R470491 (0)		Test Name : ALKALINITY BY -2011			Matrix: Water	
HS24060913-01	R.Ewing 24-11 #1	13 Jun 2024 13:10			25 Jun 2024 12:18	1
Batch ID: R470521 (0)		Test Name : DISSOLVED GASES BY RSK-175			Matrix: Water	
HS24060913-01	R.Ewing 24-11 #1	13 Jun 2024 13:10			26 Jun 2024 13:22	200
Batch ID: R470551 (0)		Test Name : ANIONS BY E300.0, REV 2.1, 1993			Matrix: Water	
HS24060913-01	R.Ewing 24-11 #1	13 Jun 2024 13:10			26 Jun 2024 21:57	10
HS24060913-01	R.Ewing 24-11 #1	13 Jun 2024 13:10			26 Jun 2024 21:51	1

Client: PDC Energy
Project: R.Ewing 24-11 #1
WorkOrder: HS24060913

QC BATCH REPORT

Batch ID: 213534 (0)		Instrument: FID-16		Method: TPH DRO/ORO BY SW8015C					
MBLK	Sample ID: MBLK-213534	Units: mg/L		Analysis Date: 14-Jun-2024 09:01					
Client ID:	Run ID: FID-16_469723		SeqNo: 8082751		PrepDate: 14-Jun-2024		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
TPH (Diesel Range)	ND	0.050							
Surr: 2-Fluorobiphenyl	0.05801	0.0050	0.06	0	96.7	60 - 135			
LCS	Sample ID: LCS-213534	Units: mg/L		Analysis Date: 14-Jun-2024 09:30					
Client ID:	Run ID: FID-16_469723		SeqNo: 8082752		PrepDate: 14-Jun-2024		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
TPH (Diesel Range)	0.5916	0.050	0.6	0	98.6	70 - 130			
Surr: 2-Fluorobiphenyl	0.05871	0.0050	0.06	0	97.8	60 - 135			
LCSD	Sample ID: LCSD-213534	Units: mg/L		Analysis Date: 14-Jun-2024 09:59					
Client ID:	Run ID: FID-16_469723		SeqNo: 8082753		PrepDate: 14-Jun-2024		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
TPH (Diesel Range)	0.5617	0.050	0.6	0	93.6	70 - 130	0.5916	5.18	20
Surr: 2-Fluorobiphenyl	0.05627	0.0050	0.06	0	93.8	60 - 135	0.05871	4.24	20
The following samples were analyzed in this batch: HS24060913-01									

Client: PDC Energy
 Project: R.Ewing 24-11 #1
 WorkOrder: HS24060913

QC BATCH REPORT

Batch ID: R470521 (0)		Instrument: FID-4		Method: DISSOLVED GASES BY RSK-175					
MBLK	Sample ID: MBLK-240626	Units: ug/L		Analysis Date: 26-Jun-2024 09:30					
Client ID:	Run ID: FID-4_470521		SeqNo: 8100766		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Ethane	ND	1.00							
Methane	ND	0.500							
Propane	ND	1.50							

LCS	Sample ID: LCS-240626	Units: ug/L		Analysis Date: 26-Jun-2024 09:45					
Client ID:	Run ID: FID-4_470521		SeqNo: 8100767		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Ethane	16.81	1.00	18.04	0	93.2	75 - 125			
Methane	8.881	0.500	9.647	0	92.1	75 - 125			
Propane	21.92	1.50	26.46	0	82.8	75 - 125			

LCSD	Sample ID: LCSD-240626	Units: ug/L		Analysis Date: 26-Jun-2024 10:00					
Client ID:	Run ID: FID-4_470521		SeqNo: 8100768		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Ethane	16.7	1.00	18.04	0	92.6	75 - 125	16.81	0.689	30
Methane	8.79	0.500	9.647	0	91.1	75 - 125	8.881	1.04	30
Propane	21.65	1.50	26.46	0	81.8	75 - 125	21.92	1.23	30

