H2-797 (Location ID 439917)
Water Transfer Release
Spill/Release Point ID 443559
Form 19 (Notice of Completion)
Narrative Attachment

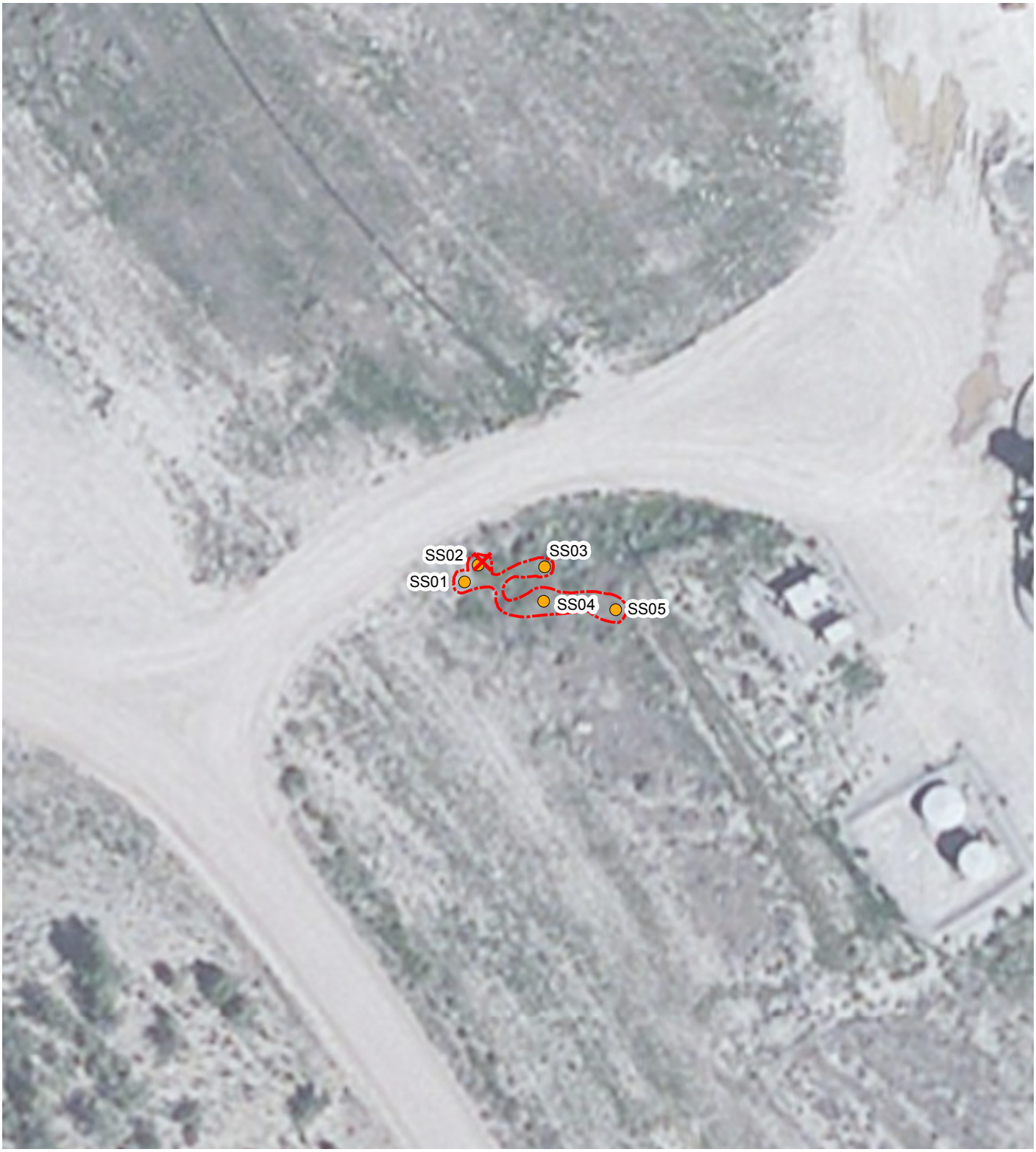
This Form 19 (Notice of Completion) was prepared for the purpose of describing completed work associated with the release of produced water being conveyed to the H2-797 pad location (Location ID 439917) in the Caerus Piceance, LLC (Caerus) area of operations. A Sample Location Map is included as an attachment to this form.

On October 7, 2015, confirmation soil samples (SS01, SS02, SS03, SS04, and SS05) were collected from the spill path area. Soil samples were submitted for laboratory analysis of all COGCC Table 910-1 analytes. Analytical results indicate all soil samples were in compliance with COGCC Table 910-1 Concentration Levels for all analytes or were within background concentrations, except for electrical conductivity (EC), sodium absorption ratio (SAR), and benzene measurements for soil sample SS02 and EC and benzene measurements for soil sample SS05.

On October 8, 2015, the damaged section of pipeline was replaced. In order to do this, the soil around the release area was excavated, agitated, and eventually used as backfill around the excavation.

On October 22, 2015, additional samples were collected at sample locations SS02 and SS05. Soil sample SS02 was submitted for laboratory analysis of EC, SAR, and benzene; soil sample SS05 was submitted for EC and benzene. Analytical results indicate both soil samples were in compliance with COGCC Table 910-1 Concentration Levels for all constituents analyzed for.

Based on soil analytical results, Caerus requests an NFA designation for this project.



LEGEND

- RELEASE
- SAMPLE LOCATION
- SPILL PATH

IMAGE COURTESY OF ESRI

0 50 100

Feet

N

FIGURE 2
SAMPLE LOCATION MAP
H2-797 WATER TRANSFER RELEASE
GARFIELD COUNTY, COLORADO

CAERUS OIL AND GAS, LLC

P:\Caerus Oil & Gas\GIS\MXD\050815013_H2_797_WATER_TRANSFER_RELEASE\050815013_FIG02_SAMPLE LOC.mxd

TABLE 1
H2-797 WATER TRANSFER RELEASE
SOIL ANALYTICAL RESULTS
CAERUS OIL AND GAS
PICEANCE BASIN, COLORADO

PARAMETER	COGCC CONCENTRATION LEVELS	UNITS	SS01	SS02	SS02	SS03	SS04	SS05	SS05	BKGD 1*
Sample Date			10/7/2015	10/7/2015	10/22/2015	10/7/2015	10/7/2015	10/7/2015	10/22/2015	7/22/2013
Sample Type			Confirmation	Confirmation	Confirmation	Confirmation	Confirmation	Confirmation	Confirmation	Background
Arsenic	0.39	mg/kg	9.3	11	NA	12	12	13	NA	39
Barium	15,000	mg/kg	4,200	380	NA	310	300	290	NA	NA
Cadmium	70	mg/kg	ND	ND	NA	ND	ND	ND	NA	NA
Chromium (III)	120,000	mg/kg	11	12	NA	12	12	11	NA	NA
Chromium (VI)	23	mg/kg	ND	ND	NA	ND	ND	ND	NA	NA
Copper	3,100	mg/kg	16	17	NA	17	16	18	NA	NA
Lead	400	mg/kg	8.4	9.4	NA	9.3	9.8	9.5	NA	NA
Mercury	23	mg/kg	0.024	0.023	NA	0.023	0.021	0.021	NA	NA
Nickel	1,600	mg/kg	19	23	NA	22	23	22	NA	NA
Selenium	390	mg/kg	1.1	1.2	NA	1.1	1.3	1.2	NA	NA
Silver	390	mg/kg	ND	ND	NA	ND	ND	ND	NA	NA
Zinc	23,000	mg/kg	48	58	NA	57	58	56	NA	NA
EC	4 or 2x background	mmhos/cm	3.3	7.0	3.6	2.2	1.5	5.2	2.7	NA
pH	6-9	SU	8.3	8.1	NA	8.4	8.4	8.2	NA	NA
SAR	12	unitless	5.0	13	4.2	2.9	2.4	7.2	NA	NA
TPH-GRO			ND	ND	NA	ND	ND	ND	NA	NA
TPH-DRO			80	40	NA	44	46	42	NA	NA
TPH	500	mg/kg	80	40	NA	44	46	42	NA	NA
Benzene	0.17	mg/kg	ND	0.63	ND	0.037	ND	0.29	ND	NA
Toluene	85	mg/kg	0.065	1.2	NA	0.062	ND	0.42	NA	NA
Ethylbenzene	100	mg/kg	ND	0.043	NA	ND	ND	ND	NA	NA
Total Xylenes	175	mg/kg	ND	0.84	NA	ND	ND	0.18	NA	NA
Acenaphthene	1,000	mg/kg	ND	ND	NA	ND	ND	ND	NA	NA
Anthracene	1,000	mg/kg	ND	ND	NA	ND	ND	ND	NA	NA
Benz(a)anthracene	0.22	mg/kg	ND	ND	NA	ND	ND	ND	NA	NA
Benzo(b)fluoranthene	0.22	mg/kg	ND	ND	NA	ND	ND	ND	NA	NA
Benzo(k)fluoranthene	2.2	mg/kg	ND	ND	NA	ND	ND	ND	NA	NA
Benzo(a)pyrene	0.022	mg/kg	ND	ND	NA	ND	ND	ND	NA	NA
Chrysene	22	mg/kg	ND	ND	NA	ND	ND	ND	NA	NA
Dibenzo(a,h)anthracene	0.022	mg/kg	ND	ND	NA	ND	ND	ND	NA	NA
Fluoranthene	1,000	mg/kg	ND	ND	NA	ND	ND	ND	NA	NA
Fluorene	1,000	mg/kg	ND	ND	NA	ND	ND	ND	NA	NA
Indeno(1,2,3,c,d)pyrene	0.22	mg/kg	ND	ND	NA	ND	ND	ND	NA	NA
Naphthalene	23	mg/kg	0.012	0.017	NA	ND	ND	ND	NA	NA
Pyrene	1,000	mg/kg	ND	ND	NA	ND	ND	ND	NA	NA

Notes:

* This background sample was collected near another pad location, Chevron 41-8D (COGCC Location ID 324196)

< - less than the stated reporting limit

Highlight - indicates result exceeds the COGCC concentration level

COGCC - Colorado Oil and Gas Conservation Commission

EC - electrical conductivity

mg/kg - milligrams per kilogram

mmhos/cm - millimhos per centimeter

NA - not analyzed

SAR - sodium adsorption ratio

SU - standard unit

TPH-GRO - total petroleum hydrocarbons-gasoline range organics

TPH-DRO - total petroleum hydrocarbons-diesel range organics

TPH - combination of TPH-GRO and TPH-DRO

15-Oct-2015

Jake Janicek
Caerus Oil and Gas LLC
120 N. Railroad Ave. Suite D
Parachute, CO 81635

Re: **H2-797 Water Transfer Release** Work Order: **1510504**

Dear Jake,

ALS Environmental received 5 samples on 08-Oct-2015 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 31.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Electronically approved by: Chad Whelton

Les Arnold
Senior Project Manager

Certificate No: MN 532786

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

ALS Group USA, Corp

Date: 15-Oct-15

Client: Caerus Oil and Gas LLC
Project: H2-797 Water Transfer Release
Work Order: **1510504**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1510504-01	SS01	Soil		10/7/2015 12:12	10/8/2015 09:30	☐
1510504-02	SS02	Soil		10/7/2015 12:31	10/8/2015 09:30	☐
1510504-03	SS03	Soil		10/7/2015 12:47	10/8/2015 09:30	☐
1510504-04	SS04	Soil		10/7/2015 13:05	10/8/2015 09:30	☐
1510504-05	SS05	Soil		10/7/2015 13:20	10/8/2015 09:30	☐

ALS Group USA, Corp

Date: 15-Oct-15

Client: Caerus Oil and Gas LLC
Project: H2-797 Water Transfer Release
Work Order: 1510504

Case Narrative

Batch 77485, Method CR6_7196_S, Sample 1510504-01A MS/MSD: The MS and MSD recovery was below the lower control limit and the RPD between the MS and MSD was outside the control limit for Hexavalent Chromium. The corresponding result in the parent sample should be considered estimated.

