



Monday, April 25, 2022

Max Trehus  
Great Western Operating Company, LLC  
4093 Specialty Place, Unit B  
Longmont, CO 80504

Re: ALS Workorder: 2204110  
Project Name: Grant Properties / BH  
Project Number:

Dear Mr. Trehus:

Two water samples were received from Great Western Operating Company, LLC, on 4/7/2022. The samples were scheduled for the following analyses:

Dissolved Gasses

GC/MS Volatiles

Inorganics

Metals

Total Extractable Petroleum Hydrocarbons (Diesel)

Total Volatile Petroleum Hydrocarbons (Gasoline)

The results for these analyses are contained in the enclosed reports.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,

For

ALS Environmental  
Katie M. OBrien  
Project Manager

Accreditations: ALS Environmental – Fort Collins is accredited by the following accreditation bodies for various testing scopes in accordance with requirements of each accreditation body. All testing is performed under the laboratory management system, which is maintained to meet these requirement and regulations. Please contact the laboratory or accreditation body for the current scope testing parameters.

ALS Environmental – Fort Collins	
Accreditation Body	License or Certification Number
Arizona	AZ0828
California (CA)	2926
Colorado (CO)	CO01099
Florida (FL)	E87914
Idaho (ID)	CO01099
Kansas (KS)	E-10381
Kentucky (KY)	90137
Oklahoma	1301
PJLA (DoD ELAP/ISO 170250)	95377
PJLA (DOE-AP/ISO 17025)	95377
Maryland (MD)	285
Missouri (MO)	175
Nebraska(NE)	NE-OS-24-13
Nevada (NV)	CO010992018-1
New York (NY)	12036
North Dakota (ND)	R-057
Oklahoma (OK)	1301
Pennsylvania (PA)	68-03116
Tennessee (TN)	TN02976
Texas (TX)	T104704241
Utah (UT)	CO01099
Washington (WA)	C1280
Virginia	460305

40 CFR Part 136: All analyses for Clean Water Act samples are analyzed using the 40 CFR Part 136 specified method and include all the QC requirements.



## 2204110

### **GC/MS Volatiles:**

The sample was analyzed using GC/MS following the current revision of SOP 525 based on SW-846 Method 8260C.

All acceptance criteria were met.

### **Dissolved Gasses:**

The sample was prepared and analyzed according to method RSK-175 procedures and the current revision of SOP 449.

All acceptance criteria were met.

### **GRO:**

The sample was analyzed following the current revision of SOP 425 generally based on SW-846 Methods 8000C and 8015D. TVPH is a multicomponent mixture and is quantitated by summing the entire carbon range, rather than individual peaks. The carbon range integrated in this test extends from C6 to C10.

All acceptance criteria were met.

### **DRO:**

The sample was analyzed following the current revision of SOP 406 generally based on SW-846 Methods 8000C and 8015D. TEPH is a multicomponent mixture and is quantitated by summing the entire carbon range, rather than individual peaks. The carbon range integrated in this test extends from C10 to C28.

All acceptance criteria were met.

### **Metals:**

The samples were analyzed following Methods for the Determination of Metals in Environmental Samples – Supplement 1 procedures. Analysis by Trace ICP followed method 200.7 and the current revision of SOP 834.

Sample 2204110-2 was to be analyzed for dissolved metals. The sample was filtered through a 0.45 micron filter and preserved with nitric acid to a pH less than two prior to analysis.

All acceptance criteria were met.

**Inorganics:**

The sample was analyzed following EMSL and Standard Method procedures for the current revisions of the following SOPs and methods:

<u>Analyte</u>	<u>Method</u>	<u>SOP #</u>
Alkalinity	SM2320B	1106
Bicarbonate	SM2320B	1106
Carbonate	SM2320B	1106
TDS	SM2540C	1101
Chloride	300.0 Revision 2.1	1113
Sulfate	300.0 Revision 2.1	1113

All acceptance criteria were met.