The following samples were analyzed in this batch: HS24060913-01

Client: PDC Energy
 Project: R.Ewing 24-11 #1
 WorkOrder: HS24060913

QC BATCH REPORT

Batch ID: R470342 (0)		Instrument: FID-20		Method: GASOLINE RANGE ORGANICS BY SW8015C						
MBLK	Sample ID: MBLK-240624	Units: mg/L		Analysis Date: 24-Jun-2024 11:55						
Client ID:	Run ID: FID-20_470342	SeqNo: 8096325		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	ND	0.0500								
Surr: 4-Bromofluorobenzene	0.09303	0.00500	0.1	0	93.0	70 - 121				
LCS	Sample ID: LCS-240624	Units: mg/L		Analysis Date: 24-Jun-2024 11:28						
Client ID:	Run ID: FID-20_470342	SeqNo: 8096323		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	0.8648	0.0500	1	0	86.5	76 - 124				
Surr: 4-Bromofluorobenzene	0.1107	0.00500	0.1	0	111	52 - 138				
LCSD	Sample ID: LCSD-240624	Units: mg/L		Analysis Date: 24-Jun-2024 11:41						
Client ID:	Run ID: FID-20_470342	SeqNo: 8096324		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	0.8373	0.0500	1	0	83.7	76 - 124	0.8648	3.23	20	
Surr: 4-Bromofluorobenzene	0.08803	0.00500	0.1	0	88.0	52 - 138	0.1107	22.8	20	R

The following samples were analyzed in this batch: HS24060913-01

Client: PDC Energy
Project: R.Ewing 24-11 #1
WorkOrder: HS24060913

QC BATCH REPORT

Batch ID: 213738 (0)		Instrument: ICPMS07		Method: TOTAL METALS BY E200.8, REV 5.4, 1994					
MBLK	Sample ID: MBLK-213738	Units: ug/L		Analysis Date: 26-Jun-2024 17:32					
Client ID:	Run ID: ICPMS07_470483	SeqNo: 8101128		PrepDate: 18-Jun-2024		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Calcium	ND	500							
Magnesium	ND	500							
Potassium	ND	500							
Sodium	ND	200							

LCS	Sample ID: LCS-213738	Units: ug/L		Analysis Date: 26-Jun-2024 18:12					
Client ID:	Run ID: ICPMS07_470483	SeqNo: 8101305		PrepDate: 18-Jun-2024		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Calcium	4892	500	5000	0	97.8	85 - 115			
Magnesium	4978	500	5000	0	99.6	85 - 115			
Potassium	4903	500	5000	0	98.1	85 - 115			
Sodium	5036	200	5000	0	101	85 - 115			

MS	Sample ID: HS24060619-11MS	Units: ug/L		Analysis Date: 26-Jun-2024 17:50					
Client ID:	Run ID: ICPMS07_470483	SeqNo: 8101168		PrepDate: 18-Jun-2024		DF: 10			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Calcium	418800	5000	5000	398800	399	70 - 130			SO
Magnesium	3026000	5000	5000	2886000	2790	70 - 130			SEO
Potassium	25640	5000	5000	20130	110	70 - 130			O
Sodium	4489000	2000	5000	4234000	5090	70 - 130			SEO

MS	Sample ID: HS24060619-10MS	Units: ug/L		Analysis Date: 26-Jun-2024 17:40					
Client ID:	Run ID: ICPMS07_470483	SeqNo: 8101131		PrepDate: 18-Jun-2024		DF: 10			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Calcium	427100	5000	5000	435200	-163	70 - 130			SO
Magnesium	2601000	5000	5000	2670000	-1370	70 - 130			SEO
Potassium	13050	5000	5000	8536	90.2	70 - 130			
Sodium	2705000	2000	5000	2760000	-1110	70 - 130			SEO

Client:

Project:

WorkOrder:

PDC Energy

R.Ewing 24-11 #1

HS24060913

QC BATCH REPORT

Batch ID: 213738 (0)		Instrument: ICPMS07		Method: TOTAL METALS BY E200.8, REV 5.4, 1994						
MSD		Sample ID: HS24060619-11MSD		Units: ug/L		Analysis Date: 26-Jun-2024 17:53				
Client ID:		Run ID: ICPMS07_470483		SeqNo: 8101169		PrepDate: 18-Jun-2024		DF: 10		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	423500	5000	5000	398800	495	70 - 130	418800	1.13	20	SO
Magnesium	3061000	5000	5000	2886000	3500	70 - 130	3026000	1.16	20	SEO
Potassium	25870	5000	5000	20130	115	70 - 130	25640	0.912	20	O
Sodium	4552000	2000	5000	4234000	6350	70 - 130	4489000	1.39	20	SEO

