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January 11, 2023

Max Trehus  
PDC Energy  
4000 Burlington Ave.  
Evans, CO 80620

Work Order: **HS22121491**

Laboratory Results for: **Bost Farm 40C-8-L2**

Dear Max Trehus ,

ALS Environmental received 2 sample(s) on Dec 27, 2022 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:** Bost Farm 40C-8-L2  
**Work Order:** HS22121491

**SAMPLE SUMMARY**

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Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS22121491-01	40C-8-L2 A	Water		20-Dec-2022 12:30	27-Dec-2022 09:25	<input type="checkbox"/>
HS22121491-02	40C-8-L2 B	Water		20-Dec-2022 12:30	27-Dec-2022 09:25	<input type="checkbox"/>

**Client:** PDC Energy  
**Project:** Bost Farm 40C-8-L2  
**Work Order:** HS22121491

**CASE NARRATIVE**

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**GC Semivolatiles by Method RSK-175**

**Batch ID: R424917**

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

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**GC Semivolatiles by Method SW8015M**

**Batch ID: 187825**

**Sample ID: 40C-8-L2 A (HS22121491-01)**

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

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**GC Volatiles by Method SW8015**

**Batch ID: R425018**

**Sample ID: 40C-8-L2 A (HS22121491-01)**

- Surrogate failed outside control limits high due to matrix interference. This was confirmed by reanalysis.

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**GCMS Volatiles by Method SW8260**

**Batch ID: R425009**

**Sample ID: 40C-8-L2 A (HS22121491-01)**

- Dilution required due to matrix interference.

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**Metals by Method E200.8**

**Batch ID: 188293**

**Sample ID: 40C-8-L2 B (HS22121491-02)**

- Magnesium ran at a 2X dilution due to high concentration of Calcium.

**Sample ID: HS22121450-01MS**

- MS and MSD are for an unrelated sample

**Batch ID: 188221**

**Sample ID: 40C-8-L2 A (HS22121491-01)**

- Sample ran at a 2X dilution due to high concentration of high Calcium and Sodium.

**Sample ID: HS22121573-02MS**

- MS and MSD are for an unrelated sample

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**WetChemistry by Method E300**

**Batch ID: R425372**

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

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**Client:** PDC Energy  
**Project:** Bost Farm 40C-8-L2  
**Work Order:** HS22121491

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**CASE NARRATIVE**

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**WetChemistry by Method SM2320B**

**Batch ID: R425144**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.
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**WetChemistry by Method M2540C**

**Batch ID: R424903**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.
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Client: PDC Energy  
 Project: Bost Farm 40C-8-L2  
 Sample ID: 40C-8-L2 A  
 Collection Date: 20-Dec-2022 12:30

**ANALYTICAL REPORT**  
 WorkOrder:HS22121491  
 Lab ID:HS22121491-01  
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>LOW LEVEL VOLATILES BY SW8260C</b>		<b>Method:SW8260</b>		Analyst: FT			
Benzene		U	100	500	ug/L	500	30-Dec-2022 02:42
Ethylbenzene		U	150	500	ug/L	500	30-Dec-2022 02:42
m,p-Xylene		U	250	1000	ug/L	500	30-Dec-2022 02:42
o-Xylene		U	150	500	ug/L	500	30-Dec-2022 02:42
Toluene		U	100	500	ug/L	500	30-Dec-2022 02:42
Xylenes, Total		U	150	500	ug/L	500	30-Dec-2022 02:42
Surr: 1,2-Dichloroethane-d4	122			70-126	%REC	500	30-Dec-2022 02:42
Surr: 4-Bromofluorobenzene	96.5			77-113	%REC	500	30-Dec-2022 02:42
Surr: Dibromofluoromethane	116			77-123	%REC	500	30-Dec-2022 02:42
Surr: Toluene-d8	102			82-127	%REC	500	30-Dec-2022 02:42
<b>GASOLINE RANGE ORGANICS BY SW8015C</b>		<b>Method:SW8015</b>		Analyst: FT			
Gasoline Range Organics	37.4		5.00	25.0	mg/L	500	29-Dec-2022 15:29
Surr: 4-Bromofluorobenzene	1410	S		70-123	%REC	500	29-Dec-2022 15:29
<b>DISSOLVED GASES BY RSK-175</b>		<b>Method:RSK-175</b>		Analyst: SAM			
Ethane	15.9		0.144	1.00	ug/L	1	28-Dec-2022 10:52
Methane	16.1		0.107	0.500	ug/L	1	28-Dec-2022 10:52
Propane	18.9		1.00	1.00	ug/L	1	28-Dec-2022 10:52
<b>TPH DRO/ORO BY SW8015C</b>		<b>Method:SW8015M</b>		Prep:SW3511 / 27-Dec-2022		Analyst: SAM	
DRO (>C10 - C28)	1,500		20	51	mg/L	1000	28-Dec-2022 01:25
Surr: 2-Fluorobiphenyl	0	JS		60-135	%REC	1000	28-Dec-2022 01:25
<b>TOTAL METALS BY E200.8, REV 5.4, 1994</b>		<b>Method:E200.8</b>		Prep:E200.8 / 09-Jan-2023		Analyst: JC	
Calcium	947		0.900	25.0	mg/L	50	09-Jan-2023 14:54
Magnesium	0.207	J	0.00780	0.500	mg/L	1	09-Jan-2023 14:41
Potassium	317		0.165	2.50	mg/L	5	09-Jan-2023 14:18
Sodium	417		0.105	1.00	mg/L	5	09-Jan-2023 14:18
<b>ANIONS BY E300.0, REV 2.1, 1993</b>		<b>Method:E300</b>		Analyst: TH			
Chloride	1,510		10.0	25.0	mg/L	50	05-Jan-2023 15:08
Sulfate	195		2.00	5.00	mg/L	10	05-Jan-2023 15:03
<b>TOTAL DISSOLVED SOLIDS BY SM2540C-2011</b>		<b>Method:M2540C</b>		Analyst: MZD			
Total Dissolved Solids (Residue, Filterable)	76,700		5.00	10.0	mg/L	1	27-Dec-2022 16:14
<b>ALKALINITY BY SM 2320B-2011</b>		<b>Method:SM2320B</b>		Analyst: JAC			
Alkalinity, Bicarbonate (As CaCO3)		U	5.00	5.00	mg/L	1	01-Jan-2023 12:00
Alkalinity, Carbonate (As CaCO3)	864		5.00	5.00	mg/L	1	01-Jan-2023 12:00
Alkalinity, Total (As CaCO3)	900		5.00	5.00	mg/L	1	01-Jan-2023 12:00

