

Parachute Creek 1 (Facility ID 335780)
Form 4 (Waste Management Plan)
Narrative Attachment

Soil from the Parachute Creek 1 Landfarm will be moved from the Parachute Creek 1 pad location (COGCC Facility ID 335780) to the Parachute Creek 5 pad location (COGCC Facility ID 335781). This soil was removed during remediation activities associated with a partially buried vault removal at the Parachute Creek 1 (Spill/Release Tracking ID 400628935) and has been remediated to comply with COGCC Table 910-1 Concentration Levels, except for the electrical conductivity concentration which is 7.5 millimhos per centimeter. However, this soil will be used to either construct a containment berm or backfill the excavation in support of the ongoing remediation project at the Parachute Creek 5 pad location (Spill/Release Point ID 442525). Carlos Lujan of the COGCC verbally approved this plan on July 15, 2015.

TABLE 1
PARACHUTE CREEK 1 LANDFARM
SOIL ANALYTICAL RESULTS
CAERUS OIL AND GAS
PICEANCE BASIN, COLORADO

PARAMETER	COGCC CONCENTRATION LEVELS	UNITS	5 Point Composite	Parachute Creek 1 Landfarm	BKGD 01	BKGD 02	BKGD 03
Sample Date			8/22/2014	6/2/2015	6/27/2014	6/27/2014	6/27/2014
Sample Type			Confirmation	Confirmation	Background	Background	Background
Arsenic	0.39	mg/kg	8.3	NA	8.5	8.0	8.4
Barium	15,000	mg/kg	240	NA	NA	NA	NA
Cadmium	70	mg/kg	ND	NA	NA	NA	NA
Chromium (III)	120,000	mg/kg	NA	11	NA	NA	NA
Chromium (VI)	23	mg/kg	NA	ND	NA	NA	NA
Copper	3,100	mg/kg	NA	19	NA	NA	NA
Lead	400	mg/kg	15	NA	NA	NA	NA
Mercury	23	mg/kg	0.032	NA	NA	NA	NA
Nickel	1,600	mg/kg	NA	19	NA	NA	NA
Selenium	390	mg/kg	ND	NA	NA	NA	NA
Silver	390	mg/kg	ND	NA	NA	NA	NA
Zinc	23,000	mg/kg	NA	78	NA	NA	NA
EC	4 or 2x background	mmhos/cm	NA	7.5	NA	NA	1.4
pH	6-9	SU	NA	8.3	NA	NA	8.0
SAR	12	unitless	NA	7.1	NA	NA	0.34
TPH-GRO			950	ND	NA	NA	NA
TPH-DRO			100	39	NA	NA	NA
TPH	500	mg/kg	1,050	39	NA	NA	NA
Benzene	0.17	mg/kg	ND	NA	NA	NA	NA
Toluene	85	mg/kg	ND	NA	NA	NA	NA
Ethylbenzene	100	mg/kg	0.066	NA	NA	NA	NA
Total Xylenes	175	mg/kg	1.2	NA	NA	NA	NA
Acenaphthene	1,000	mg/kg	NA	ND	NA	NA	NA
Anthracene	1,000	mg/kg	NA	ND	NA	NA	NA
Benz(a)anthracene	0.22	mg/kg	NA	ND	NA	NA	NA
Benzo(b)fluoranthene	0.22	mg/kg	NA	ND	NA	NA	NA
Benzo(k)fluoranthene	2.2	mg/kg	NA	ND	NA	NA	NA
Benzo(a)pyrene	0.022	mg/kg	NA	ND	NA	NA	NA
Chrysene	22	mg/kg	NA	ND	NA	NA	NA
Dibenzo(a,h)anthracene	0.022	mg/kg	NA	ND	NA	NA	NA
Fluoranthene	1,000	mg/kg	NA	ND	NA	NA	NA
Fluorene	1,000	mg/kg	NA	ND	NA	NA	NA
Indeno(1,2,3,c,d)pyrene	0.22	mg/kg	NA	ND	NA	NA	NA
Naphthalene	23	mg/kg	NA	ND	NA	NA	NA
Pyrene	1,000	mg/kg	NA	ND	NA	NA	NA

Notes:

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

ND - less than the stated reporting limit

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



29-Aug-2014

Casey Richardson
HRL Compliance Solutions, Inc
2385 F 1/2 Road
Grand Junction, CO 81505

Re: **Caerus Parachute Creek 1 8.22.14**

Work Order: **14081235**

Dear Casey,

ALS Environmental received 1 sample on 23-Aug-2014 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 19.

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

Sincerely,

A handwritten signature in cursive script that reads "Ann Preston".

Electronically approved by: Ann Preston

Ann Preston
Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

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

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: HRL Compliance Solutions, Inc
Project: Caerus Parachute Creek 1 8.22.14
Work Order: 14081235

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
14081235-01	5 Point Composite	Soil		8/22/2014 11:50	8/23/2014 10:00	<input type="checkbox"/>

Client: HRL Compliance Solutions, Inc
Project: Caerus Parachute Creek 1 8.22.14
Work Order: 14081235

Case Narrative

Batch 62012 LCS recovery for Methyl iodide was above control limits, but all samples in this quality control batch were non-detect for this compound. No data requires qualification. The MS/MSD data for Volatiles is not related to this project's samples. No data requires qualification.

Batch 62022 MS/MSD data for Metals is not related to this project's samples. No data requires qualification.

Batch 62019 MS/MSD data for Volatiles is not related to this project's samples. No data requires qualification.

Client: HRL Compliance Solutions, Inc
Project: Caerus Parachute Creek 1 8.22.14
WorkOrder: 14081235

QUALIFIERS, ACRONYMS, UNITS

<u>Qualifier</u>	<u>Description</u>
*	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

<u>Acronym</u>	<u>Description</u>
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

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
°F	Degrees Fahrenheit
µg/Kg-dry	Micrograms per Kilogram Dry Weight
mg/Kg-dry	Milligrams per Kilogram Dry Weight
none	

ALS Group USA, Corp

Date: 29-Aug-14

Client: HRL Compliance Solutions, Inc
Project: Caerus Parachute Creek 1 8.22.14
Sample ID: 5 Point Composite
Collection Date: 8/22/2014 11:50 AM

Work Order: 14081235
Lab ID: 14081235-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3541 / 8/27/14	Analyst: IT
DRO (C10-C28)	100		4.7	mg/Kg-dry	1	8/27/2014 10:36 PM
Surr: 4-Terphenyl-d14	84.5		39-133	%REC	1	8/27/2014 10:36 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015		Prep: SW5035 / 8/25/14	Analyst: IT
GRO (C6-C10)	950		2.9	mg/Kg-dry	1	8/26/2014 02:05 PM
Surr: Toluene-d8	132		50-150	%REC	1	8/26/2014 02:05 PM
MERCURY BY CVAA						
			SW7471		Prep: SW7471 / 8/25/14	Analyst: LR
Mercury	0.032		0.014	mg/Kg-dry	1	8/25/2014 04:20 PM
METALS BY ICP-MS						
			SW6020A		Prep: SW3050B / 8/25/14	Analyst: ML
Arsenic	8.3		2.3	mg/Kg-dry	5	8/26/2014 03:02 AM
Barium	240		2.3	mg/Kg-dry	5	8/26/2014 03:02 AM
Cadmium	ND		0.93	mg/Kg-dry	5	8/26/2014 03:02 AM
Chromium	11		2.3	mg/Kg-dry	5	8/26/2014 03:02 AM
Lead	15		2.3	mg/Kg-dry	5	8/26/2014 03:02 AM
Selenium	ND		2.3	mg/Kg-dry	5	8/26/2014 03:02 AM
Silver	ND		2.3	mg/Kg-dry	5	8/26/2014 03:02 AM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 / 8/25/14	Analyst: AK
1,1,1-Trichloroethane	ND		35	µg/Kg-dry	1	8/29/2014 07:52 AM
1,1,2,2-Tetrachloroethane	ND		35	µg/Kg-dry	1	8/29/2014 07:52 AM
1,1,2-Trichloroethane	ND		35	µg/Kg-dry	1	8/29/2014 07:52 AM
1,1-Dichloroethane	ND		35	µg/Kg-dry	1	8/29/2014 07:52 AM
1,1-Dichloroethene	ND		35	µg/Kg-dry	1	8/29/2014 07:52 AM
1,2-Dichloroethane	ND		35	µg/Kg-dry	1	8/29/2014 07:52 AM
1,2-Dichloropropane	ND		35	µg/Kg-dry	1	8/29/2014 07:52 AM
2-Butanone	ND		230	µg/Kg-dry	1	8/29/2014 07:52 AM
2-Hexanone	ND		35	µg/Kg-dry	1	8/29/2014 07:52 AM
4-Methyl-2-pentanone	ND		35	µg/Kg-dry	1	8/29/2014 07:52 AM
Acetone	ND		120	µg/Kg-dry	1	8/29/2014 07:52 AM
Benzene	ND		35	µg/Kg-dry	1	8/29/2014 07:52 AM
Bromodichloromethane	ND		35	µg/Kg-dry	1	8/29/2014 07:52 AM
Bromoform	ND		35	µg/Kg-dry	1	8/29/2014 07:52 AM
Bromomethane	ND		87	µg/Kg-dry	1	8/29/2014 07:52 AM
Carbon disulfide	ND		35	µg/Kg-dry	1	8/29/2014 07:52 AM
Carbon tetrachloride	ND		35	µg/Kg-dry	1	8/29/2014 07:52 AM
Chlorobenzene	ND		35	µg/Kg-dry	1	8/29/2014 07:52 AM
Chloroethane	ND		120	µg/Kg-dry	1	8/29/2014 07:52 AM
Chloroform	ND		35	µg/Kg-dry	1	8/29/2014 07:52 AM
Chloromethane	ND		120	µg/Kg-dry	1	8/29/2014 07:52 AM

