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August 21, 2024

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

Work Order: **HS24080645**

Laboratory Results for: **Baseline LE 06-092HNX**

Dear Jessica Johannsen,

ALS Environmental received 1 sample(s) on Aug 09, 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: DAYNA.FISHER

Anna Kinchen
Project Manager

Client:	PDC Energy	SAMPLE SUMMARY
Project:	Baseline LE 06-092HNX	
Work Order:	HS24080645	

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS24080645-01	Baseline LE 06-092HNX	Water		06-Aug-2024 10:30	09-Aug-2024 09:00	<input type="checkbox"/>

Client: PDC Energy
Project: Baseline LE 06-092HNX
Work Order: HS24080645

CASE NARRATIVE

Work Order Comments

- Login Notes:
Times differ :
COC - 10:30. Labels - 11:30

GC Semivolatiles by Method RSK-175**Batch ID: R474367**

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

GC Semivolatiles by Method SW8015M**Batch ID: 216035****Sample ID: Baseline LE 06-092HNX (HS24080645-01)**

- The surrogate recoveries could not be determined due to dilution below the calibration range.

GC Volatiles by Method SW8015**Batch ID: R474686****Sample ID: Baseline LE 06-092HNX (HS24080645-01)**

- Surrogate failed outside QC control limits high due to sample matrix, this was confirmed by re-analysis

GCMS Volatiles by Method SW8260**Batch ID: R475062**

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

Metals by Method E200.8**Batch ID: 216329****Sample ID: HS24080594-01MS**

- MS and MSD are for an unrelated sample

Sample ID: HS24080727-01MSD

- MSD is for an unrelated sample

WetChemistry by Method SM2320B**Batch ID: R475102**

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

WetChemistry by Method E300**Batch ID: R474929**

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

Client: PDC Energy
Project: Baseline LE 06-092HNX
Work Order: HS24080645

CASE NARRATIVE

WetChemistry by Method M2540C

Batch ID: R474409

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

Client: PDC Energy
 Project: Baseline LE 06-092HNX
 Sample ID: Baseline LE 06-092HNX
 Collection Date: 06-Aug-2024 10:30

ANALYTICAL REPORT

WorkOrder:HS24080645
 Lab ID:HS24080645-01
 Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP		
Benzene	110		100	ug/L	100	20-Aug-2024 15:03
Ethylbenzene	300		100	ug/L	100	20-Aug-2024 15:03
m,p-Xylene	1,200		200	ug/L	100	20-Aug-2024 15:03
o-Xylene	690		100	ug/L	100	20-Aug-2024 15:03
Toluene	430		100	ug/L	100	20-Aug-2024 15:03
Xylenes, Total	1,900		300	ug/L	100	20-Aug-2024 15:03
Surr: 1,2-Dichloroethane-d4	83.0		70-126	%REC	100	20-Aug-2024 15:03
Surr: 4-Bromofluorobenzene	97.3		77-113	%REC	100	20-Aug-2024 15:03
Surr: Dibromofluoromethane	103		77-123	%REC	100	20-Aug-2024 15:03
Surr: Toluene-d8	86.2		82-127	%REC	100	20-Aug-2024 15:03
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015		Analyst: JL		
Gasoline Range Organics	307		25.0	mg/L	500	16-Aug-2024 02:47
Surr: 4-Bromofluorobenzene	140	S	70-123	%REC	500	16-Aug-2024 02:47
DISSOLVED GASES BY RSK-175		Method:RSK-175		Analyst: RG		
Ethane	11.9		1.00	ug/L	1	13-Aug-2024 10:56
Methane	32.7		0.500	ug/L	1	13-Aug-2024 10:56
Propane	33.9		1.00	ug/L	1	13-Aug-2024 10:56
TPH DRO/ORO BY SW8015C		Method:SW8015M		Prep:SW3511 / 09-Aug-2024		Analyst: SAM
TPH (Diesel Range)	2,100		260	mg/L	5000	10-Aug-2024 16:48
Surr: 2-Fluorobiphenyl	0	JS	60-135	%REC	5000	10-Aug-2024 16:48
TOTAL METALS BY E200.8, REV 5.4, 1994		Method:E200.8		Prep:E200.8 / 16-Aug-2024		Analyst: JC
Calcium	1,430		5.00	mg/L	10	20-Aug-2024 14:11
Magnesium	7.54		5.00	mg/L	10	20-Aug-2024 14:11
Potassium	418		5.00	mg/L	10	20-Aug-2024 14:11
Sodium	444		2.00	mg/L	10	20-Aug-2024 14:11
ANIONS BY E300.0, REV 2.1, 1993		Method:E300		Analyst: TH		
Chloride	4,570		100	mg/L	200	19-Aug-2024 18:43
Sulfate	6.22		5.00	mg/L	10	19-Aug-2024 18:37
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		Method:M2540C		Analyst: MH		
Total Dissolved Solids (Residue, Filterable)	10,100		10.0	mg/L	1	12-Aug-2024 09:30
ALKALINITY BY -2011		Method:SM2320B		Analyst: CD		
Alkalinity, Bicarbonate (As CaCO3)	73.4		5.00	mg/L	1	20-Aug-2024 15:43
Alkalinity, Carbonate (As CaCO3)	100		5.00	mg/L	1	20-Aug-2024 15:43
Alkalinity, Total (As CaCO3)	174		5.00	mg/L	1	20-Aug-2024 15:43