MSD		Sample ID: HS24060619-10MSD		Units: ug/L		Analysis Date: 26-Jun-2024 17:42				
Client ID:		Run ID: ICPMS07_470483		SeqNo: 8101156		PrepDate: 18-Jun-2024		DF: 10		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	426400	5000	5000	435200	-177	70 - 130	427100	0.158	20	SO
Magnesium	2623000	5000	5000	2670000	-939	70 - 130	2601000	0.832	20	SEO
Potassium	13020	5000	5000	8536	89.7	70 - 130	13050	0.217	20	
Sodium	2700000	2000	5000	2760000	-1220	70 - 130	2705000	0.197	20	SEO

The following samples were analyzed in this batch: HS24060913-01

Client: PDC Energy
 Project: R.Ewing 24-11 #1
 WorkOrder: HS24060913

QC BATCH REPORT

Batch ID: R470314 (0)		Instrument: VOA9		Method: LOW LEVEL VOLATILES BY SW8260C					
MBLK	Sample ID: VBLKW-240621	Units: ug/L		Analysis Date: 23-Jun-2024 14:48					
Client ID:	Run ID: VOA9_470314	SeqNo: 8095404		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	ND	1.0							
Ethylbenzene	ND	1.0							
m,p-Xylene	ND	2.0							
o-Xylene	ND	1.0							
Toluene	ND	1.0							
Xylenes, Total	ND	3.0							
Surr: 1,2-Dichloroethane-d4	49.42	1.0	50	0	98.8	70 - 123			
Surr: 4-Bromofluorobenzene	50.65	1.0	50	0	101	77 - 113			
Surr: Dibromofluoromethane	52.74	1.0	50	0	105	73 - 126			
Surr: Toluene-d8	55.58	1.0	50	0	111	81 - 120			

LCS	Sample ID: VLCSW-240621	Units: ug/L		Analysis Date: 23-Jun-2024 13:44					
Client ID:	Run ID: VOA9_470314	SeqNo: 8095402		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	17.4	1.0	20	0	87.0	74 - 120			
Ethylbenzene	18.5	1.0	20	0	92.5	77 - 117			
m,p-Xylene	38.92	2.0	40	0	97.3	77 - 122			
o-Xylene	19.84	1.0	20	0	99.2	75 - 119			
Toluene	18.4	1.0	20	0	92.0	77 - 118			
Xylenes, Total	58.76	3.0	60	0	97.9	75 - 122			
Surr: 1,2-Dichloroethane-d4	52.06	1.0	50	0	104	70 - 123			
Surr: 4-Bromofluorobenzene	53.66	1.0	50	0	107	77 - 113			
Surr: Dibromofluoromethane	54.21	1.0	50	0	108	73 - 126			
Surr: Toluene-d8	57.35	1.0	50	0	115	81 - 120			

Client: PDC Energy
Project: R.Ewing 24-11 #1
WorkOrder: HS24060913

QC BATCH REPORT

Batch ID: R470314 (0)		Instrument: VOA9		Method: LOW LEVEL VOLATILES BY SW8260C					
LCSD		Sample ID: VLCS DW-240621		Units: ug/L		Analysis Date: 23-Jun-2024 14:05			
Client ID:		Run ID: VOA9_470314		SeqNo: 8095403		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	17.27	1.0	20	0	86.4	74 - 120	17.4	0.732	20
Ethylbenzene	18.3	1.0	20	0	91.5	77 - 117	18.5	1.08	20
m,p-Xylene	37.89	2.0	40	0	94.7	77 - 122	38.92	2.69	20
o-Xylene	19.5	1.0	20	0	97.5	75 - 119	19.84	1.71	20
Toluene	18.24	1.0	20	0	91.2	77 - 118	18.4	0.881	20
Xylenes, Total	57.39	3.0	60	0	95.7	75 - 122	58.76	2.36	20
Surr: 1,2-Dichloroethane-d4	52.43	1.0	50	0	105	70 - 123	52.06	0.708	20
Surr: 4-Bromofluorobenzene	53.84	1.0	50	0	108	77 - 113	53.66	0.347	20
Surr: Dibromofluoromethane	56.06	1.0	50	0	112	73 - 126	54.21	3.35	20
Surr: Toluene-d8	58.36	1.0	50	0	117	81 - 120	57.35	1.76	20
The following samples were analyzed in this batch: HS24060913-01									