# ALS -- Fort Collins

## Sample Number(s) Cross-Reference Table

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**OrderNum:** 2204110

**Client Name:** Great Western Operating Company, LLC

**Client Project Name:** Grant Properties / BH

**Client Project Number:**

**Client PO Number:**

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Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
GPI - A	2204110-1		WATER	06-Apr-22	13:35
GPI - B	2204110-2		WATER	06-Apr-22	13:35



## Chain-of-Custody

Form 202r8

Time Zone (Circle): EST CST MST PST Matrix: O = oil S = sol NS = non-soil solid W = water L = liquid E = extract F = filter

**For metals or anions, please detail analytes below.**

Comments:		QC PACKAGE (check below)		SIGNATURE	PRINTED NAME	DATE	TIME		
Facility ID: 2022A4  6 of 1		LEVEL II (Standard QC)							
		LEVEL III (Std QC + forms)							
		LEVEL IV (Std QC + forms + raw data)							
Preservative Key:		1-HCl	2-HNO3	3-H2SO4	4-NaOH	5-NaHSO4	7-Other	8-4 degrees C	9-5035

6 of 1



**ALS Environmental - Fort Collins**  
**CONDITION OF SAMPLE UPON RECEIPT FORM**

Client: GWOC Workorder No: 2204110  
 Project Manager: KMO Initials: KC Date: 4/7/22

	N/A	YES	NO
1. Are airbills / shipping documents present and/or removable?	X		
Tracking number:			
2. Are custody seals on shipping containers intact?	X		
3. Are custody seals on sample containers intact?	X		
4. Is there a COC (chain-of-custody) present?		X	
5. Is the COC in agreement with samples received? (IDs, dates, times, # of samples, # of containers, matrix, requested analyses, etc.)		X	
6. Are short-hold samples present?			X
7. Are all samples within holding times for the requested analyses?		X	
8. Were all sample containers received intact? (not broken or leaking)		X	
9. Is there sufficient sample for the requested analyses?		X	
10. Are samples in proper containers for requested analyses? (form 250, <i>Sample Handling Guidelines</i> )		X	
11. Are all aqueous samples preserved correctly, if required? (excluding volatiles)		X	
12. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, radon) free of bubbles > 6 mm (1/4 inch) diameter? (i.e. size of green pea)		X	
13. Were the samples shipped on ice?		X	
14. Were cooler temperatures measured at 0.1-6.0°C?	IR gun used*: #5		RAD ONLY
Cooler #: <u>1</u> Temperature (°C): <u>2.4</u> # of custody seals on cooler: <u>0</u> External µR/hr reading: <u>NA</u> Background µR/hr reading: <u>10</u> Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? YES			

\* Please provide details here for NO responses to boxes above - for 2 thru 5 & 7 thru 12, notify PM & continue w/ login.

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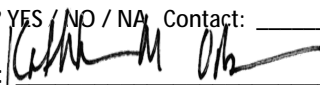
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Were unpreserved bottles pH checked? NA All client bottle ID's vs ALS lab ID's double-checked by: KC

If applicable, was the client contacted? YES / NO / NA Contact: \_\_\_\_\_ Date/Time: 4/10/22

Project Manager Signature / Date: 

## ALS -- Fort Collins

## SAMPLE SUMMARY REPORT

**Client:** Great Western Operating Company, LLC  
**Project:** Grant Properties / BH  
**Sample ID:** GPI - A  
**Legal Location:**  
**Collection Date:** 4/6/2022 13:35