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

ALS Group USA, Corp

Date: 29-Aug-14

Client: HRL Compliance Solutions, Inc
Project: Caerus Parachute Creek 1 8.22.14
Sample ID: 5 Point Composite
Collection Date: 8/22/2014 11:50 AM

Work Order: 14081235
Lab ID: 14081235-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
cis-1,2-Dichloroethene	ND		35	µg/Kg-dry	1	8/29/2014 07:52 AM
cis-1,3-Dichloropropene	ND		35	µg/Kg-dry	1	8/29/2014 07:52 AM
Dibromochloromethane	ND		35	µg/Kg-dry	1	8/29/2014 07:52 AM
Ethylbenzene	66		35	µg/Kg-dry	1	8/29/2014 07:52 AM
m,p-Xylene	1,200		69	µg/Kg-dry	1	8/29/2014 07:52 AM
Methyl iodide	ND		87	µg/Kg-dry	1	8/29/2014 07:52 AM
Methylene chloride	ND		35	µg/Kg-dry	1	8/29/2014 07:52 AM
o-Xylene	54		35	µg/Kg-dry	1	8/29/2014 07:52 AM
Styrene	ND		35	µg/Kg-dry	1	8/29/2014 07:52 AM
Tetrachloroethene	ND		35	µg/Kg-dry	1	8/29/2014 07:52 AM
Toluene	ND		35	µg/Kg-dry	1	8/29/2014 07:52 AM
trans-1,2-Dichloroethene	ND		35	µg/Kg-dry	1	8/29/2014 07:52 AM
trans-1,3-Dichloropropene	ND		35	µg/Kg-dry	1	8/29/2014 07:52 AM
trans-1,4-Dichloro-2-butene	ND		35	µg/Kg-dry	1	8/29/2014 07:52 AM
Trichloroethene	ND		35	µg/Kg-dry	1	8/29/2014 07:52 AM
Vinyl acetate	ND		35	µg/Kg-dry	1	8/29/2014 07:52 AM
Xylenes, Total	1,200		100	µg/Kg-dry	1	8/29/2014 07:52 AM
Surr: 1,2-Dichloroethane-d4	82.3		70-130	%REC	1	8/29/2014 07:52 AM
Surr: 4-Bromofluorobenzene	103		70-130	%REC	1	8/29/2014 07:52 AM
Surr: Dibromofluoromethane	91.0		70-130	%REC	1	8/29/2014 07:52 AM
Surr: Toluene-d8	103		70-130	%REC	1	8/29/2014 07:52 AM
FLASHPOINT, OPEN-CUP			D92			Analyst: RLF
Flashpoint, Open-cup	>200			°F	1	8/29/2014 08:15 AM
PAINT FILTER (FREE LIQUIDS)			SW9095			Analyst: KF
Free Liquids	Pass			none	1	8/25/2014 12:14 PM
MOISTURE			A2540 G			Analyst: RDM
Moisture	13		0.050	% of sample	1	8/27/2014 12:30 PM

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

Client: HRL Compliance Solutions, Inc
Work Order: 14081235
Project: Caerus Parachute Creek 1 8.22.14

QC BATCH REPORT

Batch ID: **62100** Instrument ID **GC8** Method: **SW8015M**

MBLK		Sample ID: DBLKS1-62100-62100				Units: mg/Kg		Analysis Date: 8/27/2014 08:04 PM		
Client ID:		Run ID: GC8_140827A				SeqNo: 2907978		Prep Date: 8/27/2014		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	1.949	0	2	0	97.4	39-133	0			

LCS		Sample ID: DLCSS1-62100-62100				Units: mg/Kg		Analysis Date: 8/27/2014 08:35 PM		
Client ID:		Run ID: GC8_140827A				SeqNo: 2907979		Prep Date: 8/27/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	212.2	5.0	200	0	106	61-109	0			
Surr: 4-Terphenyl-d14	1.974	0	2	0	98.7	39-133	0			

MS		Sample ID: 14081279-03C MS				Units: mg/Kg		Analysis Date: 8/27/2014 09:05 PM		
Client ID:		Run ID: GC8_140827A				SeqNo: 2907980		Prep Date: 8/27/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	361.2	8.1	323.9	25.19	104	48-110	0			
Surr: 4-Terphenyl-d14	2.963	0	3.239	0	91.5	39-133	0			

MSD		Sample ID: 14081279-03C MSD				Units: mg/Kg		Analysis Date: 8/27/2014 09:35 PM		
Client ID:		Run ID: GC8_140827A				SeqNo: 2907981		Prep Date: 8/27/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	338.7	8.3	332.6	25.19	94.3	48-110	361.2	6.43	30	
Surr: 4-Terphenyl-d14	2.797	0	3.326	0	84.1	39-133	2.963	5.73	30	

The following samples were analyzed in this batch: | 14081235-01B |

Client: HRL Compliance Solutions, Inc
Work Order: 14081235
Project: Caerus Parachute Creek 1 8.22.14

QC BATCH REPORT

Batch ID: **62019** Instrument ID **GC9** Method: **SW8015**

MBLK		Sample ID: MBLK-62019-62019				Units: µg/Kg		Analysis Date: 8/26/2014 03:16 AM		
Client ID:		Run ID: GC9_140825A			SeqNo:2903941		Prep Date: 8/25/2014		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	4942	0	5000	0	98.8	50-150	0			

LCS				Sample ID: LCS-62019-62019				Units: µg/Kg			Analysis Date: 8/26/2014 02:51 AM			
Client ID:				Run ID: GC9_140825A				SeqNo:2903940			Prep Date: 8/25/2014		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
GRO (C6-C10)		499700	2,500	500000	0	99.9	70-130	0						
Surr: Toluene-d8		4361	0	5000	0	87.2	50-150	0						

MS		Sample ID: 14081253-01A MS				Units: µg/Kg		Analysis Date: 8/26/2014 04:06 AM		
Client ID:		Run ID: GC9_140825A			SeqNo:2903943		Prep Date: 8/25/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	491700	2,500	500000	0	98.3	70-130	0			
Surr: Toluene-d8	4208	0	5000	0	84.2	50-150	0			

MSD				Sample ID: 14081253-01A MSD				Units: µg/Kg			Analysis Date: 8/26/2014 04:31 AM			
Client ID:				Run ID: GC9_140825A				SeqNo:2903944			Prep Date: 8/25/2014		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
GRO (C6-C10)		478100	2,500	500000	0	95.6	70-130	491700	2.81	30				
Surr: Toluene-d8		5714	0	5000	0	114	50-150	4208	30.3	30	R			

The following samples were analyzed in this batch:

14081235-01A

Client: HRL Compliance Solutions, Inc
Work Order: 14081235
Project: Caerus Parachute Creek 1 8.22.14

QC BATCH REPORT

Batch ID: **61979** Instrument ID **HG1** Method: **SW7471**

MBLK				Sample ID: MBLK-61979-61979				Units: mg/Kg			Analysis Date: 8/25/2014 03:10 PM			
Client ID:				Run ID: HG1_140825A				SeqNo: 2902477			Prep Date: 8/25/2014		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-61979-61979				Units:mg/Kg		Analysis Date: 8/25/2014 03:12 PM		
Client ID:		Run ID: HG1_140825A			SeqNo:2902478		Prep Date: 8/25/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.19 0.020 0.1665 0 114 80-120 0

MS		Sample ID: 14081065-04BMS				Units:mg/Kg		Analysis Date: 8/25/2014 03:37 PM		
Client ID:		Run ID: HG1_140825A		SeqNo:2902511		Prep Date: 8/25/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1347 0.012 0.1028 0.0167 115 75-125 0

MSD				Sample ID: 14081065-04BMSD				Units:mg/Kg			Analysis Date: 8/25/2014 03:39 PM												
Client ID:				Run ID: HG1_140825A				SeqNo:2902512		Prep Date: 8/25/2014		DF: 1											
Analyte				Result		PQL		SPK Val		SPK Ref Value		%REC		Control Limit		RPD Ref Value		%RPD		RPD Limit		Qual	

Mercury 0.1306 0.012 0.1034 0.0167 110 75-125 0.1347 3.11 35

The following samples were analyzed in this batch:

14081235-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14081235
Project: Caerus Parachute Creek 1 8.22.14

QC BATCH REPORT

Batch ID: **62022** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK		Sample ID: MBLK-62022-62022				Units: mg/Kg		Analysis Date: 8/25/2014 11:58 PM		
Client ID:		Run ID: ICPMS1_140825A				SeqNo: 2903708		Prep Date: 8/25/2014		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	0.001274	0.10								J
Chromium	ND	0.25								
Lead	0.00304	0.25								J
Selenium	ND	0.25								
Silver	ND	0.25								

LCS		Sample ID: LCS-62022-62022				Units: mg/Kg		Analysis Date: 8/26/2014 12:04 AM		
Client ID:		Run ID: ICPMS1_140825A				SeqNo: 2903710		Prep Date: 8/25/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.462	0.25	5	0	89.2	80-120	0			
Barium	4.7	0.25	5	0	94	80-120	0			
Cadmium	4.64	0.10	5	0	92.8	80-120	0			
Chromium	4.607	0.25	5	0	92.1	80-120	0			
Lead	4.642	0.25	5	0	92.8	80-120	0			
Selenium	4.45	0.25	5	0	89	80-120	0			
Silver	4.683	0.25	5	0	93.7	80-120	0			

MS		Sample ID: 14081234-01AMS				Units: mg/Kg		Analysis Date: 8/26/2014 02:44 AM		
Client ID:		Run ID: ICPMS1_140825A				SeqNo: 2903752		Prep Date: 8/25/2014		DF: 5
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	18.3	1.8	7.342	10.62	105	75-125	0			
Barium	214.8	1.8	7.342	219.2	-59.5	75-125	0			SO
Cadmium	7.919	0.73	7.342	0.6688	98.7	75-125	0			
Chromium	18.01	1.8	7.342	7.995	136	75-125	0			S
Lead	21	1.8	7.342	12.88	111	75-125	0			
Selenium	8.341	1.8	7.342	2.195	83.7	75-125	0			
Silver	6.832	1.8	7.342	0.08948	91.8	75-125	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 14081235
Project: Caerus Parachute Creek 1 8.22.14

QC BATCH REPORT

Batch ID: **62022** Instrument ID **ICPMS1** Method: **SW6020A**

MSD		Sample ID: 14081234-01AMSD				Units: mg/Kg		Analysis Date: 8/26/2014 02:50 AM		
Client ID:		Run ID: ICPMS1_140825A				SeqNo: 2903753		Prep Date: 8/25/2014		DF: 5
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	20.48	1.8	7.267	10.62	136	75-125	18.3	11.2	25	S
Barium	170.2	1.8	7.267	219.2	-675	75-125	214.8	23.2	25	SO
Cadmium	7.307	0.73	7.267	0.6688	91.3	75-125	7.919	8.03	25	
Chromium	16.69	1.8	7.267	7.995	120	75-125	18.01	7.63	25	
Lead	20.61	1.8	7.267	12.88	106	75-125	21	1.87	25	
Selenium	8.114	1.8	7.267	2.195	81.5	75-125	8.341	2.75	25	
Silver	6.421	1.8	7.267	0.08948	87.1	75-125	6.832	6.2	25	

The following samples were analyzed in this batch:

14081235-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14081235
Project: Caerus Parachute Creek 1 8.22.14

QC BATCH REPORT

Batch ID: **62012** Instrument ID **VMS9** Method: **SW8260B**

MBLK		Sample ID: MBLK-62012-62012				Units: µg/Kg		Analysis Date: 8/26/2014 01:04 AM		
Client ID:		Run ID: VMS9_140825A				SeqNo: 2903982		Prep Date: 8/25/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	ND	30								
1,1,2,2-Tetrachloroethane	ND	30								
1,1,2-Trichloroethane	ND	30								
1,1-Dichloroethane	ND	30								
1,1-Dichloroethene	ND	30								
1,2-Dichloroethane	ND	30								
1,2-Dichloropropane	ND	30								
2-Butanone	ND	200								
2-Hexanone	ND	30								
4-Methyl-2-pentanone	ND	30								
Acetone	ND	100								
Benzene	ND	30								
Bromodichloromethane	ND	30								
Bromoform	ND	30								
Bromomethane	ND	75								
Carbon disulfide	ND	30								
Carbon tetrachloride	ND	30								
Chlorobenzene	ND	30								
Chloroethane	ND	100								
Chloroform	ND	30								
Chloromethane	ND	100								
cis-1,2-Dichloroethene	ND	30								
cis-1,3-Dichloropropene	ND	30								
Dibromochloromethane	ND	30								
Ethylbenzene	ND	30								
m,p-Xylene	ND	60								
Methyl iodide	ND	75								
Methylene chloride	ND	30								
o-Xylene	ND	30								
Styrene	ND	30								
Tetrachloroethene	ND	30								
Toluene	ND	30								
trans-1,2-Dichloroethene	ND	30								
trans-1,3-Dichloropropene	ND	30								
trans-1,4-Dichloro-2-butene	ND	30								
Trichloroethene	ND	30								
Vinyl acetate	ND	30								
Xylenes, Total	ND	90								
Surr: 1,2-Dichloroethane-d4	975.5	0	1000	0	97.6	70-130	0			
Surr: 4-Bromofluorobenzene	979.5	0	1000	0	98	70-130	0			
Surr: Dibromofluoromethane	946	0	1000	0	94.6	70-130	0			
Surr: Toluene-d8	998.5	0	1000	0	99.8	70-130	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 14081235
Project: Caerus Parachute Creek 1 8.22.14

