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October 24, 2024

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

Work Order: **HS24100848**

Laboratory Results for: **Burton K25-69-1HNL**

Dear Jessica Johannsen,

ALS Environmental received 1 sample(s) on Oct 12, 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

Anna Kinchen
Project Manager

Client:

Project:

Work Order:

PDC Energy

Burton K25-69-1HNL

HS24100848

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS24100848-01	Burton K25-69-1HNL	Water		10-Oct-2024 12:50	12-Oct-2024 09:00	<input type="checkbox"/>

Client: PDC Energy
Project: Burton K25-69-1HNL
Work Order: HS24100848

CASE NARRATIVE

GC Semivolatiles by Method RSK-175**Batch ID: R479846**

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

GC Semivolatiles by Method SW8015M**Batch ID: 218985**

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

GC Volatiles by Method SW8015**Batch ID: R480220**

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

GCMS Volatiles by Method SW8260**Batch ID: R480739****Sample ID: VLCSW-241022**

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

Metals by Method E200.8**Batch ID: 219293****Sample ID: HS24101030-03MS**

- MS and MSD are for an unrelated sample (Calcium,Sodium)

WetChemistry by Method SM2320B**Batch ID: R480818**

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

WetChemistry by Method E300**Batch ID: R480489**

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

WetChemistry by Method M2540C**Batch ID: R480317**

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

Client: PDC Energy
 Project: Burton K25-69-1HNL
 Sample ID: Burton K25-69-1HNL
 Collection Date: 10-Oct-2024 12:50

ANALYTICAL REPORT

WorkOrder:HS24100848
 Lab ID:HS24100848-01
 Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: DP		
Benzene	1,400		500	ug/L	500	22-Oct-2024 22:30
Ethylbenzene	ND		500	ug/L	500	22-Oct-2024 22:30
m,p-Xylene	ND		1000	ug/L	500	22-Oct-2024 22:30
o-Xylene	ND		500	ug/L	500	22-Oct-2024 22:30
Toluene	76,000		500	ug/L	500	22-Oct-2024 22:30
Xylenes, Total	ND		1500	ug/L	500	22-Oct-2024 22:30
Surr: 1,2-Dichloroethane-d4	98.5		70-126	%REC	500	22-Oct-2024 22:30
Surr: 4-Bromofluorobenzene	99.7		77-113	%REC	500	22-Oct-2024 22:30
Surr: Dibromofluoromethane	95.0		77-123	%REC	500	22-Oct-2024 22:30
Surr: Toluene-d8	99.9		82-127	%REC	500	22-Oct-2024 22:30
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015		Analyst: LC		
Gasoline Range Organics	194		100	mg/L	500	16-Oct-2024 16:06
Surr: 4-Bromofluorobenzene	115		70-123	%REC	500	16-Oct-2024 16:06
DISSOLVED GASES BY RSK-175		Method:RSK-175		Analyst: RG		
Ethane	276		20.0	ug/L	20	14-Oct-2024 15:15
Methane	408		10.0	ug/L	20	14-Oct-2024 15:15
Propane	209		20.0	ug/L	20	14-Oct-2024 15:15
DIESEL RANGE ORGANICS BY SW8015C		Method:SW8015M		Prep:SW3510C / 14-Oct-2024 Analyst: SAM		
DRO (>C10 - C28)	10.00		0.417	mg/L	1	14-Oct-2024 17:31
Surr: 2-Fluorobiphenyl	85.0		60-135	%REC	1	14-Oct-2024 17:31
TOTAL METALS BY E200.8, REV 5.4, 1994		Method:E200.8		Prep:E200.8 / 19-Oct-2024 Analyst: MSC		
Calcium	72.1		2.50	mg/L	5	21-Oct-2024 16:28
Magnesium	ND		0.500	mg/L	1	21-Oct-2024 17:24
Potassium	363		2.50	mg/L	5	21-Oct-2024 16:28
Sodium	704		1.00	mg/L	5	21-Oct-2024 16:28
ANIONS BY E300.0, REV 2.1, 1993		Method:E300		Analyst: TH		
Chloride	173		10.0	mg/L	20	19-Oct-2024 14:47
Sulfate	1,230		10.0	mg/L	20	19-Oct-2024 14:47
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		Method:M2540C		Analyst: KC		
Total Dissolved Solids (Residue, Filterable)	2,770		10.0	mg/L	1	17-Oct-2024 08:00
ALKALINITY BY -2011		Method:SM2320B		Analyst: AR		
Alkalinity, Bicarbonate (As CaCO3)	318		100	mg/L	20	22-Oct-2024 10:18
Alkalinity, Carbonate (As CaCO3)	532		100	mg/L	20	22-Oct-2024 10:18
Alkalinity, Total (As CaCO3)	850		100	mg/L	20	22-Oct-2024 10:18