ALS Group USA, Corp

Date: 15-Oct-15

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 is present at an estimated concentration between the MDL and Report Limit
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
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
mg/Kg-dry	Milligrams per Kilogram Dry Weight
mg/L	Milligrams per Liter
mmhos/cm @25°C	Millimhos-Centimeter at 25 Degrees Celcius
none	
s.u.	Standard Units

ALS Group USA, Corp

Date: *15-Oct-15*

Client: Caerus Oil and Gas LLC
Project: H2-797 Water Transfer Release
Work Order: 1510504
Sample ID: SS01
Lab ID: 1510504-01
Collection Date: 10/7/2015 12:12 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep: SW3541 / 10/12/15	Analyst: **IT**
DRO (C10-C28)	**80**		**4.6**	**mg/Kg-dry**	1	10/13/2015 12:16 PM
Surr: 4-Terphenyl-d14	*80.9*		*39-133*	*%REC*	1	10/13/2015 12:16 PM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015D**		Prep: SW5035 / 10/9/15	Analyst: **IT**
GRO (C6-C10)	ND		2.8	mg/Kg-dry	1	10/9/2015 05:17 PM
Surr: Toluene-d8	*112*		*50-150*	*%REC*	1	10/9/2015 05:17 PM
MERCURY BY CVAA			**SW7471B**		Prep: SW7471 / 10/13/15	Analyst: **LR**
Mercury	**0.024**		**0.017**	**mg/Kg-dry**	1	10/13/2015 11:23 PM
METALS ANALYSIS BY ICP			**SW846 6010C**		Prep: SW3050B / 10/8/15	Analyst: **JEC**
Arsenic	**9.3**		**0.44**	**mg/Kg-dry**	1	10/12/2015 03:30 PM
Barium	**4,200**		**4.4**	**mg/Kg-dry**	10	10/13/2015 11:14 AM
Cadmium	ND		0.89	mg/Kg-dry	1	10/12/2015 03:30 PM
Chromium	**12**		**0.44**	**mg/Kg-dry**	1	10/12/2015 03:30 PM
Copper	**16**		**0.89**	**mg/Kg-dry**	1	10/12/2015 03:30 PM
Lead	**8.4**		**0.44**	**mg/Kg-dry**	1	10/12/2015 03:30 PM
Nickel	**19**		**0.44**	**mg/Kg-dry**	1	10/12/2015 03:30 PM
Selenium	**1.1**		**0.89**	**mg/Kg-dry**	1	10/13/2015 04:37 PM
Silver	ND		0.44	mg/Kg-dry	1	10/12/2015 03:30 PM
Zinc	**48**		**0.89**	**mg/Kg-dry**	1	10/12/2015 03:30 PM
SOLUBLE CATIONS FOR SAR			**SW846 6010C**		Prep: USDA Method 20B / 10/12/15	Analyst: **JEC**
Calcium	**150**		**5.0**	**mg/L**	10	10/12/2015 11:45 AM
Magnesium	**61**		**2.0**	**mg/L**	10	10/12/2015 11:45 AM
Sodium	**280**		**2.0**	**mg/L**	10	10/12/2015 11:45 AM
SODIUM ADSORPTION RATIO			**USDA H60 METHO**		Prep: USDA Method 20B / 10/12/15	Analyst: **JEC**
Sodium Adsorption Ratio	**5.0**		**0.010**	**none**	1	10/12/2015
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep: SW3541 / 10/13/15	Analyst: **RS**
Acenaphthene	ND		0.0073	mg/Kg-dry	1	10/15/2015 01:07 PM
Anthracene	ND		0.0073	mg/Kg-dry	1	10/15/2015 01:07 PM
Benzo(a)anthracene	ND		0.0073	mg/Kg-dry	1	10/15/2015 01:07 PM
Benzo(a)pyrene	ND		0.0073	mg/Kg-dry	1	10/15/2015 01:07 PM
Benzo(b)fluoranthene	ND		0.0073	mg/Kg-dry	1	10/15/2015 01:07 PM
Benzo(k)fluoranthene	ND		0.0073	mg/Kg-dry	1	10/15/2015 01:07 PM
Chrysene	ND		0.0073	mg/Kg-dry	1	10/15/2015 01:07 PM
Dibenzo(a,h)anthracene	ND		0.0073	mg/Kg-dry	1	10/15/2015 01:07 PM
Fluoranthene	ND		0.0073	mg/Kg-dry	1	10/15/2015 01:07 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Caerus Oil and Gas LLC
Project: H2-797 Water Transfer Release **Work Order:** 1510504
Sample ID: SS01 **Lab ID:** 1510504-01
Collection Date: 10/7/2015 12:12 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.0073	mg/Kg-dry	1	10/15/2015 01:07 PM
Indeno(1,2,3-cd)pyrene	ND		0.0073	mg/Kg-dry	1	10/15/2015 01:07 PM
Naphthalene	**0.012**		**0.0073**	**mg/Kg-dry**	1	10/15/2015 01:07 PM
Pyrene	ND		0.0073	mg/Kg-dry	1	10/15/2015 01:07 PM
Surr: 2-Fluorobiphenyl	*65.7*		*12-100*	*%REC*	1	10/15/2015 01:07 PM
Surr: 4-Terphenyl-d14	*81.5*		*25-137*	*%REC*	1	10/15/2015 01:07 PM
Surr: Nitrobenzene-d5	*49.8*		*37-107*	*%REC*	1	10/15/2015 01:07 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep: SW5035 / 10/9/15	Analyst: **BG**
Benzene	ND		0.034	mg/Kg-dry	1	10/13/2015 11:43 PM
Ethylbenzene	ND		0.034	mg/Kg-dry	1	10/13/2015 11:43 PM
m,p-Xylene	ND		0.067	mg/Kg-dry	1	10/13/2015 11:43 PM
o-Xylene	ND		0.034	mg/Kg-dry	1	10/13/2015 11:43 PM
Toluene	**0.065**		**0.034**	**mg/Kg-dry**	1	10/13/2015 11:43 PM
Xylenes, Total	ND		0.10	mg/Kg-dry	1	10/13/2015 11:43 PM
Surr: 1,2-Dichloroethane-d4	*102*		*70-130*	*%REC*	1	10/13/2015 11:43 PM
Surr: 4-Bromofluorobenzene	*98.8*		*70-130*	*%REC*	1	10/13/2015 11:43 PM
Surr: Dibromofluoromethane	*93.6*		*70-130*	*%REC*	1	10/13/2015 11:43 PM
Surr: Toluene-d8	*95.4*		*70-130*	*%REC*	1	10/13/2015 11:43 PM
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHO**		Prep: USDA Method 20B / 10/12/15	Analyst: **JB**
Electrical Conductivity @ Saturation	**3.3**		**0.050**	**mmhos/cm @2**	10	10/12/2015 01:15 PM
CHROMIUM, TRIVALENT			**CALCULATION**			Analyst: **JB**
Chromium, Trivalent	**11**		**0.56**	**mg/Kg-dry**	1	10/15/2015 08:30 AM
CHROMIUM, HEXAVALENT			**SW7196A**		Prep: SW3060A / 10/13/15	Analyst: **MB**
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	10/14/2015 04:00 PM
MOISTURE			**E160.3M**			Analyst: **EVB**
Moisture	**11**		**0.050**	**% of sample**	1	10/13/2015 02:45 PM
PH			**SW9045D**		Prep: EXTRACT / 10/9/15	Analyst: **KF**
pH	**8.3**			**s.u.**	1	10/9/2015 11:45 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *15-Oct-15*

Client: Caerus Oil and Gas LLC
Project: H2-797 Water Transfer Release
Work Order: 1510504
Sample ID: SS02
Lab ID: 1510504-02
Collection Date: 10/7/2015 12:31 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep: SW3541 / 10/12/15	Analyst: **IT**
DRO (C10-C28)	**40**		**4.9**	**mg/Kg-dry**	1	10/13/2015 12:45 PM
Surr: 4-Terphenyl-d14	*78.9*		*39-133*	*%REC*	1	10/13/2015 12:45 PM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015D**		Prep: SW5035 / 10/9/15	Analyst: **IT**
GRO (C6-C10)	ND		3.0	mg/Kg-dry	1	10/9/2015 05:42 PM
Surr: Toluene-d8	*103*		*50-150*	*%REC*	1	10/9/2015 05:42 PM
MERCURY BY CVAA			**SW7471B**		Prep: SW7471 / 10/13/15	Analyst: **LR**
Mercury	**0.023**		**0.016**	**mg/Kg-dry**	1	10/13/2015 11:25 PM
METALS ANALYSIS BY ICP			**SW846 6010C**		Prep: SW3050B / 10/8/15	Analyst: **JEC**
Arsenic	**11**		**0.44**	**mg/Kg-dry**	1	10/12/2015 03:37 PM
Barium	**380**		**0.44**	**mg/Kg-dry**	1	10/12/2015 03:37 PM
Cadmium	ND		0.88	mg/Kg-dry	1	10/12/2015 03:37 PM
Chromium	**12**		**0.44**	**mg/Kg-dry**	1	10/12/2015 03:37 PM
Copper	**17**		**0.88**	**mg/Kg-dry**	1	10/12/2015 03:37 PM
Lead	**9.4**		**0.44**	**mg/Kg-dry**	1	10/12/2015 03:37 PM
Nickel	**23**		**0.44**	**mg/Kg-dry**	1	10/12/2015 03:37 PM
Selenium	**1.2**		**0.88**	**mg/Kg-dry**	1	10/13/2015 04:31 PM
Silver	ND		0.44	mg/Kg-dry	1	10/12/2015 03:37 PM
Zinc	**58**		**0.88**	**mg/Kg-dry**	1	10/12/2015 03:37 PM
SOLUBLE CATIONS FOR SAR			**SW846 6010C**		Prep: USDA Method 20B / 10/12/15	Analyst: **JEC**
Calcium	**190**		**5.0**	**mg/L**	10	10/12/2015 11:50 AM
Magnesium	**83**		**2.0**	**mg/L**	10	10/12/2015 11:50 AM
Sodium	**860**		**2.0**	**mg/L**	10	10/12/2015 11:50 AM
SODIUM ADSORPTION RATIO			**USDA H60 METHO**		Prep: USDA Method 20B / 10/12/15	Analyst: **JEC**
Sodium Adsorption Ratio	**13**		**0.010**	**none**	1	10/12/2015
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep: SW3541 / 10/13/15	Analyst: **RS**
Acenaphthene	ND		0.0079	mg/Kg-dry	1	10/13/2015 11:22 PM
Anthracene	ND		0.0079	mg/Kg-dry	1	10/13/2015 11:22 PM
Benzo(a)anthracene	ND		0.0079	mg/Kg-dry	1	10/13/2015 11:22 PM
Benzo(a)pyrene	ND		0.0079	mg/Kg-dry	1	10/13/2015 11:22 PM
Benzo(b)fluoranthene	ND		0.0079	mg/Kg-dry	1	10/13/2015 11:22 PM
Benzo(k)fluoranthene	ND		0.0079	mg/Kg-dry	1	10/13/2015 11:22 PM
Chrysene	ND		0.0079	mg/Kg-dry	1	10/13/2015 11:22 PM
Dibenzo(a,h)anthracene	ND		0.0079	mg/Kg-dry	1	10/13/2015 11:22 PM
Fluoranthene	ND		0.0079	mg/Kg-dry	1	10/13/2015 11:22 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *15-Oct-15*

Client: Caerus Oil and Gas LLC
Project: H2-797 Water Transfer Release
Work Order: 1510504
Sample ID: SS02
Lab ID: 1510504-02
Collection Date: 10/7/2015 12:31 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.0079	mg/Kg-dry	1	10/13/2015 11:22 PM
Indeno(1,2,3-cd)pyrene	ND		0.0079	mg/Kg-dry	1	10/13/2015 11:22 PM
Naphthalene	**0.017**		**0.0079**	**mg/Kg-dry**	1	10/13/2015 11:22 PM
Pyrene	ND		0.0079	mg/Kg-dry	1	10/13/2015 11:22 PM
Surr: 2-Fluorobiphenyl	*69.0*		*12-100*	*%REC*	1	10/13/2015 11:22 PM
Surr: 4-Terphenyl-d14	*99.0*		*25-137*	*%REC*	1	10/13/2015 11:22 PM
Surr: Nitrobenzene-d5	*72.5*		*37-107*	*%REC*	1	10/13/2015 11:22 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep: SW5035 / 10/9/15	Analyst: **BG**
Benzene	**0.63**		**0.036**	**mg/Kg-dry**	1	10/14/2015 12:09 PM
Ethylbenzene	**0.043**		**0.036**	**mg/Kg-dry**	1	10/14/2015 12:09 PM
m,p-Xylene	**0.68**		**0.071**	**mg/Kg-dry**	1	10/14/2015 12:09 PM
o-Xylene	**0.15**		**0.036**	**mg/Kg-dry**	1	10/14/2015 12:09 PM
Toluene	**1.2**		**0.036**	**mg/Kg-dry**	1	10/14/2015 12:09 PM
Xylenes, Total	**0.84**		**0.11**	**mg/Kg-dry**	1	10/14/2015 12:09 PM
Surr: 1,2-Dichloroethane-d4	*99.0*		*70-130*	*%REC*	1	10/14/2015 12:09 PM
Surr: 4-Bromofluorobenzene	*101*		*70-130*	*%REC*	1	10/14/2015 12:09 PM
Surr: Dibromofluoromethane	*90.4*		*70-130*	*%REC*	1	10/14/2015 12:09 PM
Surr: Toluene-d8	*96.1*		*70-130*	*%REC*	1	10/14/2015 12:09 PM
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHO**		Prep: USDA Method 20B / 10/12/15	Analyst: **JB**
Electrical Conductivity @ Saturation	**7.0**		**0.050**	**mmhos/cm @2**	10	10/12/2015 01:15 PM
CHROMIUM, TRIVALENT			**CALCULATION**			Analyst: **JB**
Chromium, Trivalent	**12**		**0.59**	**mg/Kg-dry**	1	10/15/2015 08:30 AM
CHROMIUM, HEXAVALENT			**SW7196A**		Prep: SW3060A / 10/13/15	Analyst: **MB**
Chromium, Hexavalent	ND		1.2	mg/Kg-dry	1	10/14/2015 04:00 PM
MOISTURE			**E160.3M**			Analyst: **EVB**
Moisture	**16**		**0.050**	**% of sample**	1	10/13/2015 02:45 PM
PH			**SW9045D**		Prep: EXTRACT / 10/9/15	Analyst: **KF**
pH	**8.1**			**s.u.**	1	10/9/2015 11:45 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *15-Oct-15*