QC BATCH REPORT

Batch ID: **62012** Instrument ID **VMS9** Method: **SW8260B**

LCS		Sample ID: LCS-62012-62012				Units: µg/Kg		Analysis Date: 8/25/2014 10:37 PM		
Client ID:		Run ID: VMS9_140825A				SeqNo: 2903981		Prep Date: 8/25/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1014	30	1000	0	101	70-135	0			
1,1,2,2-Tetrachloroethane	993	30	1000	0	99.3	55-130	0			
1,1,2-Trichloroethane	979	30	1000	0	97.9	60-125	0			
1,1-Dichloroethane	1068	30	1000	0	107	75-125	0			
1,1-Dichloroethene	1002	30	1000	0	100	65-135	0			
1,2-Dichloroethane	1026	30	1000	0	103	70-135	0			
1,2-Dichloropropane	992.5	30	1000	0	99.2	70-120	0			
2-Butanone	1050	200	1000	0	105	30-160	0			
2-Hexanone	1006	30	1000	0	101	45-145	0			
4-Methyl-2-pentanone	1288	30	1000	0	129	96-168	0			
Acetone	945.5	100	1000	0	94.6	20-160	0			
Benzene	1055	30	1000	0	106	75-125	0			
Bromodichloromethane	990	30	1000	0	99	70-130	0			
Bromoform	917	30	1000	0	91.7	55-135	0			
Bromomethane	939.5	75	1000	0	94	30-160	0			
Carbon disulfide	1004	30	1000	0	100	45-160	0			
Carbon tetrachloride	936.5	30	1000	0	93.6	65-135	0			
Chlorobenzene	1062	30	1000	0	106	75-125	0			
Chloroethane	1032	100	1000	0	103	40-155	0			
Chloroform	1085	30	1000	0	108	70-125	0			
Chloromethane	726	100	1000	0	72.6	50-130	0			
cis-1,2-Dichloroethene	1106	30	1000	0	111	65-125	0			
cis-1,3-Dichloropropene	1042	30	1000	0	104	70-125	0			
Dibromochloromethane	860.5	30	1000	0	86	65-135	0			
Ethylbenzene	1064	30	1000	0	106	75-125	0			
m,p-Xylene	2124	60	2000	0	106	80-125	0			
Methyl iodide	2078	75	1000	0	208	64-145	0			S
Methylene chloride	1011	30	1000	0	101	55-145	0			
o-Xylene	1060	30	1000	0	106	75-125	0			
Styrene	1070	30	1000	0	107	75-125	0			
Tetrachloroethene	1105	30	1000	0	110	64-140	0			
Toluene	1061	30	1000	0	106	70-125	0			
trans-1,2-Dichloroethene	1060	30	1000	0	106	65-135	0			
trans-1,3-Dichloropropene	1030	30	1000	0	103	65-125	0			
trans-1,4-Dichloro-2-butene	761.5	30	1000	0	76.2	62-112	0			
Trichloroethene	1002	30	1000	0	100	75-125	0			
Xylenes, Total	3184	90	3000	0	106	75-125	0			
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>1013</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>101</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>1006</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>101</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: Dibromofluoromethane</i>	<i>1006</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>101</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: Toluene-d8</i>	<i>1010</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>101</i>	<i>70-130</i>	<i>0</i>			

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

Client: HRL Compliance Solutions, Inc
Work Order: 14081235
Project: Caerus Parachute Creek 1 8.22.14

QC BATCH REPORT

Batch ID: **62012** Instrument ID **VMS9** Method: **SW8260B**

MS				Sample ID: 14081228-05A MS			Units: µg/Kg		Analysis Date: 8/25/2014 08:38 PM	
Client ID:				Run ID: VMS6_140825A			SeqNo: 2903427		Prep Date: 8/25/2014	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	894	30	1000	0	89.4	70-135	0			
1,1,2,2-Tetrachloroethane	1084	30	1000	0	108	55-130	0			
1,1,2-Trichloroethane	1090	30	1000	0	109	60-125	0			
1,1-Dichloroethane	1096	30	1000	0	110	75-125	0			
1,1-Dichloroethene	824	30	1000	0	82.4	65-135	0			
1,2-Dichloroethane	1096	30	1000	0	110	70-135	0			
1,2-Dichloropropane	1094	30	1000	0	109	70-120	0			
2-Butanone	1340	200	1000	0	134	30-160	0			
2-Hexanone	1172	30	1000	0	117	45-145	0			
4-Methyl-2-pentanone	1472	30	1000	0	147	89-161	0			
Acetone	1569	100	1000	0	157	20-160	0			
Benzene	1054	30	1000	0	105	75-125	0			
Bromodichloromethane	1065	30	1000	0	106	70-130	0			
Bromoform	913.5	30	1000	0	91.4	55-135	0			
Bromomethane	683	75	1000	0	68.3	30-160	0			
Carbon disulfide	711.5	30	1000	0	71.2	45-160	0			
Carbon tetrachloride	742	30	1000	0	74.2	65-135	0			
Chlorobenzene	1074	30	1000	0	107	75-125	0			
Chloroethane	758.5	100	1000	0	75.8	40-155	0			
Chloroform	1169	30	1000	0	117	70-125	0			
Chloromethane	763	100	1000	0	76.3	50-130	0			
cis-1,2-Dichloroethene	1123	30	1000	0	112	65-125	0			
cis-1,3-Dichloropropene	1196	30	1000	0	120	70-125	0			
Dibromochloromethane	793.5	30	1000	0	79.4	65-135	0			
Ethylbenzene	1062	30	1000	0	106	75-125	0			
m,p-Xylene	2118	60	2000	0	106	80-125	0			
Methyl iodide	838.5	75	1000	0	83.8	30-105	0			
Methylene chloride	1146	30	1000	0	115	55-145	0			
o-Xylene	1079	30	1000	0	108	75-125	0			
Styrene	1086	30	1000	0	109	75-125	0			
Tetrachloroethene	982.5	30	1000	0	98.2	64-140	0			
Toluene	1036	30	1000	0	104	70-125	0			
trans-1,2-Dichloroethene	1033	30	1000	0	103	65-135	0			
trans-1,3-Dichloropropene	1002	30	1000	0	100	65-125	0			
trans-1,4-Dichloro-2-butene	1536	30	1000	0	154	45-86	0			S
Trichloroethene	1020	30	1000	0	102	75-125	0			
Xylenes, Total	3196	90	3000	0	107	75-125	0			
Surr: 1,2-Dichloroethane-d4	983	0	1000	0	98.3	70-130	0			
Surr: 4-Bromofluorobenzene	1014	0	1000	0	101	70-130	0			
Surr: Dibromofluoromethane	993	0	1000	0	99.3	70-130	0			
Surr: Toluene-d8	972	0	1000	0	97.2	70-130	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 14081235
Project: Caerus Parachute Creek 1 8.22.14

QC BATCH REPORT

Batch ID: **62012** Instrument ID **VMS9** Method: **SW8260B**

MSD				Sample ID: 14081228-05A MSD			Units: µg/Kg		Analysis Date: 8/25/2014 09:04 PM	
Client ID:				Run ID: VMS6_140825A			SeqNo: 2903430		Prep Date: 8/25/2014	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	833	30	1000	0	83.3	70-135	894	7.06	30	
1,1,2,2-Tetrachloroethane	1010	30	1000	0	101	55-130	1084	7.11	30	
1,1,2-Trichloroethane	1034	30	1000	0	103	60-125	1090	5.28	30	
1,1-Dichloroethane	1042	30	1000	0	104	75-125	1096	5	30	
1,1-Dichloroethene	763	30	1000	0	76.3	65-135	824	7.69	30	
1,2-Dichloroethane	1072	30	1000	0	107	70-135	1096	2.31	30	
1,2-Dichloropropane	1062	30	1000	0	106	70-120	1094	2.92	30	
2-Butanone	1240	200	1000	0	124	30-160	1340	7.67	30	
2-Hexanone	1072	30	1000	0	107	45-145	1172	8.87	30	
4-Methyl-2-pentanone	1351	30	1000	0	135	89-161	1472	8.54	30	
Acetone	1404	100	1000	0	140	20-160	1569	11.1	30	
Benzene	994.5	30	1000	0	99.4	75-125	1054	5.76	30	
Bromodichloromethane	1032	30	1000	0	103	70-130	1065	3.2	30	
Bromoform	832	30	1000	0	83.2	55-135	913.5	9.34	30	
Bromomethane	637.5	75	1000	0	63.8	30-160	683	6.89	30	
Carbon disulfide	636.5	30	1000	0	63.6	45-160	711.5	11.1	30	
Carbon tetrachloride	712.5	30	1000	0	71.2	65-135	742	4.06	30	
Chlorobenzene	1030	30	1000	0	103	75-125	1074	4.14	30	
Chloroethane	687.5	100	1000	0	68.8	40-155	758.5	9.82	30	
Chloroform	1115	30	1000	0	112	70-125	1169	4.73	30	
Chloromethane	713	100	1000	0	71.3	50-130	763	6.78	30	
cis-1,2-Dichloroethene	1064	30	1000	0	106	65-125	1123	5.35	30	
cis-1,3-Dichloropropene	1145	30	1000	0	114	70-125	1196	4.32	30	
Dibromochloromethane	768	30	1000	0	76.8	65-135	793.5	3.27	30	
Ethylbenzene	1013	30	1000	0	101	75-125	1062	4.72	30	
m,p-Xylene	2042	60	2000	0	102	80-125	2118	3.61	30	
Methyl iodide	819.5	75	1000	0	82	30-105	838.5	2.29	30	
Methylene chloride	1071	30	1000	0	107	55-145	1146	6.72	30	
o-Xylene	1043	30	1000	0	104	75-125	1079	3.39	30	
Styrene	1069	30	1000	0	107	75-125	1086	1.58	30	
Tetrachloroethene	942.5	30	1000	0	94.2	64-140	982.5	4.16	30	
Toluene	990	30	1000	0	99	70-125	1036	4.49	30	
trans-1,2-Dichloroethene	955.5	30	1000	0	95.6	65-135	1033	7.79	30	
trans-1,3-Dichloropropene	980	30	1000	0	98	65-125	1002	2.22	30	
trans-1,4-Dichloro-2-butene	1394	30	1000	0	139	45-86	1536	9.73	30	S
Trichloroethene	960	30	1000	0	96	75-125	1020	6.06	30	
Xylenes, Total	3086	90	3000	0	103	75-125	3196	3.53	30	
Surr: 1,2-Dichloroethane-d4	957.5	0	1000	0	95.8	70-130	983	2.63	30	
Surr: 4-Bromofluorobenzene	1000	0	1000	0	100	70-130	1014	1.39	30	
Surr: Dibromofluoromethane	977.5	0	1000	0	97.8	70-130	993	1.57	30	
Surr: Toluene-d8	965	0	1000	0	96.5	70-130	972	0.723	30	