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

Weight / Prep Log

Client: PDC Energy
Project: Baseline LE 06-092HNX
WorkOrder: HS24080645

Batch ID: 216035	Start Date: 09 Aug 2024 12:00	End Date: 09 Aug 2024 12:00
Method: SW3511	Prep Code: 3511_DRO	

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS24080645-01		31.87 (mL)	2 (mL)	0.06275	40 mL Amber

Batch ID: 216329	Start Date: 16 Aug 2024 12:30	End Date: 16 Aug 2024 12:30
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	
HS24080645-01		10 (mL)	10 (mL)	1	250 mL plastic, HNO3 to pH <2

Client: PDC Energy
Project: Baseline LE 06-092HNX
WorkOrder: HS24080645

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 216035 (0)		Test Name : TPH DRO/ORO BY SW8015C			Matrix: Water	
HS24080645-01	Baseline LE 06-092HNX	06 Aug 2024 10:30		09 Aug 2024 12:00	10 Aug 2024 16:48	5000
Batch ID: 216329 (0)		Test Name : TOTAL METALS BY E200.8, REV 5.4, 1994			Matrix: Water	
HS24080645-01	Baseline LE 06-092HNX	06 Aug 2024 10:30		16 Aug 2024 12:30	20 Aug 2024 14:11	10
Batch ID: R474367 (0)		Test Name : DISSOLVED GASES BY RSK-175			Matrix: Water	
HS24080645-01	Baseline LE 06-092HNX	06 Aug 2024 10:30			13 Aug 2024 10:56	1
Batch ID: R474409 (0)		Test Name : TOTAL DISSOLVED SOLIDS BY SM2540C-2011			Matrix: Water	
HS24080645-01	Baseline LE 06-092HNX	06 Aug 2024 10:30			12 Aug 2024 09:30	1
Batch ID: R474686 (0)		Test Name : GASOLINE RANGE ORGANICS BY SW8015C			Matrix: Water	
HS24080645-01	Baseline LE 06-092HNX	06 Aug 2024 10:30			16 Aug 2024 02:47	500
Batch ID: R474929 (0)		Test Name : ANIONS BY E300.0, REV 2.1, 1993			Matrix: Water	
HS24080645-01	Baseline LE 06-092HNX	06 Aug 2024 10:30			19 Aug 2024 18:43	200
HS24080645-01	Baseline LE 06-092HNX	06 Aug 2024 10:30			19 Aug 2024 18:37	10
Batch ID: R475062 (0)		Test Name : LOW LEVEL VOLATILES BY SW8260C			Matrix: Water	
HS24080645-01	Baseline LE 06-092HNX	06 Aug 2024 10:30			20 Aug 2024 15:03	100
Batch ID: R475102 (0)		Test Name : ALKALINITY BY -2011			Matrix: Water	
HS24080645-01	Baseline LE 06-092HNX	06 Aug 2024 10:30			20 Aug 2024 15:43	1