Client: Caerus Oil and Gas LLC
Project: H2-797 Water Transfer Release
Work Order: 1510504
Sample ID: SS03
Lab ID: 1510504-03
Collection Date: 10/7/2015 12:47 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep: SW3541 / 10/12/15	Analyst: **IT**
DRO (C10-C28)	**44**		**4.7**	**mg/Kg-dry**	1	10/13/2015 01:16 AM
Surr: 4-Terphenyl-d14	*71.4*		*39-133*	*%REC*	1	10/13/2015 01:16 AM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015D**		Prep: SW5035 / 10/9/15	Analyst: **IT**
GRO (C6-C10)	ND		2.9	mg/Kg-dry	1	10/9/2015 06:07 PM
Surr: Toluene-d8	*110*		*50-150*	*%REC*	1	10/9/2015 06:07 PM
MERCURY BY CVAA			**SW7471B**		Prep: SW7471 / 10/13/15	Analyst: **LR**
Mercury	**0.023**		**0.017**	**mg/Kg-dry**	1	10/13/2015 11:28 PM
METALS ANALYSIS BY ICP			**SW846 6010C**		Prep: SW3050B / 10/8/15	Analyst: **JEC**
Arsenic	**12**		**0.44**	**mg/Kg-dry**	1	10/12/2015 03:42 PM
Barium	**310**		**0.44**	**mg/Kg-dry**	1	10/12/2015 03:42 PM
Cadmium	ND		0.88	mg/Kg-dry	1	10/12/2015 03:42 PM
Chromium	**12**		**0.44**	**mg/Kg-dry**	1	10/12/2015 03:42 PM
Copper	**17**		**0.88**	**mg/Kg-dry**	1	10/12/2015 03:42 PM
Lead	**9.3**		**0.44**	**mg/Kg-dry**	1	10/12/2015 03:42 PM
Nickel	**22**		**0.44**	**mg/Kg-dry**	1	10/12/2015 03:42 PM
Selenium	**1.1**		**0.88**	**mg/Kg-dry**	1	10/12/2015 03:42 PM
Silver	ND		0.44	mg/Kg-dry	1	10/12/2015 03:42 PM
Zinc	**57**		**0.88**	**mg/Kg-dry**	1	10/12/2015 03:42 PM
SOLUBLE CATIONS FOR SAR			**SW846 6010C**		Prep: USDA Method 20B / 10/12/15	Analyst: **JEC**
Calcium	**130**		**5.0**	**mg/L**	10	10/12/2015 11:56 AM
Magnesium	**58**		**2.0**	**mg/L**	10	10/12/2015 11:56 AM
Sodium	**160**		**2.0**	**mg/L**	10	10/12/2015 11:56 AM
SODIUM ADSORPTION RATIO			**USDA H60 METHO**		Prep: USDA Method 20B / 10/12/15	Analyst: **JEC**
Sodium Adsorption Ratio	**2.9**		**0.010**	**none**	1	10/12/2015
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep: SW3541 / 10/13/15	Analyst: **RS**
Acenaphthene	ND		0.0075	mg/Kg-dry	1	10/13/2015 11:41 PM
Anthracene	ND		0.0075	mg/Kg-dry	1	10/13/2015 11:41 PM
Benzo(a)anthracene	ND		0.0075	mg/Kg-dry	1	10/13/2015 11:41 PM
Benzo(a)pyrene	ND		0.0075	mg/Kg-dry	1	10/13/2015 11:41 PM
Benzo(b)fluoranthene	ND		0.0075	mg/Kg-dry	1	10/13/2015 11:41 PM
Benzo(k)fluoranthene	ND		0.0075	mg/Kg-dry	1	10/13/2015 11:41 PM
Chrysene	ND		0.0075	mg/Kg-dry	1	10/13/2015 11:41 PM
Dibenzo(a,h)anthracene	ND		0.0075	mg/Kg-dry	1	10/13/2015 11:41 PM
Fluoranthene	ND		0.0075	mg/Kg-dry	1	10/13/2015 11:41 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Caerus Oil and Gas LLC
Project: H2-797 Water Transfer Release **Work Order:** 1510504
Sample ID: SS03 **Lab ID:** 1510504-03
Collection Date: 10/7/2015 12:47 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.0075	mg/Kg-dry	1	10/13/2015 11:41 PM
Indeno(1,2,3-cd)pyrene	ND		0.0075	mg/Kg-dry	1	10/13/2015 11:41 PM
Naphthalene	ND		0.0075	mg/Kg-dry	1	10/13/2015 11:41 PM
Pyrene	ND		0.0075	mg/Kg-dry	1	10/13/2015 11:41 PM
Surr: 2-Fluorobiphenyl	*67.2*		*12-100*	*%REC*	1	10/13/2015 11:41 PM
Surr: 4-Terphenyl-d14	*84.0*		*25-137*	*%REC*	1	10/13/2015 11:41 PM
Surr: Nitrobenzene-d5	*69.7*		*37-107*	*%REC*	1	10/13/2015 11:41 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep: SW5035 / 10/9/15	Analyst: **BG**
Benzene	**0.037**		**0.034**	**mg/Kg-dry**	1	10/14/2015 12:35 PM
Ethylbenzene	ND		0.034	mg/Kg-dry	1	10/14/2015 12:35 PM
m,p-Xylene	ND		0.069	mg/Kg-dry	1	10/14/2015 12:35 PM
o-Xylene	ND		0.034	mg/Kg-dry	1	10/14/2015 12:35 PM
Toluene	**0.062**		**0.034**	**mg/Kg-dry**	1	10/14/2015 12:35 PM
Xylenes, Total	ND		0.10	mg/Kg-dry	1	10/14/2015 12:35 PM
Surr: 1,2-Dichloroethane-d4	*103*		*70-130*	*%REC*	1	10/14/2015 12:35 PM
Surr: 4-Bromofluorobenzene	*99.1*		*70-130*	*%REC*	1	10/14/2015 12:35 PM
Surr: Dibromofluoromethane	*93.0*		*70-130*	*%REC*	1	10/14/2015 12:35 PM
Surr: Toluene-d8	*97.8*		*70-130*	*%REC*	1	10/14/2015 12:35 PM
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHO**		Prep: USDA Method 20B / 10/12/15	Analyst: **JB**
Electrical Conductivity @ Saturation	**2.2**		**0.050**	**mmhos/cm @2**	10	10/12/2015 01:15 PM
CHROMIUM, TRIVALENT			**CALCULATION**			Analyst: **JB**
Chromium, Trivalent	**12**		**0.57**	**mg/Kg-dry**	1	10/15/2015 08:30 AM
CHROMIUM, HEXAVALENT			**SW7196A**		Prep: SW3060A / 10/13/15	Analyst: **MB**
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	10/14/2015 04:00 PM
MOISTURE			**E160.3M**			Analyst: **EVB**
Moisture	**13**		**0.050**	**% of sample**	1	10/13/2015 02:45 PM
PH			**SW9045D**		Prep: EXTRACT / 10/9/15	Analyst: **KF**
pH	**8.4**			**s.u.**	1	10/9/2015 11:45 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *15-Oct-15*

Client: Caerus Oil and Gas LLC
Project: H2-797 Water Transfer Release
Work Order: 1510504
Sample ID: SS04
Lab ID: 1510504-04
Collection Date: 10/7/2015 01:05 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep: SW3541 / 10/12/15	Analyst: **IT**
DRO (C10-C28)	**46**		**4.5**	**mg/Kg-dry**	1	10/13/2015 01:46 AM
Surr: 4-Terphenyl-d14	*64.9*		*39-133*	*%REC*	1	10/13/2015 01:46 AM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015D**		Prep: SW5035 / 10/9/15	Analyst: **IT**
GRO (C6-C10)	ND		2.8	mg/Kg-dry	1	10/9/2015 06:32 PM
Surr: Toluene-d8	*110*		*50-150*	*%REC*	1	10/9/2015 06:32 PM
MERCURY BY CVAA			**SW7471B**		Prep: SW7471 / 10/13/15	Analyst: **LR**
Mercury	**0.021**		**0.015**	**mg/Kg-dry**	1	10/13/2015 11:30 PM
METALS ANALYSIS BY ICP			**SW846 6010C**		Prep: SW3050B / 10/8/15	Analyst: **JEC**
Arsenic	**12**		**0.46**	**mg/Kg-dry**	1	10/12/2015 03:48 PM
Barium	**300**		**0.46**	**mg/Kg-dry**	1	10/12/2015 03:48 PM
Cadmium	ND		0.92	mg/Kg-dry	1	10/12/2015 03:48 PM
Chromium	**12**		**0.46**	**mg/Kg-dry**	1	10/12/2015 03:48 PM
Copper	**16**		**0.92**	**mg/Kg-dry**	1	10/12/2015 03:48 PM
Lead	**9.8**		**0.46**	**mg/Kg-dry**	1	10/12/2015 03:48 PM
Nickel	**23**		**0.46**	**mg/Kg-dry**	1	10/12/2015 03:48 PM
Selenium	**1.3**		**0.92**	**mg/Kg-dry**	1	10/12/2015 03:48 PM
Silver	ND		0.46	mg/Kg-dry	1	10/12/2015 03:48 PM
Zinc	**58**		**0.92**	**mg/Kg-dry**	1	10/12/2015 03:48 PM
SOLUBLE CATIONS FOR SAR			**SW846 6010C**		Prep: USDA Method 20B / 10/12/15	Analyst: **JEC**
Calcium	**81**		**5.0**	**mg/L**	10	10/12/2015 12:01 PM
Magnesium	**37**		**2.0**	**mg/L**	10	10/12/2015 12:01 PM
Sodium	**100**		**2.0**	**mg/L**	10	10/12/2015 12:01 PM
SODIUM ADSORPTION RATIO			**USDA H60 METHO**		Prep: USDA Method 20B / 10/12/15	Analyst: **JEC**
Sodium Adsorption Ratio	**2.4**		**0.010**	**none**	1	10/12/2015
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep: SW3541 / 10/13/15	Analyst: **RS**
Acenaphthene	ND		0.0073	mg/Kg-dry	1	10/14/2015 12:01 AM
Anthracene	ND		0.0073	mg/Kg-dry	1	10/14/2015 12:01 AM
Benzo(a)anthracene	ND		0.0073	mg/Kg-dry	1	10/14/2015 12:01 AM
Benzo(a)pyrene	ND		0.0073	mg/Kg-dry	1	10/14/2015 12:01 AM
Benzo(b)fluoranthene	ND		0.0073	mg/Kg-dry	1	10/14/2015 12:01 AM
Benzo(k)fluoranthene	ND		0.0073	mg/Kg-dry	1	10/14/2015 12:01 AM
Chrysene	ND		0.0073	mg/Kg-dry	1	10/14/2015 12:01 AM
Dibenzo(a,h)anthracene	ND		0.0073	mg/Kg-dry	1	10/14/2015 12:01 AM
Fluoranthene	ND		0.0073	mg/Kg-dry	1	10/14/2015 12:01 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Caerus Oil and Gas LLC
Project: H2-797 Water Transfer Release **Work Order:** 1510504
Sample ID: SS04 **Lab ID:** 1510504-04
Collection Date: 10/7/2015 01:05 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.0073	mg/Kg-dry	1	10/14/2015 12:01 AM
Indeno(1,2,3-cd)pyrene	ND		0.0073	mg/Kg-dry	1	10/14/2015 12:01 AM
Naphthalene	ND		0.0073	mg/Kg-dry	1	10/14/2015 12:01 AM
Pyrene	ND		0.0073	mg/Kg-dry	1	10/14/2015 12:01 AM
Surr: 2-Fluorobiphenyl	*71.7*		*12-100*	*%REC*	1	10/14/2015 12:01 AM
Surr: 4-Terphenyl-d14	*72.2*		*25-137*	*%REC*	1	10/14/2015 12:01 AM
Surr: Nitrobenzene-d5	*68.4*		*37-107*	*%REC*	1	10/14/2015 12:01 AM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep: SW5035 / 10/9/15	Analyst: **BG**
Benzene	ND		0.033	mg/Kg-dry	1	10/14/2015 12:42 PM
Ethylbenzene	ND		0.033	mg/Kg-dry	1	10/14/2015 12:42 PM
m,p-Xylene	ND		0.067	mg/Kg-dry	1	10/14/2015 12:42 PM
o-Xylene	ND		0.033	mg/Kg-dry	1	10/14/2015 12:42 PM
Toluene	ND		0.033	mg/Kg-dry	1	10/14/2015 12:42 PM
Xylenes, Total	ND		0.10	mg/Kg-dry	1	10/14/2015 12:42 PM
Surr: 1,2-Dichloroethane-d4	*106*		*70-130*	*%REC*	1	10/14/2015 12:42 PM
Surr: 4-Bromofluorobenzene	*99.4*		*70-130*	*%REC*	1	10/14/2015 12:42 PM
Surr: Dibromofluoromethane	*97.3*		*70-130*	*%REC*	1	10/14/2015 12:42 PM
Surr: Toluene-d8	*97.4*		*70-130*	*%REC*	1	10/14/2015 12:42 PM
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHO**		Prep: USDA Method 20B / 10/12/15	Analyst: **JB**
Electrical Conductivity @ Saturation	**1.5**		**0.050**	**mmhos/cm @2**	10	10/12/2015 01:15 PM
CHROMIUM, TRIVALENT			**CALCULATION**			Analyst: **JB**
Chromium, Trivalent	**12**		**0.56**	**mg/Kg-dry**	1	10/15/2015 08:30 AM
CHROMIUM, HEXAVALENT			**SW7196A**		Prep: SW3060A / 10/13/15	Analyst: **MB**
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	10/14/2015 04:00 PM
MOISTURE			**E160.3M**			Analyst: **EVB**
Moisture	**10**		**0.050**	**% of sample**	1	10/13/2015 02:45 PM
PH			**SW9045D**		Prep: EXTRACT / 10/9/15	Analyst: **KF**
pH	**8.4**			**s.u.**	1	10/9/2015 11:45 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *15-Oct-15*