**Date:** 25-Apr-22  
**Work Order:** 2204110  
**Lab ID:** 2204110-1  
**Matrix:** WATER  
**Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>Alkalinity as Calcium Carbonate</b>		<b>SM2320B</b>			Prep Date: 4/11/2022	PrepBy: AOW
BICARBONATE AS CaCO3	460		20	MG/L	1	4/12/2022
CARBONATE AS CaCO3	250		20	MG/L	1	4/12/2022
TOTAL ALKALINITY AS CaCO3	710		20	MG/L	1	4/12/2022
<b>Diesel Range Organics</b>		<b>SW8015M</b>			Prep Date: 4/12/2022	PrepBy: JRS
Diesel Range Organics	6.9		2	MG/L	1	4/14/2022 02:14
Surr: O-TERPHENYL	89		69-120	%REC	1	4/14/2022 02:14
<b>Dissolved Gasses</b>		<b>RSK175</b>			Prep Date: 4/19/2022	PrepBy: JRS
METHANE	25000		5	UG/L	5	4/19/2022 16:53
ETHANE	340		10	UG/L	5	4/19/2022 16:53
PROPANE	530		5	UG/L	5	4/19/2022 16:53
<b>Gasoline Range Organics</b>		<b>SW8015</b>			Prep Date: 4/15/2022	PrepBy: JRS
GASOLINE RANGE ORGANICS	0.76		0.1	MG/L	1	4/15/2022 19:46
Surr: 2,3,4-TRIFLUOROTOLUENE	99		80-120	%REC	1	4/15/2022 19:46
<b>GC/MS Volatiles</b>		<b>SW8260_25</b>			Prep Date: 4/16/2022	PrepBy: TWK
BENZENE	59		5	UG/L	5	4/16/2022 22:29
TOLUENE	50		5	UG/L	5	4/16/2022 22:29
ETHYLBENZENE	20		5	UG/L	5	4/16/2022 22:29
M+P-XYLENE	37		5	UG/L	5	4/16/2022 22:29
O-XYLENE	23		5	UG/L	5	4/16/2022 22:29
TOTAL XYLENES	60		1	UG/L	1	4/16/2022 22:29
Surr: 4-BROMOFLUOROBENZENE	98		80-120	%REC	5	4/16/2022 22:29
Surr: DIBROMOFLUOROMETHANE	98		80-120	%REC	5	4/16/2022 22:29
Surr: TOLUENE-D8	100		80-120	%REC	5	4/16/2022 22:29
<b>Ion Chromatography</b>		<b>EPA300.0</b>			Prep Date: 4/14/2022	PrepBy: AOW
CHLORIDE	810		10	MG/L	50	4/14/2022 13:52
SULFATE	ND		25	MG/L	25	4/14/2022 13:46
<b>Total Recoverable Metals by 200.7</b>		<b>EPA200.7</b>			Prep Date: 4/15/2022	PrepBy: ETC
CALCIUM	13		10	MG/L	1	4/20/2022 12:42
POTASSIUM	ND		10	MG/L	1	4/20/2022 12:42
MAGNESIUM	ND		10	MG/L	1	4/20/2022 12:42
SODIUM	850		10	MG/L	1	4/20/2022 12:42
<b>Total Dissolved Solids</b>		<b>SM2540C</b>			Prep Date: 4/11/2022	PrepBy: KRL
TOTAL DISSOLVED SOLIDS	3200		80	MG/L	1	4/14/2022



Client: Great Western Operating Company, LLC

Date: 25-Apr-22

Project: Grant Properties / BH

Work Order: 2204110

Sample ID: GPI - B

Lab ID: 2204110-2

Legal Location:

Matrix: WATER

Collection Date: 4/6/2022 13:35

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>Dissolved Metals by 200.7</b>			<b>EPA200.7</b>		Prep Date: <b>4/15/2022</b>	PrepBy: <b>ETC</b>
CALCIUM	ND		10	MG/L	1	4/20/2022 12:43
POTASSIUM	ND		10	MG/L	1	4/20/2022 12:43
MAGNESIUM	ND		10	MG/L	1	4/20/2022 12:43
<b>SODIUM</b>	<b>840</b>		<b>10</b>	<b>MG/L</b>	1	4/20/2022 12:43

**Client:** Great Western Operating Company, LLC  
**Project:** Grant Properties / BH  
**Sample ID:** GPI - B  
**Legal Location:**  
**Collection Date:** 4/6/2022 13:35

**Date:** 25-Apr-22  
**Work Order:** 2204110  
**Lab ID:** 2204110-2  
**Matrix:** WATER  
**Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
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### Explanation of Qualifiers

#### Radiochemistry:

- "Report Limit" is the MDC  
 U or ND - Result is less than the sample specific MDC.  
 Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.  
 Y2 - Chemical Yield outside default limits.  
 W - DER is greater than Warning Limit of 1.42  
 \* - Aliquot Basis is 'As Received' while the Report Basis is 'Dry Weight'.  
 # - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Received'.  
 G - Sample density differs by more than 15% of LCS density.  
 D - DER is greater than Control Limit  
 M - Requested MDC not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.  
 L - LCS Recovery below lower control limit.  
 H - LCS Recovery above upper control limit.  
 P - LCS, Matrix Spike Recovery within control limits.  
 N - Matrix Spike Recovery outside control limits  
 NC - Not Calculated for duplicate results less than 5 times MDC  
 B - Analyte concentration greater than MDC.  
 B3 - Analyte concentration greater than MDC but less than Requested MDC.