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

Client: PDC Energy  
Project: Bost Farm 40C-8-L2  
Sample ID: 40C-8-L2 B  
Collection Date: 20-Dec-2022 12:30

**ANALYTICAL REPORT**  
WorkOrder:HS22121491  
Lab ID:HS22121491-02  
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>DISSOLVED METALS BY E200.8, REV 5.4, Method:E200.8 (dissolved) 1994</b>					Prep:E200.8 / 10-Jan-2023		Analyst: JC
Calcium	1,010		0.180	5.00	mg/L	10	10-Jan-2023 22:11
Magnesium	0.168	J	0.0156	1.00	mg/L	2	11-Jan-2023 12:09
Potassium	326		0.330	5.00	mg/L	10	10-Jan-2023 22:11
Sodium	426		0.210	2.00	mg/L	10	10-Jan-2023 22:11

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

Weight / Prep Log

**Client:** PDC Energy  
**Project:** Bost Farm 40C-8-L2  
**WorkOrder:** HS22121491

<b>Batch ID:</b> 187825	<b>Start Date:</b> 27 Dec 2022 16:36	<b>End Date:</b> 28 Dec 2022 17:00
<b>Method:</b> SW3511	<b>Prep Code:</b> 3511_DRO	

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS22121491-01		32.36 (mL)	2 (mL)	0.0618	40 mL Amber

<b>Batch ID:</b> 188097	<b>Start Date:</b> 04 Jan 2023 15:00	<b>End Date:</b> 04 Jan 2023 15:30
<b>Method:</b> SAMPLE FILTRATION - 0.45 MICRON FILTER	<b>Prep Code:</b> FILTRATION	

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS22121491-02		100 (mL)	100 (mL)	1	250 mL plastic, Neat

<b>Batch ID:</b> 188221	<b>Start Date:</b> 09 Jan 2023 08:30	<b>End Date:</b> 09 Jan 2023 12:30
<b>Method:</b> TOTAL METALS PREP BY E200.8, REV 5.4, 1994	<b>Prep Code:</b> 200.8PR	

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS22121491-01		10 (mL)	10 (mL)	1	250 mL plastic, HNO3 to pH <2

<b>Batch ID:</b> 188293	<b>Start Date:</b> 10 Jan 2023 09:30	<b>End Date:</b> 10 Jan 2023 13:30
<b>Method:</b> DISSOLVED METALS DIGESTION BY E200.8,REV 5.4,1994	<b>Prep Code:</b> 200.8_DISSPR	

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS22121491-02		10 (mL)	10 (mL)	1	250 mL plastic, Neat

**Client:** PDC Energy  
**Project:** Bost Farm 40C-8-L2  
**WorkOrder:** HS22121491

**DATES REPORT**

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
<b>Batch ID:</b> 187825 ( 0 )		<b>Test Name :</b> TPH DRO/ORO BY SW8015C			<b>Matrix:</b> Water	
HS22121491-01	40C-8-L2 A	20 Dec 2022 12:30		27 Dec 2022 16:36	28 Dec 2022 01:25	1000
<b>Batch ID:</b> 188221 ( 0 )		<b>Test Name :</b> TOTAL METALS BY E200.8, REV 5.4, 1994			<b>Matrix:</b> Water	
HS22121491-01	40C-8-L2 A	20 Dec 2022 12:30		09 Jan 2023 08:30	09 Jan 2023 14:54	50
HS22121491-01	40C-8-L2 A	20 Dec 2022 12:30		09 Jan 2023 08:30	09 Jan 2023 14:41	1
HS22121491-01	40C-8-L2 A	20 Dec 2022 12:30		09 Jan 2023 08:30	09 Jan 2023 14:18	5
<b>Batch ID:</b> 188293 ( 0 )		<b>Test Name :</b> DISSOLVED METALS BY E200.8, REV 5.4, 1994			<b>Matrix:</b> Water	
HS22121491-02	40C-8-L2 B	20 Dec 2022 12:30		10 Jan 2023 09:30	11 Jan 2023 12:09	2
HS22121491-02	40C-8-L2 B	20 Dec 2022 12:30		10 Jan 2023 09:30	10 Jan 2023 22:11	10
<b>Batch ID:</b> R424903 ( 0 )		<b>Test Name :</b> TOTAL DISSOLVED SOLIDS BY SM2540C-2011			<b>Matrix:</b> Water	
HS22121491-01	40C-8-L2 A	20 Dec 2022 12:30			27 Dec 2022 16:14	1
<b>Batch ID:</b> R424917 ( 0 )		<b>Test Name :</b> DISSOLVED GASES BY RSK-175			<b>Matrix:</b> Water	
HS22121491-01	40C-8-L2 A	20 Dec 2022 12:30			28 Dec 2022 10:52	1
<b>Batch ID:</b> R425009 ( 0 )		<b>Test Name :</b> LOW LEVEL VOLATILES BY SW8260C			<b>Matrix:</b> Water	
HS22121491-01	40C-8-L2 A	20 Dec 2022 12:30			30 Dec 2022 02:42	500
<b>Batch ID:</b> R425018 ( 0 )		<b>Test Name :</b> GASOLINE RANGE ORGANICS BY SW8015C			<b>Matrix:</b> Water	
HS22121491-01	40C-8-L2 A	20 Dec 2022 12:30			29 Dec 2022 15:29	500
<b>Batch ID:</b> R425144 ( 0 )		<b>Test Name :</b> ALKALINITY BY SM 2320B-2011			<b>Matrix:</b> Water	
HS22121491-01	40C-8-L2 A	20 Dec 2022 12:30			01 Jan 2023 12:00	1
<b>Batch ID:</b> R425372 ( 0 )		<b>Test Name :</b> ANIONS BY E300.0, REV 2.1, 1993			<b>Matrix:</b> Water	
HS22121491-01	40C-8-L2 A	20 Dec 2022 12:30			05 Jan 2023 15:08	50
HS22121491-01	40C-8-L2 A	20 Dec 2022 12:30			05 Jan 2023 15:03	10