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

Weight / Prep Log

Client: PDC Energy
Project: Burton K25-69-1HNL
WorkOrder: HS24100848

Batch ID: 218985	Start Date: 14 Oct 2024 13:41	End Date: 14 Oct 2024 13:41
Method: AQPREP: 3510C TPH	Prep Code: 8015WPR_LL	

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS24100848-01	1	120 (mL)	1 (mL)	0.008333	40 mL Amber

Batch ID: 219293	Start Date: 19 Oct 2024 07:30	End Date: 19 Oct 2024 07:30
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	
HS24100848-01		10 (mL)	10 (mL)	1	250 mL plastic, HNO3 to pH <2

Client: PDC Energy
Project: Burton K25-69-1HNL
WorkOrder: HS24100848

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 218985 (0)		Test Name : DIESEL RANGE ORGANICS BY SW8015C			Matrix: Water	
HS24100848-01	Burton K25-69-1HNL	10 Oct 2024 12:50		14 Oct 2024 13:41	14 Oct 2024 17:31	1
Batch ID: 219293 (0)		Test Name : TOTAL METALS BY E200.8, REV 5.4, 1994			Matrix: Water	
HS24100848-01	Burton K25-69-1HNL	10 Oct 2024 12:50		19 Oct 2024 07:30	21 Oct 2024 17:24	1
HS24100848-01	Burton K25-69-1HNL	10 Oct 2024 12:50		19 Oct 2024 07:30	21 Oct 2024 16:28	5
Batch ID: R479846 (0)		Test Name : DISSOLVED GASES BY RSK-175			Matrix: Water	
HS24100848-01	Burton K25-69-1HNL	10 Oct 2024 12:50			14 Oct 2024 15:15	20
Batch ID: R480220 (0)		Test Name : GASOLINE RANGE ORGANICS BY SW8015C			Matrix: Water	
HS24100848-01	Burton K25-69-1HNL	10 Oct 2024 12:50			16 Oct 2024 16:06	500
Batch ID: R480317 (0)		Test Name : TOTAL DISSOLVED SOLIDS BY SM2540C-2011			Matrix: Water	
HS24100848-01	Burton K25-69-1HNL	10 Oct 2024 12:50			17 Oct 2024 08:00	1
Batch ID: R480489 (0)		Test Name : ANIONS BY E300.0, REV 2.1, 1993			Matrix: Water	
HS24100848-01	Burton K25-69-1HNL	10 Oct 2024 12:50			19 Oct 2024 14:47	20
Batch ID: R480739 (0)		Test Name : LOW LEVEL VOLATILES BY SW8260C			Matrix: Water	
HS24100848-01	Burton K25-69-1HNL	10 Oct 2024 12:50			22 Oct 2024 22:30	500
Batch ID: R480818 (0)		Test Name : ALKALINITY BY -2011			Matrix: Water	
HS24100848-01	Burton K25-69-1HNL	10 Oct 2024 12:50			22 Oct 2024 10:18	20

Client: PDC Energy
Project: Burton K25-69-1HNL
WorkOrder: HS24100848

QC BATCH REPORT

Batch ID: 218985 (0)		Instrument: FID-22		Method: DIESEL RANGE ORGANICS BY SW8015C						
MBLK	Sample ID: MBLK-218985	Units: mg/L		Analysis Date: 14-Oct-2024 15:35						
Client ID:	Run ID: FID-22_480106		SeqNo: 8315119		PrepDate: 14-Oct-2024		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (>C10 - C28)	ND	0.0500								
Surr: 2-Fluorobiphenyl	0.08495	0.00500	0.1	0	84.9	60 - 135				
LCS	Sample ID: LCS-218985	Units: mg/L		Analysis Date: 14-Oct-2024 15:59						
Client ID:	Run ID: FID-22_480106		SeqNo: 8315120		PrepDate: 14-Oct-2024		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (>C10 - C28)	1.015	0.0500	1	0	101	70 - 130				
Surr: 2-Fluorobiphenyl	0.09978	0.00500	0.1	0	99.8	60 - 135				
LCSD	Sample ID: LCSD-218985	Units: mg/L		Analysis Date: 14-Oct-2024 17:55						
Client ID:	Run ID: FID-22_480106		SeqNo: 8315123		PrepDate: 14-Oct-2024		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (>C10 - C28)	0.9775	0.0500	1	0	97.8	70 - 130	1.015	3.72	20	
Surr: 2-Fluorobiphenyl	0.09802	0.00500	0.1	0	98.0	60 - 135	0.09978	1.78	20	
The following samples were analyzed in this batch: HS24100848-01										