#### Inorganics:

B - Result is less than the requested reporting limit but greater than the instrument method detection limit (MDL).  
 U or ND - Indicates that the compound was analyzed for but not detected.  
 E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.  
 M - Duplicate injection precision was not met.  
 N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.  
 Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.  
 \* - Duplicate analysis (relative percent difference) not within control limits.  
 S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

#### Organics:

U or ND - Indicates that the compound was analyzed for but not detected.  
 B - Analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user.  
 E - Analyte concentration exceeds the upper level of the calibration range.  
 J - Estimated value. The result is less than the reporting limit but greater than the instrument method detection limit (MDL).  
 A - A tentatively identified compound is a suspected aldol-condensation product.  
 X - The analyte was diluted below an accurate quantitation level.  
 \* - The spike recovery is equal to or outside the control criteria used.  
 + - The relative percent difference (RPD) equals or exceeds the control criteria.  
 G - A pattern resembling gasoline was detected in this sample.  
 D - A pattern resembling diesel was detected in this sample.  
 M - A pattern resembling motor oil was detected in this sample.  
 C - A pattern resembling crude oil was detected in this sample.  
 4 - A pattern resembling JP-4 was detected in this sample.  
 5 - A pattern resembling JP-5 was detected in this sample.  
 H - Indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.  
 L - Indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.  
 Z - This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:  
 - gasoline  
 - JP-8  
 - diesel  
 - mineral spirits  
 - motor oil  
 - Stoddard solvent  
 - bunker C

## ALS -- Fort Collins

Date: 4/25/2022 4:55:1

Client: Great Western Operating Company, LLC  
Work Order: 2204110  
Project: Grant Properties / BH

## QC BATCH REPORT

Batch ID: HC220412-81-1 Instrument ID: FUELS-1 Method: SW8015M

LCS Sample ID: HC220412-81 Units: MG/L Analysis Date: 4/13/2022 21:21

Client ID: Run ID: HC220414-81A Prep Date: 4/12/2022 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
Diesel Range Organics	8.95	1.07	8.33		107	53-120				20	
Surr: O-TERPHENYL	1.69		1.67		101	69-120					

LCSD Sample ID: HC220412-81 Units: MG/L Analysis Date: 4/13/2022 21:42

Client ID: Run ID: HC220414-81A Prep Date: 4/12/2022 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
Diesel Range Organics	9.13	1.07	8.33		110	53-120		8.95	2	20	
Surr: O-TERPHENYL	1.73		1.67		104	69-120			2		

MB Sample ID: HC220412-81 Units: MG/L Analysis Date: 4/13/2022 19:33

Client ID: Run ID: HC220414-81A Prep Date: 4/12/2022 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
Diesel Range Organics	ND	1.1									
Surr: O-TERPHENYL	1.63				98	69-120					

The following samples were analyzed in this batch:

2204110-1

**Client:** Great Western Operating Company, LLC  
**Work Order:** 2204110  
**Project:** Grant Properties / BH

## QC BATCH REPORT

Batch ID: **HC220415-61-1** Instrument ID: **FUELS-1** Method: **SW8015**

<b>LCS</b>		Sample ID: <b>HC220415-61</b>				Units: <b>MG/L</b>		Analysis Date: <b>4/15/2022 17:10</b>				
Client ID:		Run ID: <b>HC220415-61A</b>				Prep Date: <b>4/15/2022</b>				DF: <b>1</b>		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual	
GASOLINE RANGE ORGANICS	0.473	0.1	0.5		95	80-120				20		
Surr: 2,3,4-TRIFLUOROTOLUENE	0.0967		0.1		97	80-120						