**Client:** PDC Energy  
**Project:** Bost Farm 40C-8-L2  
**WorkOrder:** HS22121491

**QC BATCH REPORT**

<b>Batch ID:</b> 187825 ( 0 )	<b>Instrument:</b> FID-16	<b>Method:</b> TPH DRO/ORO BY SW8015C
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<b>MBLK</b>	Sample ID: <b>MBLK-187825</b>	Units: <b>mg/L</b>	Analysis Date: <b>27-Dec-2022 23:57</b>							
Client ID:	Run ID: <b>FID-16_425171</b>	SeqNo: <b>7059212</b>	PrepDate: <b>27-Dec-2022</b> DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
DRO (>C10 - C28)	U	0.050								
<i>Surr: 2-Fluorobiphenyl</i>	0.04323	0.0050	0.06	0	72.0	60 - 135				

<b>LCS</b>	Sample ID: <b>LCS-187825</b>	Units: <b>mg/L</b>	Analysis Date: <b>28-Dec-2022 00:26</b>							
Client ID:	Run ID: <b>FID-16_425171</b>	SeqNo: <b>7059213</b>	PrepDate: <b>27-Dec-2022</b> DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
DRO (>C10 - C28)	0.6195	0.050	0.6	0	103	70 - 130				
<i>Surr: 2-Fluorobiphenyl</i>	0.05921	0.0050	0.06	0	98.7	60 - 135				

<b>LCSD</b>	Sample ID: <b>LCSD-187825</b>	Units: <b>mg/L</b>	Analysis Date: <b>28-Dec-2022 00:55</b>							
Client ID:	Run ID: <b>FID-16_425171</b>	SeqNo: <b>7059214</b>	PrepDate: <b>27-Dec-2022</b> DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
DRO (>C10 - C28)	0.6176	0.050	0.6	0	103	70 - 130	0.6195	0.309	20	
<i>Surr: 2-Fluorobiphenyl</i>	0.05793	0.0050	0.06	0	96.5	60 - 135	0.05921	2.19	20	

The following samples were analyzed in this batch: HS22121491-01

**Client:** PDC Energy  
**Project:** Bost Farm 40C-8-L2  
**WorkOrder:** HS22121491

**QC BATCH REPORT**

**Batch ID:** R424917 ( 0 )      **Instrument:** FID-4      **Method:** DISSOLVED GASES BY RSK-175

<b>MBLK</b>		Sample ID: <b>MBLK-221228</b>		Units: <b>ug/L</b>		Analysis Date: <b>28-Dec-2022 07:42</b>				
Client ID:		Run ID: <b>FID-4_424917</b>		SeqNo: <b>7053485</b>		PrepDate:		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	U	1.00								
Methane	U	0.500								
Propane	U	1.00								

<b>LCS</b>		Sample ID: <b>LCS-221228</b>		Units: <b>ug/L</b>		Analysis Date: <b>28-Dec-2022 08:15</b>				
Client ID:		Run ID: <b>FID-4_424917</b>		SeqNo: <b>7053486</b>		PrepDate:		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	21.15	1.00	18.04	0	117	75 - 125				
Methane	8.951	0.500	9.647	0	92.8	75 - 125				
Propane	31.26	1.00	26.46	0	118	75 - 125				

<b>LCSD</b>		Sample ID: <b>LCSD-221228</b>		Units: <b>ug/L</b>		Analysis Date: <b>28-Dec-2022 08:41</b>				
Client ID:		Run ID: <b>FID-4_424917</b>		SeqNo: <b>7053487</b>		PrepDate:		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	21.01	1.00	18.04	0	116	75 - 125	21.15	0.633	30	
Methane	9.045	0.500	9.647	0	93.8	75 - 125	8.951	1.05	30	
Propane	30.7	1.00	26.46	0	116	75 - 125	31.26	1.81	30	

The following samples were analyzed in this batch: HS22121491-01

**Client:** PDC Energy  
**Project:** Bost Farm 40C-8-L2  
**WorkOrder:** HS22121491

**QC BATCH REPORT**

<b>Batch ID:</b> R425018 ( 0 )		<b>Instrument:</b> FID-20		<b>Method:</b> GASOLINE RANGE ORGANICS BY SW8015C						
<b>MBLK</b>	Sample ID: <b>MBLK-221229</b>	Units: <b>mg/L</b>			Analysis Date: <b>29-Dec-2022 13:28</b>					
Client ID:	Run ID: <b>FID-20_425018</b>	SeqNo: <b>7055925</b>		PrepDate:			DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	

Gasoline Range Organics	U	0.0500							
<i>Surr: 4-Bromofluorobenzene</i>	<i>0.1144</i>	<i>0.00500</i>	<i>0.1</i>	<i>0</i>	<i>114</i>	<i>70 - 121</i>			