The following samples were analyzed in this batch:

14081235-01A

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

Client: HRL Compliance Solutions, Inc
Work Order: 14081235
Project: Caerus Parachute Creek 1 8.22.14

QC BATCH REPORT

Batch ID: **R147139** Instrument ID **MOIST** Method: **A2540 G**

MBLK		Sample ID: WBLKS-R147139				Units: % of sample		Analysis Date: 8/27/2014 12:30 PM		
Client ID:		Run ID: MOIST_140827A				SeqNo: 2907523		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-R147139				Units: % of sample		Analysis Date: 8/27/2014 12:30 PM		
Client ID:		Run ID: MOIST_140827A				SeqNo: 2907521		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: 14081269-02A DUP				Units: % of sample		Analysis Date: 8/27/2014 12:30 PM		
Client ID:		Run ID: MOIST_140827A				SeqNo: 2907492		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 62.59 0.050 0 0 0 0-0 59.52 5.03 20

DUP		Sample ID: 14081386-01A DUP				Units: % of sample		Analysis Date: 8/27/2014 12:30 PM		
Client ID:		Run ID: MOIST_140827A				SeqNo: 2907512		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 20.11 0.050 0 0 0 0-0 20.27 0.792 20

The following samples were analyzed in this batch:

14081235-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14081235
Project: Caerus Parachute Creek 1 8.22.14

QC BATCH REPORT

Batch ID: **R147266** Instrument ID **WETCHEM** Method: **D92**

LCS				Sample ID: LCS-R147266-R147266				Units: °F			Analysis Date: 8/29/2014 08:15 AM			
Client ID:				Run ID: WETCHEM_140829D				SeqNo: 2910953			Prep Date:		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Flashpoint, Open-cup		80	0	81	0	98.8	97-103	0						

The following samples were analyzed in this batch:

14081235-01B

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



ALS Laboratory Group

3352 128th Ave. Holland, MI 49424
TP: (800) 443-1511 PH: (616) 399-6070 FX: (616) 399-6185

Chain-of-Custody

Form 202r3

WORKORDER #

14081235

PAGE

1 of 1

DISPOSAL

by Lab or Return to Client

PROJECT NAME CAERUS PARACHUTE CREEK 1

SAMPLER Casey Richardson

DATE 8-22-14

SITE ID CONTAINMENT CELL

TURNAROUND 5 DAY

PROJECT No.

EDD FORMAT

PURCHASE ORDER

COMPANY NAME HCSI

BILL TO COMPANY Caerus Piceance LLC

SEND REPORT TO Casey Richardson

INVOICE ATTN TO Ed Winters

ADDRESS 2385 F 1/2 Road

ADDRESS 120 Railroad Ave. Suite D

CITY/STATE/ZIP Grand Junction, CO. 81505

CITY/STATE/ZIP Parachute, CO 81635

PHONE 970-243-3271

PHONE 970-285-9606

FAX 970-243-3280

FAX

E-MAIL crichardson@hrcorp.com

E-MAIL ewinters@caerusoilandgas.com

Lab ID

Field ID

Matrix

Sample Date

Sample Time

Bottles

Pres.

QC

RCRA 8 Metals

Full List VOCs

DRO

GRO

PAH - See Comments

Ignitability

Paint Filter

BTEX

1 5 POINT COMPOSITE

S

8-22-14 1150

2

B

+

+

+

+

+

+

+

+

Time Zone (Circle): EST CST MT 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:

QC PACKAGE (check below)

x

LEVEL II (Standard QC)

LEVEL III (Std QC + forms)

LEVEL IV (Std QC + forms + raw data)

Run PAHs DRO/GRO are above 5000 mg/kg

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

8-22-14 1255

RECEIVED BY

W.M.

8-22-14 1256

RELINQUISHED BY

W.M.

8-22-14 1700

RECEIVED BY

Kerry Wierenga

8/23/14 1000

RELINQUISHED BY

RECEIVED BY

Sample Receipt Checklist

Client Name: **HRL**

Date/Time Received: **23-Aug-14 10:00**

Work Order: **14081235**

Received by: **KRW**

Checklist completed by <u>Keith Wurenga</u>	23-Aug-14	Reviewed by: <u>Ann Preston</u>	25-Aug-14
eSignature	Date	eSignature	Date

Matrices: **Soil**

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.4 C</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>8/23/2014 11:56:38 AM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:			

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



10-Jun-2015

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

Re: **Parachute Creek 1 Landfarm**

Work Order: **1506160**

Dear Jake,

ALS Environmental received 1 sample on 03-Jun-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 20.

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

Sincerely,

A handwritten signature in black ink that reads "Les Arnold".

Electronically approved by: Les Arnold

Les Arnold
Senior Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

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

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Caerus Oil and Gas LLC
Project: Parachute Creek 1 Landfarm
Work Order: 1506160

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1506160-01	Parachute Creek 1 Landfarm	Soil		6/2/2015 10:12	6/3/2015 09:30	<input type="checkbox"/>

Client: Caerus Oil and Gas LLC
Project: Parachute Creek 1 Landfarm
WorkOrder: 1506160

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	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.

<u>Acronym</u>	<u>Description</u>
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

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
µg/Kg-dry	Micrograms per Kilogram Dry Weight
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

Client: Caerus Oil and Gas LLC
Project: Parachute Creek 1 Landfarm
Work Order: 1506160

Case Narrative

Samples for the above noted Work Order were received on 06/03/2015. The attached "Sample Receipt Checklist" documents the 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.

Volatile Organics:

No deviations or anomalies were noted.

Extractable Organics:

No other deviations or anomalies were noted.

Metals:

Batch 71840, Method ICP_6010C_W, Sample 1506160-01B: The MS recovery was above the upper control limit for Chromium; however, the MSD and %RPD were in control. No qualification is required.

No other deviations or anomalies were noted.

Wet Chemistry:

No other deviations or anomalies were noted.