<b>LCSD</b>		Sample ID: <b>HC220415-61</b>				Units: <b>MG/L</b>		Analysis Date: <b>4/15/2022 20:33</b>				
Client ID:		Run ID: <b>HC220415-61A</b>				Prep Date: <b>4/15/2022</b>				DF: <b>1</b>		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual	
GASOLINE RANGE ORGANICS	0.481	0.1	0.5		96	80-120		0.473	1	20		
Surr: 2,3,4-TRIFLUOROTOLUENE	0.0979		0.1		98	80-120			1			

MB		Sample ID: <b>HC220415-61</b>				Units: <b>MG/L</b>		Analysis Date: <b>4/15/2022 17:26</b>			
Client ID:		Run ID: <b>HC220415-61A</b>				Prep Date: <b>4/15/2022</b>				DF: <b>1</b>	
Analyte		Result	ReportLimit								
GASOLINE RANGE ORGANICS		ND	0.1								
Surr: 2,3,4-TRIFLUOROTOLUENE		0.0961			96	80-120					

The following samples were analyzed in this batch:

2204110-1

**Client:** Great Western Operating Company, LLC  
**Work Order:** 2204110  
**Project:** Grant Properties / BH

## QC BATCH REPORT

Batch ID: **HC220419-91-2** Instrument ID: **MEE-1** Method: **RSK175**

<b>LCS</b>		Sample ID: <b>HC220419-91</b>			Units: <b>UG/L</b>			Analysis Date: <b>4/19/2022 15:43</b>				
Client ID:		Run ID: <b>HC220419-91A</b>			Prep Date: <b>4/19/2022</b>			DF: <b>1</b>				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual	
METHANE	154	1	142		108	76-125				25		
ETHANE	291	2	267		109	70-120				25		
PROPANE	432	1	391		111	72-120				25		

<b>LCSD</b>		Sample ID: <b>HC220419-91</b>			Units: <b>UG/L</b>			Analysis Date: <b>4/19/2022 16:57</b>				
Client ID:		Run ID: <b>HC220419-91A</b>			Prep Date: <b>4/19/2022</b>			DF: <b>1</b>				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual	
METHANE	156	1	142		109	76-125		154	1	25		
ETHANE	292	2	267		109	70-120		291	0	25		
PROPANE	457	1	391		117	72-120		432	5	25		

MB		Sample ID: <b>HC220419-91</b>		Units: <b>UG/L</b>		Analysis Date: <b>4/19/2022 15:47</b>	
Client ID:		Run ID: <b>HC220419-91A</b>		Prep Date: <b>4/19/2022</b>		DF: <b>1</b>	
Analyte		Result	ReportLimit	Qual			
METHANE		ND	1				
ETHANE		ND	2				
PROPANE		ND	1				

The following samples were analyzed in this batch:

2204110-1

**Client:** Great Western Operating Company, LLC  
**Work Order:** 2204110  
**Project:** Grant Properties / BH

## QC BATCH REPORT

Batch ID: **IP220415-1-2** Instrument ID: **ICP5900** Method: **EPA200.7**

**LCS** Sample ID: **IP220415-1** Units: **MG/L** Analysis Date: **4/20/2022 12:33**

Client ID: Run ID: **IT220420-1A3** Prep Date: **4/15/2022** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
CALCIUM	40.8	1	40		102	85-115				20	
MAGNESIUM	41.4	1	40		104	85-115				20	
POTASSIUM	40	1	40		100	85-115				20	
SODIUM	40.1	1	40		100	85-115				20	

**LCSD** Sample ID: **IP220415-1** Units: **MG/L** Analysis Date: **4/20/2022 12:34**

Client ID: Run ID: **IT220420-1A3** Prep Date: **4/15/2022** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
CALCIUM	40.4	1	40		101	85-115		40.8	1	20	
MAGNESIUM	41.2	1	40		103	85-115		41.4	1	20	
POTASSIUM	39.9	1	40		100	85-115		40	0	20	
SODIUM	40	1	40		100	85-115		40.1	0	20	