<b>LCS</b>	Sample ID: <b>LCS-221229</b>	Units: <b>mg/L</b>			Analysis Date: <b>29-Dec-2022 12:47</b>				
Client ID:	Run ID: <b>FID-20_425018</b>	SeqNo: <b>7055923</b>		PrepDate:			DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Gasoline Range Organics	1.018	0.0500	1	0	102	76 - 124			
<i>Surr: 4-Bromofluorobenzene</i>	<i>0.09717</i>	<i>0.00500</i>	<i>0.1</i>	<i>0</i>	<i>97.2</i>	<i>52 - 138</i>			

<b>LCSD</b>	Sample ID: <b>LCSD-221229</b>	Units: <b>mg/L</b>			Analysis Date: <b>29-Dec-2022 13:01</b>				
Client ID:	Run ID: <b>FID-20_425018</b>	SeqNo: <b>7055924</b>		PrepDate:			DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Gasoline Range Organics	1.133	0.0500	1	0	113	76 - 124	1.018	10.7	20
<i>Surr: 4-Bromofluorobenzene</i>	<i>0.1001</i>	<i>0.00500</i>	<i>0.1</i>	<i>0</i>	<i>100</i>	<i>52 - 138</i>	<i>0.09717</i>	<i>2.96</i>	<i>20</i>

The following samples were analyzed in this batch: HS22121491-01

**Client:** PDC Energy  
**Project:** Bost Farm 40C-8-L2  
**WorkOrder:** HS22121491

**QC BATCH REPORT**

**Batch ID:** 188221 ( 0 )      **Instrument:** ICPMS06      **Method:** TOTAL METALS BY E200.8, REV 5.4, 1994

<b>MBLK</b>		Sample ID: <b>MBLK-188221</b>		Units: <b>ug/L</b>		Analysis Date: <b>09-Jan-2023 13:27</b>			
Client ID:		Run ID: <b>ICPMS06_425467</b>		SeqNo: <b>7066684</b>		PrepDate: <b>09-Jan-2023</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Calcium	U	500							
Magnesium	U	500							
Potassium	U	500							
Sodium	U	200							

<b>LCS</b>		Sample ID: <b>LCS-188221</b>		Units: <b>ug/L</b>		Analysis Date: <b>09-Jan-2023 13:29</b>			
Client ID:		Run ID: <b>ICPMS06_425467</b>		SeqNo: <b>7066685</b>		PrepDate: <b>09-Jan-2023</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Calcium	5630	500	5000	0	113	85 - 115			
Magnesium	5596	500	5000	0	112	85 - 115			
Potassium	5372	500	5000	0	107	85 - 115			

<b>LCS</b>		Sample ID: <b>LCS-188221</b>		Units: <b>ug/L</b>		Analysis Date: <b>09-Jan-2023 14:10</b>			
Client ID:		Run ID: <b>ICPMS06_425467</b>		SeqNo: <b>7066910</b>		PrepDate: <b>09-Jan-2023</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Sodium	5324	200	5000	0	106	85 - 115			

<b>MS</b>		Sample ID: <b>HS22121573-02MS</b>		Units: <b>ug/L</b>		Analysis Date: <b>09-Jan-2023 13:39</b>			
Client ID:		Run ID: <b>ICPMS06_425467</b>		SeqNo: <b>7066689</b>		PrepDate: <b>09-Jan-2023</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Calcium	27740	500	5000	24080	73.3	70 - 130			O
Magnesium	13450	500	5000	8928	90.4	70 - 130			
Potassium	8893	500	5000	3925	99.4	70 - 130			
Sodium	26970	200	5000	23610	67.1	70 - 130			SO

**Client:** PDC Energy  
**Project:** Bost Farm 40C-8-L2  
**WorkOrder:** HS22121491

**QC BATCH REPORT**

**Batch ID:** 188221 ( 0 )      **Instrument:** ICPMS06      **Method:** TOTAL METALS BY E200.8, REV 5.4, 1994

**MS**      Sample ID: **HS22121573-01MS**      Units: **ug/L**      Analysis Date: **09-Jan-2023 13:43**  
 Client ID:      Run ID: **ICPMS06\_425467**      SeqNo: **7066691**      PrepDate: **09-Jan-2023**      DF: **1**  
 Analyte      Result      PQL      SPK Val      SPK Ref Value      %REC      Control Limit      RPD Ref Value      %RPD      RPD Limit Qual

Calcium	38610	500	5000	34280	86.6	70 - 130					O
Magnesium	14950	500	5000	10080	97.4	70 - 130					
Potassium	9803	500	5000	4937	97.3	70 - 130					
Sodium	29950	200	5000	25940	80.3	70 - 130					O

**MSD**      Sample ID: **HS22121573-02MSD**      Units: **ug/L**      Analysis Date: **09-Jan-2023 13:41**  
 Client ID:      Run ID: **ICPMS06\_425467**      SeqNo: **7066690**      PrepDate: **09-Jan-2023**      DF: **1**  
 Analyte      Result      PQL      SPK Val      SPK Ref Value      %REC      Control Limit      RPD Ref Value      %RPD      RPD Limit Qual

Calcium	27800	500	5000	24080	74.4	70 - 130	27740	0.199	20		O
Magnesium	14110	500	5000	8928	104	70 - 130	13450	4.83	20		
Potassium	9267	500	5000	3925	107	70 - 130	8893	4.11	20		
Sodium	28140	200	5000	23610	90.6	70 - 130	26970	4.26	20		O

**MSD**      Sample ID: **HS22121573-01MSD**      Units: **ug/L**      Analysis Date: **09-Jan-2023 13:35**  
 Client ID:      Run ID: **ICPMS06\_425467**      SeqNo: **7066687**      PrepDate: **09-Jan-2023**      DF: **1**  
 Analyte      Result      PQL      SPK Val      SPK Ref Value      %REC      Control Limit      RPD Ref Value      %RPD      RPD Limit Qual