Client: Caerus Oil and Gas LLC
Project: H2-797 Water Transfer Release
Work Order: 1510504
Sample ID: SS05
Lab ID: 1510504-05
Collection Date: 10/7/2015 01:20 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep: SW3541 / 10/12/15	Analyst: **IT**
DRO (C10-C28)	**42**		**4.6**	**mg/Kg-dry**	1	10/13/2015 02:15 AM
Surr: 4-Terphenyl-d14	*80.2*		*39-133*	*%REC*	1	10/13/2015 02:15 AM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015D**		Prep: SW5035 / 10/9/15	Analyst: **IT**
GRO (C6-C10)	ND		2.8	mg/Kg-dry	1	10/9/2015 06:57 PM
Surr: Toluene-d8	*92.2*		*50-150*	*%REC*	1	10/9/2015 06:57 PM
MERCURY BY CVAA			**SW7471B**		Prep: SW7471 / 10/13/15	Analyst: **LR**
Mercury	**0.021**		**0.015**	**mg/Kg-dry**	1	10/13/2015 11:42 PM
METALS ANALYSIS BY ICP			**SW846 6010C**		Prep: SW3050B / 10/8/15	Analyst: **JEC**
Arsenic	**13**		**0.42**	**mg/Kg-dry**	1	10/12/2015 03:54 PM
Barium	**290**		**0.42**	**mg/Kg-dry**	1	10/12/2015 03:54 PM
Cadmium	ND		0.84	mg/Kg-dry	1	10/12/2015 03:54 PM
Chromium	**12**		**0.42**	**mg/Kg-dry**	1	10/12/2015 03:54 PM
Copper	**18**		**0.84**	**mg/Kg-dry**	1	10/12/2015 03:54 PM
Lead	**9.5**		**0.42**	**mg/Kg-dry**	1	10/12/2015 03:54 PM
Nickel	**22**		**0.42**	**mg/Kg-dry**	1	10/12/2015 03:54 PM
Selenium	**1.2**		**0.84**	**mg/Kg-dry**	1	10/13/2015 11:19 AM
Silver	ND		0.42	mg/Kg-dry	1	10/12/2015 03:54 PM
Zinc	**56**		**0.84**	**mg/Kg-dry**	1	10/12/2015 03:54 PM
SOLUBLE CATIONS FOR SAR			**SW846 6010C**		Prep: USDA Method 20B / 10/12/15	Analyst: **JEC**
Calcium	**180**		**5.0**	**mg/L**	10	10/12/2015 12:12 PM
Magnesium	**68**		**2.0**	**mg/L**	10	10/12/2015 12:12 PM
Sodium	**450**		**2.0**	**mg/L**	10	10/12/2015 12:12 PM
SODIUM ADSORPTION RATIO			**USDA H60 METHO**		Prep: USDA Method 20B / 10/12/15	Analyst: **JEC**
Sodium Adsorption Ratio	**7.2**		**0.010**	**none**	1	10/12/2015
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep: SW3541 / 10/13/15	Analyst: **RS**
Acenaphthene	ND		0.0074	mg/Kg-dry	1	10/14/2015 12:21 AM
Anthracene	ND		0.0074	mg/Kg-dry	1	10/14/2015 12:21 AM
Benzo(a)anthracene	ND		0.0074	mg/Kg-dry	1	10/14/2015 12:21 AM
Benzo(a)pyrene	ND		0.0074	mg/Kg-dry	1	10/14/2015 12:21 AM
Benzo(b)fluoranthene	ND		0.0074	mg/Kg-dry	1	10/14/2015 12:21 AM
Benzo(k)fluoranthene	ND		0.0074	mg/Kg-dry	1	10/14/2015 12:21 AM
Chrysene	ND		0.0074	mg/Kg-dry	1	10/14/2015 12:21 AM
Dibenzo(a,h)anthracene	ND		0.0074	mg/Kg-dry	1	10/14/2015 12:21 AM
Fluoranthene	ND		0.0074	mg/Kg-dry	1	10/14/2015 12:21 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *15-Oct-15*

Client: Caerus Oil and Gas LLC
Project: H2-797 Water Transfer Release
Work Order: 1510504
Sample ID: SS05
Lab ID: 1510504-05
Collection Date: 10/7/2015 01:20 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.0074	mg/Kg-dry	1	10/14/2015 12:21 AM
Indeno(1,2,3-cd)pyrene	ND		0.0074	mg/Kg-dry	1	10/14/2015 12:21 AM
Naphthalene	ND		0.0074	mg/Kg-dry	1	10/14/2015 12:21 AM
Pyrene	ND		0.0074	mg/Kg-dry	1	10/14/2015 12:21 AM
Surr: 2-Fluorobiphenyl	*75.9*		*12-100*	*%REC*	1	10/14/2015 12:21 AM
Surr: 4-Terphenyl-d14	*81.6*		*25-137*	*%REC*	1	10/14/2015 12:21 AM
Surr: Nitrobenzene-d5	*80.1*		*37-107*	*%REC*	1	10/14/2015 12:21 AM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep: SW5035 / 10/9/15	Analyst: **BG**
Benzene	**0.29**		**0.034**	**mg/Kg-dry**	1	10/14/2015 01:08 PM
Ethylbenzene	ND		0.034	mg/Kg-dry	1	10/14/2015 01:08 PM
m,p-Xylene	**0.15**		**0.068**	**mg/Kg-dry**	1	10/14/2015 01:08 PM
o-Xylene	ND		0.034	mg/Kg-dry	1	10/14/2015 01:08 PM
Toluene	**0.42**		**0.034**	**mg/Kg-dry**	1	10/14/2015 01:08 PM
Xylenes, Total	**0.18**		**0.10**	**mg/Kg-dry**	1	10/14/2015 01:08 PM
Surr: 1,2-Dichloroethane-d4	*102*		*70-130*	*%REC*	1	10/14/2015 01:08 PM
Surr: 4-Bromofluorobenzene	*97.4*		*70-130*	*%REC*	1	10/14/2015 01:08 PM
Surr: Dibromofluoromethane	*97.1*		*70-130*	*%REC*	1	10/14/2015 01:08 PM
Surr: Toluene-d8	*98.4*		*70-130*	*%REC*	1	10/14/2015 01:08 PM
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHO**		Prep: USDA Method 20B / 10/12/15	Analyst: **JB**
Electrical Conductivity @ Saturation	**5.2**		**0.050**	**mmhos/cm @2**	10	10/12/2015 01:15 PM
CHROMIUM, TRIVALENT			**CALCULATION**			Analyst: **JB**
Chromium, Trivalent	**11**		**0.57**	**mg/Kg-dry**	1	10/15/2015 08:30 AM
CHROMIUM, HEXAVALENT			**SW7196A**		Prep: SW3060A / 10/13/15	Analyst: **MB**
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	10/14/2015 04:00 PM
MOISTURE			**E160.3M**			Analyst: **EVB**
Moisture	**12**		**0.050**	**% of sample**	1	10/13/2015 02:45 PM
PH			**SW9045D**		Prep: EXTRACT / 10/9/15	Analyst: **KF**
pH	**8.2**			**s.u.**	1	10/9/2015 11:45 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Batch ID: **77287** Instrument ID **GC8** Method: **SW8015M**

MBLK Sample ID: **DBLKS1-77287-77287** Units: **mg/Kg** Analysis Date: **10/12/2015 09:16 PM**

Client ID: Run ID: **GC8_151012A** SeqNo: **3505516** Prep Date: **10/12/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	ND	5.0								
Surr: 4-Terphenyl-d14	*1.636*	0	*2*	0	*81.8*	*39-133*	0			

LCS Sample ID: **DLCSS1-77287-77287** Units: **mg/Kg** Analysis Date: **10/12/2015 09:46 PM**

Client ID: Run ID: **GC8_151012A** SeqNo: **3505517** Prep Date: **10/12/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	217.3	5.0	200	0	109	61-109	0			
Surr: 4-Terphenyl-d14	*1.458*	0	*2*	0	*72.9*	*39-133*	0			

MS Sample ID: **1510510-01A MS** Units: **mg/Kg** Analysis Date: **10/12/2015 10:46 PM**

Client ID: Run ID: **GC8_151012A** SeqNo: **3505518** Prep Date: **10/12/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	179.8	4.1	164.7	16.89	98.9	48-110	0			
Surr: 4-Terphenyl-d14	*1.158*	0	*1.647*	0	*70.3*	*39-133*	0			

MSD Sample ID: **1510510-01A MSD** Units: **mg/Kg** Analysis Date: **10/12/2015 11:16 PM**

Client ID: Run ID: **GC8_151012A** SeqNo: **3505519** Prep Date: **10/12/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	150.2	4.1	165.2	16.89	80.7	48-110	179.8	18	30	
Surr: 4-Terphenyl-d14	*1.23*	0	*1.652*	0	*74.5*	*39-133*	1.158	*6.05*	*30*	

The following samples were analyzed in this batch: 1510504-01A 1510504-02A 1510504-03A 1510504-04A 1510504-05A

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

Client: Caerus Oil and Gas LLC
Work Order: 1510504
Project: H2-797 Water Transfer Release

QC BATCH REPORT

Batch ID: **77187** Instrument ID **GC9** Method: **SW8015D**

MBLK Sample ID: **MBLK-77187-77187** Units: **µg/Kg** Analysis Date: **10/9/2015 12:18 PM**
Client ID: Run ID: **GC9_151009A** SeqNo: **3500500** Prep Date: **10/9/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	ND	2,500								
Surr: Toluene-d8	*4842*	0	*5000*	0	*96.8*	*50-150*	0			

LCS Sample ID: **LCS-77187-77187** Units: **µg/Kg** Analysis Date: **10/9/2015 11:52 AM**
Client ID: Run ID: **GC9_151009A** SeqNo: **3500499** Prep Date: **10/9/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	538700	2,500	500000	0	108	70-130	0			
Surr: Toluene-d8	*5618*	0	*5000*	0	*112*	*50-150*	0			

MS Sample ID: **1510510-05A MS** Units: **µg/Kg** Analysis Date: **10/9/2015 02:23 PM**
Client ID: Run ID: **GC9_151009A** SeqNo: **3500505** Prep Date: **10/9/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	487000	2,500	500000	0	97.4	70-130	0			
Surr: Toluene-d8	*5534*	0	*5000*	0	*111*	*50-150*	0			

MSD Sample ID: **1510510-05A MSD** Units: **µg/Kg** Analysis Date: **10/9/2015 02:48 PM**
Client ID: Run ID: **GC9_151009A** SeqNo: **3500506** Prep Date: **10/9/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	460200	2,500	500000	0	92	70-130	487000	5.66	30	
Surr: Toluene-d8	*5227*	0	*5000*	0	*105*	*50-150*	5534	*5.71*	*30*	

The following samples were analyzed in this batch:

1510504-01A	1510504-02A	1510504-03A
1510504-04A	1510504-05A	

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

Client: Caerus Oil and Gas LLC
Work Order: 1510504
Project: H2-797 Water Transfer Release

QC BATCH REPORT

Batch ID: **77390** Instrument ID **HG1** Method: **SW7471B**

MBLK Sample ID: **MBLK-77390-77390** Units: **mg/Kg** Analysis Date: **10/13/2015 11:18 PM**
Client ID: Run ID: **HG1_151013A** SeqNo: **3507172** Prep Date: **10/13/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.020								

LCS Sample ID: **LCS-77390-77390** Units: **mg/Kg** Analysis Date: **10/13/2015 11:20 PM**
Client ID: Run ID: **HG1_151013A** SeqNo: **3507173** Prep Date: **10/13/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1792	0.020	0.1665	0	108	80-120	0			

MS Sample ID: **1510785-03AMS** Units: **mg/Kg** Analysis Date: **10/14/2015 12:13 A**
Client ID: Run ID: **HG1_151013A** SeqNo: **3507216** Prep Date: **10/13/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1191	0.012	0.1021	0.00848	108	75-125	0			

MSD Sample ID: **1510785-03AMSD** Units: **mg/Kg** Analysis Date: **10/14/2015 12:16 A**
Client ID: Run ID: **HG1_151013A** SeqNo: **3507218** Prep Date: **10/13/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1224	0.013	0.1054	0.00848	108	75-125	0.1191	2.69	35	

The following samples were analyzed in this batch:

1510504-01A	1510504-02A	1510504-03A
1510504-04A	1510504-05A	

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

Client: Caerus Oil and Gas LLC
Work Order: 1510504
Project: H2-797 Water Transfer Release