Client: PDC Energy
 Project: R.Ewing 24-11 #1
 WorkOrder: HS24060913

QC BATCH REPORT

Batch ID: R469873 (0)		Instrument: Balance1		Method: TOTAL DISSOLVED SOLIDS BY SM2540C-2011						
MBLK	Sample ID: WMBLK-06182024	Units: mg/L		Analysis Date: 18-Jun-2024 13:00						
Client ID:	Run ID: Balance1_469873	SeqNo: 8086133		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)		ND	10.0							
LCS	Sample ID: WLCS-06182024	Units: mg/L		Analysis Date: 18-Jun-2024 13:00						
Client ID:	Run ID: Balance1_469873	SeqNo: 8086132		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)		950	10.0	1000	0	95.0	85 - 115			
DUP	Sample ID: HS24060943-02 DUP	Units: mg/L		Analysis Date: 18-Jun-2024 13:00						
Client ID:	Run ID: Balance1_469873	SeqNo: 8086131		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)		2436	10.0				2432	0.164	20	
DUP	Sample ID: HS24060619-09 DUP	Units: mg/L		Analysis Date: 18-Jun-2024 13:00						
Client ID:	Run ID: Balance1_469873	SeqNo: 8086111		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)		18440	10.0				18420	0.109	20	
The following samples were analyzed in this batch:		HS24060913-01								

Client: PDC Energy
Project: R.Ewing 24-11 #1
WorkOrder: HS24060913

QC BATCH REPORT

Batch ID: R470491 (0)		Instrument: Skalar 03		Method: ALKALINITY BY -2011					
MBLK	Sample ID: MBLK-069252024	Units: mg/L		Analysis Date: 25-Jun-2024 12:01					
Client ID:	Run ID: Skalar 03_470491	SeqNo: 8100092		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5.00							
Alkalinity, Carbonate (As CaCO3)	ND	5.00							
Alkalinity, Total (As CaCO3)	ND	5.00							

LCS	Sample ID: LCS-06252024	Units: mg/L		Analysis Date: 25-Jun-2024 12:07					
Client ID:	Run ID: Skalar 03_470491	SeqNo: 8100093		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Alkalinity, Carbonate (As CaCO3)	950.6	5.00	1000	0	95.1	85 - 115			
Alkalinity, Total (As CaCO3)	965.3	5.00	1000	0	96.5	85 - 115			

LCSD	Sample ID: LCSD-06252024	Units: mg/L		Analysis Date: 25-Jun-2024 12:14					
Client ID:	Run ID: Skalar 03_470491	SeqNo: 8100094		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Alkalinity, Carbonate (As CaCO3)	937.6	5.00	1000	0	93.8	85 - 115	950.6	1.38	20
Alkalinity, Total (As CaCO3)	954.3	5.00	1000	0	95.4	85 - 115	965.3	1.15	20

DUP	Sample ID: HS24061217-01DUP	Units: mg/L		Analysis Date: 25-Jun-2024 13:39					
Client ID:	Run ID: Skalar 03_470491	SeqNo: 8100088		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Alkalinity, Bicarbonate (As CaCO3)	381	5.00					380	0.263	20
Alkalinity, Carbonate (As CaCO3)	ND	5.00					0	0	20
Alkalinity, Total (As CaCO3)	381	5.00					380	0.263	20

The following samples were analyzed in this batch: HS24060913-01

Client: PDC Energy
Project: R.Ewing 24-11 #1
WorkOrder: HS24060913

QC BATCH REPORT

Batch ID: R470551 (0)		Instrument: ICS-Integrion		Method: ANIONS BY E300.0, REV 2.1, 1993						
MBLK	Sample ID: MBLK	Units: mg/L		Analysis Date: 26-Jun-2024 21:28						
Client ID:	Run ID: ICS-Integrion_470551		SeqNo: 8101791		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	ND	0.500								
Sulfate	ND	0.500								

LCS	Sample ID: LCS	Units: mg/L		Analysis Date: 26-Jun-2024 21:39						
Client ID:	Run ID: ICS-Integrion_470551		SeqNo: 8101792		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.71	0.500	20	0	104	90 - 110				
Sulfate	21.61	0.500	20	0	108	90 - 110				