Calcium	38550	500	5000	34280	85.4	70 - 130	38610	0.152	20		O
Magnesium	15340	500	5000	10080	105	70 - 130	14950	2.57	20		
Potassium	10250	500	5000	4937	106	70 - 130	9803	4.43	20		
Sodium	30500	200	5000	25940	91.3	70 - 130	29950	1.83	20		O

The following samples were analyzed in this batch: HS22121491-01

**Client:** PDC Energy  
**Project:** Bost Farm 40C-8-L2  
**WorkOrder:** HS22121491

**QC BATCH REPORT**

Batch ID: 188293 ( 0 )		Instrument: ICPMS07		Method: DISSOLVED METALS BY E200.8, REV 5.4, 1994 (DISSOLVED)						
<b>MBLK</b>	Sample ID: <b>MBLKF1-188293</b>	Units: <b>ug/L</b>			Analysis Date: <b>10-Jan-2023 21:55</b>					
Client ID:	Run ID: <b>ICPMS07_425572</b>	SeqNo: <b>7069284</b>		PrepDate: <b>10-Jan-2023</b>		DF: <b>1</b>				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Calcium	U	500								
Magnesium	14.16	500							J	
Potassium	U	500								
Sodium	U	200								
<b>MBLK</b>	Sample ID: <b>MBLK-188293</b>	Units: <b>ug/L</b>			Analysis Date: <b>10-Jan-2023 23:30</b>					
Client ID:	Run ID: <b>ICPMS07_425572</b>	SeqNo: <b>7069449</b>		PrepDate: <b>10-Jan-2023</b>		DF: <b>1</b>				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Calcium	U	500								
Magnesium	8.762	500							J	
Potassium	U	500								
Sodium	45.95	200							J	
<b>LCS</b>	Sample ID: <b>LCS-188293</b>	Units: <b>ug/L</b>			Analysis Date: <b>10-Jan-2023 21:57</b>					
Client ID:	Run ID: <b>ICPMS07_425572</b>	SeqNo: <b>7069285</b>		PrepDate: <b>10-Jan-2023</b>		DF: <b>1</b>				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Calcium	5471	500	5000	0	109	85 - 115				
Magnesium	5505	500	5000	0	110	85 - 115				
Potassium	5374	500	5000	0	107	85 - 115				
Sodium	5358	200	5000	0	107	85 - 115				
<b>MS</b>	Sample ID: <b>HS22121450-01MS</b>	Units: <b>ug/L</b>			Analysis Date: <b>10-Jan-2023 22:01</b>					
Client ID:	Run ID: <b>ICPMS07_425572</b>	SeqNo: <b>7069287</b>		PrepDate: <b>10-Jan-2023</b>		DF: <b>1</b>				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Calcium	272300	500	5000	266500	116	85 - 115			SEO	
Magnesium	309300	500	5000	301600	153	85 - 115			SEO	
Potassium	90440	500	5000	85300	103	85 - 115			O	
Sodium	2643000	200	5000	2598000	909	85 - 115			SEO	

**Client:** PDC Energy  
**Project:** Bost Farm 40C-8-L2  
**WorkOrder:** HS22121491

**QC BATCH REPORT**

<b>Batch ID:</b> 188293 ( 0 )		<b>Instrument:</b> ICPMS07		<b>Method:</b> DISSOLVED METALS BY E200.8, REV 5.4, 1994 (DISSOLVED)						
<b>MSD</b>	<b>Sample ID:</b> HS22121450-01MSD			<b>Units:</b> ug/L		<b>Analysis Date:</b> 10-Jan-2023 22:03				
<b>Client ID:</b>	<b>Run ID:</b> ICPMS07_425572			<b>SeqNo:</b> 7069288		<b>PrepDate:</b> 10-Jan-2023		<b>DF:</b> 1		
<b>Analyte</b>	<b>Result</b>	<b>PQL</b>	<b>SPK Val</b>	<b>SPK Ref Value</b>	<b>%REC</b>	<b>Control Limit</b>	<b>RPD Ref Value</b>	<b>%RPD</b>	<b>RPD Limit</b>	<b>Qual</b>
Calcium	272400	500	5000	266500	119	85 - 115	272300	0.0604	20	SEO
Magnesium	309100	500	5000	301600	150	85 - 115	309300	0.0545	20	SEO
Potassium	91370	500	5000	85300	122	85 - 115	90440	1.03	20	SO
Sodium	2616000	200	5000	2598000	364	85 - 115	2643000	1.04	20	SEO

The following samples were analyzed in this batch: HS22121491-02

**Client:** PDC Energy  
**Project:** Bost Farm 40C-8-L2  
**WorkOrder:** HS22121491

**QC BATCH REPORT**

<b>Batch ID:</b> R425009 ( 0 )	<b>Instrument:</b> VOA11	<b>Method:</b> LOW LEVEL VOLATILES BY SW8260C
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<b>MBLK</b>		Sample ID: <b>VBLKW-221229</b>		Units: <b>ug/L</b>		Analysis Date: <b>29-Dec-2022 20:03</b>			
Client ID:		Run ID: <b>VOA11_425009</b>		SeqNo: <b>7055672</b>		PrepDate:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	U	1.0							
Ethylbenzene	U	1.0							
m,p-Xylene	U	2.0							
o-Xylene	U	1.0							
Toluene	U	1.0							
Xylenes, Total	U	1.0							
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>61.46</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>123</i>	<i>70 - 123</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.21</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.4</i>	<i>77 - 113</i>			
<i>Surr: Dibromofluoromethane</i>	<i>59.81</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>120</i>	<i>73 - 126</i>			
<i>Surr: Toluene-d8</i>	<i>51.75</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>103</i>	<i>81 - 120</i>			