Client: PDC Energy
Project: Burton K25-69-1HNL
WorkOrder: HS24100848

QC BATCH REPORT

Batch ID: R479846 (0)		Instrument: FID-4		Method: DISSOLVED GASES BY RSK-175					
MBLK	Sample ID: MBLK-241014	Units: ug/L		Analysis Date: 14-Oct-2024 09:25					
Client ID:	Run ID: FID-4_479846		SeqNo: 8309634		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-241014	Units: ug/L		Analysis Date: 14-Oct-2024 09:42					
Client ID:	Run ID: FID-4_479846		SeqNo: 8309635		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Ethane	17.45	1.00	18.04	0	96.7	75 - 125			
Methane	9.499	0.500	9.647	0	98.5	75 - 125			
Propane	25.2	1.50	26.46	0	95.2	75 - 125			

LCSD	Sample ID: LCSD-241014	Units: ug/L		Analysis Date: 14-Oct-2024 10:00					
Client ID:	Run ID: FID-4_479846		SeqNo: 8309636		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Ethane	17.26	1.00	18.04	0	95.7	75 - 125	17.45	1.11	30
Methane	9.199	0.500	9.647	0	95.4	75 - 125	9.499	3.2	30
Propane	24.83	1.50	26.46	0	93.8	75 - 125	25.2	1.49	30

The following samples were analyzed in this batch: HS24100848-01

Client: PDC Energy
Project: Burton K25-69-1HNL
WorkOrder: HS24100848

QC BATCH REPORT

Batch ID: R480220 (0)		Instrument: FID-20		Method: GASOLINE RANGE ORGANICS BY SW8015C						
MBLK	Sample ID: MBLK-241016	Units: mg/L		Analysis Date: 16-Oct-2024 13:50						
Client ID:	Run ID: FID-20_480220	SeqNo: 8318180		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	0.200								
Surr: 4-Bromofluorobenzene	0.1055	0.00500	0.1	0	106	70 - 121				
LCS	Sample ID: LCS-241016	Units: mg/L		Analysis Date: 16-Oct-2024 13:09						
Client ID:	Run ID: FID-20_480220	SeqNo: 8318178		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	1.088	0.200	1	0	109	76 - 124				
Surr: 4-Bromofluorobenzene	0.08716	0.00500	0.1	0	87.2	52 - 138				
LCSD	Sample ID: LCSD-241016	Units: mg/L		Analysis Date: 16-Oct-2024 13:23						
Client ID:	Run ID: FID-20_480220	SeqNo: 8318179		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	1.059	0.200	1	0	106	76 - 124	1.088	2.66	20	
Surr: 4-Bromofluorobenzene	0.09012	0.00500	0.1	0	90.1	52 - 138	0.08716	3.34	20	

The following samples were analyzed in this batch: HS24100848-01

Client:

Project:

WorkOrder:

PDC Energy

Burton K25-69-1HNL

HS24100848

QC BATCH REPORT

Batch ID: 219293 (0)		Instrument: ICPMS07		Method: TOTAL METALS BY E200.8, REV 5.4, 1994					
MBLK	Sample ID: MBLK-219293		Units: ug/L		Analysis Date: 21-Oct-2024 15:47				
Client ID:	Run ID: ICPMS07_480520		SeqNo: 8326106		PrepDate: 19-Oct-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-219293		Units: ug/L		Analysis Date: 21-Oct-2024 16:04				
Client ID:	Run ID: ICPMS07_480520		SeqNo: 8326107		PrepDate: 19-Oct-2024		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Calcium	4689	500	5000	0	93.8	85 - 115			
Magnesium	4690	500	5000	0	93.8	85 - 115			
Potassium	4603	500	5000	0	92.1	85 - 115			
Sodium	4733	200	5000	0	94.7	85 - 115			