QC BATCH REPORT

Batch ID: **77156** Instrument ID **ICP2** Method: **SW846 6010C**

MBLK Sample ID: **MBLK-77156-77156** Units: **mg/Kg** Analysis Date: **10/8/2015 06:32 PM**
Client ID: Run ID: **ICP2_151008A** SeqNo: **3499670** Prep Date: **10/8/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	ND	0.25								
Cadmium	ND	0.50								
Chromium	0.009063	0.25								J
Copper	0.06804	0.50								J
Lead	ND	0.25								
Nickel	ND	0.25								
Selenium	ND	0.50								
Silver	ND	0.25								
Zinc	0.09719	0.50								J

LCS Sample ID: **LCS-77156-77156** Units: **mg/Kg** Analysis Date: **10/8/2015 06:38 PM**
Client ID: Run ID: **ICP2_151008A** SeqNo: **3499671** Prep Date: **10/8/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	5.09	0.25	5	0	102	80-120	0			
Barium	5.125	0.25	5	0	103	80-120	0			
Cadmium	4.927	0.50	5	0	98.5	80-120	0			
Chromium	5.582	0.25	5	0	112	80-120	0			
Copper	5.377	0.50	5	0	108	80-120	0			
Lead	5.303	0.25	5	0	106	80-120	0			
Nickel	5.374	0.25	5	0	107	80-120	0			
Selenium	5.351	0.50	5	0	107	80-120	0			
Silver	5.274	0.25	5	0	105	80-120	0			
Zinc	5.275	0.50	5	0	105	80-120	0			

MS Sample ID: **1510326-02AMS** Units: **mg/Kg** Analysis Date: **10/8/2015 06:48 PM**
Client ID: Run ID: **ICP2_151008A** SeqNo: **3499673** Prep Date: **10/8/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	13.9	0.38	7.519	6.04	105	75-125	0			
Barium	365.9	0.38	7.519	453.8	-1170	75-125	0			SO
Cadmium	7.396	0.75	7.519	0.4765	92	75-125	0			
Chromium	22.83	0.38	7.519	12.12	142	75-125	0			S
Copper	20.11	0.75	7.519	12.97	94.9	75-125	0			
Lead	19.09	0.38	7.519	12.89	82.5	75-125	0			
Nickel	31.46	0.38	7.519	22.84	115	75-125	0			
Selenium	8.711	0.75	7.519	0.5799	108	75-125	0			
Silver	7.684	0.38	7.519	0.01004	102	75-125	0			
Zinc	70.98	0.75	7.519	59.59	152	75-125	0			SO

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

Client: Caerus Oil and Gas LLC
Work Order: 1510504
Project: H2-797 Water Transfer Release

QC BATCH REPORT

Batch ID: **77156** Instrument ID **ICP2** Method: **SW846 6010C**

MSD Sample ID: **1510326-02AMSD** Units: **mg/Kg** Analysis Date: **10/8/2015 06:54 PM**
Client ID: Run ID: **ICP2_151008A** SeqNo: **3499674** Prep Date: **10/8/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	13.68	0.38	7.519	6.04	102	75-125	13.9	1.56	20	
Barium	436.6	0.38	7.519	453.8	-229	75-125	365.9	17.6	20	SO
Cadmium	7.662	0.75	7.519	0.4765	95.6	75-125	7.396	3.52	20	
Chromium	22.73	0.38	7.519	12.12	141	75-125	22.83	0.429	20	S
Copper	20.09	0.75	7.519	12.97	94.7	75-125	20.11	0.0934	20	
Lead	19.33	0.38	7.519	12.89	85.7	75-125	19.09	1.22	20	
Nickel	31.16	0.38	7.519	22.84	111	75-125	31.46	0.967	20	
Selenium	8.747	0.75	7.519	0.5799	109	75-125	8.711	0.408	20	
Silver	7.815	0.38	7.519	0.01004	104	75-125	7.684	1.7	20	
Zinc	71.23	0.75	7.519	59.59	155	75-125	70.98	0.352	20	SO

The following samples were analyzed in this batch: 1510504-01A 1510504-02A 1510504-03A 1510504-04A 1510504-05A

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

Client: Caerus Oil and Gas LLC
Work Order: 1510504
Project: H2-797 Water Transfer Release

QC BATCH REPORT

Batch ID: **77276** Instrument ID **ICP2** Method: **SW846 6010C**

DUP Sample ID: **1510504-04ADUP** Units: **mg/L** Analysis Date: **10/12/2015 12:07 PM**
Client ID: **SS04** Run ID: **ICP2_151012A** SeqNo: **3502603** Prep Date: **10/12/2015** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	86.81	5.0	0	0	0	0-0	80.5	7.53		
Magnesium	39.86	2.0	0	0	0	0-0	36.75	8.12		
Sodium	109.1	2.0	0	0	0	0-0	101.4	7.34		

DUP Sample ID: **1510504-04ADUP** Units: **none** Analysis Date: **10/12/2015**
Client ID: **SS04** Run ID: **SAR_151012A** SeqNo: **3502678** Prep Date: **10/12/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	2.433	0.010	0	0	0		2.351	3.45	50	

The following samples were analyzed in this batch: 1510504-01A 1510504-02A 1510504-03A 1510504-04A 1510504-05A

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

Client: Caerus Oil and Gas LLC
Work Order: 1510504
Project: H2-797 Water Transfer Release

QC BATCH REPORT

Batch ID: **77355** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK Sample ID: **SBLKS1-77355-77355** Units: **µg/Kg** Analysis Date: **10/13/2015 07:04 PM**
Client ID: Run ID: **SVMS8_151013A** SeqNo: **3508418** Prep Date: **10/13/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	ND	6.7								
Anthracene	ND	6.7								
Benzo(a)anthracene	ND	6.7								
Benzo(a)pyrene	ND	6.7								
Benzo(b)fluoranthene	ND	6.7								
Benzo(k)fluoranthene	ND	6.7								
Chrysene	ND	6.7								
Dibenzo(a,h)anthracene	ND	6.7								
Fluoranthene	ND	6.7								
Fluorene	ND	6.7								
Indeno(1,2,3-cd)pyrene	ND	6.7								
Naphthalene	ND	6.7								
Pyrene	ND	6.7								
Surr: 2-Fluorobiphenyl	*1396*	0	*1667*	0	*83.8*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1844*	0	*1667*	0	*111*	*25-137*	0			
Surr: Nitrobenzene-d5	*1576*	0	*1667*	0	*94.5*	*37-107*	0			

LCS Sample ID: **SLCSS1-77355-77355** Units: **µg/Kg** Analysis Date: **10/13/2015 07:24 PM**
Client ID: Run ID: **SVMS8_151013A** SeqNo: **3508420** Prep Date: **10/13/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	547.3	6.7	666.7	0	82.1	45-110	0			
Anthracene	663.3	6.7	666.7	0	99.5	55-105	0			
Benzo(a)anthracene	717	6.7	666.7	0	108	50-110	0			
Benzo(a)pyrene	719	6.7	666.7	0	108	50-110	0			
Benzo(b)fluoranthene	745.3	6.7	666.7	0	112	45-115	0			
Benzo(k)fluoranthene	729	6.7	666.7	0	109	45-115	0			
Chrysene	677.3	6.7	666.7	0	102	55-110	0			
Dibenzo(a,h)anthracene	633.7	6.7	666.7	0	95	40-125	0			
Fluoranthene	673	6.7	666.7	0	101	55-115	0			
Fluorene	619.7	6.7	666.7	0	92.9	50-110	0			
Indeno(1,2,3-cd)pyrene	678.3	6.7	666.7	0	102	40-120	0			
Naphthalene	528	6.7	666.7	0	79.2	40-105	0			
Pyrene	768.7	6.7	666.7	0	115	45-125	0			
Surr: 2-Fluorobiphenyl	*1301*	0	*1667*	0	*78.1*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1671*	0	*1667*	0	*100*	*25-137*	0			
Surr: Nitrobenzene-d5	*1449*	0	*1667*	0	*86.9*	*37-107*	0			

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

Client: Caerus Oil and Gas LLC
Work Order: 1510504
Project: H2-797 Water Transfer Release

QC BATCH REPORT

Batch ID: **77355** Instrument ID **SVMS8** Method: **SW846 8270D**

MS Sample ID: **1510455-13A MS** Units: **µg/Kg** Analysis Date: **10/13/2015 07:44 PM**
Client ID: Run ID: **SVMS8_151013A** SeqNo: **3508422** Prep Date: **10/13/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	513.1	6.5	654.1	0	78.4	45-110	0			
Anthracene	620.7	6.5	654.1	6.594	93.9	55-105	0			
Benzo(a)anthracene	651.5	6.5	654.1	20.44	96.5	50-110	0			
Benzo(a)pyrene	695.3	6.5	654.1	30.99	102	50-110	0			
Benzo(b)fluoranthene	660	6.5	654.1	33.96	95.7	45-115	0			
Benzo(k)fluoranthene	631.8	6.5	654.1	15.5	94.2	45-115	0			
Chrysene	610.9	6.5	654.1	24.07	89.7	55-110	0			
Dibenzo(a,h)anthracene	594.6	6.5	654.1	0	90.9	40-125	0			
Fluoranthene	621.7	6.5	654.1	33.63	89.9	55-115	0			
Fluorene	607	6.5	654.1	0	92.8	50-110	0			
Indeno(1,2,3-cd)pyrene	678	6.5	654.1	22.42	100	40-120	0			
Naphthalene	454.6	6.5	654.1	0	69.5	40-105	0			
Pyrene	779.3	6.5	654.1	35.94	114	45-125	0			
Surr: 2-Fluorobiphenyl	*1086*	0	*1635*	0	*66.4*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1709*	0	*1635*	0	*104*	*25-137*	0			
Surr: Nitrobenzene-d5	*1204*	0	*1635*	0	*73.6*	*37-107*	0			

MSD Sample ID: **1510455-13A MSD** Units: **µg/Kg** Analysis Date: **10/13/2015 08:03 PM**
Client ID: Run ID: **SVMS8_151013A** SeqNo: **3508424** Prep Date: **10/13/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	518.2	6.6	658.1	0	78.7	45-110	513.1	0.989	30	
Anthracene	593.2	6.6	658.1	6.594	89.1	55-105	620.7	4.53	30	
Benzo(a)anthracene	586.3	6.6	658.1	20.44	86	50-110	651.5	10.5	30	
Benzo(a)pyrene	629.4	6.6	658.1	30.99	90.9	50-110	695.3	9.94	30	
Benzo(b)fluoranthene	590	6.6	658.1	33.96	84.5	45-115	660	11.2	30	
Benzo(k)fluoranthene	553.4	6.6	658.1	15.5	81.7	45-115	631.8	13.2	30	
Chrysene	543.2	6.6	658.1	24.07	78.9	55-110	610.9	11.7	30	
Dibenzo(a,h)anthracene	536.3	6.6	658.1	0	81.5	40-125	594.6	10.3	30	
Fluoranthene	551.1	6.6	658.1	33.63	78.6	55-115	621.7	12	30	
Fluorene	617.3	6.6	658.1	0	93.8	50-110	607	1.68	30	
Indeno(1,2,3-cd)pyrene	616.6	6.6	658.1	22.42	90.3	40-120	678	9.48	30	
Naphthalene	463	6.6	658.1	0	70.3	40-105	454.6	1.82	30	
Pyrene	708.4	6.6	658.1	35.94	102	45-125	779.3	9.54	30	
Surr: 2-Fluorobiphenyl	*1166*	0	*1645*	0	*70.9*	*12-100*	1086	*7.16*	*40*	
Surr: 4-Terphenyl-d14	*1604*	0	*1645*	0	*97.5*	*25-137*	1709	*6.32*	*40*	
Surr: Nitrobenzene-d5	*1226*	0	*1645*	0	*74.5*	*37-107*	1204	*1.8*	*40*	

The following samples were analyzed in this batch:

1510504-01A	1510504-02A	1510504-03A
1510504-04A	1510504-05A	

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

Client: Caerus Oil and Gas LLC
Work Order: 1510504
Project: H2-797 Water Transfer Release

QC BATCH REPORT

Batch ID: **77186** Instrument ID **VMS6** Method: **SW8260B**

MBLK Sample ID: **MBLK-77186-77186** Units: **µg/Kg** Analysis Date: **10/9/2015 03:07 PM**
Client ID: Run ID: **VMS6_151009A** SeqNo: **3500495** Prep Date: **10/9/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	30								
Ethylbenzene	ND	30								
m,p-Xylene	ND	60								
o-Xylene	ND	30								
Toluene	ND	30								
Xylenes, Total	ND	90								
Surr: 1,2-Dichloroethane-d4	*1042*	0	*1000*	0	*104*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*975*	0	*1000*	0	*97.5*	*70-130*	0			
Surr: Dibromofluoromethane	*971*	0	*1000*	0	*97.1*	*70-130*	0			
Surr: Toluene-d8	*994.5*	0	*1000*	0	*99.4*	*70-130*	0			