<b>LCS</b>		Sample ID: <b>VLCSW-221229</b>		Units: <b>ug/L</b>		Analysis Date: <b>29-Dec-2022 19:21</b>			
Client ID:		Run ID: <b>VOA11_425009</b>		SeqNo: <b>7055671</b>		PrepDate:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	20.69	1.0	20	0	103	74 - 120			
Ethylbenzene	19.07	1.0	20	0	95.3	77 - 117			
m,p-Xylene	39.79	2.0	40	0	99.5	77 - 122			
o-Xylene	19.54	1.0	20	0	97.7	75 - 119			
Toluene	19.83	1.0	20	0	99.2	77 - 118			
Xylenes, Total	59.33	1.0	60	0	98.9	75 - 122			
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>56.88</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>114</i>	<i>70 - 123</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>47.65</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>95.3</i>	<i>77 - 113</i>			
<i>Surr: Dibromofluoromethane</i>	<i>56.15</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>112</i>	<i>73 - 126</i>			
<i>Surr: Toluene-d8</i>	<i>52.57</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>105</i>	<i>81 - 120</i>			

**Client:** PDC Energy  
**Project:** Bost Farm 40C-8-L2  
**WorkOrder:** HS22121491

**QC BATCH REPORT**

**Batch ID:** R425009 ( 0 )      **Instrument:** VOA11      **Method:** LOW LEVEL VOLATILES BY SW8260C

<b>MS</b>		Sample ID: <b>HS22121469-01MS</b>			Units: <b>ug/L</b>		Analysis Date: <b>29-Dec-2022 20:45</b>			
Client ID:		Run ID: <b>VOA11_425009</b>			SeqNo: <b>7055674</b>		PrepDate:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	21.79	1.0	20	0	109	70 - 127				
Ethylbenzene	19.1	1.0	20	0	95.5	70 - 124				
m,p-Xylene	39.24	2.0	40	0	98.1	70 - 130				
o-Xylene	19.33	1.0	20	0	96.7	70 - 124				
Toluene	20.27	1.0	20	0	101	70 - 123				
Xylenes, Total	58.57	1.0	60	0	97.6	70 - 130				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>57.12</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>114</i>	<i>70 - 126</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>47.36</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>94.7</i>	<i>77 - 113</i>				
<i>Surr: Dibromofluoromethane</i>	<i>56.02</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>112</i>	<i>77 - 123</i>				
<i>Surr: Toluene-d8</i>	<i>51.99</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>104</i>	<i>82 - 127</i>				

<b>MSD</b>		Sample ID: <b>HS22121469-01MSD</b>			Units: <b>ug/L</b>		Analysis Date: <b>29-Dec-2022 21:06</b>			
Client ID:		Run ID: <b>VOA11_425009</b>			SeqNo: <b>7055675</b>		PrepDate:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	22.7	1.0	20	0	114	70 - 127	21.79	4.1	20	
Ethylbenzene	20.87	1.0	20	0	104	70 - 124	19.1	8.88	20	
m,p-Xylene	41.98	2.0	40	0	105	70 - 130	39.24	6.75	20	
o-Xylene	20.91	1.0	20	0	105	70 - 124	19.33	7.86	20	
Toluene	21.57	1.0	20	0	108	70 - 123	20.27	6.25	20	
Xylenes, Total	62.89	1.0	60	0	105	70 - 130	58.57	7.12	20	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>57.19</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>114</i>	<i>70 - 126</i>	<i>57.12</i>	<i>0.126</i>	<i>20</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>47.38</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>94.8</i>	<i>77 - 113</i>	<i>47.36</i>	<i>0.0453</i>	<i>20</i>	
<i>Surr: Dibromofluoromethane</i>	<i>55.87</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>112</i>	<i>77 - 123</i>	<i>56.02</i>	<i>0.274</i>	<i>20</i>	
<i>Surr: Toluene-d8</i>	<i>52.52</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>105</i>	<i>82 - 127</i>	<i>51.99</i>	<i>1.02</i>	<i>20</i>	

The following samples were analyzed in this batch: HS22121491-01

**Client:** PDC Energy  
**Project:** Bost Farm 40C-8-L2  
**WorkOrder:** HS22121491

**QC BATCH REPORT**

**Batch ID:** R424903 ( 0 )      **Instrument:** Balance1      **Method:** TOTAL DISSOLVED SOLIDS BY SM2540C-2011

<b>MBLK</b>	Sample ID: <b>WBLK-12272022</b>	Units: <b>mg/L</b>			Analysis Date: <b>27-Dec-2022 16:14</b>				
Client ID:	Run ID: <b>Balance1_424903</b>	SeqNo: <b>7053061</b>	PrepDate:	DF: <b>1</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Total Dissolved Solids (Residue, Filterable)      U      10.0

<b>LCS</b>	Sample ID: <b>WLCS-12272022</b>	Units: <b>mg/L</b>			Analysis Date: <b>27-Dec-2022 16:14</b>				
Client ID:	Run ID: <b>Balance1_424903</b>	SeqNo: <b>7053062</b>	PrepDate:	DF: <b>1</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Total Dissolved Solids (Residue, Filterable)      942      10.0      1000      0      94.2      85 - 115

<b>DUP</b>	Sample ID: <b>HS22121437-01DUP</b>	Units: <b>mg/L</b>			Analysis Date: <b>27-Dec-2022 16:14</b>				
Client ID:	Run ID: <b>Balance1_424903</b>	SeqNo: <b>7053054</b>	PrepDate:	DF: <b>1</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Total Dissolved Solids (Residue, Filterable)      263900      10.0                          263800      0.0152      5

<b>DUP</b>	Sample ID: <b>HS22121350-08DUP</b>	Units: <b>mg/L</b>			Analysis Date: <b>27-Dec-2022 16:14</b>				
Client ID:	Run ID: <b>Balance1_424903</b>	SeqNo: <b>7053048</b>	PrepDate:	DF: <b>1</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Total Dissolved Solids (Residue, Filterable)      2320      10.0                          2300      0.866      5