MS	Sample ID: HS24061564-04MS	Units: mg/L		Analysis Date: 27-Jun-2024 00:37						
Client ID:	Run ID: ICS-Integrion_470551		SeqNo: 8101816		PrepDate:		DF: 10			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	468.6	5.00	100	405.2	63.4	80 - 120				SO
Sulfate	498.7	5.00	100	460.3	38.4	80 - 120				SO

MS	Sample ID: HS24061564-02MS	Units: mg/L		Analysis Date: 26-Jun-2024 23:26						
Client ID:	Run ID: ICS-Integrion_470551		SeqNo: 8101806		PrepDate:		DF: 10			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	260.3	5.00	100	166.4	94.0	80 - 120				
Sulfate	421.6	5.00	100	343.5	78.1	80 - 120				S

MSD	Sample ID: HS24061564-04MSD	Units: mg/L		Analysis Date: 27-Jun-2024 00:43						
Client ID:	Run ID: ICS-Integrion_470551		SeqNo: 8101817		PrepDate:		DF: 10			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	470.1	5.00	100	405.2	64.9	80 - 120	468.6	0.328	20	SO
Sulfate	505.6	5.00	100	460.3	45.3	80 - 120	498.7	1.37	20	SO

Client:

Project:

WorkOrder:

PDC Energy

R.Ewing 24-11 #1

HS24060913

QC BATCH REPORT

Batch ID: R470551 (0)		Instrument: ICS-Integrion		Method: ANIONS BY E300.0, REV 2.1, 1993					
MSD	Sample ID: HS24061564-02MSD	Units: mg/L		Analysis Date: 26-Jun-2024 23:32					
Client ID:	Run ID: ICS-Integrion_470551		SeqNo: 8101807		PrepDate:		DF: 10		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	259.7	5.00	100	166.4	93.3	80 - 120	260.3	0.254	20
Sulfate	422.6	5.00	100	343.5	79.1	80 - 120	421.6	0.233	20
S									
The following samples were analyzed in this batch: HS24060913-01									

Client: PDC Energy
Project: R.Ewing 24-11 #1
WorkOrder: HS24060913

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arizona	AZ0793	27-May-2025
Arkansas	88-00356_2024	27-Mar-2025
California	2919; 2025	30-Apr-2025
Florida	E87611-38	30-Jun-2024
Illinois	2000322023-11	30-Jun-2024
Kansas	E-10352 2023-2024	31-Jul-2024
Kentucky	123043	30-Apr-2025
Louisiana	03087 2023-2024	30-Jun-2025
Maine	2024017	23-Jun-2026
Maryland	343; 2023-2024	30-Jun-2024
Michigan	9971	30-Apr-2025
North Carolina	624 - 2024	31-Dec-2024
Oklahoma	2023-140	31-Aug-2024
Tennessee	04016	30-Apr-2025
Texas	T104704231 TX-C24-00130	30-Apr-2025
Utah	TX026932023-14	31-Jul-2024

Sample Receipt Checklist

Work Order ID: HS24060913

Date/Time Received: **14-Jun-2024 09:20**

Client Name: PDC Energy 80203

Received by: **Paresh M. Giga**Completed By: /S/ Paresh M. Giga

14-Jun-2024 16:27

eSignature

Date/Time

Reviewed by: /S/ Tyler Monroe

16-Jun-2024 12:51

eSignature

Date/Time

Matrices: **Water**Carrier name: **FedEx Priority Overnight**

Shipping container/cooler in good condition?

Yes ☒No ☐Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☐No ☐Not Present ☒

Custody seals intact on sample bottles?

Yes ☐No ☐Not Present ☒

VOA/TX1005/TX1006 Solids in hermetically sealed vials?

Yes ☐No ☐Not Present ☒

Chain of custody present?

Yes ☒No ☐

1 Page(s)

Chain of custody signed when relinquished and received?

Yes ☒No ☐

COC IDs:none

Samplers name present on COC?

Yes ☒No ☐

Chain of custody agrees with sample labels?

Yes ☒No ☐

Samples in proper container/bottle?

Yes ☒No ☐

Sample containers intact?

Yes ☒No ☐

Sufficient sample volume for indicated test?