**MB** Sample ID: **IP220415-1** Units: **MG/L** Analysis Date: **4/20/2022 12:31**

Client ID: Run ID: **IT220420-1A3** Prep Date: **4/15/2022** DF: **1**

Analyte	Result	ReportLimit	Qual
CALCIUM	ND	1	
MAGNESIUM	ND	1	
POTASSIUM	ND	1	
SODIUM	ND	1	

The following samples were analyzed in this batch:

2204110-1

**Client:** Great Western Operating Company, LLC  
**Work Order:** 2204110  
**Project:** Grant Properties / BH

## QC BATCH REPORT

Batch ID: **IP220415-1-3** Instrument ID: **ICP5900** Method: **EPA200.7**

LCS	Sample ID: IP220415-1				Units: MG/L		Analysis Date: 4/20/2022 12:33				
Client ID:		Run ID: IT220420-1A3				Prep Date: 4/15/2022			DF: 1		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
CALCIUM	40.8	1	40		102	85-115				20	
MAGNESIUM	41.4	1	40		104	85-115				20	
POTASSIUM	40	1	40		100	85-115				20	
SODIUM	40.1	1	40		100	85-115				20	

LCSD		Sample ID: IP220415-1				Units: MG/L		Analysis Date: 4/20/2022 12:34			
Client ID:		Run ID: IT220420-1A3				Prep Date: 4/15/2022		DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
CALCIUM	40.4	1	40		101	85-115		40.8	1	20	
MAGNESIUM	41.2	1	40		103	85-115		41.4	1	20	
POTASSIUM	39.9	1	40		100	85-115		40	0	20	
SODIUM	40	1	40		100	85-115		40.1	0	20	

MB		Sample ID: FP220414-1		Units: MG/L		Analysis Date: 4/20/2022 12:32	
Client ID:		Run ID: IT220420-1A3		Prep Date: 4/15/2022		DF: 1	
Analyte		Result	ReportLimit	Qual			
CALCIUM		ND	1				
MAGNESIUM		ND	1				
POTASSIUM		ND	1				
SODIUM		ND	1				

The following samples were analyzed in this batch:

2204110-2

**Client:** Great Western Operating Company, LLC  
**Work Order:** 2204110  
**Project:** Grant Properties / BH

## QC BATCH REPORT

Batch ID: **VL220416-3-3** Instrument ID: **HPV3** Method: **SW8260\_25**

<b>LCS</b>		Sample ID: <b>VL220416-33</b>				Units: %REC		Analysis Date: <b>4/16/2022 15:23</b>				
Client ID:		Run ID: <b>VL220416-3A</b>				Prep Date: <b>4/16/2022</b>			DF: <b>1</b>			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual	
Surr: 4-BROMOFLUOROBENZENE	24.5		25		98	80-120						
Surr: DIBROMOFLUOROMETHANE	25.2		25		101	80-120						
Surr: TOLUENE-D8	25		25		100	80-120						
BENZENE	10.1	1	10		101	80-120				20		
TOLUENE	9.97	1	10		100	80-120				20		
ETHYLBENZENE	10.1	1	10		101	80-120				20		
M+P-XYLENE	20.5	1	20		102	80-120				20		
O-XYLENE	10.3	1	10		103	80-120				20		

<b>LCSD</b>		Sample ID: <b>VL220416-33</b>				Units: %REC		Analysis Date: <b>4/16/2022 15:45</b>				
Client ID:		Run ID: <b>VL220416-3A</b>				Prep Date: <b>4/16/2022</b>			DF: <b>1</b>			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual	
Surr: 4-BROMOFLUOROBENZENE	24.7		25		99	80-120			1			
Surr: DIBROMOFLUOROMETHANE	25.2		25		101	80-120			0			
Surr: TOLUENE-D8	25.1		25		100	80-120			0			
BENZENE	10.1	1	10		101	80-120		10.1	0	20		
TOLUENE	9.99	1	10		100	80-120		9.97	0	20		
ETHYLBENZENE	10.2	1	10		102	80-120		10.1	0	20		
M+P-XYLENE	20.6	1	20		103	80-120		20.5	1	20		
O-XYLENE	10.3	1	10		103	80-120		10.3	0	20		