The following samples were analyzed in this batch: HS22121491-01

**Client:** PDC Energy  
**Project:** Bost Farm 40C-8-L2  
**WorkOrder:** HS22121491

**QC BATCH REPORT**

<b>Batch ID:</b> R425144 ( 0 )	<b>Instrument:</b> Skalar 03	<b>Method:</b> ALKALINITY BY SM 2320B-2011
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<b>MBLK</b>	Sample ID: <b>MBLK-R425144</b>	Units: <b>mg/L</b>	Analysis Date: <b>01-Jan-2023 12:00</b>							
Client ID:	Run ID: <b>Skalar 03_425144</b>	SeqNo: <b>7058929</b>	PrepDate: DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	U	5.00								
Alkalinity, Carbonate (As CaCO3)	U	5.00								
Alkalinity, Total (As CaCO3)	U	5.00								

<b>LCS</b>	Sample ID: <b>LCS-R425144</b>	Units: <b>mg/L</b>	Analysis Date: <b>01-Jan-2023 12:00</b>							
Client ID:	Run ID: <b>Skalar 03_425144</b>	SeqNo: <b>7058928</b>	PrepDate: DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Carbonate (As CaCO3)	949.6	5.00	1000	0	95.0	85 - 115				
Alkalinity, Total (As CaCO3)	973	5.00	1000	0	97.3	85 - 115				

<b>LCSD</b>	Sample ID: <b>LCSD-R425144</b>	Units: <b>mg/L</b>	Analysis Date: <b>01-Jan-2023 12:00</b>							
Client ID:	Run ID: <b>Skalar 03_425144</b>	SeqNo: <b>7058927</b>	PrepDate: DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Carbonate (As CaCO3)	917.2	5.00	1000	0	91.7	85 - 115	949.6	3.47	20	
Alkalinity, Total (As CaCO3)	1012	5.00	1000	0	101	85 - 115	973	3.98	20	

<b>DUP</b>	Sample ID: <b>HS22121253-05DUP</b>	Units: <b>mg/L</b>	Analysis Date: <b>01-Jan-2023 12:00</b>							
Client ID:	Run ID: <b>Skalar 03_425144</b>	SeqNo: <b>7058930</b>	PrepDate: DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	300.5	5.00					280.1	7.03	20	
Alkalinity, Carbonate (As CaCO3)	U	5.00					0	0	20	
Alkalinity, Total (As CaCO3)	300.5	5.00					280.1	7.03	20	

The following samples were analyzed in this batch: HS22121491-01

**Client:** PDC Energy  
**Project:** Bost Farm 40C-8-L2  
**WorkOrder:** HS22121491

**QC BATCH REPORT**

**Batch ID:** R425372 ( 0 )      **Instrument:** ICS-Integrion      **Method:** ANIONS BY E300.0, REV 2.1, 1993

<b>MBLK</b>		Sample ID: <b>MBLK</b>		Units: <b>mg/L</b>		Analysis Date: <b>05-Jan-2023 11:45</b>			
Client ID:		Run ID: <b>ICS-Integrion_425372</b>		SeqNo: <b>7064234</b>		PrepDate:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	U	0.500							
Sulfate	U	0.500							

<b>LCS</b>		Sample ID: <b>LCS</b>		Units: <b>mg/L</b>		Analysis Date: <b>05-Jan-2023 11:55</b>			
Client ID:		Run ID: <b>ICS-Integrion_425372</b>		SeqNo: <b>7064235</b>		PrepDate:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	19.82	0.500	20	0	99.1	90 - 110			
Sulfate	19.15	0.500	20	0	95.7	90 - 110			

<b>MS</b>		Sample ID: <b>HS22121505-08MS</b>		Units: <b>mg/L</b>		Analysis Date: <b>05-Jan-2023 12:21</b>			
Client ID:		Run ID: <b>ICS-Integrion_425372</b>		SeqNo: <b>7064240</b>		PrepDate:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	52.63	0.500	10	43.37	92.6	80 - 120			O
Sulfate	26.79	0.500	10	17.95	88.4	80 - 120			

<b>MS</b>		Sample ID: <b>HS22121505-02MS</b>		Units: <b>mg/L</b>		Analysis Date: <b>05-Jan-2023 12:06</b>			
Client ID:		Run ID: <b>ICS-Integrion_425372</b>		SeqNo: <b>7064237</b>		PrepDate:		DF: <b>50</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	3193	25.0	500	2731	92.3	80 - 120			O
Sulfate	473.5	25.0	500	7.305	93.2	80 - 120			

<b>MSD</b>		Sample ID: <b>HS22121505-08MSD</b>		Units: <b>mg/L</b>		Analysis Date: <b>05-Jan-2023 12:27</b>			
Client ID:		Run ID: <b>ICS-Integrion_425372</b>		SeqNo: <b>7064241</b>		PrepDate:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	53.23	0.500	10	43.37	98.7	80 - 120	52.63	1.15	20 O
Sulfate	27.1	0.500	10	17.95	91.6	80 - 120	26.79	1.16	20

**Client:** PDC Energy  
**Project:** Bost Farm 40C-8-L2  
**WorkOrder:** HS22121491

**QC BATCH REPORT**

**Batch ID:** R425372 ( 0 )      **Instrument:** ICS-Integrion      **Method:** ANIONS BY E300.0, REV 2.1, 1993

<b>MSD</b>		Sample ID: <b>HS22121505-02MSD</b>		Units: <b>mg/L</b>		Analysis Date: <b>05-Jan-2023 12:11</b>				
Client ID:		Run ID: <b>ICS-Integrion_425372</b>		SeqNo: <b>7064238</b>		PrepDate:		DF: <b>50</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	3195	25.0	500	2731	92.8	80 - 120	3193	0.0689	20	O
Sulfate	476.4	25.0	500	7.305	93.8	80 - 120	473.5	0.622	20	

The following samples were analyzed in this batch: HS22121491-01

**Client:** PDC Energy  
**Project:** Bost Farm 40C-8-L2  
**WorkOrder:** HS22121491

**QUALIFIERS,  
ACRONYMS, UNITS**

<b>Qualifier</b>	<b>Description</b>
*	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