LCS Sample ID: **LCS-77186-77186** Units: **µg/Kg** Analysis Date: **10/9/2015 01:48 PM**
Client ID: Run ID: **VMS6_151009A** SeqNo: **3500494** Prep Date: **10/9/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1013	30	1000	0	101	75-125	0			
Ethylbenzene	999.5	30	1000	0	100	75-125	0			
m,p-Xylene	2078	60	2000	0	104	80-125	0			
o-Xylene	983.5	30	1000	0	98.4	75-125	0			
Toluene	1008	30	1000	0	101	70-125	0			
Xylenes, Total	3062	90	3000	0	102	75-125	0			
Surr: 1,2-Dichloroethane-d4	*976.5*	0	*1000*	0	*97.6*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1000*	0	*1000*	0	*100*	*70-130*	0			
Surr: Dibromofluoromethane	*991.5*	0	*1000*	0	*99.2*	*70-130*	0			
Surr: Toluene-d8	*999.5*	0	*1000*	0	*100*	*70-130*	0			

MS Sample ID: **1510510-05A MS** Units: **µg/Kg** Analysis Date: **10/12/2015 05:06 A**
Client ID: Run ID: **VMS6_151010B** SeqNo: **3503366** Prep Date: **10/9/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	928	30	1000	0	92.8	75-125	0			
Ethylbenzene	1021	30	1000	0	102	75-125	0			
m,p-Xylene	2066	60	2000	0	103	80-125	0			
o-Xylene	982	30	1000	0	98.2	75-125	0			
Toluene	968.5	30	1000	0	96.8	70-125	0			
Xylenes, Total	3048	90	3000	0	102	75-125	0			
Surr: 1,2-Dichloroethane-d4	*1016*	0	*1000*	0	*102*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1055*	0	*1000*	0	*106*	*70-130*	0			
Surr: Dibromofluoromethane	*974*	0	*1000*	0	*97.4*	*70-130*	0			
Surr: Toluene-d8	*980.5*	0	*1000*	0	*98*	*70-130*	0			

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

Client: Caerus Oil and Gas LLC
Work Order: 1510504
Project: H2-797 Water Transfer Release

QC BATCH REPORT

Batch ID: **77186** Instrument ID **VMS6** Method: **SW8260B**

MSD Sample ID: **1510510-05A MSD** Units: **µg/Kg** Analysis Date: **10/12/2015 05:32 A**
Client ID: Run ID: **VMS6_151010B** SeqNo: **3503370** Prep Date: **10/9/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	980	30	1000	0	98	75-125	928	5.45	30	
Ethylbenzene	1063	30	1000	0	106	75-125	1021	4.03	30	
m,p-Xylene	2137	60	2000	0	107	80-125	2066	3.38	30	
o-Xylene	1022	30	1000	0	102	75-125	982	4.04	30	
Toluene	1005	30	1000	0	100	70-125	968.5	3.7	30	
Xylenes, Total	3160	90	3000	0	105	75-125	3048	3.59	30	
Surr: 1,2-Dichloroethane-d4	*1007*	0	*1000*	0	*101*	*70-130*	1016	*0.939*	*30*	
Surr: 4-Bromofluorobenzene	*1056*	0	*1000*	0	*106*	*70-130*	1055	*0.0947*	*30*	
Surr: Dibromofluoromethane	*999.5*	0	*1000*	0	*100*	*70-130*	974	*2.58*	*30*	
Surr: Toluene-d8	*967.5*	0	*1000*	0	*96.8*	*70-130*	980.5	*1.33*	*30*	

The following samples were analyzed in this batch: 1510504-01A 1510504-02A 1510504-03A 1510504-04A 1510504-05A

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

Client: Caerus Oil and Gas LLC
Work Order: 1510504
Project: H2-797 Water Transfer Release

QC BATCH REPORT

Batch ID: **77219** Instrument ID **WETCHEM** Method: **SW9045D**

LCS Sample ID: **LCS-77219-77219** Units: **s.u.** Analysis Date: **10/9/2015 11:45 AM**
Client ID: Run ID: **WETCHEM_151009G** SeqNo: **3499816** Prep Date: **10/9/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	3.97	0	4	0	99.2	90-110	0			

DUP Sample ID: **1510387-01B DUP** Units: **s.u.** Analysis Date: **10/9/2015 11:45 AM**
Client ID: Run ID: **WETCHEM_151009G** SeqNo: **3499823** Prep Date: **10/9/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	8.08	0	0	0	0	0-0	8.07	0.124	20	

DUP Sample ID: **1510498-01A DUP** Units: **s.u.** Analysis Date: **10/9/2015 11:45 AM**
Client ID: Run ID: **WETCHEM_151009G** SeqNo: **3499833** Prep Date: **10/9/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.05	0	0	0	0	0-0	6.12	1.15	20	

The following samples were analyzed in this batch: 1510504-01A 1510504-02A 1510504-03A

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

Client: Caerus Oil and Gas LLC
Work Order: 1510504
Project: H2-797 Water Transfer Release

QC BATCH REPORT

Batch ID: **77221** Instrument ID **WETCHEM** Method: **SW9045D**

LCS Sample ID: **LCS-77221-77221** Units: **s.u.** Analysis Date: **10/9/2015 11:45 AM**
Client ID: Run ID: **WETCHEM_151009H** SeqNo: **3499859** Prep Date: **10/9/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	3.97	0	4	0	99.2	90-110	0			

DUP Sample ID: **1510504-04A DUP** Units: **s.u.** Analysis Date: **10/9/2015 11:45 AM**
Client ID: **SS04** Run ID: **WETCHEM_151009H** SeqNo: **3499862** Prep Date: **10/9/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	8.39	0	0	0	0	0-0	8.43	0.476	20	

The following samples were analyzed in this batch: 1510504-04A 1510504-05A

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

Client: Caerus Oil and Gas LLC
Work Order: 1510504
Project: H2-797 Water Transfer Release

QC BATCH REPORT

Batch ID: **77276** Instrument ID **WETCHEM** Method: **USDA H60 Metho**

DUP Sample ID: **1510504-04A DUP** Units: **mmhos/cm @25°** Analysis Date: **10/12/2015 01:15 PM**
Client ID: **SS04** Run ID: **WETCHEM_151012I** SeqNo: **3502712** Prep Date: **10/12/2015** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	1.505	0.050	0	0	0		1.494	0.734	50	

The following samples were analyzed in this batch:

1510504-01A 1510504-02A 1510504-03A
1510504-04A 1510504-05A

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

Client: Caerus Oil and Gas LLC
Work Order: 1510504
Project: H2-797 Water Transfer Release

QC BATCH REPORT

Batch ID: **77485** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK Sample ID: **MBLK-77485-77485** Units: **mg/Kg** Analysis Date: **10/14/2015 04:00 PM**
Client ID: Run ID: **WETCHEM_151014X** SeqNo: **3509167** Prep Date: **10/13/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	ND	1.0								

LCS Sample ID: **LCS-77485-77485** Units: **mg/Kg** Analysis Date: **10/14/2015 04:00 PM**
Client ID: Run ID: **WETCHEM_151014X** SeqNo: **3509166** Prep Date: **10/13/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	4.92	1.0	5	0	98.4	80-120	0			

MS Sample ID: **1510504-01A MS** Units: **mg/Kg** Analysis Date: **10/14/2015 04:00 PM**
Client ID: **SS01** Run ID: **WETCHEM_151014X** SeqNo: **3509153** Prep Date: **10/13/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.9327	0.96	4.808	0.466	9.71	75-125	0			JS

MS Sample ID: **1510504-01A MSI** Units: **mg/Kg** Analysis Date: **10/14/2015 04:00 PM**
Client ID: **SS01** Run ID: **WETCHEM_151014X** SeqNo: **3509155** Prep Date: **10/13/2015** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	2439	96	2460	0.466	99.1	75-125	0			

MSD Sample ID: **1510504-01A MSD** Units: **mg/Kg** Analysis Date: **10/14/2015 04:00 PM**
Client ID: **SS01** Run ID: **WETCHEM_151014X** SeqNo: **3509154** Prep Date: **10/13/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1.427	0.97	4.854	0.466	19.8	75-125	0.9327	41.9	20	SR

The following samples were analyzed in this batch:

1510504-01A	1510504-02A	1510504-03A
1510504-04A	1510504-05A	

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

Client: Caerus Oil and Gas LLC
Work Order: 1510504
Project: H2-797 Water Transfer Release

QC BATCH REPORT

Batch ID: **R173729** Instrument ID **MOIST** Method: **E160.3M**

MBLK Sample ID: **WBLKS-R173729** Units: **% of sample** Analysis Date: **10/13/2015 02:45 PM**
Client ID: Run ID: **MOIST_151013A** SeqNo: **3507871** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	ND	0.050								

LCS Sample ID: **LCS-R173729** Units: **% of sample** Analysis Date: **10/13/2015 02:45 PM**
Client ID: Run ID: **MOIST_151013A** SeqNo: **3507870** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	99.99	0.050	100	0	100	99.5-100.5	0			

DUP Sample ID: **1510504-03A DUP** Units: **% of sample** Analysis Date: **10/13/2015 02:45 PM**
Client ID: **SS03** Run ID: **MOIST_151013A** SeqNo: **3507837** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	12.53	0.050	0	0	0		12.58	0.398	20	

DUP Sample ID: **1510510-01A DUP** Units: **% of sample** Analysis Date: **10/13/2015 02:45 PM**
Client ID: Run ID: **MOIST_151013A** SeqNo: **3507846** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	16.3	0.050	0	0	0		16.5	1.22	20	

The following samples were analyzed in this batch:

1510504-01A	1510504-02A	1510504-03A
1510504-04A	1510504-05A	

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

ALS Environmental

3325 128th Avenue
Holland Michigan 49424 (616) 399-6070

Chain-of-Custody

Form 202r6

WORKORDER # 1510504

PAGE 1 of 1

DISPOSAL By Lab or Return

PROJECT NAME	H2 Produced Water Samples	SAMPLER	Tyler Rust
PROJECT No.		SITE ID	
		EDD FORMAT	
		PURCHASE ORDER	
COMPANY NAME	Caerus Piceance, LLC	BILL TO COMPANY	Caerus Piceance, LLC
SEND REPORT TO	Jake Janicek	INVOICE ATTN TO	Jake Janicek
ADDRESS	120 N. Railroad, suite D	ADDRESS	120 N. Railroad, suite D
CITY / STATE / ZIP	Parachute Co. 81635	CITY / STATE / ZIP	Parachute Co. 81635
PHONE	970-285-9606	PHONE	970-285-9606
FAX		FAX	
E-MAIL	jjanicek@caerusoilandgas.com	E-MAIL	invoices@caerusoilandgas.com

DATE 10/7/15

TURNAROUND 5 Day STD

Sample Description	Sample Date	Sample Time	Matrix	# Bottles	Pres.	TPH GRO/DRO	BTEX	Table 910 PAHs	Table 910 Metals	EC	PH	SAR
SS01	10/7/15	1212	SO.1	2	—	X	X	X	X	X	X	X
SS02		1231		2	—	X	X	X	X	X	X	X
SS03		1247		2	—	X	X	X	X	X	X	X
SS04		1305		2	—	X	X	X	X	X	X	X
SS05		1320		2	—	X	X	X	X	X	X	X

*Time Zone (Circle): EST CST MST PST 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:

1.00

QC PACKAGE (check below)

- X 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

	SIGNATURE	PRINTED NAME	DATE	TI
RELINQUISHED BY		Tyler Rust	10/7/15	15:45
RECEIVED BY			10-7-15	1545
RELINQUISHED BY			10-7-15	1558
RECEIVED BY		J. Ribar	10/8/15	0930
RELINQUISHED BY				
RECEIVED BY				

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **CAERUS** Date/Time Received: **08-Oct-15 09:30**

Work Order: **1510504** Received by: **JR**

Checklist completed by Joseph Ribar (eSignature) 08-Oct-15 (Date) Reviewed by: Lee Arnold (eSignature) 08-Oct-15 (Date)

Matrices: soil

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 ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	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 ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.0c/1.0c	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	10/8/2015 1:23:46 PM		
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:

CorrectiveAction:

31-Oct-2015

Jake Janicek
Caerus Oil and Gas LLC
120 N. Railroad Ave. Suite D
Parachute, CO 81635

Re: **H2 Water Transfer Release** Work Order: **15101509**

Dear Jake,

ALS Environmental received 2 samples on 23-Oct-2015 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 14.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Electronically approved by: Les Arnold

Les Arnold
Senior Project Manager

Certificate No: MN 532786

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

ALS Group USA, Corp

Date: 31-Oct-15

Client: Caerus Oil and Gas LLC
Project: H2 Water Transfer Release
Work Order: **15101509**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
15101509-01	SS02	Soil		10/22/2015 10:42	10/23/2015 10:00	☐
15101509-02	SS05	Soil		10/22/2015 10:58	10/23/2015 10:00	☐

ALS Group USA, Corp

Date: 31-Oct-15

Client: Caerus Oil and Gas LLC
Project: H2 Water Transfer Release
Work Order: 15101509

Case Narrative

The attached "Sample Receipt Checklist" documents the date of receipt, status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting.

With the following exceptions, all sample analyses achieved analytical criteria.

NO DEVIATIONS OR ANOMALIES WERE NOTED.

ALS Group USA, Corp

Date: *31-Oct-15*

Client: Caerus Oil and Gas LLC
Project: H2 Water Transfer Release
Work Order: 15101509
Sample ID: SS02
Lab ID: 15101509-01
Collection Date: 10/22/2015 10:42 AM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SOLUBLE CATIONS FOR SAR			**SW846 6010C**		Prep: USDA Method 20B / 10/27/15	Analyst: **JEC**
Calcium	**200**		**5.0**	**mg/L**	10	10/27/2015 12:13 PM
Magnesium	**96**		**2.0**	**mg/L**	10	10/27/2015 12:13 PM
Sodium	**290**		**2.0**	**mg/L**	10	10/27/2015 12:13 PM
SODIUM ADSORPTION RATIO			**USDA H60 METHO**		Prep: USDA Method 20B / 10/27/15	Analyst: **JEC**
Sodium Adsorption Ratio	**4.2**		**0.010**	**none**	1	10/27/2015
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep: SW5035 / 10/26/15	Analyst: **BG**
Benzene	ND		0.033	mg/Kg-dry	1	10/30/2015 02:44 PM
Surr: 1,2-Dichloroethane-d4	*97.6*		*70-130*	*%REC*	1	10/30/2015 02:44 PM
Surr: 4-Bromofluorobenzene	*98.7*		*70-130*	*%REC*	1	10/30/2015 02:44 PM
Surr: Dibromofluoromethane	*93.8*		*70-130*	*%REC*	1	10/30/2015 02:44 PM
Surr: Toluene-d8	*94.6*		*70-130*	*%REC*	1	10/30/2015 02:44 PM
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHO**		Prep: USDA Method 20B / 10/27/15	Analyst: **JB**
Electrical Conductivity @ Saturation	**3.6**		**0.050**	**mmhos/cm @2**	10	10/27/2015 05:00 PM
MOISTURE			**E160.3M**			Analyst: **TM**
Moisture	**10**		**0.050**	**% of sample**	1	10/28/2015 01:36 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *31-Oct-15*

Client: Caerus Oil and Gas LLC
Project: H2 Water Transfer Release
Work Order: 15101509
Sample ID: SS05
Lab ID: 15101509-02
Collection Date: 10/22/2015 10:58 AM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			**SW8260B**	Prep: SW5035 / 10/26/15		Analyst: **BG**
Benzene	ND		0.034	mg/Kg-dry	1	10/30/2015 03:10 PM
Surr: 1,2-Dichloroethane-d4	*98.0*		*70-130*	*%REC*	1	10/30/2015 03:10 PM
Surr: 4-Bromofluorobenzene	*97.6*		*70-130*	*%REC*	1	10/30/2015 03:10 PM
Surr: Dibromofluoromethane	*90.8*		*70-130*	*%REC*	1	10/30/2015 03:10 PM
Surr: Toluene-d8	*93.8*		*70-130*	*%REC*	1	10/30/2015 03:10 PM
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHO**	Prep: USDA Method 20B / 10/27/15		Analyst: **JB**
Electrical Conductivity @ Saturation	**2.7**		**0.050**	**mmhos/cm @2**	10	10/27/2015 05:00 PM
MOISTURE			**E160.3M**			Analyst: **TM**
Moisture	**12**		**0.050**	**% of sample**	1	10/28/2015 01:36 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Caerus Oil and Gas LLC
Project: H2 Water Transfer Release
WorkOrder: 15101509

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 is present at an estimated concentration between the MDL and Report Limit
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
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
mg/Kg-dry	Milligrams per Kilogram Dry Weight
mg/L	Milligrams per Liter
mmhos/cm @25°C	Millimhos-Centimeter at 25 Degrees Celcius
none	

Client: Caerus Oil and Gas LLC

Work Order: 15101509

Project: H2 Water Transfer Release

QC BATCH REPORT

Batch ID: **77949** Instrument ID **SAR** Method: **USDA H60 Metho**

DUP Sample ID: **15101442-01CDUP** Units: **none** Analysis Date: **10/27/2015**

Client ID: Run ID: **SAR_151027A** SeqNo: **3533121** Prep Date: **10/27/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	4.674	0.010	0	0	0		4.658	0.349	50	

The following samples were analyzed in this batch:

15101509-01B	15101509-02B

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

Client: Caerus Oil and Gas LLC
Work Order: 15101509
Project: H2 Water Transfer Release

QC BATCH REPORT

Batch ID: **77982** Instrument ID **VMS5** Method: **SW8260B**

MBLK Sample ID: **MBLK-77982-77982** Units: **µg/Kg** Analysis Date: **10/26/2015 12:08 PM**
Client ID: Run ID: **VMS5_151026A** SeqNo: **3530303** Prep Date: **10/26/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	30								
Ethylbenzene	ND	30								
m,p-Xylene	ND	60								
o-Xylene	ND	30								
Toluene	ND	30								
Xylenes, Total	ND	90								
Surr: 1,2-Dichloroethane-d4	*983.5*	0	*1000*	0	*98.4*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*992.5*	0	*1000*	0	*99.2*	*70-130*	0			
Surr: Dibromofluoromethane	*978.5*	0	*1000*	0	*97.8*	*70-130*	0			
Surr: Toluene-d8	*985.5*	0	*1000*	0	*98.6*	*70-130*	0			

LCS Sample ID: **LCS-77982-77982** Units: **µg/Kg** Analysis Date: **10/26/2015 10:52 A**
Client ID: Run ID: **VMS5_151026A** SeqNo: **3530301** Prep Date: **10/26/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1010	30	1000	0	101	75-125	0			
Ethylbenzene	1018	30	1000	0	102	75-125	0			
m,p-Xylene	2064	60	2000	0	103	80-125	0			
o-Xylene	988.5	30	1000	0	98.8	75-125	0			
Toluene	975.5	30	1000	0	97.6	70-125	0			
Xylenes, Total	3053	90	3000	0	102	75-125	0			
Surr: 1,2-Dichloroethane-d4	*971*	0	*1000*	0	*97.1*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1010*	0	*1000*	0	*101*	*70-130*	0			
Surr: Dibromofluoromethane	*978*	0	*1000*	0	*97.8*	*70-130*	0			
Surr: Toluene-d8	*996*	0	*1000*	0	*99.6*	*70-130*	0			

MS Sample ID: **15101510-01A MS** Units: **µg/Kg** Analysis Date: **10/30/2015 07:06 PM**
Client ID: Run ID: **VMS6_151030A** SeqNo: **3540626** Prep Date: **10/26/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1189	30	1000	0	119	75-125	0			
Ethylbenzene	1156	30	1000	0	116	75-125	0			
m,p-Xylene	2384	60	2000	38.5	117	80-125	0			
o-Xylene	1142	30	1000	0	114	75-125	0			
Toluene	1128	30	1000	0	113	70-125	0			
Xylenes, Total	3526	90	3000	38	116	75-125	0			
Surr: 1,2-Dichloroethane-d4	*980.5*	0	*1000*	0	*98*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1018*	0	*1000*	0	*102*	*70-130*	0			
Surr: Dibromofluoromethane	*1010*	0	*1000*	0	*101*	*70-130*	0			
Surr: Toluene-d8	*968*	0	*1000*	0	*96.8*	*70-130*	0			

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

Client: Caerus Oil and Gas LLC
Work Order: 15101509
Project: H2 Water Transfer Release

QC BATCH REPORT

Batch ID: **77982** Instrument ID **VMS5** Method: **SW8260B**

MSD Sample ID: **15101510-01A MSD** Units: **µg/Kg** Analysis Date: **10/30/2015 07:31 PM**
Client ID: Run ID: **VMS6_151030A** SeqNo: **3540627** Prep Date: **10/26/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1138	30	1000	0	114	75-125	1189	4.38	30	
Ethylbenzene	1126	30	1000	0	113	75-125	1156	2.67	30	
m,p-Xylene	2309	60	2000	38.5	114	80-125	2384	3.22	30	
o-Xylene	1120	30	1000	0	112	75-125	1142	1.99	30	
Toluene	1086	30	1000	0	109	70-125	1128	3.84	30	
Xylenes, Total	3428	90	3000	38	113	75-125	3526	2.82	30	
Surr: 1,2-Dichloroethane-d4	*944.5*	0	*1000*	0	*94.4*	*70-130*	980.5	*3.74*	*30*	
Surr: 4-Bromofluorobenzene	*1006*	0	*1000*	0	*101*	*70-130*	1018	*1.19*	*30*	
Surr: Dibromofluoromethane	*984*	0	*1000*	0	*98.4*	*70-130*	1010	*2.66*	*30*	
Surr: Toluene-d8	*986.5*	0	*1000*	0	*98.6*	*70-130*	968	*1.89*	*30*	

The following samples were analyzed in this batch: 15101509-01A 15101509-02A

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

Client: Caerus Oil and Gas LLC
Work Order: 15101509
Project: H2 Water Transfer Release

QC BATCH REPORT

Batch ID: **77949** Instrument ID **WETCHEM** Method: **USDA H60 Metho**

DUP Sample ID: **15101442-01C DUP** Units: **mmhos/cm @25°** Analysis Date: **10/27/2015 05:00 PM**
Client ID: Run ID: **WETCHEM_151027S** SeqNo: **3533450** Prep Date: **10/27/2015** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	5.91	0.050	0	0	0		5.83	1.36	50	

The following samples were analyzed in this batch:

15101509-01B	15101509-02B

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

Client: Caerus Oil and Gas LLC
Work Order: 15101509
Project: H2 Water Transfer Release

QC BATCH REPORT

Batch ID: **R174980** Instrument ID **MOIST** Method: **E160.3M**

MBLK	Sample ID: **WBLKS-R174980**				Units: **% of sample**			Analysis Date: **10/28/2015 01:36 PM**		
Client ID:	Run ID: **MOIST_151028B**				SeqNo: **3537917**		Prep Date:		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	ND	0.050								

LCS	Sample ID: **LCS-R174980**				Units: **% of sample**			Analysis Date: **10/28/2015 01:36 PM**		
Client ID:	Run ID: **MOIST_151028B**				SeqNo: **3537915**		Prep Date:		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.050	100	0	100	99.5-100.5	0			

DUP	Sample ID: **15101506-07A DUP**				Units: **% of sample**			Analysis Date: **10/28/2015 01:36 PM**		
Client ID:	Run ID: **MOIST_151028B**				SeqNo: **3537870**		Prep Date:		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	16.57	0.050	0	0	0		16.16	2.51	20	

DUP	Sample ID: **15101508-05B DUP**				Units: **% of sample**			Analysis Date: **10/28/2015 01:36 PM**		
Client ID:	Run ID: **MOIST_151028B**				SeqNo: **3537889**		Prep Date:		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	25.74	0.050	0	0	0		24.11	6.54	20	

The following samples were analyzed in this batch:

15101509-01A	15101509-02A

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

ALS Environmental

3325 128th Avenue
Holland Michigan 49424 (616) 399-6070

Chain-of-Custody

Form 202r8

WORKORDER # 1S101509

PAGE 1 of 1

DISPOSAL By Lab or Return

PROJECT NAME	H2 Water Transfer Release	SAMPLER	Tyler Rust
PROJECT No.		SITE ID	
		EDD FORMAT	
COMPANY NAME	Caerus Piceance, LLC	PURCHASE ORDER	
SEND REPORT TO	Jake Janicek	BILL TO COMPANY	Caerus Piceance, LLC
ADDRESS	120 N. Railroad, suite D	INVOICE ATTN TO	Jake Janicek
CITY / STATE / ZIP	Parachute Co. 81635	ADDRESS	120 N. Railroad, suite D
PHONE	970-285-9606	CITY / STATE / ZIP	Parachute Co. 81635
FAX		PHONE	970-285-9606
E-MAIL	jjanicek@caerusoilandgas.com	FAX	
		E-MAIL	invoices@caerusoilandgas.com
		DATE	10/22/15
		TURNAROUND	STD 5 Day

	Sample Description	Sample Date	Sample Time	Matrix	# Bottles	Preserv.		TPH GRO/DRO	BTEX	Table 910 PAH's	Table 910 Metals	EC	PH	SAR	Benzene
1	SS02	10/22/15	1042	Soil	2	—						X		X	X
2	SS05	10/22/15	1058	Soil	2	—						X			X

*Time Zone (Circle): EST CST MST PST 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:

4.8°C

QC PACKAGE (check below)	
X	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

	SIGNATURE	PRINTED NAME	DATE	
RELINQUISHED BY		Tyler Rust	10/22/15	1448
RECEIVED BY			10/22/15	1448
RELINQUISHED BY			10-22-15	1500
RECEIVED BY		Diane F. Shea	10/23/15	1000
RELINQUISHED BY				
RECEIVED BY				

FedEx Ship Manager - Print Your Label(s)

10/22/2015

ORIGIN ID:RILA (616) 298-1033
NICK MARTINEZ
ALS ENVIRONMENTAL PARACHUTE
PARACHUTE SERVICE CENTER
127 EAST 1ST. ST
PARACHUTE, CO 81635
UNITED STATES US

SHIP DATE: 22OCT15
ACTWGT: 60.00 LB
CAD: 2284840/INET3670
DIMS: 24x15x15 IN
BILL SENDER

TO **SAMPLE RECEIVING**
ALS ENVIRONMENTAL HOLLAND LAB
3352 128TH AVE

HOLLAND MI 49424
(616) 399-6070 REF: 102215-1
INV:
PO: PARACHUTE DEPT:

539.GH401A3100

FedEx Express

REL# 3785346

FRI - 23 OCT 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **7748 0685 7778**

XX HLMA

49424
MI-US **GRR**

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **CAERUS** Date/Time Received: **23-Oct-15 10:00**

Work Order: **15101509** Received by: **DS**

Checklist completed by Diane Shaw (eSignature) 23-Oct-15 (Date) Reviewed by: Lee Arnold (eSignature) 23-Oct-15 (Date)

Matrices: Soil

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 ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	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 ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	4.8/4.8 c	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	10/23/2015 3:44:50 PM		
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:

CorrectiveAction:

30-Jul-2013

Herman Lucero
HRL Compliance Solutions
2385 F 1/2 Road
Grand Junction, CO 81505

Re: **Caerus Chevron 41-8D 13-199 7/22/13** Work Order: **1307799**

Dear Herman,

ALS Environmental received 3 samples on 23-Jul-2013 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 14.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Ann Preston

Electronically approved by: Ann Preston

Ann Preston
Project Manager

Certificate No: MN 532786

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

ALS Group USA, Corp

Date: 30-Jul-13

Client: HRL Compliance Solutions
Project: Caerus Chevron 41-8D 13-199 7/22/13
Work Order: **1307799**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1307799-01	BKGD 1	Soil		7/22/2013 13:45	7/23/2013 10:00	☐
1307799-02	BKGD 2	Soil		7/22/2013 13:35	7/23/2013 10:00	☐
1307799-03	BKGD 3	Soil		7/22/2013 13:30	7/23/2013 10:00	☐

ALS Group USA, Corp

Date: 30-Jul-13

Client: HRL Compliance Solutions
Project: Caerus Chevron 41-8D 13-199 7/22/13
WorkOrder: **1307799**

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 is present at an estimated concentration between the MDL and Report Limit
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

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
mg/Kg-dry	Milligrams per Kilogram Dry Weight
mg/L	Milligrams per Liter
mmhos/cm @25°C	Millimhos-Centimeter at 25 Degrees Celcius
none	
s.u.	Standard Units

ALS Group USA, Corp

Date: *30-Jul-13*

Client: HRL Compliance Solutions
Project: Caerus Chevron 41-8D 13-199 7/22/13 **Work Order:** 1307799
Sample ID: BKGD 1 **Lab ID:** 1307799-01
Collection Date: 7/22/2013 01:45 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS			**SW6020A**		Prep Date: **7/25/2013**	Analyst: **ML**
Arsenic	**39**		**9.2**	**mg/Kg-dry**	5	7/27/2013 02:20 AM
SOLUBLE CATIONS FOR SAR			**SW6020A**		Prep Date: **7/25/2013**	Analyst: **RH**
Calcium	**81**		**10**	**mg/L**	20	7/26/2013 03:49 PM
Magnesium	**28**		**4.0**	**mg/L**	20	7/26/2013 03:49 PM
Sodium	**120**		**4.0**	**mg/L**	20	7/26/2013 03:49 PM
SODIUM ADSORPTION RATIO			**USDA H60 METHO**		Prep Date: **7/25/2013**	Analyst: **RH**
Sodium Adsorption Ratio	**2.8**		**0.010**	**none**	1	7/26/2013
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHO**		Prep Date: **7/25/2013**	Analyst: **JB**
Electrical Conductivity @ Saturation	**1.2**		**0.050**	**mmhos/cm @25**	10	7/25/2013 03:10 PM
MOISTURE			**A2540 G**			Analyst: **BD**
Moisture	**82**		**0.050**	**% of sample**	1	7/23/2013 12:40 PM
PH			**SW9045D**		Prep Date: **7/23/2013**	Analyst: **JB**
pH	**9.1**			**s.u.**	1	7/23/2013 11:00 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *30-Jul-13*

Client: HRL Compliance Solutions
Project: Caerus Chevron 41-8D 13-199 7/22/13 **Work Order:** 1307799
Sample ID: BKGD 2 **Lab ID:** 1307799-02
Collection Date: 7/22/2013 01:35 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS			**SW6020A**		Prep Date: **7/25/2013**	Analyst: **ML**
Arsenic	**8.3**		**2.0**	**mg/Kg-dry**	5	7/27/2013 02:44 AM
MOISTURE			**A2540 G**			Analyst: **BD**
Moisture	**7.3**		**0.050**	**% of sample**	1	7/23/2013

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *30-Jul-13*

Client: HRL Compliance Solutions
Project: Caerus Chevron 41-8D 13-199 7/22/13 **Work Order:** 1307799
Sample ID: BKGD 3 **Lab ID:** 1307799-03
Collection Date: 7/22/2013 01:30 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS			**SW6020A**		Prep Date: **7/25/2013**	Analyst: **ML**
Arsenic	**8.6**		**1.8**	**mg/Kg-dry**	5	7/27/2013 02:50 AM
MOISTURE			**A2540 G**			Analyst: **BD**
Moisture	**5.2**		**0.050**	**% of sample**	1	7/23/2013

Note: See Qualifiers page for a list of qualifiers and their definitions.

QC BATCH REPORT

Batch ID: **50013** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK Sample ID: **MBLK-50013-50013** Units: **mg/Kg** Analysis Date: **7/26/2013 02:01 PM**

Client ID: Run ID: **ICPMS1_130726A** SeqNo: **2392468** Prep Date: **7/25/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.03916	0.25								J

LCS Sample ID: **LCS-50013-50013** Units: **mg/Kg** Analysis Date: **7/26/2013 02:07 PM**

Client ID: Run ID: **ICPMS1_130726A** SeqNo: **2392469** Prep Date: **7/25/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.799	0.25	5	0	96	80-120	0			

MS Sample ID: **1307769-02BMS** Units: **mg/Kg** Analysis Date: **7/26/2013 02:19 PM**

Client ID: Run ID: **ICPMS1_130726A** SeqNo: **2392471** Prep Date: **7/25/2013** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	12.8	1.9	7.418	5.276	101	75-125	0			

MSD Sample ID: **1307769-02BMSD** Units: **mg/Kg** Analysis Date: **7/26/2013 02:25 PM**

Client ID: Run ID: **ICPMS1_130726A** SeqNo: **2392472** Prep Date: **7/25/2013** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	13.82	1.9	7.645	5.276	112	75-125	12.8	7.68	25	

The following samples were analyzed in this batch: 1307799-01A 1307799-02A 1307799-03A

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

Client: HRL Compliance Solutions
Work Order: 1307799
Project: Caerus Chevron 41-8D 13-199 7/22/13

QC BATCH REPORT

Batch ID: **49915** Instrument ID **WETCHEM** Method: **USDA H60 Method**

DUP Sample ID: **1307634-01B DUP** Units: **mmhos/cm @25°C** Analysis Date: **7/25/2013 03:10 PM**
Client ID: Run ID: **WETCHEM_130725J** SeqNo: **2390794** Prep Date: **7/25/2013** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	1.583	0.050	0	0	0		1.847	15.4	50	

The following samples were analyzed in this batch: 1307799-01B

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

Client: HRL Compliance Solutions
Work Order: 1307799
Project: Caerus Chevron 41-8D 13-199 7/22/13

QC BATCH REPORT

Batch ID: **49934** Instrument ID **WETCHEM** Method: **SW9045D**

LCS Sample ID: **LCS-49934-49934** Units: **s.u.** Analysis Date: **7/23/2013 11:00 AM**
Client ID: Run ID: **WETCHEM_130723L** SeqNo: **2388161** Prep Date: **7/23/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	4.53	0	4.4	0	103	90-110	0			

DUP Sample ID: **1307798-01B DUP** Units: **s.u.** Analysis Date: **7/23/2013 11:00 AM**
Client ID: Run ID: **WETCHEM_130723L** SeqNo: **2388163** Prep Date: **7/23/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	9.13	0	0	0	0	0-0	9.13	0	20	

The following samples were analyzed in this batch: 1307799-01A

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

Client: HRL Compliance Solutions
Work Order: 1307799
Project: Caerus Chevron 41-8D 13-199 7/22/13

QC BATCH REPORT

Batch ID: **R124049** Instrument ID **MOIST** Method: **A2540 G**

MBLK Sample ID: **WBLKS-R124049** Units: **% of sample** Analysis Date: **7/23/2013 12:40 PM**
Client ID: Run ID: **MOIST_130723A** SeqNo: **2388372** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	ND	0.050								

LCS Sample ID: **LCS-R124049** Units: **% of sample** Analysis Date: **7/23/2013 12:40 PM**
Client ID: Run ID: **MOIST_130723A** SeqNo: **2388371** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.050	100	0	100	99.5-100.5	0			

DUP Sample ID: **1307776-06A DUP** Units: **% of sample** Analysis Date: **7/23/2013 12:40 PM**
Client ID: Run ID: **MOIST_130723A** SeqNo: **2388357** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	48.63	0.050	0	0	0	0-0	49.35	1.47	20	

DUP Sample ID: **1307798-01B DUP** Units: **% of sample** Analysis Date: **7/23/2013 12:40 PM**
Client ID: Run ID: **MOIST_130723A** SeqNo: **2388365** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	19.99	0.050	0	0	0	0-0	20.28	1.44	20	

The following samples were analyzed in this batch: 1307799-01A

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

Client: HRL Compliance Solutions
Work Order: 1307799
Project: Caerus Chevron 41-8D 13-199 7/22/13

QC BATCH REPORT

Batch ID: **R124058** Instrument ID **MOIST** Method: **A2540 G**

MBLK Sample ID: **WBLKS-R124058** Units: **% of sample** Analysis Date: **7/23/2013**
Client ID: Run ID: **MOIST_130723C** SeqNo: **2388576** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	ND	0.050								

LCS Sample ID: **LCS-R124058** Units: **% of sample** Analysis Date: **7/23/2013**
Client ID: Run ID: **MOIST_130723C** SeqNo: **2388574** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.050	100	0	100	99.5-100.5	0			

DUP Sample ID: **1307794-01B DUP** Units: **% of sample** Analysis Date: **7/23/2013**
Client ID: Run ID: **MOIST_130723C** SeqNo: **2388528** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	15.1	0.050	0	0	0	0-0	15.45	2.29	20	

DUP Sample ID: **1307801-04A DUP** Units: **% of sample** Analysis Date: **7/23/2013**
Client ID: Run ID: **MOIST_130723C** SeqNo: **2388551** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	32.26	0.050	0	0	0	0-0	31.81	1.4	20	

The following samples were analyzed in this batch: 1307799-02A 1307799-03A

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

ALS Laboratory Group

225 Commerce Drive, Fort Collins, Colorado 80524
TF: (800) 443-1511 PH: (970) 490-1511 FX: (970) 490-1522

Chain-of-Custody

Form 202r8

WORKORDER # 1307799

PAGE 1 of 1

PROJECT NAME	CAERUS CHEVRON 41-8D	SAMPLER	Casey Richardson	DATE	7-22-13
PROJECT No.	13-199	SITE ID		TURNAROUND	5 DAY
		EDD FORMAT		DISPOSAL	~~By Lab~~ or Return to Client
COMPANY NAME	HCSI	PURCHASE ORDER			
SEND REPORT TO	Herman Lucero	BILL TO COMPANY	PDC Energy		
ADDRESS	2385 F 1/2 Road	INVOICE ATTN TO	Ed Winters		
CITY / STATE / ZIP	Grand Junction, CO. 81505	ADDRESS	120 Railroad Ave. Suite D		
PHONE	970-243-3271	CITY / STATE / ZIP	Parachute, CO 81635		
FAX	970-243-3280	PHONE	970-285-9606		
E-MAIL	hlucero@hrlcomp.com	FAX			
		E-MAIL	ewinters@petd.com		

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	SAR/EC/pH	ARSENIC
1	BKGD 1	SOIL	7-22-13	1345	2	8		X	X
2	BKGD 2	SOIL	7-22-13	1335	1	8			X
3	BKGD 3	SOIL	7-22-13	1330	1	8			X

*Time Zone (Circle): EST CST MST PST 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: 5.0C

QC PACKAGE (check below)	
x	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

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY		Casey Richardson	7-22-13	1625
RECEIVED BY		Colby Koerner	7/22/13	1625
RELINQUISHED BY		Colby Koerner	7/22/13	1625
RECEIVED BY	Fed Ex			
RELINQUISHED BY				
RECEIVED BY		Diane F Shea	7/23/13	1000

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **HRL** Date/Time Received: **23-Jul-13 10:00**

Work Order: **1307799** Received by: **DS**

Checklist completed by Diane Shaw (eSignature) 23-Jul-13 (Date) Reviewed by: Ann Preston (eSignature) 28-Jul-13 (Date)

Matrices: Soil
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 ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	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):	5.0 c		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	7/23/2013 10:56:26 AM		
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:

CorrectiveAction:

From: (970) 424-4749
Lab Hub, LLC

127 E First Street

PARACHUTE, CO 81635

Origin ID: RILA

FedEx Express

J13111302120326

Ship Date: 22JUL13
ActWgt: 80.0 LB
CAD: 103923490/INET3370

Dims: 25 X 14 X 15 IN

Delivery Address Bar Code

Ref # 1001-072213-3
Invoice #
PO #
Dept #

SHIP TO: (616) 399-6070 BILL RECIPIENT

Sample recieving
ALS Holland
3352 128TH AVE

HOLLAND, MI 49424

TUE - 23 JUL 3:00P
STANDARD OVERNIGHT

TRK# 0201 **7962 8879 8431**

XX GRRA

49424
MI-US
GRR

518G1/AA04/93AB

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