Yes ☒No ☐

All samples received within holding time?

Yes ☒No ☐

Container/Temp Blank temperature in compliance?

Yes ☒No ☐

Temperature(s)/Thermometer(s):

2.2C/2.3C U/c

IR31

Cooler(s)/Kit(s):

49498

Date/Time sample(s) sent to storage:

6/14/24 16:50

Water - VOA vials have zero headspace?

Yes ☒No ☐No VOA vials submitted ☐

Water - pH acceptable upon receipt?

Yes ☒No ☐N/A ☐

pH adjusted?

Yes ☐No ☒N/A ☐

pH adjusted by:

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

Corrective Action:

**ALS Environmental**965 E 11th St
Loveland, CO 80537
PH: 970-305-1648**Chain-of-Custody****HS24060913**PDC Energy
R.Ewing 24-11 #1

SAMPLER		Jeff Braden		DATE	
PROJECT NAME		R. Ewing 24-11 #1		TURNAROUND	
PROJECT No.		09F2073217		FACILITY ID	
PDC Bradenhead Sampling		EDD FORMAT		123-14975	
PDC Energy		PURCHASE ORDER		ECMC EDD, LTE	
SEND REPORT TO		BILL TO COMPANY		N/A	
Jessiac Johannsen, Cassie Gonzalez, Raul Sanchez, Evan Varnas		INVOICE ATTN TO		PDC Energy	
ADDRESS		1775 Sherman ST, Suite 3000		Christopher Schelich	
CITY / STATE / ZIP		Denver, CO 80203		1775 Sherman Street, Suite 3000	
PHONE		303-860-5815		Denver, Colorado	
FAX				970-415-1881	
E-MAIL		Jessica.Johannsen@chevron.com Cassie.Gonzales@chevron.com Raul.Sanchez@chevron.com Evan.Varnas@chevron.com		E-MAIL	
				Christopher.Schelich@pdce.com	
Lab ID		Field ID		Matrix	
		R. Ewing 24-11 #1		W	
Sample Date		Sample Time		# Bottles	
6/13/24		1310		11	
Pres.		QC		RSK 175	
1,2		II		X	
SW8260_25		SW8015M		SM2320B	
X		X		X	
EPA200.7/208		EPA 300.0		SM2540C	
X		X		X	

*Time Zone: MST

Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = filter

For metals or anions, please detail analytes below.

Comments:	Cations/Anions:	QC PACKAGE (check below)
Calcium, Chloride, Magnesium, Potassium, Sodium, Sulfate*		<input checked="" type="checkbox"/> LEVEL II (Standard QC)
Samples analyzed per		<input type="checkbox"/> LEVEL III (Std QC + forms)
ECMC Bradenhead Sampling Program		<input type="checkbox"/> LEVEL IV (Std QC + forms + raw data)
If bubbles are present in voas, please proceed with analysis		
4948 2.20 #51 CF 0.10		
Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035		

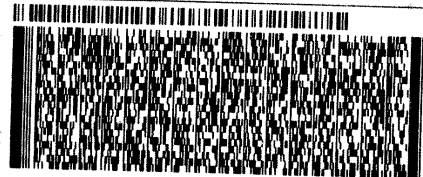
SIGNATURE	PRINTED NAME	DATE	TIME
	Jeff Braden	6/13/24	1510
RELINQUISHED BY			
	Tyler Monroe	6/13/24	1510
RECEIVED BY			
	Tyler Monroe	6/13/24	1600
RELINQUISHED BY			
	P. C. C. A.	6/14/24	09.20
RECEIVED BY			

ORIGIN ID: BKYA (970) 305-1648
KAREN CRAVEN
ALS
965 E 11TH ST
LOVELAND, CO 80537
UNITED STATES US

SHIP DATE: 13JUN24
ACTWGT: 45.45 LB
CAD: 0760439/CAFE3709
DIMS: 24x14x13 IN
BILL THIRD PARTY

TO **SAMPLE RECEIVING**
ALS HOUSTON
10450 STANCLIFF RD
SUITE 210
HOUSTON TX 77099
(281) 530-5668
PO: 967554812

48498



TRK# 7122 9262 1460
0201

FRI - 14 JUN 10:30A
PRIORITY OVERNIGHT

NA SGRA

77099
TX-US IAH