MS	Sample ID: HS24101030-03MS		Units: ug/L		Analysis Date: 21-Oct-2024 16:16				
Client ID:	Run ID: ICPMS07_480520		SeqNo: 8326121		PrepDate: 19-Oct-2024		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Calcium	71070	500	5000	60700	207	70 - 130			SO
Magnesium	16130	500	5000	10340	116	70 - 130			
Potassium	6728	500	5000	1761	99.3	70 - 130			
Sodium	46380	200	5000	38520	157	70 - 130			SO

MSD	Sample ID: HS24101030-03MSD		Units: ug/L		Analysis Date: 21-Oct-2024 16:18				
Client ID:	Run ID: ICPMS07_480520		SeqNo: 8326122		PrepDate: 19-Oct-2024		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Calcium	70390	500	5000	60700	194	70 - 130	71070	0.956	20 SO
Magnesium	16060	500	5000	10340	114	70 - 130	16130	0.452	20
Potassium	6554	500	5000	1761	95.9	70 - 130	6728	2.62	20
Sodium	46400	200	5000	38520	158	70 - 130	46380	0.056	20 SO

The following samples were analyzed in this batch: HS24100848-01

Client: PDC Energy
Project: Burton K25-69-1HNL
WorkOrder: HS24100848

QC BATCH REPORT

Batch ID: R480739 (0)		Instrument: VOA14		Method: LOW LEVEL VOLATILES BY SW8260C					
MBLK	Sample ID: VBLKW-241022	Units: ug/L		Analysis Date: 22-Oct-2024 16:31					
Client ID:	Run ID: VOA14_480739	SeqNo: 8332997		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	49.98	1.0	50	0	100.0	70 - 123			
Surr: 4-Bromofluorobenzene	50.23	1.0	50	0	100	77 - 113			
Surr: Dibromofluoromethane	48.39	1.0	50	0	96.8	73 - 126			
Surr: Toluene-d8	49.41	1.0	50	0	98.8	81 - 120			

LCS	Sample ID: VLCSW-241022	Units: ug/L		Analysis Date: 22-Oct-2024 15:19					
Client ID:	Run ID: VOA14_480739	SeqNo: 8329899		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	19.27	1.0	20	0	96.4	74 - 120			
Ethylbenzene	20.75	1.0	20	0	104	77 - 117			
m,p-Xylene	40.8	2.0	40	0	102	77 - 122			
o-Xylene	20.28	1.0	20	0	101	75 - 119			
Toluene	20.12	1.0	20	0	101	77 - 118			
Xylenes, Total	61.08	3.0	60	0	102	75 - 122			
Surr: 1,2-Dichloroethane-d4	49.69	1.0	50	0	99.4	70 - 123			
Surr: 4-Bromofluorobenzene	49.24	1.0	50	0	98.5	77 - 113			
Surr: Dibromofluoromethane	49.68	1.0	50	0	99.4	73 - 126			
Surr: Toluene-d8	49.84	1.0	50	0	99.7	81 - 120			

Client: PDC Energy
Project: Burton K25-69-1HNL
WorkOrder: HS24100848

QC BATCH REPORT

Batch ID: R480739 (0)		Instrument: VOA14		Method: LOW LEVEL VOLATILES BY SW8260C						
LCSD		Sample ID: VLCSDW-241022		Units: ug/L		Analysis Date: 22-Oct-2024 15:43				
Client ID:		Run ID: VOA14_480739		SeqNo: 8329900		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	19	1.0	20	0	95.0	74 - 120	19.27	1.4	20	
Ethylbenzene	20.68	1.0	20	0	103	77 - 117	20.75	0.358	20	
m,p-Xylene	41.09	2.0	40	0	103	77 - 122	40.8	0.723	20	
o-Xylene	20.19	1.0	20	0	101	75 - 119	20.28	0.46	20	
Toluene	19.83	1.0	20	0	99.1	77 - 118	20.12	1.48	20	
Xylenes, Total	61.28	3.0	60	0	102	75 - 122	61.08	0.332	20	
Surr: 1,2-Dichloroethane-d4	48.91	1.0	50	0	97.8	70 - 123	49.69	1.58	20	
Surr: 4-Bromofluorobenzene	49.62	1.0	50	0	99.2	77 - 113	49.24	0.783	20	
Surr: Dibromofluoromethane	49.12	1.0	50	0	98.2	73 - 126	49.68	1.14	20	
Surr: Toluene-d8	50.4	1.0	50	0	101	81 - 120	49.84	1.14	20	
The following samples were analyzed in this batch: HS24100848-01										