ALS Group USA, Corp

Date: 10-Jun-15

Client: Caerus Oil and Gas LLC
Project: Parachute Creek 1 Landfarm
Sample ID: Parachute Creek 1 Landfarm
Collection Date: 6/2/2015 10:12 AM

Work Order: 1506160
Lab ID: 1506160-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	39		SW8015M		Prep Date: 6/4/2015	Analyst: RM
			4.9	mg/Kg-dry	1	6/5/2015 06:25 PM
Surr: 4-Terphenyl-d14	50.9		39-133	%REC	1	6/5/2015 06:25 PM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	ND		SW8015D		Prep Date: 6/6/2015	Analyst: IT
			3,000	µg/Kg-dry	1	6/9/2015 10:26 AM
Surr: Toluene-d8	111		50-150	%REC	1	6/9/2015 10:26 AM
METALS ANALYSIS BY ICP						
Chromium	11		SW846 6010C		Prep Date: 6/3/2015	Analyst: JEC
			0.41	mg/Kg-dry	1	6/4/2015 11:34 AM
Copper	19		0.83	mg/Kg-dry	1	6/4/2015 11:34 AM
Nickel	19		0.41	mg/Kg-dry	1	6/4/2015 11:34 AM
Zinc	78		0.83	mg/Kg-dry	1	6/4/2015 11:34 AM
SOLUBLE CATIONS FOR SAR						
Calcium	510		SW846 6010C		Prep Date: 6/5/2015	Analyst: JEC
			5.0	mg/L	10	6/7/2015 02:14 PM
Magnesium	160		2.0	mg/L	10	6/7/2015 02:14 PM
Sodium	720		2.0	mg/L	10	6/7/2015 02:14 PM
SODIUM ADSORPTION RATIO						
Sodium Adsorption Ratio	7.1		USDA H60 METHO		Prep Date: 6/5/2015	Analyst: JEC
			0.010	none	1	6/7/2015
SEMI-VOLATILE ORGANIC COMPOUNDS						
Acenaphthene	ND		SW846 8270D		Prep Date: 6/4/2015	Analyst: RS
			7.9	µg/Kg-dry	1	6/5/2015 03:50 AM
Anthracene	ND		7.9	µg/Kg-dry	1	6/5/2015 03:50 AM
Benzo(a)anthracene	ND		7.9	µg/Kg-dry	1	6/5/2015 03:50 AM
Benzo(a)pyrene	ND		7.9	µg/Kg-dry	1	6/5/2015 03:50 AM
Benzo(b)fluoranthene	ND		7.9	µg/Kg-dry	1	6/5/2015 03:50 AM
Benzo(k)fluoranthene	ND		7.9	µg/Kg-dry	1	6/5/2015 03:50 AM
Chrysene	ND		7.9	µg/Kg-dry	1	6/5/2015 03:50 AM
Dibenzo(a,h)anthracene	ND		7.9	µg/Kg-dry	1	6/5/2015 03:50 AM
Fluoranthene	ND		7.9	µg/Kg-dry	1	6/5/2015 03:50 AM
Indeno(1,2,3-cd)pyrene	ND		7.9	µg/Kg-dry	1	6/5/2015 03:50 AM
Naphthalene	ND		7.9	µg/Kg-dry	1	6/5/2015 03:50 AM
Pyrene	ND		7.9	µg/Kg-dry	1	6/5/2015 03:50 AM
Surr: 2-Fluorobiphenyl	84.0		12-100	%REC	1	6/5/2015 03:50 AM
Surr: 4-Terphenyl-d14	113		25-137	%REC	1	6/5/2015 03:50 AM
Surr: Nitrobenzene-d5	77.2		37-107	%REC	1	6/5/2015 03:50 AM
ELECTRICAL CONDUCTIVITY (SAR)						
Electrical Conductivity @ Saturation	7.5		USDA H60 METHO		Prep Date: 6/5/2015	Analyst: JB
			0.050	mmhos/cm @2	10	6/7/2015 08:00 PM
CHROMIUM, TRIVALENT						
			CALCULATION			Analyst: JB

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

ALS Group USA, Corp**Date:** 10-Jun-15

Client: Caerus Oil and Gas LLC
Project: Parachute Creek 1 Landfarm
Sample ID: Parachute Creek 1 Landfarm
Collection Date: 6/2/2015 10:12 AM

Work Order: 1506160
Lab ID: 1506160-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chromium, Trivalent	11		0.60	mg/Kg-dry	1	6/9/2015 06:00 PM
CHROMIUM, HEXAVALENT			SW7196A		Prep Date: 6/8/2015	Analyst: MB
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	6/9/2015 04:00 PM
MOISTURE			E160.3M			Analyst: EVB
Moisture	17		0.050	% of sample	1	6/5/2015 12:25 PM
PH			SW9045D		Prep Date: 6/4/2015	Analyst: STP
pH	8.3			s.u.	1	6/4/2015 05:30 PM

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

ALS Group USA, Corp

Date: 10-Jun-15

Client: Caerus Oil and Gas LLC
Work Order: 1506160
Project: Parachute Creek 1 Landfarm

QC BATCH REPORT

Batch ID: **71867** Instrument ID **GC8** Method: **SW8015M**

MBLK		Sample ID: DBLKS1-71867-71867				Units: mg/Kg		Analysis Date: 6/5/2015 03:55 PM		
Client ID:		Run ID: GC8_150605B				SeqNo: 3310431		Prep Date: 6/4/2015		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								
<i>Surr: 4-Terphenyl-d14</i>	1.426	0	2	0	71.3	39-133	0			

LCS		Sample ID: DLCSS1-71867-71867				Units: mg/Kg		Analysis Date: 6/5/2015 04:25 PM		
Client ID:		Run ID: GC8_150605B				SeqNo: 3310432		Prep Date: 6/4/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	156.5	5.0	200	0	78.2	61-109	0			
<i>Surr: 4-Terphenyl-d14</i>	1.138	0	2	0	56.9	39-133	0			

MS		Sample ID: 1506197-01A MS				Units: mg/Kg		Analysis Date: 6/5/2015 04:55 PM		
Client ID:		Run ID: GC8_150605B				SeqNo: 3310433		Prep Date: 6/4/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	420.3	8.2	329.2	140.6	84.9	48-110	0			
<i>Surr: 4-Terphenyl-d14</i>	1.784	0	3.292	0	54.2	39-133	0			

MSD		Sample ID: 1506197-01A MSD				Units: mg/Kg		Analysis Date: 6/5/2015 05:25 PM		
Client ID:		Run ID: GC8_150605B				SeqNo: 3310434		Prep Date: 6/4/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	432.3	8.0	321.1	140.6	90.8	48-110	420.3	2.82	30	
<i>Surr: 4-Terphenyl-d14</i>	1.633	0	3.211	0	50.9	39-133	1.784	8.81	30	

The following samples were analyzed in this batch: 1506160-01B

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

Client: Caerus Oil and Gas LLC
Work Order: 1506160
Project: Parachute Creek 1 Landfarm

QC BATCH REPORT

Batch ID: **71864** Instrument ID **GC9** Method: **SW8015D**

MBLK		Sample ID: GBLKS1-71864-71864				Units: µg/Kg		Analysis Date: 6/7/2015 01:29 PM		
Client ID:		Run ID: GC9_150607A				SeqNo: 3310053		Prep Date: 6/6/2015		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	0	0	0	0	0			
Surr: Toluene-d8	4550	0	5000	0	91	50-150	0			

LCS		Sample ID: GLCSS1-71864-71864				Units: µg/Kg		Analysis Date: 6/7/2015 11:50 AM		
Client ID:		Run ID: GC9_150607A				SeqNo: 3310050		Prep Date: 6/6/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	454300	2,500	500000	0	90.9	70-130	0			
Surr: Toluene-d8	5206	0	5000	0	104	50-150	0			

MS		Sample ID: 1506355-01A MS				Units: µg/Kg		Analysis Date: 6/7/2015 12:15 PM		
Client ID:		Run ID: GC9_150607A				SeqNo: 3310051		Prep Date: 6/6/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	427300	2,500	500000	0	85.5	70-130	0			
Surr: Toluene-d8	5362	0	5000	0	107	50-150	0			

MSD		Sample ID: 1506355-01A MSD				Units: µg/Kg		Analysis Date: 6/7/2015 12:40 PM		
Client ID:		Run ID: GC9_150607A				SeqNo: 3310052		Prep Date: 6/6/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	443000	2,500	500000	0	88.6	70-130	427300	3.62	30	
Surr: Toluene-d8	4654	0	5000	0	93.1	50-150	5362	14.1	30	

The following samples were analyzed in this batch:

1506160-01A

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

Client: Caerus Oil and Gas LLC
Work Order: 1506160
Project: Parachute Creek 1 Landfarm

QC BATCH REPORT

Batch ID: **71840** Instrument ID **ICP2** Method: **SW846 6010C**

MBLK		Sample ID: MBLK-71840-71840				Units: mg/L		Analysis Date: 6/4/2015 11:18 AM		
Client ID:			Run ID: ICP2_150604A			SeqNo: 3306711		Prep Date: 6/3/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium	0.04445	0.25								J
Copper	0.03703	0.50								J
Nickel	ND	0.25								
Zinc	ND	0.50								