MB		Sample ID: VL220416-33		Units: %REC		Analysis Date: 4/16/2022 16:30	
Client ID:		Run ID: VL220416-3A		Prep Date: 4/16/2022		DF: 1	
Analyte		Result	ReportLimit			Qual	
Surr: 4-BROMOFLUOROBENZENE		24.6		98	80-120		
Surr: DIBROMOFLUOROMETHANE		25		100	80-120		
Surr: TOLUENE-D8		24.8		99	80-120		
BENZENE		ND	1				
TOLUENE		ND	1				
ETHYLBENZENE		ND	1				
M+P-XYLENE		ND	1				
O-XYLENE		ND	1				
TOTAL XYLENES		ND	1				

The following samples were analyzed in this batch:

2204110-1



**Client:** Great Western Operating Company, LLC  
**Work Order:** 2204110  
**Project:** Grant Properties / BH

## QC BATCH REPORT

Batch ID: **AK220412-1-1** Instrument ID: **Balance** Method: **SM2320B**

**LCS** Sample ID: **AK220412-1** Units: **MG/L** Analysis Date: **4/12/2022**

Client ID: Run ID: **AK220412-1A1** Prep Date: **4/11/2022** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL ALKALINITY AS CaCO3	101	5	100		101	85-115				15	

**MB** Sample ID: **AK220412-1** Units: **MG/L** Analysis Date: **4/12/2022**

Client ID: Run ID: **AK220412-1A1** Prep Date: **4/11/2022** DF: **1**

Analyte	Result	ReportLimit	Qual
BICARBONATE AS CaCO3	ND	5	
CARBONATE AS CaCO3	ND	5	
TOTAL ALKALINITY AS CaCO3	ND	5	

The following samples were analyzed in this batch:

2204110-1

**Client:** Great Western Operating Company, LLC  
**Work Order:** 2204110  
**Project:** Grant Properties / BH

## QC BATCH REPORT

Batch ID: **IC220414-1-1** Instrument ID: **IC3** Method: **EPA300.0**

LCS		Sample ID: IC220414-1			Units: MG/L		Analysis Date: 4/14/2022 08:50				
Client ID:		Run ID: IC220414-1A1			Prep Date: 4/14/2022			DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
CHLORIDE	9.51	0.2	10		95	90-110				15	
SULFATE	46.8	1	50		94	90-110				15	

LCSD	Sample ID: IC220414-1				Units: MG/L		Analysis Date: 4/14/2022 10:19				
Client ID:	Run ID: IC220414-1A1				Prep Date: 4/14/2022			DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
CHLORIDE	9.88	0.2	10		99	90-110		9.51	4	15	
SULFATE	49	1	50		98	90-110		46.8	5	15	

<b>MB</b>		Sample ID: <b>IC220414-1</b>		Units: <b>MG/L</b>		Analysis Date: <b>4/14/2022 08:56</b>	
Client ID:		Run ID: <b>IC220414-1A1</b>		Prep Date: <b>4/14/2022</b>		DF: <b>1</b>	
Analyte		Result	ReportLimit	Qual			
CHLORIDE		ND	0.2				
SULFATE		ND	1				

The following samples were analyzed in this batch:

2204110-1

**Client:** Great Western Operating Company, LLC  
**Work Order:** 2204110  
**Project:** Grant Properties / BH

## QC BATCH REPORT

Batch ID: **TD220411-1-1** Instrument ID: **Balance** Method: **SM2540C**

LCS		Sample ID: TD220411-1			Units: MG/L		Analysis Date: 4/14/2022				
Client ID:		Run ID: TD220414-1A1			Prep Date: 4/11/2022			DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLIDS	378	20	400		94	85-115				14	

LCSD		Sample ID: TD220411-1			Units: MG/L		Analysis Date: 4/14/2022				
Client ID:		Run ID: TD220414-1A1			Prep Date: 4/11/2022			DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLIDS	385	20	400		96	85-115		378	2	14	

MB		Sample ID: TD220411-1			Units: MG/L		Analysis Date: 4/14/2022		
Client ID:		Run ID: TD220414-1A1			Prep Date: 4/11/2022			DF: 1	
Analyte		Result	ReportLimit		Qual				
TOTAL DISSOLVED SOLIDS		ND	20						

The following samples were analyzed in this batch:

2204110-1