<b>Acronym</b>	<b>Description</b>
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

<b>Unit Reported</b>	<b>Description</b>
Date	
mg/L	Milligrams per Liter

**CERTIFICATIONS,ACCREDITATIONS & LICENSES**

<b>Agency</b>	<b>Number</b>	<b>Expire Date</b>
Arkansas	22-041-0	27-Mar-2023
California	2919 2022-2023	30-Apr-2023
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-36	30-Jun-2023
Illinois	2000322022-9	09-May-2023
Kansas	E-10352; 2022-2023	31-Jul-2023
Kentucky	123043, 2022-2023	30-Apr-2023
Louisiana	03087, 2022-2023	30-Jun-2023
Maryland	343, 2022-2023	30-Jun-2023
North Carolina	624-2023	31-Dec-2023
North Dakota	R-193 2022-2023	30-Apr-2023
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932022-13	31-Jul-2023

Sample Receipt Checklist

Work Order ID: HS22121491

Date/Time Received: 27-Dec-2022 09:25

Client Name: PDC Energy 80620

Received by: Si Ma

Completed By: /S/ Paresh M. Giga 27-Dec-2022 13:36 Reviewed by: /S/ Tyler Monroe 27-Dec-2022 16:59  
 eSignature Date/Time eSignature Date/Time

Matrices: **Water**

Carrier name: **Client**

- 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): 1.1C/0.6C U/C IR31  
 Cooler(s)/Kit(s): Blue  
 Date/Time sample(s) sent to storage: 12/27/22 13:45

- 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: Limited volume for BTEX/GRO/RSK & DRO - 1 vial each only.  
 Limited for TDS/Alk/Anions. 200mls  
 Extra 1LWH2SO4 received with no label.  
 Logged in with no analysis

Client Contacted: \_\_\_\_\_ Date Contacted: \_\_\_\_\_ Person Contacted: \_\_\_\_\_

Contacted By: \_\_\_\_\_ Regarding: \_\_\_\_\_

Comments:

Corrective Action:



# Chain of Custody Form

Page \_\_\_\_\_ of \_\_\_\_\_

HS22121491

PDC Energy  
Bost Farm 40C-8-L2 Facility ID : 478981



ALS Project Manager: \_\_\_\_\_

Customer Information		Project Information			
Purchase Order		Project Name	Bost Farm 40C-8-L2	A	Dissolved Gases (Methane, Ethane, Propane)
Work Order		Project Number		B	BTEX 8260
Company Name	PDC Energy	Bill To Company	PDC Energy	C	DRO 8015
Send Report To	Max Trehus	Invoice Attn.	Max Trehus	D	GRO 8015
Address	4000 Burlington Ave	Address	1775 Sherman St #3000	E	Anions (Cl,SO4), Alk (T, CO3, HCO3), TDS
				F	Dissolved Ca, Mg, K, Na - need to lab filter
City/State/Zip	Evans, CO 80620	City/State/Zip	Denver, CO 80203	G	Total Ca, Mg, K, Na
Phone	720-762-3569	Phone	303-860-5800	H	
Fax		Fax		I	
e-Mail Address	max.trehus@pdce.com jenifer.hakkarinen@pdce.com jessica.johannsen@pdce.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	40C-8-L2 A	12/20/22	12:30	W	8	1	X										
2	40C-8-L2 A	↓	↓	W	1	1		X									
3	40C-8-L2 A	↓	↓	W	1	1			X								
4	40C-8-L2 A	↓	↓	W	1	1				X							
5	40C-8-L2 A	↓	↓	W	8	1					X						
6	40C-8-L2 B	↓	↓	W	8	1						X					
7	40C-8-L2 A	↓	↓	W	2	1							X				
8																	
9																	
10																	

Sampler(s): Please Print & Sign Max Trehus Shipment Method: \_\_\_\_\_ Required Turnaround Time:  STD 10 Wk Days  5 Wk Days  2 Wk Days  24 Hour  Other \_\_\_\_\_ Results Due Date: \_\_\_\_\_

Relinquished by: <u>[Signature]</u>	Date: 12/22/22	Time: 11:50	Received by: <u>[Signature]</u>	Notes: Facility ID: 478981
Relinquished by: <u>[Signature]</u>	Date: 12/22/22	Time: 14:30	Received by (Laboratory): <u>[Signature]</u>	Cooler Temp. <u>1.1</u>
Logged by (Laboratory): _____	Date: _____	Time: _____	Checked by (Laboratory): _____	QC Package: (Check Box Below)
				<input checked="" type="checkbox"/> Level II: Standard QC
				<input type="checkbox"/> Level III: Std QC + Raw Data
				<input type="checkbox"/> Level IV: SW846 CLP-Like
				Other: _____

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035

*me* DEC 27 2022

ORIGIN ID:GXKYA (970) 305-1648  
AMY KEPHART  
ALS  
965 E 11TH ST  
LOVELAND, CO 80537  
UNITED STATES US

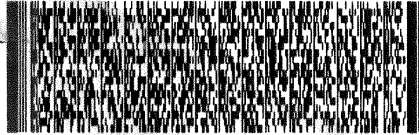
SHIP DATE: 22DEC22  
ACTWGT: 18.40 LB  
CAD: 0487882/CAFE3618  
DIMS: 16x12x11 IN  
BILL SENDER

TO **SAMPLE RECEIVING**  
**ALS**  
**10450 STANCLIFF RD**  
**SUITE 210**  
**HOUSTON TX 77099**

*me*

SRES/CLCF/ASBP

PO: PDC



TRK# 6182 5243 4240  
0201

FRI - 23 DEC 10:30A  
PRIORITY OVERNIGHT

*FedEx (aka) Fri - 23 DEC  
Received 12/27/22*

**XA SGRA**

77099  
TX-US IAH