Client: PDC Energy
Project: Burton K25-69-1HNL
WorkOrder: HS24100848

QC BATCH REPORT

Batch ID: R480317 (0)		Instrument: Balance1		Method: TOTAL DISSOLVED SOLIDS BY SM2540C-2011						
MBLK	Sample ID: WMBLK-10172024	Units: mg/L		Analysis Date: 17-Oct-2024 08:00						
Client ID:	Run ID: Balance1_480317	SeqNo: 8319671		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-10172024	Units: mg/L		Analysis Date: 17-Oct-2024 08:00						
Client ID:	Run ID: Balance1_480317	SeqNo: 8319670		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)		998	10.0	1000	0	99.8	85 - 115			
DUP	Sample ID: HS24100845-04 DUP	Units: mg/L		Analysis Date: 17-Oct-2024 08:00						
Client ID:	Run ID: Balance1_480317	SeqNo: 8319665		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)		1056	10.0				1080	2.25	20	
DUP	Sample ID: HS24100774-01 DUP	Units: mg/L		Analysis Date: 17-Oct-2024 08:00						
Client ID:	Run ID: Balance1_480317	SeqNo: 8319652		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)		578	10.0				554	4.24	20	
The following samples were analyzed in this batch:		HS24100848-01								

Client: PDC Energy
Project: Burton K25-69-1HNL
WorkOrder: HS24100848

QC BATCH REPORT

Batch ID: R480489 (0)		Instrument: ICS-Integrion		Method: ANIONS BY E300.0, REV 2.1, 1993					
MBLK	Sample ID: MBLK	Units: mg/L		Analysis Date: 19-Oct-2024 15:22					
Client ID:	Run ID: ICS-Integrion_480489		SeqNo: 8324181		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: 19-Oct-2024 15:34					
Client ID:	Run ID: ICS-Integrion_480489		SeqNo: 8324182		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Chloride 20.14 0.500 20 0 101 90 - 110

Sulfate 21.38 0.500 20 0 107 90 - 110

MS	Sample ID: HS24100978-01MS	Units: mg/L		Analysis Date: 19-Oct-2024 15:52					
Client ID:	Run ID: ICS-Integrion_480489		SeqNo: 8324184		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Chloride 9.797 0.500 10 0.101 97.0 80 - 120

Sulfate 10.11 0.500 10 0.2124 99.0 80 - 120

MS	Sample ID: HS24100853-01MS	Units: mg/L		Analysis Date: 19-Oct-2024 14:35					
Client ID:	Run ID: ICS-Integrion_480489		SeqNo: 8324176		PrepDate:		DF: 500		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Chloride 19710 250 5000 15470 84.7 80 - 120

Sulfate 5259 250 5000 307.7 99.0 80 - 120

MSD	Sample ID: HS24100978-01MSD	Units: mg/L		Analysis Date: 19-Oct-2024 15:58					
Client ID:	Run ID: ICS-Integrion_480489		SeqNo: 8324185		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Chloride 9.761 0.500 10 0.101 96.6 80 - 120 9.797 0.368 20

Sulfate 10.05 0.500 10 0.2124 98.4 80 - 120 10.11 0.528 20

Client:

Project:

WorkOrder:

PDC Energy

Burton K25-69-1HNL

HS24100848

QC BATCH REPORT

Batch ID: R480489 (0)		Instrument: ICS-Integrion		Method: ANIONS BY E300.0, REV 2.1, 1993					
MSD	Sample ID: HS24100853-01MSD	Units: mg/L		Analysis Date: 19-Oct-2024 14:41					
Client ID:	Run ID: ICS-Integrion_480489		SeqNo: 8324177		PrepDate:		DF: 500		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	19690	250	5000	15470	84.4	80 - 120	19710	0.0863	20
Sulfate	5246	250	5000	307.7	98.8	80 - 120	5259	0.252	20
The following samples were analyzed in this batch: HS24100848-01									

