



Friday, January 18, 2019

Sam Bradley
Impetro Resources LLC
2820 Logan Dr
Loveland, CO 80538

Re: ALS Workorder: 1901050
Project Name: Walters Calhoun
Project Number:

Dear Mr. Bradley:

One water sample was received from Impetro Resources LLC, on 1/8/2019. The sample was scheduled for the following analyses:

Inorganics

Metals

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.

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

Sincerely,

ALS Environmental
Lance R. Steere
Project Manager

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
AIHA	214884
Alaska (AK)	UST-086
Alaska (AK)	CO01099
Arizona (AZ)	AZ0742
California (CA)	06251CA
Colorado (CO)	CO01099
Florida (FL)	E87914
Idaho (ID)	CO01099
Kansas (KS)	E-10381
Kentucky (KY)	90137
PJ-LA (DoD ELAP/ISO 170250)	95377
Louisiana (LA)	05057
Maryland (MD)	285
Missouri (MO)	175
Nebraska(NE)	NE-OS-24-13
Nevada (NV)	CO000782008A
New York (NY)	12036
North Dakota (ND)	R-057
Oklahoma (OK)	1301
Pennsylvania (PA)	68-03116
Tennessee (TN)	2976
Texas (TX)	T104704241
Utah (UT)	CO01099
Washington (WA)	C1280



1901050

Metals:

The sample was analyzed following SW-846, 3rd Edition procedures. Analysis by Trace ICP followed method 6010D and the current revision of SOP 834.

All acceptance criteria were met.

Inorganics:

The samples were analyzed following MCAWW and EMSL procedures for the current revisions of the following SOPs and methods:

<u>Analyte</u>	<u>Method</u>	<u>SOP #</u>
Alkalinity	310.1	1106
Bicarbonate	310.1	1106
Carbonate	310.1	1106
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

OrderNum: 1901050

Client Name: Impetro Resources LLC

Client Project Name: Walters Calhoun

Client Project Number:

Client PO Number:

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Walters Calhoun	1901050-1		WATER	06-Jan-19	16:00



ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: Impero
Project Manager: LRS

Workorder No: 1901050
Initials: LSa Date: 1.8.19

1. Are airbills / shipping documents present and/or removable?	DROP OFF	<u>YES</u>	NO
2. Are custody seals on shipping containers intact?	NONE	<u>YES</u>	NO
3. Are custody seals on sample containers intact?	<u>NONE</u>	<u>YES</u>	NO
4. Is there a COC (chain-of-custody) present?		<u>YES</u>	NO
5. Is the COC in agreement with samples received? (IDs, dates, times, # of samples, # of containers, matrix, requested analyses, etc.)		<u>YES</u>	NO
6. Are short-hold samples present?		YES	<u>NO</u>
7. Are all samples within holding times for the requested analyses?		<u>YES</u>	NO
8. Were all sample containers received intact? (not broken or leaking)		<u>YES</u>	NO
9. Is there sufficient sample for the requested analyses?		<u>YES</u>	NO
10. Are all samples in the proper containers for the requested analyses?		<u>YES</u>	NO
11. Are all aqueous samples preserved correctly, if required? (excluding volatiles)	N/A	<u>YES</u>	NO
12. Are all aqueous non-preserved samples pH 4-9?	N/A	<u>YES</u>	NO
13. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) free of bubbles > 6 mm (1/4 inch) diameter? (i.e. size of green pea)	<u>N/A</u>	YES	NO
14. Were the samples shipped on ice?		<u>YES</u>	NO
15. Were cooler temperatures measured at 0.1-6.0°C?	IR gun used*: #1 <u>#3</u> #4	RAD ONLY	YES <u>NO</u>
Cooler #: <u>1</u>			
Temperature (°C): <u>10.8</u>			
No. of custody seals on cooler: <u>2</u>			
External µR/hr reading: <u>9</u>			
Background µR/hr reading: <u>10</u>			
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <u>YES</u> NO / NA (If no, see Form 008.)			

Additional Information: Please provide details here for any NO responses to gray-shaded boxes above, or any other issues noted:

All client bottle ID's vs ALS lab ID's double-checked by: LSa

If applicable, was the client contacted? YES / NO / NA Contact: LSa Date/Time: 1/8/19

Project Manager Signature / Date: LSa 1/8/19

View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialogue box that appears. Note: If your browser does not support this function, select Print from the File menu to print the label.
2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.
3. **GETTING YOUR SHIPMENT TO UPS**
 - Customers with a scheduled Pickup**
 - o Your driver will pickup your shipment(s) as usual.
 - Customers without a scheduled Pickup**
 - o Schedule a Pickup on [ups.com](https://www.ups.com) to have a UPS driver pickup all of your packages.
 - o Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. To find the location nearest you, please visit the 'Locations' Quick link at [ups.com](https://www.ups.com).