Client: PDC Energy
Project: Baseline LE 06-092HNX
WorkOrder: HS24080645

QC BATCH REPORT

Batch ID: 216035 (0)		Instrument: FID-16		Method: TPH DRO/ORO BY SW8015C						
MBLK	Sample ID: MBLK-216035	Units: mg/L		Analysis Date: 09-Aug-2024 15:03						
Client ID:	Run ID: FID-16_474551		SeqNo: 8193181		PrepDate: 09-Aug-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	0.06472	0.0050	0.06	0	108	60 - 135				
LCS	Sample ID: LCS-216035	Units: mg/L		Analysis Date: 09-Aug-2024 15:32						
Client ID:	Run ID: FID-16_474551		SeqNo: 8193182		PrepDate: 09-Aug-2024		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	0.6163	0.050	0.6	0	103	70 - 130				
Surr: 2-Fluorobiphenyl	0.04766	0.0050	0.06	0	79.4	60 - 135				
LCSD	Sample ID: LCSD-216035	Units: mg/L		Analysis Date: 09-Aug-2024 16:02						
Client ID:	Run ID: FID-16_474551		SeqNo: 8193183		PrepDate: 09-Aug-2024		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	0.6332	0.050	0.6	0	106	70 - 130	0.6163	2.71	20	
Surr: 2-Fluorobiphenyl	0.05298	0.0050	0.06	0	88.3	60 - 135	0.04766	10.6	20	
The following samples were analyzed in this batch: HS24080645-01										

Client: PDC Energy
Project: Baseline LE 06-092HNX
WorkOrder: HS24080645

QC BATCH REPORT

Batch ID: R474367 (0)		Instrument: FID-4		Method: DISSOLVED GASES BY RSK-175					
MBLK	Sample ID: MBLK-240813	Units: ug/L		Analysis Date: 13-Aug-2024 08:25					
Client ID:	Run ID: FID-4_474367		SeqNo: 8189619		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-240813	Units: ug/L		Analysis Date: 13-Aug-2024 08:40					
Client ID:	Run ID: FID-4_474367		SeqNo: 8189620		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Ethane	16.06	1.00	18.04	0	89.0	75 - 125			
Methane	9.613	0.500	9.647	0	99.6	75 - 125			
Propane	22.78	1.50	26.46	0	86.1	75 - 125			

LCSD	Sample ID: LCSD-240813	Units: ug/L		Analysis Date: 13-Aug-2024 08:56					
Client ID:	Run ID: FID-4_474367		SeqNo: 8189621		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Ethane	16	1.00	18.04	0	88.7	75 - 125	16.06	0.36	30
Methane	9.047	0.500	9.647	0	93.8	75 - 125	9.613	6.07	30
Propane	21.91	1.50	26.46	0	82.8	75 - 125	22.78	3.86	30