Client: PDC Energy
Project: Burton K25-69-1HNL
WorkOrder: HS24100848

QC BATCH REPORT

Batch ID: R480818 (0)		Instrument: Skalar 03		Method: ALKALINITY BY -2011					
MBLK	Sample ID: MBLK-10222024	Units: mg/L		Analysis Date: 22-Oct-2024 09:57					
Client ID:	Run ID: Skalar 03_480818	SeqNo: 8334737		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-10222024	Units: mg/L		Analysis Date: 22-Oct-2024 10:04					
Client ID:	Run ID: Skalar 03_480818	SeqNo: 8334710		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)	953	5.00	1000	0	95.3	85 - 115			
Alkalinity, Total (As CaCO3)	955	5.00	1000	0	95.5	85 - 115			
LCSD	Sample ID: LCSD-10222024	Units: mg/L		Analysis Date: 22-Oct-2024 10:10					
Client ID:	Run ID: Skalar 03_480818	SeqNo: 8334711		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)	952.8	5.00	1000	0	95.3	85 - 115	953	0.021	20
Alkalinity, Total (As CaCO3)	953.4	5.00	1000	0	95.3	85 - 115	955	0.168	20
DUP	Sample ID: HS24101132-01DUP	Units: mg/L		Analysis Date: 22-Oct-2024 12:05					
Client ID:	Run ID: Skalar 03_480818	SeqNo: 8334729		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)	230.5	5.00					229.7	0.348	20
Alkalinity, Carbonate (As CaCO3)	ND	5.00					0	0	20
Alkalinity, Total (As CaCO3)	230.5	5.00					229.7	0.348	20
DUP	Sample ID: HS24101078-01DUP	Units: mg/L		Analysis Date: 22-Oct-2024 10:34					
Client ID:	Run ID: Skalar 03_480818	SeqNo: 8334715		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)	35	5.00					34.4	1.73	20
Alkalinity, Carbonate (As CaCO3)	ND	5.00					0	0	20
Alkalinity, Total (As CaCO3)	35	5.00					34.4	1.73	20
The following samples were analyzed in this batch: HS24100848-01									

Client: PDC Energy
Project: Burton K25-69-1HNL
WorkOrder: HS24100848

**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	L24-240	30-Apr-2026
Dept of Defense	L24-239	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
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: HS24100848

Date/Time Received: **12-Oct-2024 09:00**

Client Name: PDC Energy 80203

Received by: **Kaycee Rogers**Completed By: /S/ Kaycee Rogers

12-Oct-2024 15:14

eSignature

Date/Time

Reviewed by: /S/ Anna Kinchen

15-Oct-2024 13:12

eSignature

Date/Time

Matrices: **W**Carrier name: **FedEx**

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 ☐

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):

2.0UC/2.0C

IR 34

Cooler(s)/Kit(s):

BLUE

Date/Time sample(s) sent to storage:

10/12/2024 1514

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**

WORKORDER #



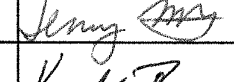
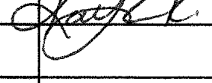
SAMPLER Jeff Braden		DATE 10/10/24		PAGE 1 of 1											
PROJECT NAME Burton K25-69-1HNL	FACILITY ID 123-38365	TURNAROUND Standard		DISPOSAL By Lab or Return to Client											
PROJECT No. 09F2073362	EDD FORMAT ECMC EDD, LTE	<div>HS24100848 PDC Energy Burton K25-69-1HNL</div> 													
PDCE Bradenhead Sampling	PURCHASE ORDER N/A														
COMPANY NAME PDC Energy	BILL TO COMPANY PDC Energy														
SEND REPORT TO Jessica Johannsen, Cassie Gonzalez, Raul Sanchez, Evan Varnas	INVOICE ATTN TO Christopher Schelich														
ADDRESS 1775 Sherman ST, Suite 3000	ADDRESS 1775 Sherman Street, Suite 3000														
CITY / STATE / ZIP Denver, CO 80203	CITY / STATE / ZIP Denver, Colorado	<div>Dissolved Methane, Ethane, Propane BTEX & TPH GRO TPH DRO Alkalinity, Carbonate, Bicarbonate, Total Total Cations - see comments Total Anions - see comments Total Dissolved Solids</div>													
PHONE 303-860-5815	PHONE 970-415-1881														
FAX	FAX														
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 Burton K25-69-1HNL					Matrix W	Sample Date 10/10/24	Sample Time 1250	# Bottles 11	Pres. 1,2	QC II	RSK 175 X	SW8260_25 X	SW8015M X	SM2320B 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* Samples analyzed per ECMC Bradenhead Sampling Program If bubbles are present in voas, please proceed with analysis		<input checked="" type="checkbox"/> LEVEL II (Standard QC)
		<input type="checkbox"/> LEVEL III (Std QC + forms)
		<input type="checkbox"/> LEVEL IV (Std QC + forms + raw data)
		<input type="checkbox"/>
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	10/11/24	1100
	Jenny Morgan	10/11/24	1100
	Jenny Morgan	10/11/24	1600
	Kaycee Rogers	10/12/24	900