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FORT MORGAN CO

FOLD HERE

JACK HORTON (970) 867-2778 ROCKY MOUNTAIN OILFIELD WAREHO 731 E. BURLINGTON AVE. FORT MORGAN CO 80701	9 LBS	1 OF 1
SHIP TO: ALS LAB GROUP 225 COMMERCE DRIVE FORT COLLINS CO 80524		
<i>9-2</i>		
CO 805 0-01		
		
UPS GROUND TRACKING #: 1Z X2R 919 03 9485 2717		
		
BILLING: P/P		
		
XOL 19 01 24 NV45 06.0A 10/2018		

10.80c

OSP/P61

Client: Impetro Resources LLC

Date: 18-Jan-19

Project: Walters Calhoun

Work Order: 1901050

Sample ID: Walters Calhoun

Lab ID: 1901050-1

Legal Location:

Matrix: WATER

Collection Date: 1/6/2019 16:00

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity as Calcium Carbonate			EPA310.1		Prep Date: 1/9/2019	PrepBy: AEJ
BICARBONATE AS CaCO3	1400		100	MG/L	1	1/9/2019
CARBONATE AS CaCO3	ND		100	MG/L	1	1/9/2019
TOTAL ALKALINITY AS CaCO3	1400		100	MG/L	1	1/9/2019
ICP Metals			SW6010		Prep Date: 1/15/2019	PrepBy: JML
CALCIUM	2.7		1	MG/L	1	1/17/2019 11:26
POTASSIUM	8.8		1	MG/L	1	1/17/2019 11:26
MAGNESIUM	ND		1	MG/L	1	1/17/2019 11:26
SODIUM	1100		10	MG/L	10	1/17/2019 11:41
Ion Chromatography			EPA300.0		Prep Date: 1/9/2019	PrepBy: HMA
CHLORIDE	800		20	MG/L	100	1/9/2019 16:56
SULFATE	260		10	MG/L	10	1/9/2019 16:44

Client: Impetro Resources LLC

Date: 18-Jan-19

Project: Walters Calhoun

Work Order: 1901050

Sample ID: Walters Calhoun

Lab ID: 1901050-1

Legal Location:

Matrix: WATER

Collection Date: 1/6/2019 16:00

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

Client: Impetro Resources LLC

Work Order: 1901050

Project: Walters Calhoun

Date: 1/18/2019 3:45:

QC BATCH REPORT

Batch ID: IP190115-1-1

Instrument ID ICPTTrace2

Method: SW6010

LCS	Sample ID: IP190115-1			Units: MG/L			Analysis Date: 1/17/2019 11:25					
Client ID:	Run ID: IT190117-1A7			Prep Date: 1/15/2019			DF: 1					
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual	
CALCIUM	38.1	1	40		95	80-120				20		
MAGNESIUM	38.4	1	40		96	80-120				20		
POTASSIUM	39.6	1	40		99	80-120				20		
SODIUM	38.7	1	40		97	80-120				20		

MB	Sample ID: IP190115-1			Units: MG/L			Analysis Date: 1/17/2019 11:24					
Client ID:	Run ID: IT190117-1A7			Prep Date: 1/15/2019			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:

1901050-1

Client: Impetro Resources LLC
Work Order: 1901050
Project: Walters Calhoun

QC BATCH REPORT

Batch ID: **AK190109-1-2** Instrument ID **NONE** Method: **EPA310.1**

LCS	Sample ID: AK190109-1			Units: MG/L			Analysis Date: 1/9/2019				
Client ID:		Run ID: AK190109-1A1			Prep Date: 1/9/2019			DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL ALKALINITY AS CaCO3	98.2	5	100		98	85-115				15	

MB		Sample ID: AK190109-1		Units: MG/L		Analysis Date: 1/9/2019	
Client ID:		Run ID: AK190109-1A1		Prep Date: 1/9/2019		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:

1901050-1

Client: Impetro Resources LLC
Work Order: 1901050
Project: Walters Calhoun

QC BATCH REPORT

Batch ID: **IC190109-1-1** Instrument ID **IC3** Method: **EPA300.0**

LCS	Sample ID: IC190109-1				Units: MG/L		Analysis Date: 1/9/2019 14:54				
Client ID:	Run ID: IC190109-1A1				Prep Date: 1/9/2019			DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
CHLORIDE	10.5	0.2	10		105	90-110				15	
SULFATE	52.9	1	50		106	90-110				15	

LCSD	Sample ID: IC190109-1				Units: MG/L		Analysis Date: 1/9/2019 17:20				
Client ID:	Run ID: IC190109-1A1				Prep Date: 1/9/2019			DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
CHLORIDE	10.6	0.2	10		106	90-110		10.5	1	15	
SULFATE	53.2	1	50		106	90-110		52.9	1	15	

MB		Sample ID: IC190109-1		Units: MG/L		Analysis Date: 1/9/2019 15:06	
Client ID:		Run ID: IC190109-1A1		Prep Date: 1/9/2019		DF: 1	
Analyte		Result	ReportLimit				
CHLORIDE		ND	0.2				
SULFATE		ND	1				

The following samples were analyzed in this batch:

1901050-1