The following samples were analyzed in this batch: HS24080645-01

Client: PDC Energy
Project: Baseline LE 06-092HNX
WorkOrder: HS24080645

QC BATCH REPORT

Batch ID: R474686 (0)		Instrument: FID-20		Method: GASOLINE RANGE ORGANICS BY SW8015C						
MBLK	Sample ID: MBLK-240815	Units: mg/L		Analysis Date: 16-Aug-2024 01:09						
Client ID:	Run ID: FID-20_474686		SeqNo: 8196344		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	0.1174	0.00500	0.1	0	117	70 - 121				
LCS	Sample ID: LCS-240815	Units: mg/L		Analysis Date: 16-Aug-2024 00:41						
Client ID:	Run ID: FID-20_474686		SeqNo: 8196342		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	1.182	0.0500	1	0	118	76 - 124				
Surr: 4-Bromofluorobenzene	0.09399	0.00500	0.1	0	94.0	52 - 138				
LCSD	Sample ID: LCSD-240815	Units: mg/L		Analysis Date: 16-Aug-2024 00:55						
Client ID:	Run ID: FID-20_474686		SeqNo: 8196343		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	1.093	0.0500	1	0	109	76 - 124	1.182	7.83	20	
Surr: 4-Bromofluorobenzene	0.08385	0.00500	0.1	0	83.9	52 - 138	0.09399	11.4	20	
The following samples were analyzed in this batch: HS24080645-01										

Client: PDC Energy
Project: Baseline LE 06-092HNX
WorkOrder: HS24080645

QC BATCH REPORT

Batch ID: 216329 (0)		Instrument: ICPMS06		Method: TOTAL METALS BY E200.8, REV 5.4, 1994					
MBLK	Sample ID: MBLK-216329	Units: ug/L		Analysis Date: 20-Aug-2024 00:11					
Client ID:	Run ID: ICPMS06_474920	SeqNo: 8201325		PrepDate: 16-Aug-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-216329	Units: ug/L		Analysis Date: 20-Aug-2024 00:13					
Client ID:	Run ID: ICPMS06_474920	SeqNo: 8201326		PrepDate: 16-Aug-2024		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Calcium	4686	500	5000	0	93.7	85 - 115			
Magnesium	4731	500	5000	0	94.6	85 - 115			
Potassium	4640	500	5000	0	92.8	85 - 115			
Sodium	4553	200	5000	0	91.1	85 - 115			

MS	Sample ID: HS24080727-01MS	Units: ug/L		Analysis Date: 20-Aug-2024 00:45					
Client ID:	Run ID: ICPMS06_474920	SeqNo: 8201337		PrepDate: 16-Aug-2024		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Calcium	76110	500	5000	70620	110	70 - 130			O
Magnesium	9423	500	5000	4305	102	70 - 130			
Potassium	8271	500	5000	3127	103	70 - 130			
Sodium	36110	200	5000	31250	97.1	70 - 130			O

MS	Sample ID: HS24080594-01MS	Units: ug/L		Analysis Date: 20-Aug-2024 00:37					
Client ID:	Run ID: ICPMS06_474920	SeqNo: 8201333		PrepDate: 16-Aug-2024		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Calcium	150400	500	5000	141900	171	70 - 130			SO
Magnesium	51210	500	5000	44560	133	70 - 130			SO
Potassium	17740	500	5000	12380	107	70 - 130			
Sodium	2090000	200	5000	2014000	1520	70 - 130			SEO

Client:

Project:

WorkOrder:

PDC Energy

Baseline LE 06-092HNX

HS24080645

QC BATCH REPORT

Batch ID: 216329 (0)		Instrument: ICPMS06		Method: TOTAL METALS BY E200.8, REV 5.4, 1994						
MSD	Sample ID: HS24080727-01MSD	Units: ug/L		Analysis Date: 20-Aug-2024 00:47						
Client ID:	Run ID: ICPMS06_474920		SeqNo: 8201338		PrepDate: 16-Aug-2024		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	72340	500	5000	70620	34.3	70 - 130	72180	0.22	20	SO
Magnesium	8742	500	5000	4305	88.7	70 - 130	8680	0.703	20	
Potassium	7620	500	5000	3127	89.9	70 - 130	7570	0.66	20	
Sodium	33820	200	5000	31250	51.3	70 - 130	32830	2.98	20	SO

MSD	Sample ID: HS24080594-01MSD	Units: ug/L		Analysis Date: 20-Aug-2024 00:39						
Client ID:	Run ID: ICPMS06_474920		SeqNo: 8201334		PrepDate: 16-Aug-2024		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	151000	500	5000	141900	183	70 - 130	150400	0.394	20	SO
Magnesium	52550	500	5000	44560	160	70 - 130	51210	2.58	20	SO
Potassium	18270	500	5000	12380	118	70 - 130	17740	2.95	20	
Sodium	2147000	200	5000	2014000	2660	70 - 130	2090000	2.7	20	SEO