LCS				Sample ID: LCS-71840-71840				Units: mg/L			Analysis Date: 6/4/2015 11:23 AM			
Client ID:				Run ID: ICP2_150604A				SeqNo: 3306713			Prep Date: 6/3/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Chromium	5.383	0.25	5	0	108	80-120	0							
Copper	5.289	0.50	5	0	106	80-120	0							
Nickel	5.078	0.25	5	0	102	80-120	0							
Zinc	5.146	0.50	5	0	103	80-120	0							

MS				Sample ID: 1506160-01BMS				Units: mg/Kg		Analysis Date: 6/4/2015 11:40 AM			
Client ID: Parachute Creek 1 Landfarm				Run ID: ICP2_150604A				SeqNo: 3306718		Prep Date: 6/3/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Chromium	18.51	0.34	6.784	9.505	133	75-125	0			S			
Copper	22.67	0.68	6.784	15.39	107	75-125	0						
Nickel	21.75	0.34	6.784	16.01	84.6	75-125	0						
Zinc	74.33	0.68	6.784	65.13	135	75-125	0			SO			

MSD					Sample ID: 1506160-01BMSD			Units: mg/Kg		Analysis Date: 6/4/2015 11:45 AM	
Client ID: Parachute Creek 1 Landfarm				Run ID: ICP2_150604A		SeqNo: 3306720		Prep Date: 6/3/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Chromium	17.49	0.34	6.859	9.505	116	75-125	18.51	5.64	20		
Copper	21.46	0.69	6.859	15.39	88.5	75-125	22.67	5.48	20		
Nickel	21.21	0.34	6.859	16.01	75.7	75-125	21.75	2.54	20		
Zinc	69.96	0.69	6.859	65.13	70.4	75-125	74.33	6.05	20	SO	

The following samples were analyzed in this batch:

1506160-01B

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

Client: Caerus Oil and Gas LLC
Work Order: 1506160
Project: Parachute Creek 1 Landfarm

QC BATCH REPORT

Batch ID: **71885** Instrument ID **ICP2** Method: **SW846 6010C**

DUP				Sample ID: 1506195-01BDUP			Units: mg/L		Analysis Date: 6/7/2015 02:26 PM		
Client ID:			Run ID: ICP2_150607A		SeqNo: 3310408		Prep Date: 6/5/2015		DF: 10		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Calcium	743.8	5.0	0	0	0	0-0	801.8	7.51			
Magnesium	180.5	2.0	0	0	0	0-0	197.8	9.14			
Sodium	354.9	2.0	0	0	0	0-0	388.4	9.01			

DUP				Sample ID: 1506195-01BDUP				Units: none			Analysis Date: 6/7/2015			
Client ID:				Run ID: SAR_150607A				SeqNo: 3310452			Prep Date: 6/5/2015		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Sodium Adsorption Ratio		3.028	0.010	0	0	0		3.184	5.02	50				

The following samples were analyzed in this batch: | 1506160-01B |

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

Client: Caerus Oil and Gas LLC
Work Order: 1506160
Project: Parachute Creek 1 Landfarm

QC BATCH REPORT

Batch ID: **71866** Instrument ID **SVMS5** Method: **SW846 8270D**

MBLK		Sample ID: SBLKS1-71866-71866				Units: µg/Kg		Analysis Date: 6/4/2015 06:15 PM		
Client ID:		Run ID: SVMS5_150604A				SeqNo: 3308264		Prep Date: 6/4/2015		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								
Indeno(1,2,3-cd)pyrene	ND	6.7								
Naphthalene	ND	6.7								
Pyrene	ND	6.7								
Surr: 2-Fluorobiphenyl	1290	0	1667	0	77.4	12-100	0			
Surr: 4-Terphenyl-d14	1772	0	1667	0	106	25-137	0			
Surr: Nitrobenzene-d5	1274	0	1667	0	76.4	37-107	0			

LCS		Sample ID: SLCSS1-71866-71866				Units: µg/Kg		Analysis Date: 6/4/2015 06:37 PM		
Client ID:		Run ID: SVMS5_150604A				SeqNo: 3308265		Prep Date: 6/4/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	499	6.7	666.7	0	74.8	45-110	0			
Anthracene	605.3	6.7	666.7	0	90.8	55-105	0			
Benzo(a)anthracene	614.7	6.7	666.7	0	92.2	50-110	0			
Benzo(a)pyrene	610.7	6.7	666.7	0	91.6	50-110	0			
Benzo(b)fluoranthene	614.7	6.7	666.7	0	92.2	45-115	0			
Benzo(k)fluoranthene	589.3	6.7	666.7	0	88.4	45-115	0			
Chrysene	570.7	6.7	666.7	0	85.6	55-110	0			
Dibenzo(a,h)anthracene	578	6.7	666.7	0	86.7	40-125	0			
Fluoranthene	613	6.7	666.7	0	91.9	55-115	0			
Indeno(1,2,3-cd)pyrene	575.3	6.7	666.7	0	86.3	40-120	0			
Naphthalene	372.7	6.7	666.7	0	55.9	40-105	0			
Pyrene	579.7	6.7	666.7	0	86.9	45-125	0			
Surr: 2-Fluorobiphenyl	1307	0	1667	0	78.4	12-100	0			
Surr: 4-Terphenyl-d14	1775	0	1667	0	107	25-137	0			
Surr: Nitrobenzene-d5	1234	0	1667	0	74.1	37-107	0			

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

Client: Caerus Oil and Gas LLC
Work Order: 1506160
Project: Parachute Creek 1 Landfarm

QC BATCH REPORT

Batch ID: **71866** Instrument ID **SVMS5** Method: **SW846 8270D**

MS				Sample ID: 1506197-01A MS			Units: µg/Kg		Analysis Date: 6/4/2015 08:05 PM		
Client ID:			Run ID: SVMS5_150604A			SeqNo: 3308266		Prep Date: 6/4/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	969.3	13	1265	0	76.6	45-110	0				
Anthracene	1119	13	1265	0	88.4	55-105	0				
Benzo(a)anthracene	1107	13	1265	0	87.5	50-110	0				
Benzo(a)pyrene	1101	13	1265	0	87	50-110	0				
Benzo(b)fluoranthene	1103	13	1265	0	87.2	45-115	0				
Benzo(k)fluoranthene	1063	13	1265	0	84	45-115	0				
Chrysene	1007	13	1265	0	79.5	55-110	0				
Dibenzo(a,h)anthracene	1022	13	1265	0	80.8	40-125	0				
Fluoranthene	1079	13	1265	0	85.2	55-115	0				
Indeno(1,2,3-cd)pyrene	1065	13	1265	0	84.2	40-120	0				
Naphthalene	489.1	13	1265	0	38.6	40-105	0			S	
Pyrene	1052	13	1265	0	83.1	45-125	0				
Surr: 2-Fluorobiphenyl	2197	0	3163	0	69.4	12-100	0				
Surr: 4-Terphenyl-d14	3210	0	3163	0	101	25-137	0				
Surr: Nitrobenzene-d5	1538	0	3163	0	48.6	37-107	0				

MSD				Sample ID: 1506197-01A MSD			Units: µg/Kg		Analysis Date: 6/4/2015 08:28 PM		
Client ID:			Run ID: SVMS5_150604A			SeqNo: 3308267		Prep Date: 6/4/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	968	13	1268	0	76.3	45-110	969.3	0.131	30		
Anthracene	1215	13	1268	0	95.8	55-105	1119	8.17	30		
Benzo(a)anthracene	1184	13	1268	0	93.4	50-110	1107	6.72	30		
Benzo(a)pyrene	1190	13	1268	0	93.8	50-110	1101	7.71	30		
Benzo(b)fluoranthene	1179	13	1268	0	93	45-115	1103	6.63	30		
Benzo(k)fluoranthene	1118	13	1268	0	88.1	45-115	1063	5.02	30		
Chrysene	1085	13	1268	0	85.6	55-110	1007	7.52	30		
Dibenzo(a,h)anthracene	1096	13	1268	0	86.4	40-125	1022	6.95	30		
Fluoranthene	1190	13	1268	0	93.9	55-115	1079	9.85	30		
Indeno(1,2,3-cd)pyrene	1125	13	1268	0	88.7	40-120	1065	5.46	30		
Naphthalene	701.1	13	1268	0	55.3	40-105	489.1	35.6	30	R	
Pyrene	1114	13	1268	0	87.9	45-125	1052	5.75	30		
Surr: 2-Fluorobiphenyl	2298	0	3170	0	72.5	12-100	2197	4.51	40		
Surr: 4-Terphenyl-d14	3426	0	3170	0	108	25-137	3210	6.53	40		
Surr: Nitrobenzene-d5	2219	0	3170	0	70	37-107	1538	36.2	40		