The following samples were analyzed in this batch: HS24080645-01

Client: PDC Energy
Project: Baseline LE 06-092HNX
WorkOrder: HS24080645

QC BATCH REPORT

Batch ID: R475062 (0)		Instrument: VOA6		Method: LOW LEVEL VOLATILES BY SW8260C					
MBLK	Sample ID: VBLKW-240820	Units: ug/L		Analysis Date: 20-Aug-2024 12:38					
Client ID:	Run ID: VOA6_475062	SeqNo: 8203987		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	41.36	1.0	50	0	82.7	70 - 123			
Surr: 4-Bromofluorobenzene	52.47	1.0	50	0	105	77 - 113			
Surr: Dibromofluoromethane	53.15	1.0	50	0	106	73 - 126			
Surr: Toluene-d8	41.84	1.0	50	0	83.7	81 - 120			

LCS	Sample ID: VLCSW-240820	Units: ug/L		Analysis Date: 20-Aug-2024 11:27					
Client ID:	Run ID: VOA6_475062	SeqNo: 8203985		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	20.62	1.0	20	0	103	74 - 120			
Ethylbenzene	17.82	1.0	20	0	89.1	77 - 117			
m,p-Xylene	36.18	2.0	40	0	90.5	77 - 122			
o-Xylene	18.11	1.0	20	0	90.6	75 - 119			
Toluene	17.4	1.0	20	0	87.0	77 - 118			
Xylenes, Total	54.3	3.0	60	0	90.5	75 - 122			
Surr: 1,2-Dichloroethane-d4	42.09	1.0	50	0	84.2	70 - 123			
Surr: 4-Bromofluorobenzene	50.36	1.0	50	0	101	77 - 113			
Surr: Dibromofluoromethane	51.97	1.0	50	0	104	73 - 126			
Surr: Toluene-d8	43.12	1.0	50	0	86.2	81 - 120			

Client: PDC Energy
Project: Baseline LE 06-092HNX
WorkOrder: HS24080645

QC BATCH REPORT

Batch ID: R475062 (0)		Instrument: VOA6		Method: LOW LEVEL VOLATILES BY SW8260C					
LCSD		Sample ID: VLCS DW-240820		Units: ug/L		Analysis Date: 20-Aug-2024 11:49			
Client ID:		Run ID: VOA6_475062		SeqNo: 8203986		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	19.39	1.0	20	0	97.0	74 - 120	20.62	6.12	20
Ethylbenzene	16.72	1.0	20	0	83.6	77 - 117	17.82	6.34	20
m,p-Xylene	34.11	2.0	40	0	85.3	77 - 122	36.18	5.91	20
o-Xylene	17.11	1.0	20	0	85.6	75 - 119	18.11	5.67	20
Toluene	16.33	1.0	20	0	81.6	77 - 118	17.4	6.37	20
Xylenes, Total	51.22	3.0	60	0	85.4	75 - 122	54.3	5.83	20
Surr: 1,2-Dichloroethane-d4	42.77	1.0	50	0	85.5	70 - 123	42.09	1.6	20
Surr: 4-Bromofluorobenzene	51.26	1.0	50	0	103	77 - 113	50.36	1.77	20
Surr: Dibromofluoromethane	52.63	1.0	50	0	105	73 - 126	51.97	1.27	20
Surr: Toluene-d8	43.24	1.0	50	0	86.5	81 - 120	43.12	0.267	20

MS		Sample ID: HS24080683-14MS		Units: ug/L		Analysis Date: 20-Aug-2024 21:15			
Client ID:		Run ID: VOA6_475062		SeqNo: 8204008		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	21.59	1.0	20	0	108	70 - 127			
Ethylbenzene	18.58	1.0	20	0	92.9	70 - 124			
m,p-Xylene	37.35	2.0	40	0	93.4	70 - 130			
o-Xylene	19.12	1.0	20	0	95.6	70 - 124			
Toluene	18.77	1.0	20	0	93.9	70 - 123			
Xylenes, Total	56.47	3.0	60	0	94.1	70 - 130			
Surr: 1,2-Dichloroethane-d4	44.46	1.0	50	0	88.9	70 - 126			
Surr: 4-Bromofluorobenzene	51.55	1.0	50	0	103	77 - 113			
Surr: Dibromofluoromethane	53.56	1.0	50	0	107	77 - 123			
Surr: Toluene-d8	42.5	1.0	50	0	85.0	82 - 127			

Client: PDC Energy
Project: Baseline LE 06-092HNX
WorkOrder: HS24080645

QC BATCH REPORT

Batch ID: R475062 (0)		Instrument: VOA6		Method: LOW LEVEL VOLATILES BY SW8260C						
MSD		Sample ID: HS24080683-14MSD		Units: ug/L		Analysis Date: 20-Aug-2024 21:37				
Client ID:		Run ID: VOA6_475062		SeqNo: 8204009		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	20.46	1.0	20	0	102	70 - 127	21.59	5.36	20	
Ethylbenzene	17.48	1.0	20	0	87.4	70 - 124	18.58	6.15	20	
m,p-Xylene	34.94	2.0	40	0	87.4	70 - 130	37.35	6.67	20	
o-Xylene	17.96	1.0	20	0	89.8	70 - 124	19.12	6.27	20	
Toluene	17.44	1.0	20	0	87.2	70 - 123	18.77	7.37	20	
Xylenes, Total	52.9	3.0	60	0	88.2	70 - 130	56.47	6.53	20	
Surr: 1,2-Dichloroethane-d4	44.47	1.0	50	0	88.9	70 - 126	44.46	0.0345	20	
Surr: 4-Bromofluorobenzene	51.56	1.0	50	0	103	77 - 113	51.55	0.0196	20	
Surr: Dibromofluoromethane	54	1.0	50	0	108	77 - 123	53.56	0.814	20	
Surr: Toluene-d8	41.72	1.0	50	0	83.4	82 - 127	42.5	1.86	20	

The following samples were analyzed in this batch: HS24080645-01

Client: PDC Energy
Project: Baseline LE 06-092HNX
WorkOrder: HS24080645

QC BATCH REPORT

Batch ID: R474409 (0)		Instrument: Balance1		Method: TOTAL DISSOLVED SOLIDS BY SM2540C-2011						
MBLK	Sample ID: WMBLK-08122024	Units: mg/L		Analysis Date: 12-Aug-2024 09:30						
Client ID:	Run ID: Balance1_474409	SeqNo: 8190348		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-08122024	Units: mg/L		Analysis Date: 12-Aug-2024 09:30						
Client ID:	Run ID: Balance1_474409	SeqNo: 8190347		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)		918	10.0	1000	0	91.8	85 - 115			

DUP	Sample ID: HS24080581-10 DUP	Units: mg/L		Analysis Date: 12-Aug-2024 09:30						
Client ID:	Run ID: Balance1_474409	SeqNo: 8190345		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)		22080	10.0				22660	2.59	20	

DUP	Sample ID: HS24080535-04 DUP	Units: mg/L		Analysis Date: 12-Aug-2024 09:30						
Client ID:	Run ID: Balance1_474409	SeqNo: 8190334		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)		15620	10.0				15380	1.55	20	

The following samples were analyzed in this batch: HS24080645-01

Client: PDC Energy
Project: Baseline LE 06-092HNX
WorkOrder: HS24080645

QC BATCH REPORT

Batch ID: R474929 (0)		Instrument: ICS-Integrion	Method: ANIONS BY E300.0, REV 2.1, 1993						
MBLK	Sample ID: MBLK	Units: mg/L		Analysis Date: 19-Aug-2024 14:56					
Client ID:	Run ID: ICS-Integrion_474929		SeqNo: 8201276		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							
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Sulfate	ND	0.500							
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LCS	Sample ID: LCS	Units: mg/L		Analysis Date: 19-Aug-2024 15:08					
Client ID:	Run ID: ICS-Integrion_474929		SeqNo: 8201277		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Chloride	20.55	0.500	20	0	103	90 - 110			
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Sulfate	21.88	0.500	20	0	109	90 - 110			
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MS	Sample ID: HS24080911-01MS	Units: mg/L		Analysis Date: 19-Aug-2024 16:38					
Client ID:	Run ID: ICS-Integrion_474929		SeqNo: 8201288		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Chloride	50.8	0.500	10	41.56	92.4	80 - 120			O
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Sulfate	10.12	0.500	10	0	101	80 - 120			
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MS	Sample ID: HS24080825-04MS	Units: mg/L		Analysis Date: 19-Aug-2024 15:44					
Client ID:	Run ID: ICS-Integrion_474929		SeqNo: 8201282		PrepDate:		DF: 10		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Chloride	485	5.00	100	381.1	104	80 - 120			
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Sulfate	99.81	5.00	100	0	99.8	80 - 120			
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MSD	Sample ID: HS24080911-01MSD	Units: mg/L		Analysis Date: 19-Aug-2024 16:44					
Client ID:	Run ID: ICS-Integrion_474929		SeqNo: 8201289		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Chloride	50.66	0.500	10	41.56	91.0	80 - 120	50.8	0.268	20	O
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Sulfate	10.08	0.500	10	0	101	80 - 120	10.12	0.457	20	
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Client: PDC Energy
Project: Baseline LE 06-092HNX
WorkOrder: HS24080645

QC BATCH REPORT

Batch ID: R474929 (0)		Instrument: ICS-Integrion		Method: ANIONS BY E300.0, REV 2.1, 1993					
MSD	Sample ID: HS24080825-04MSD	Units: mg/L		Analysis Date: 19-Aug-2024 15:50					
Client ID:	Run ID: ICS-Integrion_474929		SeqNo: 8201283		PrepDate:		DF: 10		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	475.2	5.00	100	381.1	94.2	80 - 120	485	2.03	20
Sulfate	97.33	5.00	100	0	97.3	80 - 120	99.81	2.51	20
The following samples were analyzed in this batch: HS24080645-01									

Client: PDC Energy
Project: Baseline LE 06-092HNX
WorkOrder: HS24080645

QC BATCH REPORT

Batch ID: R475102 (0)		Instrument: Skalar 03		Method: ALKALINITY BY -2011					
MBLK	Sample ID: MBLK-R475102	Units: mg/L		Analysis Date: 20-Aug-2024 15:43					
Client ID:	Run ID: Skalar 03_475102	SeqNo: 8204780		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-R475102	Units: mg/L		Analysis Date: 20-Aug-2024 15:43					
Client ID:	Run ID: Skalar 03_475102	SeqNo: 8204779		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)	940.3	5.00	1000	0	94.0	85 - 115			
Alkalinity, Total (As CaCO3)	975.6	5.00	1000	0	97.6	85 - 115			

LCSD	Sample ID: LCSD-R475102	Units: mg/L		Analysis Date: 20-Aug-2024 15:43					
Client ID:	Run ID: Skalar 03_475102	SeqNo: 8204778		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)	994.5	5.00	1000	0	99.5	85 - 115	940.3	5.6	20
Alkalinity, Total (As CaCO3)	1000	5.00	1000	0	100	85 - 115	975.6	2.47	20

DUP	Sample ID: HS24080663-02DUP	Units: mg/L		Analysis Date: 20-Aug-2024 15:43					
Client ID:	Run ID: Skalar 03_475102	SeqNo: 8204783		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)	523.2	5.00					460.8	12.7	20
Alkalinity, Carbonate (As CaCO3)	ND	5.00					0	0	20
Alkalinity, Total (As CaCO3)	523.2	5.00					460.8	12.7	20

The following samples were analyzed in this batch: HS24080645-01

Client: PDC Energy
Project: Baseline LE 06-092HNX
WorkOrder: HS24080645

**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
Dept of Defense	L22-90-R2	30-Apr-2026
Florida	E87611-38	30-Jun-2025
Illinois	2000322023-11	31-Jul-2025
Kansas	E-10352 2023-2024	31-Jul-2025
Kentucky	123043	30-Apr-2025
Louisiana	03087 2023-2024	30-Jun-2025
Maine	2024017	23-Jun-2026
Michigan	9971	30-Apr-2025
Nebraska	NE-OS-25-13	30-Apr-2025
New Jersey	TX008	30-Jun-2025
North Carolina	624 - 2024	31-Dec-2024
North Dakota	R-193 2023-2024	30-Sep-2024
Oklahoma	2023-140	31-Aug-2024
Pennsylvania	018	30-Jun-2025
Tennessee	04016	30-Apr-2025
Texas	T104704231 TX-C24-00130	30-Apr-2025
Utah	TX026932023-14	31-Jul-2025

Sample Receipt Checklist

Work Order ID: HS24080645

Date/Time Received: 09-Aug-2024 09:00

Client Name: PDC Energy 80203

Received by: Paresh M. Giga

Completed By: /S/ Paresh M. Giga	09-Aug-2024 13:40	Reviewed by: /S/ Anna Kinchen	15-Aug-2024 08:43
eSignature	Date/Time	eSignature	Date/Time

Matrices: WaterCarrier name: FedEx Priority Overnight

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	1 Page(s)
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	COC IDs:none
Samplers name present on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Temperature(s)/Thermometer(s):

1.2C/1.2C U/C IR35

Cooler(s)/Kit(s):

Blue

Date/Time sample(s) sent to storage:

8/9/24 13:50

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:

Times differ :
COC - 10:30. Labels - 11:30

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

Corrective Action:

965 E 11th St
Loveland, CO 80537
PH: 970-305-1648

Chain-of-Custody

HS24080645

PDC Energy
Baseline LE 06-092HNX

[illegible]

*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: Calcium, Chloride, Magnesium, Potassium, Sodium, Sulfate* amples analyzed per CMC Bradenhead Sampling Program bubbles are present in voas, please proceed with analysis <i>Blue OK 1-2 + 35 CMC</i>	QC PACKAGE (check below)		SIGNATURE	PRINTED NAME	DATE	TIME
	<input checked="" type="checkbox"/>	LEVEL II (Standard QC)	<i>JDR</i>	Jeff Braden	8/8/24	13:30
	<input type="checkbox"/>	LEVEL III (Std QC + forms)	<i>Jenny Morgan</i>	Jenny Morgan	8/8/24	13:50
	<input type="checkbox"/>	LEVEL IV (Std QC + forms + raw data)	<i>Jenny Morgan</i>	Jenny Morgan	8/8/24	16:00
	<input type="checkbox"/>					
reservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035			RELINQUISHED BY			
			RECEIVED BY			
			RELINQUISHED BY			
			RECEIVED BY			

ORIGIN ID: BKYA (970) 305-1648 KAREN CRAVEN ALS 965 E 11TH ST LOVELAND, CO 80537 UNITED STATES US	SHIP DATE: 08AUG24 ACTWT: 27.05 LB CAD: 0760439/CAFE3808 DIMS: 16x12x11 IN BILL THIRD PARTY
D SAMPLE RECEIVING ALS HOUSTON 10450 STANCLIFF RD SUITE 210 HOUSTON TX 77099 (281) 630-6868 PO: 967554812	
	
FedEx Express 	
TRK# 7122 9262 3452 0201	FRI - 09 AUG 10:30A PRIORITY OVERNIGHT
NA SGRA	77099 TX-US IAH
	