The following samples were analyzed in this batch:

1506160-01B

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

Client: Caerus Oil and Gas LLC
Work Order: 1506160
Project: Parachute Creek 1 Landfarm

QC BATCH REPORT

Batch ID: **71885** Instrument ID **WETCHEM** Method: **USDA H60 Metho**

DUP		Sample ID: 1506195-01B DUP				Units: mmhos/cm @25°		Analysis Date: 6/7/2015 08:00 PM		
Client ID:		Run ID: WETCHEM_150607B			SeqNo: 3310063		Prep Date: 6/5/2015		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	7	0.050	0	0	0		7.58	7.96	50	

The following samples were analyzed in this batch:

1506160-01B

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

Client: Caerus Oil and Gas LLC
Work Order: 1506160
Project: Parachute Creek 1 Landfarm

QC BATCH REPORT

Batch ID: **71888** Instrument ID **WETCHEM** Method: **SW9045D**

DUP				Sample ID: 1506195-01B DUP				Units: s.u.			Analysis Date: 6/4/2015 05:30 PM			
Client ID:				Run ID: WETCHEM_150604I				SeqNo: 3307102			Prep Date: 6/4/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
pH	8.03	0	0	0	0	0-0	8.07	0.497	20					

DUP				Sample ID: 1506202-01A DUP				Units: s.u.			Analysis Date: 6/4/2015 05:30 PM		
Client ID:				Run ID: WETCHEM_150604I				SeqNo: 3307106		Prep Date: 6/4/2015		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
pH		8.8	0	0	0	0	0-0	8.76	0.456	20			

The following samples were analyzed in this batch:

1506160-01B

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

Client: Caerus Oil and Gas LLC
Work Order: 1506160
Project: Parachute Creek 1 Landfarm

QC BATCH REPORT

Batch ID: **72077** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK		Sample ID: MBLK-72077-72077				Units: mg/Kg		Analysis Date: 6/9/2015 04:00 PM		
Client ID:		Run ID: WETCHEM_1506090		SeqNo: 3313987		Prep Date: 6/8/2015		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-72077-72077				Units: mg/Kg		Analysis Date: 6/9/2015 04:00 PM		
Client ID:		Run ID: WETCHEM_1506090		SeqNo: 3313986		Prep Date: 6/8/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4.44 1.0 5 0 88.8 80-120 0

MS		Sample ID: 1506202-01A MS				Units: mg/Kg		Analysis Date: 6/9/2015 04:00 PM		
Client ID:		Run ID: WETCHEM_1506090		SeqNo: 3313970		Prep Date: 6/8/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 5.108 0.98 4.902 0.7129 89.7 75-125 0

MS		Sample ID: 1506202-01A MSI				Units: mg/Kg		Analysis Date: 6/9/2015 04:00 PM		
Client ID:		Run ID: WETCHEM_1506090		SeqNo: 3313972		Prep Date: 6/8/2015		DF: 100		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 2377 100 2454 0.7129 96.8 75-125 0

MSD		Sample ID: 1506202-01A MSD				Units: mg/Kg		Analysis Date: 6/9/2015 04:00 PM		
Client ID:		Run ID: WETCHEM_1506090		SeqNo: 3313971		Prep Date: 6/8/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 5.237 1.0 5.155 0.7129 87.8 75-125 5.108 2.5 20

The following samples were analyzed in this batch:

1506160-01B

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

Client: Caerus Oil and Gas LLC
Work Order: 1506160
Project: Parachute Creek 1 Landfarm

QC BATCH REPORT

Batch ID: **R164958** Instrument ID **MOIST** Method: **E160.3M**

MBLK		Sample ID: WBLKS-R164958				Units: % of sample		Analysis Date: 6/5/2015 12:25 PM		
Client ID:		Run ID: MOIST_150605A				SeqNo: 3310703		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-R164958				Units: % of sample		Analysis Date: 6/5/2015 12:25 PM		
Client ID:		Run ID: MOIST_150605A				SeqNo: 3310702		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: 1506194-01A DUP				Units: % of sample			Analysis Date: 6/5/2015 12:25 PM			
Client ID:				Run ID: MOIST_150605A				SeqNo: 3310684			Prep Date:		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			

Moisture 15.22 0.050 0 0 0 15.15 0.461 20

DUP		Sample ID: 1506246-01A DUP				Units: % of sample		Analysis Date: 6/5/2015 12:25 PM		
Client ID:		Run ID: MOIST_150605A			SeqNo: 3310698		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 5.4 0.050 0 0 0 5.6 3.64 20

The following samples were analyzed in this batch:

1506160-01B

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



☐ ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49686
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

☒ ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

Customer Information			Project Information				Parameter/Method Request for Analysis												
Purchase Order		Project Name	NORTHEASTERN - Vienna		A	Specific Gravity													
Work Order		Project Number	Davis 1-19		B														
Company Name	Northeastern Exploration, Inc.	Bill To Company	Northeastern Exploration, Inc.		C														
Send Report To	Cheryl Klein	Invoice Attn	Cheryl Klein		D														
Address	1190 M 32	Address	1190 M 32		E														
City/State/Zip	Johannesburg, MI 49751	City/State/Zip	Johannesburg, MI 49751		F														
Phone	989-786-4346	Phone	989-786-4346		G														
Fax	989-786-1134	Fax	989-786-1134		H														
e-Mail Address	cherylk@northeasternexp.com	e-Mail Address	cherylk@northeasternexp.com		I														
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
1	Davis 1-19 <u>June 2015</u>	<u>6-1-15</u>	<u>1400</u>	Water	-	1	X												
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
Sampler(s): Please Print & Sign		Shipment Method:		Required Turnaround Time: (Check Box)				Other				Results Due Date:							
<u>Mike Yang</u>		<u>Fed Ex</u>		<input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour															
Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Notes:													
			<u>FED EX</u>			Color: <u>light</u> Odor: <u>NO</u>													
Relinquished by:	Date:	Time:	Received by (Laboratory):	Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)											
<u>FED EX</u>			<u>DFS</u>	<u>6/3/15</u>	<u>0945</u>		<u>5.8</u>	<input checked="" type="checkbox"/> Level II: Standard QC	<input type="checkbox"/> Level III: Raw Data										
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):					<input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV											
<u>DFS</u>	<u>6/3/15</u>	<u>1100</u>						<input type="checkbox"/> Level IV: SW846 Methods/CLP like											
								<input type="checkbox"/> Other:											
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C																			

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.

From: (866) 788-4346
CHERYL KLEN

Origin ID: GLRA



1190 M 32

JOHANNESBURG, MI 48751

SHIP TO: (231) 844-3459

BILL RECIPIENT

ALS
ALS ENVIRONMENTAL
3352 128TH AVE

HOLLAND, MI 49424

Ship Date: 02 JUN 15

Act Wgt: 8.0 LB

CAD: 103742530/NET3810

Dim: 12 X 12 X 14 IN

Delivery Address Bar Code



Ref # DAVIS 1-19

Invoice #

PO #

Dept #

WED - 03 JUN AA
STANDARD OVERNIGHT

TRK# 7737 2591 4513

0291

49424

MI-US

GRR

NA HLMA



537J1RA0EE48

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 Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Sample Receipt Checklist

Client Name: **CAERUS**

Date/Time Received: **03-Jun-15 09:30**

Work Order: **1506160**

Received by: **KRW**

Checklist completed by Keith Wurenga
eSignature

03-Jun-15
Date

Reviewed by: Tom Bramish
eSignature

03-Jun-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): 4.6 C SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 6/3/2015 11:49:04 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: