

Puckett 216-25 (Location ID 324202)
Historical Release Remediation
Spill/Release Point ID 443261
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 assessment of soil discovered during the removal of a partially buried vessel (PBV) at the Puckett 216-25 pad location (Location ID 324202) in the Caerus Piceance, LLC (Caerus) area of operations. A Sample Location Map is included as an attachment to this form.

Upon removing the PBV from the ground, visual observations and field screening of soil around and below the tank indicated that impacted soil was present. Excavation of the impacted soil was conducted and field screen readings and laboratory analyses were utilized to determine the extent of the impacts.

On September 9, 2015, confirmation soil samples were collected from the soil around and beneath the removed PBV (N Wall @ 8', E Wall @ 8', S Wall @ 8', Base @ 10', and W Wall @ 8'). 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 the total petroleum hydrocarbon (TPH) result for soil samples W Wall @ 8' and Base @ 10' and the benzene concentration of W Wall @ 8'. On September 21, 2015, additional soil was removed from the areas represented by soil samples W Wall @ 8' and Base @ 10'. Following the removal of this soil, confirmation soil samples (Bottom 12' and West Wall) were collected and submitted for laboratory analysis of TPH and benzene (West Wall only). Analytical results indicate that both soil samples were in compliance with the COGCC Table 910-1 Concentration Levels for TPH and benzene. Background samples were collected from an undisturbed area near the Mesa 16 pad (COGCC Facility Number 335519). Analytical results are summarized in the attached analytical table and laboratory analytical reports are included as an attachment.

All removed soil was landfarmed and remediated onsite. On October 15, 2015 samples were collected from the landfarmed soil (216-25 East and 216-25 West). The soil samples were submitted for laboratory analysis of all COGCC Table 910-1 analytes. Analytical results indicate both soil samples were in compliance with COGCC Table 910-1 Concentration Levels for all analytes or were within background concentrations. This soil will be incorporated into the cut slope and reseeded.

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



NOTES / COMMENTS:

DISCLAIMER: This representation and the Geographic Information System (GIS) used to create it are designed as a source of reference and not intended to replace official records and/or legal surveys. HCSL assumes no responsibility for any risks, dangers, or liabilities that may result from its use and makes no guarantees as to the quality or accuracy of the underlying data.



Sample Location Map

Puckett 216-25

39.491801 -108.176511
Section 25, Township 6 South, Range 97 West

Transportation		Hydrography
● Sample Location	— CO Highways	— Ditch
▨ Excavated Area	— County Roads	— Intermittent Stream
PLSS	— Local Streets	— Perennial Stream
□ Township	— Pad Access	— Waterbody
□ Section		— Watershed



HRL COMPLIANCE SOLUTIONS, INC.
Environmental Consultants

Author: E. Fought

Revision: 0

Date: 10/12/2015

TABLE 1
PUCKETT 216-25
SOIL ANALYTICAL RESULTS
CAERUS OIL AND GAS
PICEANCE BASIN, COLORADO

COGCC Table 910-1 Analytical Suite	Table 910-1 Standard	Units	North Wall @ 8'	East Wall @ 8'	South Wall @ 8'	Base @ 10'	Bottom 12'	West Wall @ 8'	West Wall	216-25 EAST	216-25 WEST	AS 1*	AS 2*	AS 3*
Sample Date			9/9/2015	9/9/2015	9/9/2015	9/9/2015	9/21/2015	9/9/2015	9/21/2015	10/15/2015	10/15/2015	5/4/2011	5/4/2011	5/4/2011
Sample Type			Confirmation	Confirmation	Confirmation	Confirmation	Confirmation	Confirmation	Confirmation	Confirmation	Confirmation	Background	Background	Background
Arsenic	0.39	mg/kg	21	30	15	7.8	NA	6.6	NA	18	11	23	28	44
Barium	15,000	mg/kg	270	360	310	390	NA	300	NA	310	310	NA	NA	NA
Cadmium	70	mg/kg	ND	1.1	0.69	ND	NA	ND	NA	ND	ND	NA	NA	NA
Chromium (III)	120,000	mg/kg	32	38	36	35	NA	36	NA	36	35	NA	NA	NA
Chromium (VI)	23	mg/kg	ND	ND	ND	ND	NA	ND	NA	ND	ND	NA	NA	NA
Copper	3,100	mg/kg	20	25	21	20	NA	18	NA	22	20	NA	NA	NA
Lead	400	mg/kg	18	19	18	21	NA	18	NA	15	13	NA	NA	NA
Mercury	23	mg/kg	0.035	0.035	0.039	ND	NA	0.020	NA	0.026	0.019	NA	NA	NA
Nickel	1,600	mg/kg	24	32	28	29	NA	25	NA	34	33	NA	NA	NA
Selenium	390	mg/kg	ND	ND	1.6	ND	NA	2.0	NA	ND	ND	NA	NA	NA
Silver	390	mg/kg	ND	ND	ND	ND	NA	ND	NA	ND	ND	NA	NA	NA
Zinc	23,000	mg/kg	67	79	74	81	NA	66	NA	72	73	NA	NA	NA
EC	4 or 2x background	mmhos/cm	0.95	0.64	0.83	1.9	NA	2.5	NA	1.3	1.2	NA	NA	NA
pH	6-9	SU	8.6	8.6	8.1	7.2	NA	7.0	NA	8.0	7.7	NA	NA	NA
SAR	12	unitless	3.3	3.2	2.6	1.1	NA	7.0	NA	2.2	1.8	NA	NA	NA
TPH-GRO			ND	ND	51	360	ND	1400	ND	42	67	NA	NA	NA
TPH-DRO			57	100	98	170	21	910	22	250	180	NA	NA	NA
TPH	500	mg/kg	57	100	149	530	21	2310	22	292	247	NA	NA	NA
Benzene	0.17	mg/kg	ND	ND	ND	ND	NA	0.17	ND	ND	ND	NA	NA	NA
Toluene	85	mg/kg	ND	ND	ND	0.041	NA	2.9	NA	ND	ND	NA	NA	NA
Ethylbenzene	100	mg/kg	ND	ND	ND	0.59	NA	1.2	NA	ND	ND	NA	NA	NA
Total Xylenes	175	mg/kg	ND	ND	ND	15	NA	18	NA	ND	ND	NA	NA	NA
Acenaphthene	1,000	mg/kg	ND	ND	ND	ND	NA	ND	NA	ND	ND	NA	NA	NA
Anthracene	1,000	mg/kg	ND	ND	ND	ND	NA	ND	NA	ND	ND	NA	NA	NA
Benz(a)anthracene	0.22	mg/kg	ND	ND	ND	ND	NA	ND	NA	ND	ND	NA	NA	NA
Benzo(b)fluoranthene	0.22	mg/kg	ND	ND	ND	ND	NA	ND	NA	ND	ND	NA	NA	NA
Benzo(k)fluoranthene	2.2	mg/kg	ND	ND	ND	ND	NA	ND	NA	ND	ND	NA	NA	NA
Benzo(a)pyrene	0.022	mg/kg	ND	ND	ND	ND	NA	ND	NA	ND	ND	NA	NA	NA
Chrysene	22	mg/kg	ND	ND	ND	ND	NA	ND	NA	ND	ND	NA	NA	NA
Dibenzo(a,h)anthracene	0.022	mg/kg	ND	ND	ND	ND	NA	ND	NA	ND	ND	NA	NA	NA
Fluoranthene	1,000	mg/kg	ND	ND	ND	ND	NA	ND	NA	ND	ND	NA	NA	NA
Fluorene	1,000	mg/kg	ND	ND	ND	ND	NA	ND	NA	ND	0.012	NA	NA	NA
Indeno(1,2,3,c,d)pyrene	0.22	mg/kg	ND	ND	ND	ND	NA	ND	NA	ND	ND	NA	NA	NA
Naphthalene	23	mg/kg	ND	ND	0.0086	0.017	NA	ND	NA	ND	ND	NA	NA	NA
Pyrene	1,000	mg/kg	ND	ND	ND	ND	NA	ND	NA	ND	ND	NA	NA	NA

Notes:

* These samples were collected from an undisturbed area near the Mesa 16 pad (COGCC Facility Number 335519)

< - 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

ND- non-detect

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



28-Sep-2015

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

Re: **Puckett 216-25**

Work Order: **1509649**

Dear Jake,

ALS Environmental received 8 samples on 11-Sep-2015 09:00 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 36.

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 The ALS logo, a small blue triangle with a yellow flame.

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Caerus Oil and Gas LLC
Project: Puckett 216-25
Work Order: 1509649

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>
1509649-01	Impacted Area	Soil		9/9/2015 13:35	9/11/2015 09:00	☐
1509649-02	N Wall @ 8'	Soil		9/9/2015 13:53	9/11/2015 09:00	☐
1509649-03	E Wall @ 8'	Soil		9/9/2015 13:59	9/11/2015 09:00	☐
1509649-04	S Wall @ 8'	Soil		9/9/2015 14:03	9/11/2015 09:00	☐
1509649-05	Base @ 10'	Soil		9/9/2015 14:12	9/11/2015 09:00	☐
1509649-06	W Wall @ 8'	Soil		9/9/2015 14:16	9/11/2015 09:00	☐
1509649-07	South Pile	Soil		9/9/2015 14:48	9/11/2015 09:00	☐
1509649-08	North Pile	Soil		9/9/2015 14:54	9/11/2015 09:00	☐

Client: Caerus Oil and Gas LLC
Project: Puckett 216-25
Work Order: 1509649

Case Narrative

Batch 75942, Method VOC_8260_S, Sample 1509649-06A: Surrogate high due to matrix interference.

Batch 75992, Method DRO_8015_S, Sample 1509649-01B: Surrogate high due to matrix interference.

Batch 76336, Method PH_9045_S, Sample 1509649-02B: Sample was analyzed outside of the holding time at the request of the client. Results should be considered estimated.

Batch 76336, Method PH_9045_S, Sample 1509649-03B: Sample was analyzed outside of the holding time at the request of the client. Results should be considered estimated.

Batch 76336, Method PH_9045_S, Sample 1509649-04B: Sample was analyzed outside of the holding time at the request of the client. Results should be considered estimated.

Batch 76336, Method PH_9045_S, Sample 1509649-05B: Sample was analyzed outside of the holding time at the request of the client. Results should be considered estimated.

Batch 76336, Method PH_9045_S, Sample 1509649-06B: Sample was analyzed outside of the holding time at the request of the client. Results should be considered estimated.

.

ALS Group USA, Corp

Date: 28-Sep-15

Client: Caerus Oil and Gas LLC
Project: Puckett 216-25
Sample ID: Impacted Area
Collection Date: 9/9/2015 01:35 PM

Work Order: 1509649
Lab ID: 1509649-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3541 / 9/14/15	Analyst: IT
DRO (C10-C28)	4,600		840	mg/Kg-dry	10	9/15/2015 08:35 PM
Surr: 4-Terphenyl-d14	156	S	39-133	%REC	10	9/15/2015 08:35 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 / 9/11/15	Analyst: IT
GRO (C6-C10)	3,300		85	mg/Kg-dry	25	9/11/2015 06:00 PM
Surr: Toluene-d8	105		50-150	%REC	25	9/11/2015 06:00 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 / 9/11/15	Analyst: LSY
Benzene	ND		0.41	mg/Kg-dry	10	9/12/2015 08:50 AM
Ethylbenzene	1.4		0.41	mg/Kg-dry	10	9/12/2015 08:50 AM
m,p-Xylene	70		0.82	mg/Kg-dry	10	9/12/2015 08:50 AM
o-Xylene	11		0.41	mg/Kg-dry	10	9/12/2015 08:50 AM
Toluene	1.6		0.41	mg/Kg-dry	10	9/12/2015 08:50 AM
Xylenes, Total	81		1.2	mg/Kg-dry	10	9/12/2015 08:50 AM
Surr: 1,2-Dichloroethane-d4	94.0		70-130	%REC	10	9/12/2015 08:50 AM
Surr: 4-Bromofluorobenzene	104		70-130	%REC	10	9/12/2015 08:50 AM
Surr: Dibromofluoromethane	91.7		70-130	%REC	10	9/12/2015 08:50 AM
Surr: Toluene-d8	109		70-130	%REC	10	9/12/2015 08:50 AM
MOISTURE						
			E160.3M			Analyst: EVB
Moisture	27		0.050	% of sample	1	9/15/2015 03:45 PM

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

ALS Group USA, Corp

Date: 28-Sep-15

Client: Caerus Oil and Gas LLC
Project: Puckett 216-25
Sample ID: N Wall @ 8'
Collection Date: 9/9/2015 01:53 PM

Work Order: 1509649
Lab ID: 1509649-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	57		SW8015M		Prep: SW3541 / 9/14/15	Analyst: IT
Surr: 4-Terphenyl-d14	69.5		5.4	mg/Kg-dry	1	9/15/2015 09:35 PM
			39-133	%REC	1	9/15/2015 09:35 PM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	ND		SW8015D		Prep: SW5035 / 9/11/15	Analyst: IT
Surr: Toluene-d8	117		3.3	mg/Kg-dry	1	9/11/2015 06:25 PM
			50-150	%REC	1	9/11/2015 06:25 PM
MERCURY BY CVAA						
Mercury	0.035		SW7471B		Prep: SW7471 / 9/24/15	Analyst: LR
			0.019	mg/Kg-dry	1	9/24/2015 02:56 PM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 9/28/15	Analyst: JEC
Calcium	70		5.0	mg/L	10	9/28/2015 12:21 PM
Magnesium	12		2.0	mg/L	10	9/28/2015 12:21 PM
Sodium	110		2.0	mg/L	10	9/28/2015 12:21 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 9/28/15	Analyst: JEC
Sodium Adsorption Ratio	3.3		0.010	none	1	9/28/2015
METALS BY ICP-MS						
			SW6020A		Prep: SW3050B / 9/21/15	Analyst: ML
Arsenic	21		2.1	mg/Kg-dry	4	9/22/2015 10:19 AM
Barium	270		2.1	mg/Kg-dry	4	9/22/2015 10:19 AM
Cadmium	ND		0.83	mg/Kg-dry	4	9/22/2015 10:19 AM
Chromium	32		2.1	mg/Kg-dry	4	9/22/2015 10:19 AM
Copper	20		2.1	mg/Kg-dry	4	9/22/2015 10:19 AM
Lead	18		2.1	mg/Kg-dry	4	9/22/2015 10:19 AM
Nickel	24		2.1	mg/Kg-dry	4	9/22/2015 10:19 AM
Selenium	ND		2.1	mg/Kg-dry	4	9/22/2015 10:19 AM
Silver	ND		2.1	mg/Kg-dry	4	9/22/2015 10:19 AM
Zinc	67		4.1	mg/Kg-dry	4	9/23/2015 02:43 AM
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3541 / 9/23/15	Analyst: RS
Acenaphthene	ND		0.0087	mg/Kg-dry	1	9/23/2015 10:43 PM
Anthracene	ND		0.0087	mg/Kg-dry	1	9/23/2015 10:43 PM
Benzo(a)anthracene	ND		0.0087	mg/Kg-dry	1	9/23/2015 10:43 PM
Benzo(a)pyrene	ND		0.0087	mg/Kg-dry	1	9/23/2015 10:43 PM
Benzo(b)fluoranthene	ND		0.0087	mg/Kg-dry	1	9/23/2015 10:43 PM
Benzo(k)fluoranthene	ND		0.0087	mg/Kg-dry	1	9/23/2015 10:43 PM
Chrysene	ND		0.0087	mg/Kg-dry	1	9/23/2015 10:43 PM
Dibenzo(a,h)anthracene	ND		0.0087	mg/Kg-dry	1	9/23/2015 10:43 PM
Fluoranthene	ND		0.0087	mg/Kg-dry	1	9/23/2015 10:43 PM

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

ALS Group USA, Corp

Date: 28-Sep-15

Client: Caerus Oil and Gas LLC
Project: Puckett 216-25
Sample ID: N Wall @ 8'
Collection Date: 9/9/2015 01:53 PM

Work Order: 1509649
Lab ID: 1509649-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Indeno(1,2,3-cd)pyrene	ND		0.0087	mg/Kg-dry	1	9/23/2015 10:43 PM
Naphthalene	ND		0.0087	mg/Kg-dry	1	9/23/2015 10:43 PM
Pyrene	ND		0.0087	mg/Kg-dry	1	9/23/2015 10:43 PM
Surr: 2-Fluorobiphenyl	70.5		12-100	%REC	1	9/23/2015 10:43 PM
Surr: 4-Terphenyl-d14	95.6		25-137	%REC	1	9/23/2015 10:43 PM
Surr: Nitrobenzene-d5	60.6		37-107	%REC	1	9/23/2015 10:43 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 9/11/15		Analyst: LSY
Benzene	ND		0.039	mg/Kg-dry	1	9/12/2015 09:15 AM
Ethylbenzene	ND		0.039	mg/Kg-dry	1	9/12/2015 09:15 AM
m,p-Xylene	ND		0.079	mg/Kg-dry	1	9/12/2015 09:15 AM
o-Xylene	ND		0.039	mg/Kg-dry	1	9/12/2015 09:15 AM
Toluene	ND		0.039	mg/Kg-dry	1	9/12/2015 09:15 AM
Xylenes, Total	ND		0.12	mg/Kg-dry	1	9/12/2015 09:15 AM
Surr: 1,2-Dichloroethane-d4	96.6		70-130	%REC	1	9/12/2015 09:15 AM
Surr: 4-Bromofluorobenzene	102		70-130	%REC	1	9/12/2015 09:15 AM
Surr: Dibromofluoromethane	95.0		70-130	%REC	1	9/12/2015 09:15 AM
Surr: Toluene-d8	102		70-130	%REC	1	9/12/2015 09:15 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 9/28/15		Analyst: JB
Electrical Conductivity @ Saturation	0.95		0.050	mmhos/cm @2	10	9/28/2015 11:40 AM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: JJG
Chromium, Trivalent	32		0.66	mg/Kg-dry	1	9/24/2015 08:22 AM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 9/22/15		Analyst: MB
Chromium, Hexavalent	ND		1.3	mg/Kg-dry	1	9/23/2015 04:30 PM
MOISTURE			E160.3M			Analyst: EVB
Moisture	24		0.050	% of sample	1	9/15/2015 03:45 PM
PH			SW9045D	Prep: EXTRACT / 9/21/15		Analyst: JB
pH	8.6	H		s.u.	1	9/21/2015 03:15 PM

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

ALS Group USA, Corp

Date: 28-Sep-15

Client: Caerus Oil and Gas LLC
Project: Puckett 216-25
Sample ID: E Wall @ 8'
Collection Date: 9/9/2015 01:59 PM

Work Order: 1509649
Lab ID: 1509649-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	100		SW8015M		Prep: SW3541 / 9/15/15	Analyst: IT
Surr: 4-Terphenyl-d14	78.0		5.2	mg/Kg-dry	1	9/16/2015 05:33 AM
			39-133	%REC	1	9/16/2015 05:33 AM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	ND		SW8015D		Prep: SW5035 / 9/11/15	Analyst: IT
Surr: Toluene-d8	116		3.2	mg/Kg-dry	1	9/11/2015 07:14 PM
			50-150	%REC	1	9/11/2015 07:14 PM
MERCURY BY CVAA						
Mercury	0.035		SW7471B		Prep: SW7471 / 9/24/15	Analyst: LR
			0.020	mg/Kg-dry	1	9/24/2015 03:06 PM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 9/28/15	Analyst: JEC
Calcium	41		5.0	mg/L	10	9/28/2015 12:27 PM
Magnesium	7.5		2.0	mg/L	10	9/28/2015 12:27 PM
Sodium	84		2.0	mg/L	10	9/28/2015 12:27 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 9/28/15	Analyst: JEC
Sodium Adsorption Ratio	3.2		0.010	none	1	9/28/2015
METALS BY ICP-MS						
			SW6020A		Prep: SW3050B / 9/21/15	Analyst: ML
Arsenic	30		2.0	mg/Kg-dry	4	9/22/2015 10:26 AM
Barium	360		2.0	mg/Kg-dry	4	9/22/2015 10:26 AM
Cadmium	1.1		0.81	mg/Kg-dry	4	9/22/2015 10:26 AM
Chromium	38		2.0	mg/Kg-dry	4	9/22/2015 10:26 AM
Copper	25		2.0	mg/Kg-dry	4	9/22/2015 10:26 AM
Lead	19		2.0	mg/Kg-dry	4	9/22/2015 10:26 AM
Nickel	32		2.0	mg/Kg-dry	4	9/22/2015 10:26 AM
Selenium	ND		2.0	mg/Kg-dry	4	9/22/2015 10:26 AM
Silver	ND		2.0	mg/Kg-dry	4	9/22/2015 10:26 AM
Zinc	79		4.1	mg/Kg-dry	4	9/23/2015 02:49 AM
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3541 / 9/23/15	Analyst: RS
Acenaphthene	ND		0.0083	mg/Kg-dry	1	9/23/2015 11:09 PM
Anthracene	ND		0.0083	mg/Kg-dry	1	9/23/2015 11:09 PM
Benzo(a)anthracene	ND		0.0083	mg/Kg-dry	1	9/23/2015 11:09 PM
Benzo(a)pyrene	ND		0.0083	mg/Kg-dry	1	9/23/2015 11:09 PM
Benzo(b)fluoranthene	ND		0.0083	mg/Kg-dry	1	9/23/2015 11:09 PM
Benzo(k)fluoranthene	ND		0.0083	mg/Kg-dry	1	9/23/2015 11:09 PM
Chrysene	ND		0.0083	mg/Kg-dry	1	9/23/2015 11:09 PM
Dibenzo(a,h)anthracene	ND		0.0083	mg/Kg-dry	1	9/23/2015 11:09 PM
Fluoranthene	ND		0.0083	mg/Kg-dry	1	9/23/2015 11:09 PM

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

ALS Group USA, Corp

Date: 28-Sep-15

Client: Caerus Oil and Gas LLC
Project: Puckett 216-25
Sample ID: E Wall @ 8'
Collection Date: 9/9/2015 01:59 PM

Work Order: 1509649
Lab ID: 1509649-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Indeno(1,2,3-cd)pyrene	ND		0.0083	mg/Kg-dry	1	9/23/2015 11:09 PM
Naphthalene	ND		0.0083	mg/Kg-dry	1	9/23/2015 11:09 PM
Pyrene	ND		0.0083	mg/Kg-dry	1	9/23/2015 11:09 PM
Surr: 2-Fluorobiphenyl	74.7		12-100	%REC	1	9/23/2015 11:09 PM
Surr: 4-Terphenyl-d14	85.1		25-137	%REC	1	9/23/2015 11:09 PM
Surr: Nitrobenzene-d5	76.9		37-107	%REC	1	9/23/2015 11:09 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 9/11/15		Analyst: LSY
Benzene	ND		0.038	mg/Kg-dry	1	9/12/2015 09:41 AM
Ethylbenzene	ND		0.038	mg/Kg-dry	1	9/12/2015 09:41 AM
m,p-Xylene	ND		0.077	mg/Kg-dry	1	9/12/2015 09:41 AM
o-Xylene	ND		0.038	mg/Kg-dry	1	9/12/2015 09:41 AM
Toluene	ND		0.038	mg/Kg-dry	1	9/12/2015 09:41 AM
Xylenes, Total	ND		0.12	mg/Kg-dry	1	9/12/2015 09:41 AM
Surr: 1,2-Dichloroethane-d4	97.6		70-130	%REC	1	9/12/2015 09:41 AM
Surr: 4-Bromofluorobenzene	91.3		70-130	%REC	1	9/12/2015 09:41 AM
Surr: Dibromofluoromethane	93.4		70-130	%REC	1	9/12/2015 09:41 AM
Surr: Toluene-d8	97.6		70-130	%REC	1	9/12/2015 09:41 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 9/28/15		Analyst: JB
Electrical Conductivity @ Saturation	0.64		0.050	mmhos/cm @2	10	9/28/2015 11:40 AM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: JJG
Chromium, Trivalent	38		0.64	mg/Kg-dry	1	9/24/2015 08:22 AM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 9/22/15		Analyst: MB
Chromium, Hexavalent	ND		1.2	mg/Kg-dry	1	9/23/2015 04:30 PM
MOISTURE			E160.3M			Analyst: EVB
Moisture	22		0.050	% of sample	1	9/15/2015 03:45 PM
PH			SW9045D	Prep: EXTRACT / 9/21/15		Analyst: JB
pH	8.6	H		s.u.	1	9/21/2015 03:15 PM

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

ALS Group USA, Corp

Date: 28-Sep-15

Client: Caerus Oil and Gas LLC
Project: Puckett 216-25
Sample ID: S Wall @ 8'
Collection Date: 9/9/2015 02:03 PM

Work Order: 1509649
Lab ID: 1509649-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	98		SW8015M		Prep: SW3541 / 9/15/15	Analyst: IT
<i>Surr: 4-Terphenyl-d14</i>	67.9		5.1	mg/Kg-dry	1	9/16/2015 06:03 AM
			39-133	%REC	1	9/16/2015 06:03 AM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	51		SW8015D		Prep: SW5035 / 9/11/15	Analyst: IT
<i>Surr: Toluene-d8</i>	117		3.1	mg/Kg-dry	1	9/11/2015 08:04 PM
			50-150	%REC	1	9/11/2015 08:04 PM
MERCURY BY CVAA						
Mercury	0.039		SW7471B		Prep: SW7471 / 9/24/15	Analyst: LR
			0.019	mg/Kg-dry	1	9/24/2015 03:10 PM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 9/28/15	Analyst: JEC
Calcium	60		5.0	mg/L	10	9/28/2015 12:32 PM
Magnesium	11		2.0	mg/L	10	9/28/2015 12:32 PM
Sodium	83		2.0	mg/L	10	9/28/2015 12:32 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 9/28/15	Analyst: JEC
Sodium Adsorption Ratio	2.6		0.010	none	1	9/28/2015
METALS BY ICP-MS						
			SW6020A		Prep: SW3050B / 9/21/15	Analyst: ML
Arsenic	15		1.6	mg/Kg-dry	4	9/22/2015 10:32 AM
Barium	310		1.6	mg/Kg-dry	4	9/22/2015 10:32 AM
Cadmium	0.69		0.65	mg/Kg-dry	4	9/22/2015 10:32 AM
Chromium	36		1.6	mg/Kg-dry	4	9/22/2015 10:32 AM
Copper	21		1.6	mg/Kg-dry	4	9/22/2015 10:32 AM
Lead	18		1.6	mg/Kg-dry	4	9/22/2015 10:32 AM
Nickel	28		1.6	mg/Kg-dry	4	9/22/2015 10:32 AM
Selenium	1.6	J	1.6	mg/Kg-dry	4	9/22/2015 10:32 AM
Silver	ND		1.6	mg/Kg-dry	4	9/22/2015 10:32 AM
Zinc	74		3.2	mg/Kg-dry	4	9/23/2015 02:56 AM
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3541 / 9/23/15	Analyst: RS
Acenaphthene	ND		0.0081	mg/Kg-dry	1	9/23/2015 11:34 PM
Anthracene	ND		0.0081	mg/Kg-dry	1	9/23/2015 11:34 PM
Benzo(a)anthracene	ND		0.0081	mg/Kg-dry	1	9/23/2015 11:34 PM
Benzo(a)pyrene	ND		0.0081	mg/Kg-dry	1	9/23/2015 11:34 PM
Benzo(b)fluoranthene	ND		0.0081	mg/Kg-dry	1	9/23/2015 11:34 PM
Benzo(k)fluoranthene	ND		0.0081	mg/Kg-dry	1	9/23/2015 11:34 PM
Chrysene	ND		0.0081	mg/Kg-dry	1	9/23/2015 11:34 PM
Dibenzo(a,h)anthracene	ND		0.0081	mg/Kg-dry	1	9/23/2015 11:34 PM
Fluoranthene	ND		0.0081	mg/Kg-dry	1	9/23/2015 11:34 PM

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

ALS Group USA, Corp

Date: 28-Sep-15

Client: Caerus Oil and Gas LLC
Project: Puckett 216-25
Sample ID: S Wall @ 8'
Collection Date: 9/9/2015 02:03 PM

Work Order: 1509649
Lab ID: 1509649-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Indeno(1,2,3-cd)pyrene	ND		0.0081	mg/Kg-dry	1	9/23/2015 11:34 PM
Naphthalene	0.0086		0.0081	mg/Kg-dry	1	9/23/2015 11:34 PM
Pyrene	ND		0.0081	mg/Kg-dry	1	9/23/2015 11:34 PM
Surr: 2-Fluorobiphenyl	67.7		12-100	%REC	1	9/23/2015 11:34 PM
Surr: 4-Terphenyl-d14	93.3		25-137	%REC	1	9/23/2015 11:34 PM
Surr: Nitrobenzene-d5	58.1		37-107	%REC	1	9/23/2015 11:34 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 9/11/15		Analyst: LSY
Benzene	ND		0.038	mg/Kg-dry	1	9/12/2015 10:07 AM
Ethylbenzene	ND		0.038	mg/Kg-dry	1	9/12/2015 10:07 AM
m,p-Xylene	ND		0.075	mg/Kg-dry	1	9/12/2015 10:07 AM
o-Xylene	ND		0.038	mg/Kg-dry	1	9/12/2015 10:07 AM
Toluene	ND		0.038	mg/Kg-dry	1	9/12/2015 10:07 AM
Xylenes, Total	ND		0.11	mg/Kg-dry	1	9/12/2015 10:07 AM
Surr: 1,2-Dichloroethane-d4	94.5		70-130	%REC	1	9/12/2015 10:07 AM
Surr: 4-Bromofluorobenzene	102		70-130	%REC	1	9/12/2015 10:07 AM
Surr: Dibromofluoromethane	93.2		70-130	%REC	1	9/12/2015 10:07 AM
Surr: Toluene-d8	98.7		70-130	%REC	1	9/12/2015 10:07 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 9/28/15		Analyst: JB
Electrical Conductivity @ Saturation	0.83		0.050	mmhos/cm @2	10	9/28/2015 11:40 AM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: JJG
Chromium, Trivalent	36		0.63	mg/Kg-dry	1	9/24/2015 08:22 AM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 9/22/15		Analyst: MB
Chromium, Hexavalent	ND		1.2	mg/Kg-dry	1	9/23/2015 04:30 PM
MOISTURE			E160.3M			Analyst: EVB
Moisture	20		0.050	% of sample	1	9/15/2015 03:45 PM
PH			SW9045D	Prep: EXTRACT / 9/21/15		Analyst: JB
pH	8.1	H		s.u.	1	9/21/2015 03:15 PM

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

ALS Group USA, Corp

Date: 28-Sep-15

Client: Caerus Oil and Gas LLC
Project: Puckett 216-25
Sample ID: Base @ 10'
Collection Date: 9/9/2015 02:12 PM

Work Order: 1509649
Lab ID: 1509649-05
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3541 / 9/15/15	Analyst: IT
DRO (C10-C28)	170		5.4	mg/Kg-dry	1	9/16/2015 06:33 AM
<i>Surr: 4-Terphenyl-d14</i>	<i>73.8</i>		<i>39-133</i>	<i>%REC</i>	<i>1</i>	9/16/2015 06:33 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 / 9/11/15	Analyst: IT
GRO (C6-C10)	360		3.3	mg/Kg-dry	1	9/11/2015 08:29 PM
<i>Surr: Toluene-d8</i>	<i>107</i>		<i>50-150</i>	<i>%REC</i>	<i>1</i>	9/11/2015 08:29 PM
MERCURY BY CVAA						
Mercury	ND		SW7471B		Prep: SW7471 / 9/24/15	Analyst: LR
			0.020	mg/Kg-dry	1	9/24/2015 03:14 PM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 9/28/15	Analyst: JEC
Calcium	190		5.0	mg/L	10	9/28/2015 12:38 PM
Magnesium	29		2.0	mg/L	10	9/28/2015 12:38 PM
Sodium	63		2.0	mg/L	10	9/28/2015 12:38 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 9/28/15	Analyst: JEC
Sodium Adsorption Ratio	1.1		0.010	none	1	9/28/2015
METALS BY ICP-MS						
			SW6020A		Prep: SW3050B / 9/21/15	Analyst: ML
Arsenic	7.8		1.9	mg/Kg-dry	4	9/23/2015 02:12 AM
Barium	390		1.9	mg/Kg-dry	4	9/22/2015 10:38 AM
Cadmium	ND		0.78	mg/Kg-dry	4	9/22/2015 10:38 AM
Chromium	35		1.9	mg/Kg-dry	4	9/22/2015 10:38 AM
Copper	20		1.9	mg/Kg-dry	4	9/22/2015 10:38 AM
Lead	21		1.9	mg/Kg-dry	4	9/22/2015 10:38 AM
Nickel	29		1.9	mg/Kg-dry	4	9/22/2015 10:38 AM
Selenium	ND		1.9	mg/Kg-dry	4	9/22/2015 10:38 AM
Silver	ND		1.9	mg/Kg-dry	4	9/22/2015 10:38 AM
Zinc	81		3.9	mg/Kg-dry	4	9/23/2015 02:12 AM
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3541 / 9/23/15	Analyst: RS
Acenaphthene	ND		0.0087	mg/Kg-dry	1	9/24/2015 12:00 PM
Anthracene	ND		0.0087	mg/Kg-dry	1	9/24/2015 12:00 PM
Benzo(a)anthracene	ND		0.0087	mg/Kg-dry	1	9/24/2015 12:00 PM
Benzo(a)pyrene	ND		0.0087	mg/Kg-dry	1	9/24/2015 12:00 PM
Benzo(b)fluoranthene	ND		0.0087	mg/Kg-dry	1	9/24/2015 12:00 PM
Benzo(k)fluoranthene	ND		0.0087	mg/Kg-dry	1	9/24/2015 12:00 PM
Chrysene	ND		0.0087	mg/Kg-dry	1	9/24/2015 12:00 PM
Dibenzo(a,h)anthracene	ND		0.0087	mg/Kg-dry	1	9/24/2015 12:00 PM
Fluoranthene	ND		0.0087	mg/Kg-dry	1	9/24/2015 12:00 PM

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

ALS Group USA, Corp

Date: 28-Sep-15

Client: Caerus Oil and Gas LLC
Project: Puckett 216-25
Sample ID: Base @ 10'
Collection Date: 9/9/2015 02:12 PM

Work Order: 1509649
Lab ID: 1509649-05
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Indeno(1,2,3-cd)pyrene	ND		0.0087	mg/Kg-dry	1	9/24/2015 12:00 PM
Naphthalene	0.017		0.0087	mg/Kg-dry	1	9/24/2015 12:00 PM
Pyrene	ND		0.0087	mg/Kg-dry	1	9/24/2015 12:00 PM
Surr: 2-Fluorobiphenyl	77.5		12-100	%REC	1	9/24/2015 12:00 PM
Surr: 4-Terphenyl-d14	84.3		25-137	%REC	1	9/24/2015 12:00 PM
Surr: Nitrobenzene-d5	74.8		37-107	%REC	1	9/24/2015 12:00 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 9/11/15		Analyst: LSY
Benzene	ND		0.040	mg/Kg-dry	1	9/12/2015 10:32 AM
Ethylbenzene	0.59		0.040	mg/Kg-dry	1	9/12/2015 10:32 AM
m,p-Xylene	13		0.079	mg/Kg-dry	1	9/12/2015 10:32 AM
o-Xylene	2.0		0.040	mg/Kg-dry	1	9/12/2015 10:32 AM
Toluene	0.041		0.040	mg/Kg-dry	1	9/12/2015 10:32 AM
Xylenes, Total	15		0.12	mg/Kg-dry	1	9/12/2015 10:32 AM
Surr: 1,2-Dichloroethane-d4	91.6		70-130	%REC	1	9/12/2015 10:32 AM
Surr: 4-Bromofluorobenzene	108		70-130	%REC	1	9/12/2015 10:32 AM
Surr: Dibromofluoromethane	90.5		70-130	%REC	1	9/12/2015 10:32 AM
Surr: Toluene-d8	108		70-130	%REC	1	9/12/2015 10:32 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 9/28/15		Analyst: JB
Electrical Conductivity @ Saturation	1.9		0.050	mmhos/cm @2	10	9/28/2015 11:40 AM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: JJG
Chromium, Trivalent	35		0.66	mg/Kg-dry	1	9/24/2015 08:22 AM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 9/22/15		Analyst: MB
Chromium, Hexavalent	ND		1.3	mg/Kg-dry	1	9/23/2015 04:30 PM
MOISTURE			E160.3M			Analyst: EVB
Moisture	24		0.050	% of sample	1	9/15/2015 03:45 PM
PH			SW9045D	Prep: EXTRACT / 9/21/15		Analyst: JB
pH	7.2	H		s.u.	1	9/21/2015 03:15 PM

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

ALS Group USA, Corp

Date: 28-Sep-15

Client: Caerus Oil and Gas LLC
Project: Puckett 216-25
Sample ID: W Wall @ 8'
Collection Date: 9/9/2015 02:16 PM

Work Order: 1509649
Lab ID: 1509649-06
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	910		SW8015M		Prep: SW3541 / 9/15/15	Analyst: IT
<i>Surr: 4-Terphenyl-d14</i>	<i>70.0</i>		5.6	mg/Kg-dry	1	9/16/2015 07:03 AM
			39-133	%REC	1	9/16/2015 07:03 AM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	1,400		SW8015D		Prep: SW5035 / 9/11/15	Analyst: IT
<i>Surr: Toluene-d8</i>	<i>119</i>		3.4	mg/Kg-dry	1	9/11/2015 08:53 PM
			50-150	%REC	1	9/11/2015 08:53 PM
MERCURY BY CVAA						
Mercury	0.020		SW7471B		Prep: SW7471 / 9/24/15	Analyst: LR
			0.018	mg/Kg-dry	1	9/24/2015 03:17 PM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 9/28/15	Analyst: JEC
Calcium	120		5.0	mg/L	10	9/28/2015 12:44 PM
Magnesium	18		2.0	mg/L	10	9/28/2015 12:44 PM
Sodium	310		2.0	mg/L	10	9/28/2015 12:44 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 9/28/15	Analyst: JEC
Sodium Adsorption Ratio	7.0		0.010	none	1	9/28/2015
METALS BY ICP-MS						
			SW6020A		Prep: SW3050B / 9/21/15	Analyst: ML
Arsenic	6.6		1.8	mg/Kg-dry	4	9/23/2015 02:18 AM
Barium	300		1.8	mg/Kg-dry	4	9/22/2015 10:45 AM
Cadmium	ND		0.72	mg/Kg-dry	4	9/22/2015 10:45 AM
Chromium	36		1.8	mg/Kg-dry	4	9/22/2015 10:45 AM
Copper	18		1.8	mg/Kg-dry	4	9/22/2015 10:45 AM
Lead	18		1.8	mg/Kg-dry	4	9/22/2015 10:45 AM
Nickel	25		1.8	mg/Kg-dry	4	9/22/2015 10:45 AM
Selenium	2.0		1.8	mg/Kg-dry	4	9/22/2015 10:45 AM
Silver	ND		1.8	mg/Kg-dry	4	9/22/2015 10:45 AM
Zinc	66		3.6	mg/Kg-dry	4	9/23/2015 02:18 AM
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3541 / 9/23/15	Analyst: RS
Acenaphthene	ND		0.0090	mg/Kg-dry	1	9/24/2015 12:26 PM
Anthracene	ND		0.0090	mg/Kg-dry	1	9/24/2015 12:26 PM
Benzo(a)anthracene	ND		0.0090	mg/Kg-dry	1	9/24/2015 12:26 PM
Benzo(a)pyrene	ND		0.0090	mg/Kg-dry	1	9/24/2015 12:26 PM
Benzo(b)fluoranthene	ND		0.0090	mg/Kg-dry	1	9/24/2015 12:26 PM
Benzo(k)fluoranthene	ND		0.0090	mg/Kg-dry	1	9/24/2015 12:26 PM
Chrysene	ND		0.0090	mg/Kg-dry	1	9/24/2015 12:26 PM
Dibenzo(a,h)anthracene	ND		0.0090	mg/Kg-dry	1	9/24/2015 12:26 PM
Fluoranthene	ND		0.0090	mg/Kg-dry	1	9/24/2015 12:26 PM

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

ALS Group USA, Corp

Date: 28-Sep-15

Client: Caerus Oil and Gas LLC
Project: Puckett 216-25
Sample ID: W Wall @ 8'
Collection Date: 9/9/2015 02:16 PM

Work Order: 1509649
Lab ID: 1509649-06
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Indeno(1,2,3-cd)pyrene	ND		0.0090	mg/Kg-dry	1	9/24/2015 12:26 PM
Naphthalene	ND		0.0090	mg/Kg-dry	1	9/24/2015 12:26 PM
Pyrene	ND		0.0090	mg/Kg-dry	1	9/24/2015 12:26 PM
Surr: 2-Fluorobiphenyl	80.6		12-100	%REC	1	9/24/2015 12:26 PM
Surr: 4-Terphenyl-d14	78.5		25-137	%REC	1	9/24/2015 12:26 PM
Surr: Nitrobenzene-d5	85.5		37-107	%REC	1	9/24/2015 12:26 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 9/11/15		Analyst: LSY
Benzene	0.17		0.041	mg/Kg-dry	1	9/12/2015 10:58 AM
Ethylbenzene	1.2		0.041	mg/Kg-dry	1	9/12/2015 10:58 AM
m,p-Xylene	16		0.81	mg/Kg-dry	10	9/15/2015 09:04 AM
o-Xylene	3.9		0.041	mg/Kg-dry	1	9/12/2015 10:58 AM
Toluene	2.9		0.041	mg/Kg-dry	1	9/12/2015 10:58 AM
Xylenes, Total	18		1.2	mg/Kg-dry	10	9/15/2015 09:04 AM
Surr: 1,2-Dichloroethane-d4	79.7		70-130	%REC	10	9/15/2015 09:04 AM
Surr: 1,2-Dichloroethane-d4	88.4		70-130	%REC	1	9/12/2015 10:58 AM
Surr: 4-Bromofluorobenzene	106		70-130	%REC	1	9/12/2015 10:58 AM
Surr: 4-Bromofluorobenzene	106		70-130	%REC	10	9/15/2015 09:04 AM
Surr: Dibromofluoromethane	89.1		70-130	%REC	10	9/15/2015 09:04 AM
Surr: Dibromofluoromethane	86.7		70-130	%REC	1	9/12/2015 10:58 AM
Surr: Toluene-d8	148	S	70-130	%REC	1	9/12/2015 10:58 AM
Surr: Toluene-d8	89.0		70-130	%REC	10	9/15/2015 09:04 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 9/28/15		Analyst: JB
Electrical Conductivity @ Saturation	2.5		0.050	mmhos/cm @2	10	9/28/2015 11:40 AM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: JJG
Chromium, Trivalent	36		0.68	mg/Kg-dry	1	9/24/2015 08:22 AM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 9/22/15		Analyst: MB
Chromium, Hexavalent	ND		1.4	mg/Kg-dry	1	9/23/2015 04:30 PM
MOISTURE			E160.3M			Analyst: EVB
Moisture	26		0.050	% of sample	1	9/15/2015 03:45 PM
PH			SW9045D	Prep: EXTRACT / 9/21/15		Analyst: JB
pH	7.0	H		s.u.	1	9/21/2015 03:15 PM

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

ALS Group USA, Corp

Date: 28-Sep-15

Client: Caerus Oil and Gas LLC
Project: Puckett 216-25
Sample ID: South Pile
Collection Date: 9/9/2015 02:48 PM

Work Order: 1509649
Lab ID: 1509649-07
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3541 / 9/15/15	Analyst: IT
DRO (C10-C28)	270		5.1	mg/Kg-dry	1	9/16/2015 07:32 AM
Surr: 4-Terphenyl-d14	75.4		39-133	%REC	1	9/16/2015 07:32 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 / 9/11/15	Analyst: IT
GRO (C6-C10)	56		3.1	mg/Kg-dry	1	9/11/2015 09:18 PM
Surr: Toluene-d8	124		50-150	%REC	1	9/11/2015 09:18 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 / 9/11/15	Analyst: AK
Benzene	ND		0.037	mg/Kg-dry	1	9/15/2015 09:30 AM
Ethylbenzene	ND		0.037	mg/Kg-dry	1	9/15/2015 09:30 AM
m,p-Xylene	ND		0.075	mg/Kg-dry	1	9/15/2015 09:30 AM
o-Xylene	ND		0.037	mg/Kg-dry	1	9/15/2015 09:30 AM
Toluene	ND		0.037	mg/Kg-dry	1	9/15/2015 09:30 AM
Xylenes, Total	ND		0.11	mg/Kg-dry	1	9/15/2015 09:30 AM
Surr: 1,2-Dichloroethane-d4	83.5		70-130	%REC	1	9/15/2015 09:30 AM
Surr: 4-Bromofluorobenzene	108		70-130	%REC	1	9/15/2015 09:30 AM
Surr: Dibromofluoromethane	87.8		70-130	%REC	1	9/15/2015 09:30 AM
Surr: Toluene-d8	85.9		70-130	%REC	1	9/15/2015 09:30 AM
MOISTURE						
			E160.3M			Analyst: EVB
Moisture	20		0.050	% of sample	1	9/15/2015 04:00 PM

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

ALS Group USA, Corp

Date: 28-Sep-15

Client: Caerus Oil and Gas LLC
Project: Puckett 216-25
Sample ID: North Pile
Collection Date: 9/9/2015 02:54 PM

Work Order: 1509649
Lab ID: 1509649-08
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3541 / 9/15/15	Analyst: IT
DRO (C10-C28)	140		5.2	mg/Kg-dry	1	9/16/2015 03:07 PM
Surr: 4-Terphenyl-d14	58.9		39-133	%REC	1	9/16/2015 03:07 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 / 9/11/15	Analyst: IT
GRO (C6-C10)	390		3.1	mg/Kg-dry	1	9/11/2015 09:42 PM
Surr: Toluene-d8	111		50-150	%REC	1	9/11/2015 09:42 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 / 9/11/15	Analyst: LSY
Benzene	ND		0.037	mg/Kg-dry	1	9/12/2015 11:49 AM
Ethylbenzene	0.057		0.037	mg/Kg-dry	1	9/12/2015 11:49 AM
m,p-Xylene	2.3		0.074	mg/Kg-dry	1	9/12/2015 11:49 AM
o-Xylene	0.31		0.037	mg/Kg-dry	1	9/12/2015 11:49 AM
Toluene	0.11		0.037	mg/Kg-dry	1	9/12/2015 11:49 AM
Xylenes, Total	2.7		0.11	mg/Kg-dry	1	9/12/2015 11:49 AM
Surr: 1,2-Dichloroethane-d4	83.8		70-130	%REC	1	9/12/2015 11:49 AM
Surr: 4-Bromofluorobenzene	113		70-130	%REC	1	9/12/2015 11:49 AM
Surr: Dibromofluoromethane	79.6		70-130	%REC	1	9/12/2015 11:49 AM
Surr: Toluene-d8	122		70-130	%REC	1	9/12/2015 11:49 AM
MOISTURE						
			E160.3M			Analyst: EVB
Moisture	19		0.050	% of sample	1	9/15/2015 04:00 PM

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

<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
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: 28-Sep-15

Client: Caerus Oil and Gas LLC
Work Order: 1509649
Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **75992** Instrument ID **GC8** Method: **SW8015M**

MBLK		Sample ID: DBLKS1-75992-75992				Units: mg/Kg		Analysis Date: 9/15/2015 10:39 AM		
Client ID:		Run ID: GC8_150915A				SeqNo: 3458396		Prep Date: 9/14/2015		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 1.727 0 2 0 86.4 39-133 0

LCS		Sample ID: DLCSS1-75992-75992				Units: mg/Kg		Analysis Date: 9/15/2015 11:09 AM		
Client ID:		Run ID: GC8_150915A				SeqNo: 3458404		Prep Date: 9/14/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28) 185.9 5.0 200 0 93 61-109 0
Surr: 4-Terphenyl-d14 1.31 0 2 0 65.5 39-133 0

MS		Sample ID: 1509608-01A MS				Units: mg/Kg		Analysis Date: 9/15/2015 11:39 AM		
Client ID:		Run ID: GC8_150915A				SeqNo: 3458405		Prep Date: 9/14/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28) 279.8 4.1 162.2 146.9 81.9 48-110 0
Surr: 4-Terphenyl-d14 2.204 0 1.622 0 136 39-133 0 S

MSD		Sample ID: 1509608-01A MSD				Units: mg/Kg		Analysis Date: 9/15/2015 12:08 PM		
Client ID:		Run ID: GC8_150915A				SeqNo: 3458406		Prep Date: 9/14/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28) 281.6 4.0 161.5 146.9 83.4 48-110 279.8 0.639 30
Surr: 4-Terphenyl-d14 2.03 0 1.615 0 126 39-133 2.204 8.19 30

The following samples were analyzed in this batch: 1509649-01B 1509649-02B

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

Client: Caerus Oil and Gas LLC
Work Order: 1509649
Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **76047** Instrument ID **GC8** Method: **SW8015M**

MBLK		Sample ID: DBLKS1-76047-76047				Units: mg/Kg		Analysis Date: 9/15/2015 10:05 PM		
Client ID:		Run ID: GC8_150915A				SeqNo: 3459219		Prep Date: 9/15/2015		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>	1.648	0	2	0	82.4	39-133	0			

LCS		Sample ID: DLCSS1-76047-76047				Units: mg/Kg		Analysis Date: 9/15/2015 10:35 PM		
Client ID:		Run ID: GC8_150915A				SeqNo: 3459221		Prep Date: 9/15/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	182.7	5.0	200	0	91.4	61-109	0			
<i>Surr: 4-Terphenyl-d14</i>	1.412	0	2	0	70.6	39-133	0			

MS		Sample ID: 1509723-01B MS				Units: mg/Kg		Analysis Date: 9/15/2015 11:35 PM		
Client ID:		Run ID: GC8_150915A				SeqNo: 3459224		Prep Date: 9/15/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	118.1	4.2	166.5	28.95	53.6	48-110	0			
<i>Surr: 4-Terphenyl-d14</i>	1.224	0	1.665	0	73.5	39-133	0			

MSD		Sample ID: 1509723-01B MSD				Units: mg/Kg		Analysis Date: 9/16/2015 12:05 PM		
Client ID:		Run ID: GC8_150915A				SeqNo: 3459248		Prep Date: 9/15/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	147.5	4.1	165.9	28.95	71.5	48-110	118.1	22.2	30	
<i>Surr: 4-Terphenyl-d14</i>	1.494	0	1.659	0	90.1	39-133	1.224	19.9	30	

The following samples were analyzed in this batch:

1509649-03B	1509649-04B	1509649-05B
1509649-06B	1509649-07B	1509649-08B

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

Client: Caerus Oil and Gas LLC
Work Order: 1509649
Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **75949** Instrument ID **GC9** Method: **SW8015D**

MBLK		Sample ID: MBLK-75949-75949				Units: µg/Kg		Analysis Date: 9/11/2015 01:04 PM		
Client ID:		Run ID: GC9_150911A				SeqNo: 3454840		Prep Date: 9/11/2015		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	5062	0	5000	0	101	50-150	0			

LCS		Sample ID: LCS-75949-75949				Units: µg/Kg		Analysis Date: 9/11/2015 12:40 PM		
Client ID:		Run ID: GC9_150911A				SeqNo: 3454839		Prep Date: 9/11/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	543400	2,500	500000	0	109	70-130	0			
Surr: Toluene-d8	5322	0	5000	0	106	50-150	0			

MS		Sample ID: 1509608-01A MS				Units: µg/Kg		Analysis Date: 9/11/2015 04:21 PM		
Client ID:		Run ID: GC9_150911A				SeqNo: 3454847		Prep Date: 9/11/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	575300	2,500	500000	55790	104	70-130	0			
Surr: Toluene-d8	5550	0	5000	0	111	50-150	0			

MSD		Sample ID: 1509608-01A MSD				Units: µg/Kg		Analysis Date: 9/11/2015 04:46 PM		
Client ID:		Run ID: GC9_150911A				SeqNo: 3454848		Prep Date: 9/11/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	553700	2,500	500000	55790	99.6	70-130	575300	3.83	30	
Surr: Toluene-d8	5316	0	5000	0	106	50-150	5550	4.33	30	

The following samples were analyzed in this batch:

1509649-01A	1509649-02A	1509649-03A
1509649-04A	1509649-05A	1509649-06A
1509649-07A	1509649-08A	

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

Client: Caerus Oil and Gas LLC
Work Order: 1509649
Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **76377** Instrument ID **HG1** Method: **SW7471B**

MBLK		Sample ID: MBLK-76377-76377					Units: mg/Kg		Analysis Date: 9/24/2015 02:42 PM		
Client ID:		Run ID: HG1_150924A					SeqNo: 3473891		Prep Date: 9/24/2015		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-76377-76377				Units: mg/Kg		Analysis Date: 9/24/2015 02:45 PM		
Client ID:		Run ID: HG1_150924A				SeqNo: 3473892		Prep Date: 9/24/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.17 0.020 0.1665 0 102 80-120 0

MS		Sample ID: 15091080-01CMS					Units: mg/Kg		Analysis Date: 9/24/2015 02:49 PM		
Client ID:			Run ID: HG1_150924A			SeqNo: 3473894		Prep Date: 9/24/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury 0.1149 0.013 0.1048 0.0116 98.5 75-125 0

MSD		Sample ID: 15091080-01CMSD				Units: mg/Kg		Analysis Date: 9/24/2015 02:52 PM		
Client ID:		Run ID: HG1_150924A			SeqNo: 3473895		Prep Date: 9/24/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.121 0.013 0.107 0.0116 102 75-125 0.1149 5.16 35

The following samples were analyzed in this batch:

1509649-02B	1509649-03B	1509649-04B
1509649-05B	1509649-06B	

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

Client: Caerus Oil and Gas LLC
Work Order: 1509649
Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **76530** Instrument ID **ICP2** Method: **SW846 6010C**

DUP		Sample ID: 15091205-01ADUP				Units: mg/L		Analysis Date: 9/28/2015 11:36 AM		
Client ID:		Run ID: ICP2_150928A				SeqNo: 3479394		Prep Date: 9/28/2015		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	236.9	5.0	0	0	0	0-0	230.3	2.85		
Magnesium	60.29	2.0	0	0	0	0-0	58.89	2.34		
Sodium	37.33	2.0	0	0	0	0-0	36.45	2.37		

DUP		Sample ID: 15091205-01ADUP				Units: none		Analysis Date: 9/28/2015		
Client ID:		Run ID: SAR_150928A				SeqNo: 3479486		Prep Date: 9/28/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	0.5605	0.010	0	0	0		0.5548	1.02	50	

The following samples were analyzed in this batch:

1509649-02B	1509649-03B	1509649-04B
1509649-05B	1509649-06B	

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

Client: Caerus Oil and Gas LLC
Work Order: 1509649
Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **76324** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK		Sample ID: MBLK-76324-76324				Units: mg/Kg		Analysis Date: 9/22/2015 10:53 PM		
Client ID:		Run ID: ICPMS1_150922A				SeqNo: 3470011		Prep Date: 9/21/2015		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	0.02366	0.25								J
Cadmium	ND	0.10								
Chromium	ND	0.25								
Copper	0.02575	0.25								J
Lead	0.0126	0.25								J
Nickel	ND	0.25								
Selenium	ND	0.25								
Silver	ND	0.25								
Zinc	ND	0.50								

LCS		Sample ID: LCS-76324-76324				Units: mg/Kg		Analysis Date: 9/22/2015 07:38 AM		
Client ID:		Run ID: ICPMS1_150921A				SeqNo: 3467895		Prep Date: 9/21/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.218	0.25	5	0	84.4	80-120	0			
Barium	4.43	0.25	5	0	88.6	80-120	0			
Cadmium	4.466	0.10	5	0	89.3	80-120	0			
Chromium	4.603	0.25	5	0	92.1	80-120	0			
Copper	4.453	0.25	5	0	89.1	80-120	0			
Lead	4.546	0.25	5	0	90.9	80-120	0			
Nickel	4.488	0.25	5	0	89.8	80-120	0			
Selenium	4.395	0.25	5	0	87.9	80-120	0			
Silver	4.494	0.25	5	0	89.9	80-120	0			

LCS		Sample ID: LCS-76324-76324				Units: mg/Kg		Analysis Date: 9/23/2015 03:24 PM		
Client ID:		Run ID: ICPMS1_150923A				SeqNo: 3471828		Prep Date: 9/21/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.207	0.25	5	0	84.1	80-120	0			
Barium	4.7	0.25	5	0	94	80-120	0			
Cadmium	4.484	0.10	5	0	89.7	80-120	0			
Chromium	4.846	0.25	5	0	96.9	80-120	0			
Copper	4.652	0.25	5	0	93	80-120	0			
Lead	4.857	0.25	5	0	97.1	80-120	0			
Nickel	4.624	0.25	5	0	92.5	80-120	0			
Selenium	4.238	0.25	5	0	84.8	80-120	0			
Silver	4.521	0.25	5	0	90.4	80-120	0			
Zinc	4.27	0.50	5	0	85.4	80-120	0			

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

Client: Caerus Oil and Gas LLC
Work Order: 1509649
Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **76324** Instrument ID **ICPMS1** Method: **SW6020A**

MS				Sample ID: 15091128-01BMS			Units: mg/Kg		Analysis Date: 9/22/2015 08:56 AM		
Client ID:			Run ID: ICPMS1_150921A			SeqNo: 3467916		Prep Date: 9/21/2015		DF: 4	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	9.194	1.4	7.123	2.312	96.6	75-125	0				
Barium	85.36	1.4	7.123	175.2	-1260	75-125	0			SO	
Cadmium	8.231	0.57	7.123	1.338	96.8	75-125	0				
Chromium	33.39	1.4	7.123	32.09	18.2	75-125	0			SO	
Copper	82.48	1.4	7.123	90.92	-119	75-125	0			SO	
Lead	46.13	1.4	7.123	44.52	22.5	75-125	0			SO	
Nickel	18.23	1.4	7.123	13.58	65.3	75-125	0			S	
Selenium	6.778	1.4	7.123	0.05477	94.4	75-125	0				
Silver	6.783	1.4	7.123	0.06663	94.3	75-125	0				

MS				Sample ID: 15091128-01BMS				Units: mg/Kg			Analysis Date: 9/23/2015 12:57 AM		
Client ID:			Run ID: ICPMS1_150922A				SeqNo: 3470048			Prep Date: 9/21/2015		DF: 40	
Analyte			Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Zinc			231.7	28	7.123	241.9	-142	75-125	0			SO	

MSD				Sample ID: 15091128-01BMSD			Units: mg/Kg		Analysis Date: 9/22/2015 09:02 AM		
Client ID:			Run ID: ICPMS1_150921A			SeqNo: 3467919		Prep Date: 9/21/2015		DF: 4	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	9.249	1.4	7.062	2.312	98.2	75-125	9.194	0.595	25		
Barium	84.41	1.4	7.062	175.2	-1290	75-125	85.36	1.12	25	SO	
Cadmium	7.723	0.56	7.062	1.338	90.4	75-125	8.231	6.36	25		
Chromium	40.42	1.4	7.062	32.09	118	75-125	33.39	19.1	25	O	
Copper	90.51	1.4	7.062	90.92	-5.89	75-125	82.48	9.28	25	SO	
Lead	63.84	1.4	7.062	44.52	274	75-125	46.13	32.2	25	SRO	
Nickel	22.78	1.4	7.062	13.58	130	75-125	18.23	22.2	25	S	
Selenium	6.895	1.4	7.062	0.05477	96.9	75-125	6.778	1.72	25		
Silver	6.455	1.4	7.062	0.06663	90.5	75-125	6.783	4.97	25		

MSD				Sample ID: 15091128-01BMSD				Units: mg/Kg			Analysis Date: 9/23/2015 01:22 AM			
Client ID:				Run ID: ICPMS1_150922A				SeqNo: 3470059			Prep Date: 9/21/2015		DF: 40	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Zinc		297.2	28	7.062	241.9	783	75-125	231.7	24.7	25	SO			

The following samples were analyzed in this batch:

1509649-02B	1509649-03B	1509649-04B
1509649-05B	1509649-06B	

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

Client: Caerus Oil and Gas LLC
Work Order: 1509649
Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **76415** Instrument ID **SVMS5** Method: **SW846 8270D**

MBLK				Sample ID: SBLKS1-76415-76415				Units: µg/Kg			Analysis Date: 9/23/2015 06:41 PM		
Client ID:			Run ID: SVMS5_150923A				SeqNo: 3473714		Prep Date: 9/23/2015		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	1340	0	1667	0	80.4	12-100		0					
Surr: 4-Terphenyl-d14	1705	0	1667	0	102	25-137		0					
Surr: Nitrobenzene-d5	1283	0	1667	0	77	37-107		0					

LCS				Sample ID: SLCSS1-76415-76415			Units: µg/Kg		Analysis Date: 9/23/2015 07:04 PM		
Client ID:			Run ID: SVMS5_150923A			SeqNo: 3473715		Prep Date: 9/23/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	563.3	6.7	666.7	0	84.5	45-110	0				
Anthracene	646.7	6.7	666.7	0	97	55-105	0				
Benzo(a)anthracene	663.7	6.7	666.7	0	99.5	50-110	0				
Benzo(a)pyrene	683.7	6.7	666.7	0	103	50-110	0				
Benzo(b)fluoranthene	686.7	6.7	666.7	0	103	45-115	0				
Benzo(k)fluoranthene	702.7	6.7	666.7	0	105	45-115	0				
Chrysene	683.3	6.7	666.7	0	102	55-110	0				
Dibenzo(a,h)anthracene	644.3	6.7	666.7	0	96.6	40-125	0				
Fluoranthene	644	6.7	666.7	0	96.6	55-115	0				
Indeno(1,2,3-cd)pyrene	630	6.7	666.7	0	94.5	40-120	0				
Naphthalene	481	6.7	666.7	0	72.1	40-105	0				
Pyrene	685	6.7	666.7	0	103	45-125	0				
Surr: 2-Fluorobiphenyl	1244	0	1667	0	74.7	12-100	0				
Surr: 4-Terphenyl-d14	1670	0	1667	0	100	25-137	0				
Surr: Nitrobenzene-d5	1204	0	1667	0	72.2	37-107	0				

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

Client: Caerus Oil and Gas LLC
 Work Order: 1509649
 Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **76415** Instrument ID **SVMS5** Method: **SW846 8270D**

MS					Sample ID: 15091224-01C MS		Units: µg/Kg		Analysis Date: 9/23/2015 09:09 PM		
Client ID:			Run ID: SVMS5_150923A			SeqNo: 3473716		Prep Date: 9/23/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	527.2	6.6	664	0	79.4	45-110	0				
Anthracene	616.5	6.6	664	0	92.8	55-105	0				
Benzo(a)anthracene	634.5	6.6	664	9.655	94.1	50-110	0				
Benzo(a)pyrene	641.1	6.6	664	7.657	95.4	50-110	0				
Benzo(b)fluoranthene	655.4	6.6	664	12.32	96.8	45-115	0				
Benzo(k)fluoranthene	633.1	6.6	664	5.327	94.5	45-115	0				
Chrysene	643.1	6.6	664	9.988	95.3	55-110	0				
Dibenzo(a,h)anthracene	625.8	6.6	664	0	94.2	40-125	0				
Fluoranthene	609.6	6.6	664	16.98	89.2	55-115	0				
Indeno(1,2,3-cd)pyrene	630.8	6.6	664	5.993	94.1	40-120	0				
Naphthalene	426	6.6	664	0	64.1	40-105	0				
Pyrene	655.7	6.6	664	19.98	95.7	45-125	0				
Surr: 2-Fluorobiphenyl	1149	0	1660	0	69.2	12-100	0				
Surr: 4-Terphenyl-d14	1581	0	1660	0	95.3	25-137	0				
Surr: Nitrobenzene-d5	1042	0	1660	0	62.8	37-107	0				

MSD				Sample ID: 15091224-01C MSD				Units: µg/Kg		Analysis Date: 9/23/2015 09:31 PM	
Client ID:			Run ID: SVMS5_150923A			SeqNo: 3473717		Prep Date: 9/23/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	550.4	6.6	661.5	0	83.2	45-110	527.2	4.3	30		
Anthracene	610.6	6.6	661.5	0	92.3	55-105	616.5	0.972	30		
Benzo(a)anthracene	578.5	6.6	661.5	9.655	86	50-110	634.5	9.23	30		
Benzo(a)pyrene	584.1	6.6	661.5	7.657	87.1	50-110	641.1	9.3	30		
Benzo(b)fluoranthene	585.4	6.6	661.5	12.32	86.6	45-115	655.4	11.3	30		
Benzo(k)fluoranthene	590.4	6.6	661.5	5.327	88.4	45-115	633.1	6.99	30		
Chrysene	587.1	6.6	661.5	9.988	87.2	55-110	643.1	9.11	30		
Dibenzo(a,h)anthracene	553	6.6	661.5	0	83.6	40-125	625.8	12.4	30		
Fluoranthene	580.5	6.6	661.5	16.98	85.2	55-115	609.6	4.89	30		
Indeno(1,2,3-cd)pyrene	570.2	6.6	661.5	5.993	85.3	40-120	630.8	10.1	30		
Naphthalene	416.1	6.6	661.5	0	62.9	40-105	426	2.35	30		
Pyrene	604.9	6.6	661.5	19.98	88.4	45-125	655.7	8.05	30		
Surr: 2-Fluorobiphenyl	1166	0	1654	0	70.5	12-100	1149	1.51	40		
Surr: 4-Terphenyl-d14	1455	0	1654	0	88	25-137	1581	8.32	40		
Surr: Nitrobenzene-d5	1004	0	1654	0	60.7	37-107	1042	3.75	40		

The following samples were analyzed in this batch:

1509649-02B	1509649-03B	1509649-04B
1509649-05B	1509649-06B	

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

Client: Caerus Oil and Gas LLC
Work Order: 1509649
Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **75942** Instrument ID **VMS6** Method: **SW8260B**

MBLK				Sample ID: MBLK-75942-75942				Units: µg/Kg			Analysis Date: 9/14/2015 03:41 PM			
Client ID:				Run ID: VMS6_150914A				SeqNo: 3457383			Prep Date: 9/11/2015		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	932	0	1000	0	93.2	70-130		0						
Surr: 4-Bromofluorobenzene	992.5	0	1000	0	99.2	70-130		0						
Surr: Dibromofluoromethane	949.5	0	1000	0	95	70-130		0						
Surr: Toluene-d8	917.5	0	1000	0	91.8	70-130		0						

LCS				Sample ID: LCS-75942-75942			Units: µg/Kg		Analysis Date: 9/14/2015 02:23 PM		
Client ID:			Run ID: VMS6_150914A			SeqNo: 3457382		Prep Date: 9/11/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1208	30	1000	0	121	75-125	0				
Ethylbenzene	1112	30	1000	0	111	75-125	0				
m,p-Xylene	2230	60	2000	0	111	80-125	0				
o-Xylene	1092	30	1000	0	109	75-125	0				
Toluene	1118	30	1000	0	112	70-125	0				
Xylenes, Total	3321	90	3000	0	111	75-125	0				
Surr: 1,2-Dichloroethane-d4	917	0	1000	0	91.7	70-130	0				
Surr: 4-Bromofluorobenzene	994.5	0	1000	0	99.4	70-130	0				
Surr: Dibromofluoromethane	997.5	0	1000	0	99.8	70-130	0				
Surr: Toluene-d8	957	0	1000	0	95.7	70-130	0				

MS				Sample ID: 1509608-01A MS			Units: µg/Kg		Analysis Date: 9/12/2015 03:37 PM		
Client ID:			Run ID: VMS9_150911C			SeqNo: 3455978		Prep Date: 9/11/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	909	30	1000	0	90.9	75-125	0				
Ethylbenzene	1010	30	1000	0	101	75-125	0				
m,p-Xylene	2134	60	2000	141	99.7	80-125	0				
o-Xylene	1034	30	1000	0	103	75-125	0				
Toluene	1024	30	1000	52	97.2	70-125	0				
Xylenes, Total	3168	90	3000	140	101	75-125	0				
Surr: 1,2-Dichloroethane-d4	896.5	0	1000	0	89.6	70-130	0				
Surr: 4-Bromofluorobenzene	1062	0	1000	0	106	70-130	0				
Surr: Dibromofluoromethane	915	0	1000	0	91.5	70-130	0				
Surr: Toluene-d8	1007	0	1000	0	101	70-130	0				

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

Client: Caerus Oil and Gas LLC
Work Order: 1509649
Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **75942** Instrument ID **VMS6** Method: **SW8260B**

MSD				Sample ID: 1509608-01A MSD			Units: µg/Kg		Analysis Date: 9/12/2015 04:03 PM	
Client ID:				Run ID: VMS9_150911C			SeqNo: 3455979		Prep Date: 9/11/2015	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	951.5	30	1000	0	95.2	75-125	909	4.57	30	
Ethylbenzene	1090	30	1000	0	109	75-125	1010	7.66	30	
m,p-Xylene	2280	60	2000	141	107	80-125	2134	6.59	30	
o-Xylene	1054	30	1000	0	105	75-125	1034	1.87	30	
Toluene	1045	30	1000	52	99.3	70-125	1024	1.98	30	
Xylenes, Total	3334	90	3000	140	106	75-125	3168	5.08	30	
Surr: 1,2-Dichloroethane-d4	891.5	0	1000	0	89.2	70-130	896.5	0.559	30	
Surr: 4-Bromofluorobenzene	1054	0	1000	0	105	70-130	1062	0.662	30	
Surr: Dibromofluoromethane	932.5	0	1000	0	93.2	70-130	915	1.89	30	
Surr: Toluene-d8	967	0	1000	0	96.7	70-130	1007	4.05	30	

The following samples were analyzed in this batch:

1509649-01A	1509649-02A	1509649-03A
1509649-04A	1509649-05A	1509649-06A
1509649-07A	1509649-08A	

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

Client: Caerus Oil and Gas LLC
Work Order: 1509649
Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **76336** Instrument ID **WETCHEM** Method: **SW9045D**

LCS				Sample ID: LCS-76336-76336				Units: s.u.			Analysis Date: 9/21/2015 03:15 PM			
Client ID:				Run ID: WETCHEM_150921I				SeqNo: 3467142			Prep Date: 9/21/2015		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
pH		4.01	0	4	0	100	90-110	0						

DUP				Sample ID: 15091111-01A DUP				Units: s.u.		Analysis Date: 9/21/2015 03:15 PM	
Client ID:			Run ID: WETCHEM_150921I			SeqNo: 3467150		Prep Date: 9/21/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
pH	7.96	0	0	0	0	0-0	7.96	0	20		

DUP				Sample ID: 1509649-02B DUP				Units: s.u.			Analysis Date: 9/21/2015 03:15 PM			
Client ID: N Wall @ 8'				Run ID: WETCHEM_150921I				SeqNo: 3467154			Prep Date: 9/21/2015		DF: 1	
Analyte				Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
pH				8.58	0	0	0	0	0-0	8.63	0.581	20	H	

The following samples were analyzed in this batch:

1509649-02B	1509649-03B	1509649-04B
1509649-05B	1509649-06B	

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

Client: Caerus Oil and Gas LLC
Work Order: 1509649
Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **76482** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK	Sample ID: MBLK-76482-76482					Units: mg/Kg		Analysis Date: 9/23/2015 04:30 PM		
Client ID:	Run ID: WETCHEM_1509230				SeqNo: 3471946		Prep Date: 9/22/2015		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-76482-76482					Units: mg/Kg		Analysis Date: 9/23/2015 04:30 PM		
Client ID:	Run ID: WETCHEM_1509230				SeqNo: 3471945		Prep Date: 9/22/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4.67 1.0 5 0 93.4 80-120 0

MS	Sample ID: 1509878-10C MS					Units: mg/Kg		Analysis Date: 9/23/2015 04:30 PM		
Client ID:	Run ID: WETCHEM_1509230				SeqNo: 3471941		Prep Date: 9/22/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4.534 0.97 4.854 0.1078 91.2 75-125 0

MS	Sample ID: 1509878-10C MSI					Units: mg/Kg		Analysis Date: 9/23/2015 04:30 PM		
Client ID:	Run ID: WETCHEM_1509230				SeqNo: 3471943		Prep Date: 9/22/2015		DF: 100	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 2659 93 2722 0.1078 97.7 75-125 0

MSD	Sample ID: 1509878-10C MSD					Units: mg/Kg		Analysis Date: 9/23/2015 04:30 PM		
Client ID:	Run ID: WETCHEM_1509230				SeqNo: 3471942		Prep Date: 9/22/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4.578 0.98 4.902 0.1078 91.2 75-125 4.534 0.976 20

The following samples were analyzed in this batch:

1509649-02B	1509649-03B	1509649-04B
1509649-05B	1509649-06B	

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

Client: Caerus Oil and Gas LLC
Work Order: 1509649
Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **76530** Instrument ID **WETCHEM** Method: **USDA H60 Metho**

DUP		Sample ID: 15091205-01A DUP				Units: mmhos/cm @25°		Analysis Date: 9/28/2015 11:40 AM		
Client ID:		Run ID: WETCHEM_150928D				SeqNo: 3479273		Prep Date: 9/28/2015		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	1.866	0.050	0	0	0		1.872	0.321	50	

The following samples were analyzed in this batch:

1509649-02B	1509649-03B	1509649-04B
1509649-05B	1509649-06B	

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

Client: Caerus Oil and Gas LLC
Work Order: 1509649
Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **R171702** Instrument ID **MOIST** Method: **E160.3M**

MBLK		Sample ID: WBLKS-R171702				Units: % of sample		Analysis Date: 9/15/2015 03:45 PM		
Client ID:		Run ID: MOIST_150915C		SeqNo: 3459494		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-R171702				Units: % of sample		Analysis Date: 9/15/2015 03:45 PM		
Client ID:		Run ID: MOIST_150915C		SeqNo: 3459493		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: 1509608-01A DUP				Units: % of sample		Analysis Date: 9/15/2015 03:45 PM		
Client ID:		Run ID: MOIST_150915C		SeqNo: 3459458		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 9.95 0.050 0 0 0 9.78 1.72 20

DUP		Sample ID: 1509641-06A DUP				Units: % of sample		Analysis Date: 9/15/2015 03:45 PM		
Client ID:		Run ID: MOIST_150915C		SeqNo: 3459465		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 11.36 0.050 0 0 0 11.4 0.351 20

The following samples were analyzed in this batch:

1509649-01B	1509649-02B	1509649-03B
1509649-04B	1509649-05B	1509649-06B

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

Client: Caerus Oil and Gas LLC
Work Order: 1509649
Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **R171709** Instrument ID **MOIST** Method: **E160.3M**

MBLK		Sample ID: WBLKS-R171709				Units: % of sample		Analysis Date: 9/15/2015 04:00 PM		
Client ID:		Run ID: MOIST_150915E				SeqNo: 3459616		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-R171709				Units: % of sample		Analysis Date: 9/15/2015 04:00 PM		
Client ID:		Run ID: MOIST_150915E				SeqNo: 3459615		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: 1509649-07B DUP				Units: % of sample		Analysis Date: 9/15/2015 04:00 PM		
Client ID: South Pile		Run ID: MOIST_150915E				SeqNo: 3459589		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 18.36 0.050 0 0 0 19.8 7.55 20

DUP		Sample ID: 1509682-06B DUP				Units: % of sample		Analysis Date: 9/15/2015 04:00 PM		
Client ID:		Run ID: MOIST_150915E				SeqNo: 3459600		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 17.07 0.050 0 0 0 18.08 5.75 20

The following samples were analyzed in this batch:

1509649-07B 1509649-08B

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



ALS Environmental

3325 126th Avenue
Holland Michigan 49424 (616) 399-6070

Chain-of-Custody

Form 202a

WORKORDER #

1509649

PAGE

1 of 1

DISPOSAL

By Lab or Return to

PROJECT NAME	Puckett 216-25	SAMPLER	Jake Janicek	DATE	9-10-15	TURNAROUND	STD 5 Day
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				

	Sample Description	Sample Date	Sample Time	Matrix	# Metals	Pres.	TPH	GRODRO	BTEX	Table 610 PAHs	Table 910 Metals	EC	PH	SAR
1	Impacted Area	9-9-15	1335	Soil	2	-		X	X					
2	N Wall @ 8'	9-9-15	1353	Soil	2	-		X	X					
3	E Wall @ 8'	9-9-15	1359	Soil	2	-		X	X					
4	S Wall @ 8'	9-9-15	1403	Soil	2	-		X	X					
5	Base @ 10'	9-9-15	1412	Soil	2	-		X	X					
6	W Wall @ 8'	9-9-15	1416	Soil	2	-		X	X					
7	South Pile	9-9-15	1448	Soil	2	-		X	X					
8	North Pile	9-9-15	1454	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:	QC PACKAGE (check below)
1.40C	☒ 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	Tyler Rust	Tyler Rust	9/10/15	1537
RECEIVED BY	[Signature]	[Signature]	9-10-15	1538
RELINQUISHED BY	[Signature]	[Signature]	9-10-15	1545
RECEIVED BY	[Signature]	[Signature]	9-10-15	1548
RELINQUISHED BY				
RECEIVED BY				

ORIGIN ID: RILA (616) 288-1033
 NICK MARTINEZ
 ALS ENVIRONMENTAL PARACHUTE
 PARACHUTE SERVICE CENTER
 127 EAST 1ST ST
 PARACHUTE, CO 81635
 UNITED STATES US

SHIP DATE: 10SEP15
 ACTWGT: 60.00 LB
 CAD: 2284840/NET3870
 DIMS: 26x16x18 IN
 BILL SENDER

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

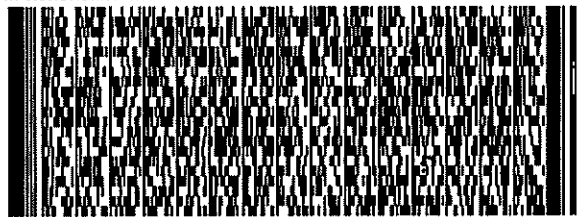
HOLLAND MI 49424

(616) 389-6070

REF 091015-1

INV
 PO: PARACHUTE

DEPT:



FedEx
 Express



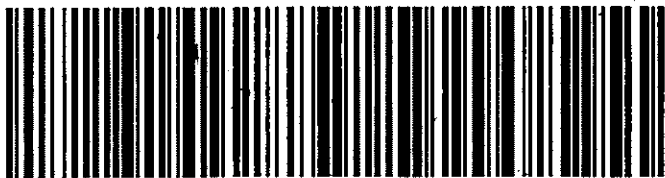
REL#
 3785346

1 of 2
 TRK#
 0201 **7744 8496 0623**
 ## MASTER ##

FRI - 11 SEP 10:30A
PRIORITY OVERNIGHT

XX HLMA

49424
GRR
 MI-US



539.02/0889.6100

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. For items listed in our Service Guide, written claims must be filed with supporting documentation within the limits, see current FedEx Service Guide.

Name

WZ

Time

18:00

Date

9/10/15

ALS Parachute Custody Seal

Sample Receipt Checklist

Client Name: CAERUS

Date/Time Received: 11-Sep-15 09:00

Work Order: 1509649

Received by: KRW

Checklist completed by Keith Wurenga
eSignature

11-Sep-15
Date

Reviewed by: Lee Arnold
eSignature

11-Sep-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): 1.4/1.4 C SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 9/11/2015 1:39:41 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:



29-Sep-2015

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

Re: **Pucket 216-25**

Work Order: **15091203**

Dear Casey,

ALS Environmental received 2 samples on 22-Sep-2015 09:00 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 13.

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

Sincerely,

A handwritten signature in black ink, appearing to read "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: HRL Compliance Solutions, Inc
Project: Pucket 216-25
Work Order: 15091203

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>
15091203-01	Bottom 12ft	Soil		9/21/2015 12:30	9/22/2015 09:00	☐
15091203-02	West Wall	Soil		9/21/2015 11:45	9/22/2015 09:00	☐

Client: HRL Compliance Solutions, Inc
Project: Pucket 216-25
Work Order: 15091203

Case Narrative

Samples for the above noted Work Order were received on 09/22/2015. 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.

Sample Receiving:

No deviations or anomalies were noted.

Volatile Organics:

No deviations or anomalies were noted.

Extractable Organics:

No deviations or anomalies were noted.

Metals:

No deviations or anomalies were noted.

Wet Chemistry:

No deviations or anomalies were noted.

ALS Group USA, Corp**Date:** 29-Sep-15**Client:** HRL Compliance Solutions, Inc**Project:** Pucket 216-25**Work Order:** 15091203**Sample ID:** Bottom 12ft**Lab ID:** 15091203-01**Collection Date:** 9/21/2015 12:30 PM**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	21		SW8015M		Prep: SW3541 / 9/25/15	Analyst: IT
			5.4	mg/Kg-dry	1	9/25/2015 10:48 PM
<i>Surr: 4-Terphenyl-d14</i>	<i>70.1</i>		<i>39-133</i>	<i>%REC</i>	<i>1</i>	9/25/2015 10:48 PM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	ND		SW8015D		Prep: SW5035 / 9/22/15	Analyst: IT
			3.3	mg/Kg-dry	1	9/23/2015 04:25 AM
<i>Surr: Toluene-d8</i>	<i>105</i>		<i>50-150</i>	<i>%REC</i>	<i>1</i>	9/23/2015 04:25 AM
MOISTURE						
Moisture	24		E160.3M			Analyst: EVB
			0.050	% of sample	1	9/24/2015 05:46 PM

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

ALS Group USA, Corp

Date: 29-Sep-15

Client: HRL Compliance Solutions, Inc

Project: Pucket 216-25

Sample ID: West Wall

Collection Date: 9/21/2015 11:45 AM

Work Order: 15091203

Lab ID: 15091203-02

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3541 / 9/25/15	Analyst: IT
DRO (C10-C28)	22		5.4	mg/Kg-dry	1	9/25/2015 11:18 PM
Surr: 4-Terphenyl-d14	60.8		39-133	%REC	1	9/25/2015 11:18 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 / 9/22/15	Analyst: IT
GRO (C6-C10)	ND		3.3	mg/Kg-dry	1	9/22/2015 05:02 PM
Surr: Toluene-d8	99.0		50-150	%REC	1	9/22/2015 05:02 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 / 9/22/15	Analyst: AK
Benzene	ND		40	µg/Kg-dry	1	9/27/2015 10:40 PM
Surr: 1,2-Dichloroethane-d4	101		70-130	%REC	1	9/27/2015 10:40 PM
Surr: 4-Bromofluorobenzene	91.6		70-130	%REC	1	9/27/2015 10:40 PM
Surr: Dibromofluoromethane	99.6		70-130	%REC	1	9/27/2015 10:40 PM
Surr: Toluene-d8	98.6		70-130	%REC	1	9/27/2015 10:40 PM
MOISTURE						
			E160.3M			Analyst: EVB
Moisture	24		0.050	% of sample	1	9/24/2015 05:46 PM

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

Client: HRL Compliance Solutions, Inc
Project: Pucket 216-25
WorkOrder: 15091203

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

Client: HRL Compliance Solutions, Inc

QC BATCH REPORT

Work Order: 15091203

Project: Pucket 216-25

Batch ID: 76549

Instrument ID GC8

Method: SW8015M

MBLK		Sample ID: DBLKS1-76549-76549				Units: mg/Kg		Analysis Date: 9/25/2015 07:19 PM		
Client ID:		Run ID: GC8_150925C				SeqNo: 3479207		Prep Date: 9/25/2015		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	1.429	0	2	0	71.5	39-133		0		

LCS		Sample ID: DLCSS1-76549-76549				Units: mg/Kg		Analysis Date: 9/25/2015 07:49 PM		
Client ID:		Run ID: GC8_150925C				SeqNo: 3479209		Prep Date: 9/25/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	179	5.0	200	0	89.5	61-109		0		
Surr: 4-Terphenyl-d14	1.173	0	2	0	58.6	39-133		0		

MS		Sample ID: 15091168-01B MS				Units: mg/Kg		Analysis Date: 9/25/2015 08:18 PM		
Client ID:		Run ID: GC8_150925C				SeqNo: 3479210		Prep Date: 9/25/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	149.6	4.1	165.4	0	90.5	48-110		0		
Surr: 4-Terphenyl-d14	1.061	0	1.654	0	64.1	39-133		0		

MSD		Sample ID: 15091168-01B MSD				Units: mg/Kg		Analysis Date: 9/25/2015 08:48 PM		
Client ID:		Run ID: GC8_150925C				SeqNo: 3479211		Prep Date: 9/25/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	154.8	4.2	166	0	93.3	48-110	149.6	3.39	30	
Surr: 4-Terphenyl-d14	1.039	0	1.66	0	62.6	39-133	1.061	2.09	30	

The following samples were analyzed in this batch:

15091203-01A	15091203-02A
--------------	--------------

Client: HRL Compliance Solutions, Inc
Work Order: 15091203
Project: Pucket 216-25

QC BATCH REPORT

Batch ID: **76357** Instrument ID **GC9** Method: **SW8015D**

MBLK		Sample ID: MBLK-76357-76357				Units: µg/Kg		Analysis Date: 9/22/2015 02:58 PM		
Client ID:		Run ID: GC9_150922A				SeqNo: 3470229		Prep Date: 9/22/2015		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	5478	0	5000	0	110	50-150	0			

LCS		Sample ID: LCS-76357-76357				Units: µg/Kg		Analysis Date: 9/22/2015 02:33 PM		
Client ID:		Run ID: GC9_150922A				SeqNo: 3470228		Prep Date: 9/22/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	449800	2,500	500000	0	90	70-130	0			
Surr: Toluene-d8	5320	0	5000	0	106	50-150	0			

MS		Sample ID: 15091203-02A MS				Units: µg/Kg		Analysis Date: 9/22/2015 05:27 PM		
Client ID: West Wall		Run ID: GC9_150922A				SeqNo: 3470235		Prep Date: 9/22/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	505600	2,500	500000	0	101	70-130	0			
Surr: Toluene-d8	5194	0	5000	0	104	50-150	0			

MSD		Sample ID: 15091203-02A MSD				Units: µg/Kg		Analysis Date: 9/22/2015 05:52 PM		
Client ID: West Wall		Run ID: GC9_150922A				SeqNo: 3470236		Prep Date: 9/22/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	512200	2,500	500000	0	102	70-130	505600	1.29	30	
Surr: Toluene-d8	5472	0	5000	0	109	50-150	5194	5.21	30	

The following samples were analyzed in this batch:

15091203-01A	15091203-02A
--------------	--------------

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

Client: HRL Compliance Solutions, Inc
Work Order: 15091203
Project: Pucket 216-25

QC BATCH REPORT

Batch ID: **76372** Instrument ID **VMS5** Method: **SW8260B**

MBLK Sample ID: MBLK-76372-76372				Units: µg/Kg		Analysis Date: 9/23/2015 05:27 AM				
Client ID:		Run ID: VMS5_150922A		SeqNo: 3471369		Prep Date: 9/22/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	30								
Surr: 1,2-Dichloroethane-d4	1007	0	1000	0	101	70-130	0			
Surr: 4-Bromofluorobenzene	949.5	0	1000	0	95	70-130	0			
Surr: Dibromofluoromethane	962.5	0	1000	0	96.2	70-130	0			
Surr: Toluene-d8	978	0	1000	0	97.8	70-130	0			

LCS Sample ID: LCS-76372-76372				Units: µg/Kg		Analysis Date: 9/23/2015 04:10 AM				
Client ID:		Run ID: VMS5_150922A		SeqNo: 3471358		Prep Date: 9/22/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	979	30	1000	0	97.9	75-125	0			
Surr: 1,2-Dichloroethane-d4	981.5	0	1000	0	98.2	70-130	0			
Surr: 4-Bromofluorobenzene	970.5	0	1000	0	97	70-130	0			
Surr: Dibromofluoromethane	991.5	0	1000	0	99.2	70-130	0			
Surr: Toluene-d8	992	0	1000	0	99.2	70-130	0			

MS Sample ID: 15091168-01A MS				Units: µg/Kg		Analysis Date: 9/26/2015 04:51 AM				
Client ID:		Run ID: VMS5_150925A		SeqNo: 3477443		Prep Date: 9/22/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	992.5	30	1000	0	99.2	75-125	0			
Surr: 1,2-Dichloroethane-d4	1002	0	1000	0	100	70-130	0			
Surr: 4-Bromofluorobenzene	967	0	1000	0	96.7	70-130	0			
Surr: Dibromofluoromethane	956.5	0	1000	0	95.6	70-130	0			
Surr: Toluene-d8	1004	0	1000	0	100	70-130	0			

MSD Sample ID: 15091168-01A MSD				Units: µg/Kg		Analysis Date: 9/26/2015 05:16 AM				
Client ID:		Run ID: VMS5_150925A		SeqNo: 3477444		Prep Date: 9/22/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1012	30	1000	0	101	75-125	992.5	1.9	30	
Surr: 1,2-Dichloroethane-d4	991	0	1000	0	99.1	70-130	1002	1.1	30	
Surr: 4-Bromofluorobenzene	960	0	1000	0	96	70-130	967	0.727	30	
Surr: Dibromofluoromethane	979	0	1000	0	97.9	70-130	956.5	2.32	30	
Surr: Toluene-d8	999	0	1000	0	99.9	70-130	1004	0.449	30	

The following samples were analyzed in this batch:

15091203-02A

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

Client: HRL Compliance Solutions, Inc
Work Order: 15091203
Project: Pucket 216-25

QC BATCH REPORT

Batch ID: **R172377** Instrument ID **MOIST** Method: **E160.3M**

MBLK		Sample ID: WBLKS-R172377				Units: % of sample		Analysis Date: 9/24/2015 05:46 PM		
Client ID:		Run ID: MOIST_150924B		SeqNo: 3475397		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-R172377				Units: % of sample		Analysis Date: 9/24/2015 05:46 PM		
Client ID:		Run ID: MOIST_150924B		SeqNo: 3475396		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: 15091130-02A DUP				Units: % of sample		Analysis Date: 9/24/2015 05:46 PM		
Client ID:		Run ID: MOIST_150924B		SeqNo: 3475377		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 18.68 0.050 0 0 0 18.76 0.427 20

DUP		Sample ID: 15091414-01A DUP				Units: % of sample		Analysis Date: 9/24/2015 05:46 PM		
Client ID:		Run ID: MOIST_150924B		SeqNo: 3475393		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 16.58 0.050 0 0 0 17.07 2.91 20

The following samples were analyzed in this batch:

15091203-01A	15091203-02A
--------------	--------------

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 2826

WORKORDER #

15091203

PAGE

1 of 1

DISPOSAL

By Lab or Return to Client

SAMPLER

Reed Wold

DATE

9/21/2015

SITE ID

Pucket 216-25

TURNAROUND

5 Day

PROJECT NAME

Pucket 216-25

PROJECT No.

EDD FORMAT

PURCHASE ORDER

COMPANY NAME

HRL Compliance

BILL TO COMPANY

Caerus Piceance, LLC

SEND REPORT TO

Casey Richardson
Janicek Jake

INVOICE ATTN TO

Jake Janicek

ADDRESS

2385 F 1/2 Rd

ADDRESS

120 N. Railroad, Suite D

CITY / STATE / ZIP

Grand Junction, CO 81505

CITY / STATE / ZIP

Parachute, CO 81835

PHONE

970-243-3271

PHONE

970-285-9606

FAX

970-243-3280

FAX

E-MAIL

Crichardson@hrlcomp.com
Rwold@hrlcomp.com
JJanicek@caerusoilandgas.com

E-MAIL

Invoices@caerusoilandgas.com
JJanicek@caerusoilandgas.com

Lab ID

Field ID

Matrix

Sample Date

Sample Time

Bottles

Pres.

QC

1

Bottom 12 FE

SO

9/21/2015

12:30

1

8

X

2

West Wall

SO

9/21/2015

11:45

1

8

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:

1.80e

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

Reed Wold

RECEIVED BY

Reed Wold

9/21/2015

2:00

RELINQUISHED BY

AKK

RECEIVED BY

AKK

9-21-15

2:00

RELINQUISHED BY

AKK

RECEIVED BY

AKK

9-22-15

9:00

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: 21SEP15
ACTWGT: 55.00 LB
CAD: 22648401NET3670
DIMS: 14x26x15 IN
BILL SENDER

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

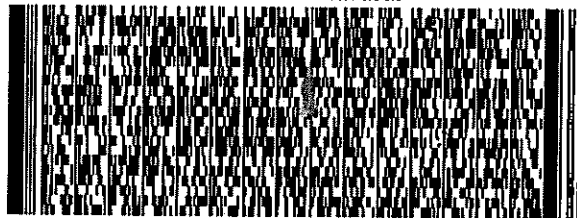
HOLLAND MI 49424

(616) 399-6070

REF: 092115-1

PO: PARACHUTE

DEPT:



FedEx.
Express



REL#
3785346

1 of 2

TRK#
0201

7745 6089 1062

MASTER

XX HLMA

TUE - 22 SEP 10:30A
PRIORITY OVERNIGHT

49424

MI-US

GRR

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

539,208,931.00

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 it may result in additional billing charges, along with the cancellation of your FedEx account. Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide. We will not be responsible for any claim in excess of \$100 per package, whether the claim involves information, unless you declare a higher value, pay an additional charge, document the claim, or the claim is for loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage. The maximum recovery for any one claim is limited to the greater of \$100 or the authorized declared value. Recovery may not be available for certain types of claims. For more information on recovery, see the current FedEx Service Guide. Claims must be filed within strict time limits, see current FedEx Service Guide.

ALS Parachute Club
by Seal
Time 9:15
Name [Signature]
and other items listed below. Service signature, written

Sample Receipt Checklist

Client Name: **HRL**

Date/Time Received: **22-Sep-15 09:00**

Work Order: **15091203**

Received by: **KRW**

Checklist completed by Keith Wurenga
eSignature

22-Sep-15
Date

Reviewed by: Lee Arnold
eSignature

29-Sep-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): 1.8/1.8 C SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 9/22/2015 12:39:24 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:



23-Oct-2015

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

Re: **Puckett 216-25**

Work Order: **15101063**

Dear Jake,

ALS Environmental received 2 samples on 16-Oct-2015 10:15 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 26.

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

Sincerely,

A handwritten signature in black ink, appearing to read "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 The ALS logo, a stylized blue triangle with a yellow flame-like shape inside.

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Caerus Oil and Gas LLC
Project: Puckett 216-25
Work Order: 15101063**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>
15101063-01	216-25 EAST	Soil		10/15/2015 13:48	10/16/2015 10:15	☐
15101063-02	216-25 WEST	Soil		10/15/2015 14:07	10/16/2015 10:15	☐

Client: Caerus Oil and Gas LLC
Project: Puckett 216-25
Work Order: 15101063

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: 23-Oct-15

Client: Caerus Oil and Gas LLC
Project: Puckett 216-25
Sample ID: 216-25 EAST
Collection Date: 10/15/2015 01:48 PM

Work Order: 15101063
Lab ID: 15101063-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3541 / 10/21/15	Analyst: IT
DRO (C10-C28)	250		25	mg/Kg-dry	5	10/22/2015 06:26 AM
<i>Surr: 4-Terphenyl-d14</i>	72.9		39-133	%REC	5	10/22/2015 06:26 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 / 10/16/15	Analyst: IT
GRO (C6-C10)	42		3.0	mg/Kg-dry	1	10/17/2015 03:18 AM
<i>Surr: Toluene-d8</i>	92.8		50-150	%REC	1	10/17/2015 03:18 AM
MERCURY BY CVAA						
			SW7471B		Prep: SW7471 / 10/21/15	Analyst: LR
Mercury	0.026		0.017	mg/Kg-dry	1	10/21/2015 11:59 PM
METALS ANALYSIS BY ICP						
			SW846 6010C		Prep: SW3050B / 10/19/15	Analyst: JEC
Arsenic	18		0.41	mg/Kg-dry	1	10/20/2015 12:07 PM
Barium	310		0.41	mg/Kg-dry	1	10/20/2015 12:07 PM
Cadmium	ND		0.82	mg/Kg-dry	1	10/20/2015 12:07 PM
Chromium	36		0.41	mg/Kg-dry	1	10/20/2015 12:07 PM
Copper	22		0.82	mg/Kg-dry	1	10/20/2015 12:07 PM
Lead	15		0.41	mg/Kg-dry	1	10/20/2015 12:07 PM
Nickel	34		0.41	mg/Kg-dry	1	10/20/2015 12:07 PM
Selenium	ND		0.82	mg/Kg-dry	1	10/22/2015 11:01 AM
Silver	ND		0.41	mg/Kg-dry	1	10/20/2015 12:07 PM
Zinc	72		0.82	mg/Kg-dry	1	10/20/2015 12:07 PM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 10/21/15	Analyst: JEC
Calcium	140		5.0	mg/L	10	10/21/2015 12:37 PM
Magnesium	20		2.0	mg/L	10	10/21/2015 12:37 PM
Sodium	110		2.0	mg/L	10	10/21/2015 12:37 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 10/21/15	Analyst: JEC
Sodium Adsorption Ratio	2.2		0.010	none	1	10/21/2015
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3541 / 10/21/15	Analyst: RS
Acenaphthene	ND		0.0079	mg/Kg-dry	1	10/22/2015 07:56 AM
Anthracene	ND		0.0079	mg/Kg-dry	1	10/22/2015 07:56 AM
Benzo(a)anthracene	ND		0.0079	mg/Kg-dry	1	10/22/2015 07:56 AM
Benzo(a)pyrene	ND		0.0079	mg/Kg-dry	1	10/22/2015 07:56 AM
Benzo(b)fluoranthene	ND		0.0079	mg/Kg-dry	1	10/22/2015 07:56 AM
Benzo(k)fluoranthene	ND		0.0079	mg/Kg-dry	1	10/22/2015 07:56 AM
Chrysene	ND		0.0079	mg/Kg-dry	1	10/22/2015 07:56 AM
Dibenzo(a,h)anthracene	ND		0.0079	mg/Kg-dry	1	10/22/2015 07:56 AM
Fluoranthene	ND		0.0079	mg/Kg-dry	1	10/22/2015 07:56 AM

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

ALS Group USA, Corp

Date: 23-Oct-15

Client: Caerus Oil and Gas LLC
Project: Puckett 216-25
Sample ID: 216-25 EAST
Collection Date: 10/15/2015 01:48 PM

Work Order: 15101063
Lab ID: 15101063-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.0079	mg/Kg-dry	1	10/22/2015 07:56 AM
Indeno(1,2,3-cd)pyrene	ND		0.0079	mg/Kg-dry	1	10/22/2015 07:56 AM
Naphthalene	ND		0.0079	mg/Kg-dry	1	10/22/2015 07:56 AM
Pyrene	ND		0.0079	mg/Kg-dry	1	10/22/2015 07:56 AM
Surr: 2-Fluorobiphenyl	72.8		12-100	%REC	1	10/22/2015 07:56 AM
Surr: 4-Terphenyl-d14	86.8		25-137	%REC	1	10/22/2015 07:56 AM
Surr: Nitrobenzene-d5	43.2		37-107	%REC	1	10/22/2015 07:56 AM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 10/16/15		Analyst: AK
Benzene	ND		0.036	mg/Kg-dry	1	10/23/2015 07:40 AM
Ethylbenzene	ND		0.036	mg/Kg-dry	1	10/23/2015 07:40 AM
m,p-Xylene	ND		0.073	mg/Kg-dry	1	10/23/2015 07:40 AM
o-Xylene	ND		0.036	mg/Kg-dry	1	10/23/2015 07:40 AM
Toluene	ND		0.036	mg/Kg-dry	1	10/23/2015 07:40 AM
Xylenes, Total	ND		0.11	mg/Kg-dry	1	10/23/2015 07:40 AM
Surr: 1,2-Dichloroethane-d4	76.5		70-130	%REC	1	10/23/2015 07:40 AM
Surr: 4-Bromofluorobenzene	93.4		70-130	%REC	1	10/23/2015 07:40 AM
Surr: Dibromofluoromethane	85.2		70-130	%REC	1	10/23/2015 07:40 AM
Surr: Toluene-d8	75.3		70-130	%REC	1	10/23/2015 07:40 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 10/21/15		Analyst: JB
Electrical Conductivity @ Saturation	1.3		0.050	mmhos/cm @2	10	10/21/2015 03:30 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: JJG
Chromium, Trivalent	36		0.61	mg/Kg-dry	1	10/21/2015 04:36 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 10/18/15		Analyst: MB
Chromium, Hexavalent	ND		1.2	mg/Kg-dry	1	10/19/2015 04:00 PM
MOISTURE			E160.3M			Analyst: TM
Moisture	18		0.050	% of sample	1	10/21/2015 02:52 PM
PH			SW9045D	Prep: EXTRACT / 10/19/15		Analyst: STP
pH	8.0			s.u.	1	10/19/2015 04:15 PM

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

ALS Group USA, Corp

Date: 23-Oct-15

Client: Caerus Oil and Gas LLC
Project: Puckett 216-25
Sample ID: 216-25 WEST
Collection Date: 10/15/2015 02:07 PM

Work Order: 15101063
Lab ID: 15101063-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3541 / 10/21/15	Analyst: IT
DRO (C10-C28)	180		5.0	mg/Kg-dry	1	10/22/2015 06:56 AM
<i>Surr: 4-Terphenyl-d14</i>	<i>67.9</i>		<i>39-133</i>	<i>%REC</i>	<i>1</i>	10/22/2015 06:56 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 / 10/16/15	Analyst: IT
GRO (C6-C10)	67		3.0	mg/Kg-dry	1	10/17/2015 03:43 AM
<i>Surr: Toluene-d8</i>	<i>89.9</i>		<i>50-150</i>	<i>%REC</i>	<i>1</i>	10/17/2015 03:43 AM
MERCURY BY CVAA						
			SW7471B		Prep: SW7471 / 10/22/15	Analyst: LR
Mercury	0.019		0.018	mg/Kg-dry	1	10/22/2015 05:41 PM
METALS ANALYSIS BY ICP						
			SW846 6010C		Prep: SW3050B / 10/19/15	Analyst: JEC
Arsenic	11		0.45	mg/Kg-dry	1	10/20/2015 12:12 PM
Barium	310		0.45	mg/Kg-dry	1	10/20/2015 12:12 PM
Cadmium	ND		0.91	mg/Kg-dry	1	10/20/2015 12:12 PM
Chromium	35		0.45	mg/Kg-dry	1	10/20/2015 12:12 PM
Copper	20		0.91	mg/Kg-dry	1	10/20/2015 12:12 PM
Lead	13		0.45	mg/Kg-dry	1	10/20/2015 12:12 PM
Nickel	33		0.45	mg/Kg-dry	1	10/20/2015 12:12 PM
Selenium	ND		0.91	mg/Kg-dry	1	10/20/2015 12:12 PM
Silver	ND		0.45	mg/Kg-dry	1	10/20/2015 12:12 PM
Zinc	73		0.91	mg/Kg-dry	1	10/20/2015 12:12 PM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 10/21/15	Analyst: JEC
Calcium	140		5.0	mg/L	10	10/21/2015 12:43 PM
Magnesium	20		2.0	mg/L	10	10/21/2015 12:43 PM
Sodium	84		2.0	mg/L	10	10/21/2015 12:43 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 10/21/15	Analyst: JEC
Sodium Adsorption Ratio	1.8		0.010	none	1	10/21/2015
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3541 / 10/21/15	Analyst: RS
Acenaphthene	ND		0.0079	mg/Kg-dry	1	10/22/2015 08:22 AM
Anthracene	ND		0.0079	mg/Kg-dry	1	10/22/2015 08:22 AM
Benzo(a)anthracene	ND		0.0079	mg/Kg-dry	1	10/22/2015 08:22 AM
Benzo(a)pyrene	ND		0.0079	mg/Kg-dry	1	10/22/2015 08:22 AM
Benzo(b)fluoranthene	ND		0.0079	mg/Kg-dry	1	10/22/2015 08:22 AM
Benzo(k)fluoranthene	ND		0.0079	mg/Kg-dry	1	10/22/2015 08:22 AM
Chrysene	ND		0.0079	mg/Kg-dry	1	10/22/2015 08:22 AM
Dibenzo(a,h)anthracene	ND		0.0079	mg/Kg-dry	1	10/22/2015 08:22 AM
Fluoranthene	ND		0.0079	mg/Kg-dry	1	10/22/2015 08:22 AM

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

ALS Group USA, Corp

Date: 23-Oct-15

Client: Caerus Oil and Gas LLC
Project: Puckett 216-25
Sample ID: 216-25 WEST
Collection Date: 10/15/2015 02:07 PM

Work Order: 15101063
Lab ID: 15101063-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	0.012		0.0079	mg/Kg-dry	1	10/22/2015 08:22 AM
Indeno(1,2,3-cd)pyrene	ND		0.0079	mg/Kg-dry	1	10/22/2015 08:22 AM
Naphthalene	ND		0.0079	mg/Kg-dry	1	10/22/2015 08:22 AM
Pyrene	ND		0.0079	mg/Kg-dry	1	10/22/2015 08:22 AM
Surr: 2-Fluorobiphenyl	49.4		12-100	%REC	1	10/22/2015 08:22 AM
Surr: 4-Terphenyl-d14	60.3		25-137	%REC	1	10/22/2015 08:22 AM
Surr: Nitrobenzene-d5	38.2		37-107	%REC	1	10/22/2015 08:22 AM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 10/16/15		Analyst: AK
Benzene	ND		0.036	mg/Kg-dry	1	10/23/2015 01:35 AM
Ethylbenzene	ND		0.036	mg/Kg-dry	1	10/23/2015 01:35 AM
m,p-Xylene	ND		0.072	mg/Kg-dry	1	10/23/2015 01:35 AM
o-Xylene	ND		0.036	mg/Kg-dry	1	10/23/2015 01:35 AM
Toluene	ND		0.036	mg/Kg-dry	1	10/23/2015 01:35 AM
Xylenes, Total	ND		0.11	mg/Kg-dry	1	10/23/2015 01:35 AM
Surr: 1,2-Dichloroethane-d4	89.6		70-130	%REC	1	10/23/2015 01:35 AM
Surr: 4-Bromofluorobenzene	104		70-130	%REC	1	10/23/2015 01:35 AM
Surr: Dibromofluoromethane	84.6		70-130	%REC	1	10/23/2015 01:35 AM
Surr: Toluene-d8	87.3		70-130	%REC	1	10/23/2015 01:35 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 10/21/15		Analyst: JB
Electrical Conductivity @ Saturation	1.2		0.050	mmhos/cm @2	10	10/21/2015 03:30 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: JJG
Chromium, Trivalent	35		0.60	mg/Kg-dry	1	10/21/2015 04:36 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 10/18/15		Analyst: MB
Chromium, Hexavalent	ND		1.2	mg/Kg-dry	1	10/19/2015 04:00 PM
MOISTURE			E160.3M			Analyst: TM
Moisture	17		0.050	% of sample	1	10/21/2015 02:52 PM
PH			SW9045D	Prep: EXTRACT / 10/19/15		Analyst: STP
pH	7.7			s.u.	1	10/19/2015 04:15 PM

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

<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
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
Work Order: 15101063
Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **77779** Instrument ID **GC8** Method: **SW8015M**

MBLK		Sample ID: DBLKS1-77779-77779				Units: mg/Kg		Analysis Date: 10/21/2015 10:28 PM		
Client ID:		Run ID: GC8_151021A				SeqNo: 3522640		Prep Date: 10/21/2015		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>	1.642	0	2	0	82.1	39-133	0			

LCS		Sample ID: DLCSS1-77779-77779				Units: mg/Kg		Analysis Date: 10/21/2015 10:58 PM		
Client ID:		Run ID: GC8_151021A				SeqNo: 3522641		Prep Date: 10/21/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	163.2	5.0	200	0	81.6	61-109	0			
<i>Surr: 4-Terphenyl-d14</i>	1.504	0	2	0	75.2	39-133	0			

MS		Sample ID: 15101134-04A MS				Units: mg/Kg		Analysis Date: 10/21/2015 11:28 PM		
Client ID:		Run ID: GC8_151021A				SeqNo: 3522643		Prep Date: 10/21/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	108.7	4.1	162.4	0	66.9	48-110	0			
<i>Surr: 4-Terphenyl-d14</i>	1.024	0	1.624	0	63.1	39-133	0			

MSD		Sample ID: 15101134-04A MSD				Units: mg/Kg		Analysis Date: 10/21/2015 11:58 PM		
Client ID:		Run ID: GC8_151021A				SeqNo: 3522645		Prep Date: 10/21/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	138.5	4.1	163.2	0	84.9	48-110	108.7	24.2	30	
<i>Surr: 4-Terphenyl-d14</i>	1.115	0	1.632	0	68.3	39-133	1.024	8.49	30	

The following samples were analyzed in this batch:

15101063-01A	15101063-02A
--------------	--------------

Client: Caerus Oil and Gas LLC
Work Order: 15101063
Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **77583** Instrument ID **GC9** Method: **SW8015D**

MBLK		Sample ID: MBLK-77583-77583				Units: µg/Kg		Analysis Date: 10/16/2015 11:58 PM		
Client ID:		Run ID: GC9_151016A				SeqNo: 3516099		Prep Date: 10/16/2015		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	5527	0	5000	0	111	50-150	0			

LCS		Sample ID: LCS-77583-77583				Units: µg/Kg		Analysis Date: 10/16/2015 10:44 PM		
Client ID:		Run ID: GC9_151016A				SeqNo: 3516098		Prep Date: 10/16/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	435300	2,500	500000	0	87.1	70-130	0			
Surr: Toluene-d8	5372	0	5000	0	107	50-150	0			

MS		Sample ID: 15101009-01A MS				Units: µg/Kg		Analysis Date: 10/17/2015 09:46 A		
Client ID:		Run ID: GC9_151016A				SeqNo: 3516122		Prep Date: 10/16/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	519100	2,500	500000	0	104	70-130	0			
Surr: Toluene-d8	5276	0	5000	0	106	50-150	0			

MSD		Sample ID: 15101009-01A MSD				Units: µg/Kg		Analysis Date: 10/17/2015 10:11 A		
Client ID:		Run ID: GC9_151016A				SeqNo: 3516123		Prep Date: 10/16/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	509300	2,500	500000	0	102	70-130	519100	1.9	30	
Surr: Toluene-d8	5366	0	5000	0	107	50-150	5276	1.68	30	

The following samples were analyzed in this batch:

15101063-01A	15101063-02A
--------------	--------------

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

Client: Caerus Oil and Gas LLC
Work Order: 15101063
Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **77773** Instrument ID **HG1** Method: **SW7471B**

MBLK		Sample ID: MBLK-77773-77773				Units: mg/Kg		Analysis Date: 10/21/2015 04:42 PM		
Client ID:		Run ID: HG1_151021A				SeqNo: 3522160		Prep Date: 10/21/2015		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-77773-77773				Units: mg/Kg		Analysis Date: 10/21/2015 04:44 PM		
Client ID:		Run ID: HG1_151021A				SeqNo: 3522161		Prep Date: 10/21/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1867 0.020 0.1665 0 112 80-120 0

MS		Sample ID: 15101057-05AMS				Units: mg/Kg		Analysis Date: 10/21/2015 04:49 PM		
Client ID:		Run ID: HG1_151021A				SeqNo: 3522163		Prep Date: 10/21/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1311 0.014 0.1185 0.001103 110 75-125 0

MSD		Sample ID: 15101057-05AMSD				Units: mg/Kg		Analysis Date: 10/21/2015 04:51 PM		
Client ID:		Run ID: HG1_151021A				SeqNo: 3522164		Prep Date: 10/21/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1275 0.014 0.1174 0.001103 108 75-125 0.1311 2.77 35

The following samples were analyzed in this batch:

15101063-01A

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

Client: Caerus Oil and Gas LLC
Work Order: 15101063
Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **77774** Instrument ID **HG1** Method: **SW7471B**

MBLK		Sample ID: MBLK-77774-77774				Units: mg/Kg		Analysis Date: 10/22/2015 05:05 PM			
Client ID:		Run ID: HG1_151022A				SeqNo: 3524718		Prep Date: 10/22/2015		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-77774-77774				Units: mg/Kg			Analysis Date: 10/22/2015 05:07 PM			
Client ID:				Run ID: HG1_151022A				SeqNo: 3524721			Prep Date: 10/22/2015		DF: 1	
Analyte				Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury 0.1808 0.020 0.1665 0 109 80-120 0

MS		Sample ID: 15101139-01BMS					Units: mg/Kg		Analysis Date: 10/22/2015 05:12 PM		
Client ID:			Run ID: HG1_151022A			SeqNo: 3524726		Prep Date: 10/22/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury 0.1133 0.013 0.1048 0.004048 104 75-125 0

MSD				Sample ID: 15101139-01BMSD				Units: mg/Kg			Analysis Date: 10/22/2015 05:14 PM			
Client ID:				Run ID: HG1_151022A				SeqNo: 3524729			Prep Date: 10/22/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				

Mercury 0.11 0.012 0.1017 0.004048 104 75-125 0.1133 3 35

The following samples were analyzed in this batch:

15101063-02A

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

Client: Caerus Oil and Gas LLC
Work Order: 15101063
Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **77667** Instrument ID **ICP2** Method: **SW846 6010C**

MBLK Sample ID: MBLK-77667-77667				Units: mg/Kg		Analysis Date: 10/20/2015 11:45 A				
Client ID:		Run ID: ICP2_151020A		SeqNo: 3519679		Prep Date: 10/19/2015		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	0.009282	0.25								J
Copper	ND	0.50								
Lead	ND	0.25								
Nickel	ND	0.25								
Selenium	ND	0.50								
Silver	ND	0.25								
Zinc	ND	0.50								

LCS Sample ID: LCS-77667-77667				Units: mg/Kg		Analysis Date: 10/20/2015 11:50 A				
Client ID:		Run ID: ICP2_151020A		SeqNo: 3519680		Prep Date: 10/19/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	5.038	0.25	5	0	101	80-120	0			
Barium	5.205	0.25	5	0	104	80-120	0			
Cadmium	4.81	0.50	5	0	96.2	80-120	0			
Chromium	5.301	0.25	5	0	106	80-120	0			
Copper	5.47	0.50	5	0	109	80-120	0			
Lead	5.027	0.25	5	0	101	80-120	0			
Nickel	5.069	0.25	5	0	101	80-120	0			
Selenium	5.087	0.50	5	0	102	80-120	0			
Silver	4.896	0.25	5	0	97.9	80-120	0			
Zinc	5.533	0.50	5	0	111	80-120	0			

MS Sample ID: 15101122-05AMS				Units: mg/Kg		Analysis Date: 10/20/2015 01:24 PM				
Client ID:		Run ID: ICP2_151020A		SeqNo: 3519707		Prep Date: 10/19/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.95	0.36	7.257	4.427	104	75-125	0			
Barium	42.69	0.36	7.257	36.75	81.9	75-125	0			O
Cadmium	7.151	0.73	7.257	0.02866	98.1	75-125	0			
Chromium	19.56	0.36	7.257	11.15	116	75-125	0			
Copper	15.07	0.73	7.257	8.585	89.3	75-125	0			
Lead	12.57	0.36	7.257	6.629	81.8	75-125	0			
Nickel	22.07	0.36	7.257	16.86	71.8	75-125	0			S
Selenium	7.88	0.73	7.257	0.4338	103	75-125	0			
Silver	7.296	0.36	7.257	0.04285	99.9	75-125	0			
Zinc	30.12	0.73	7.257	20.72	129	75-125	0			S

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

Client: Caerus Oil and Gas LLC
Work Order: 15101063
Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **77667**

Instrument ID **ICP2**

Method: **SW846 6010C**

MSD				Sample ID: 15101122-05AMSD			Units: mg/Kg		Analysis Date: 10/20/2015 01:29 PM		
Client ID:			Run ID: ICP2_151020A			SeqNo: 3519708		Prep Date: 10/19/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	11.54	0.36	7.215	4.427	98.5	75-125	11.95	3.55	20	SO	
Barium	39.69	0.36	7.215	36.75	40.8	75-125	42.69	7.28	20		
Cadmium	6.978	0.72	7.215	0.02866	96.3	75-125	7.151	2.45	20		
Chromium	18.78	0.36	7.215	11.15	106	75-125	19.56	4.07	20	S	
Copper	13.78	0.72	7.215	8.585	72.1	75-125	15.07	8.88	20		
Lead	12.35	0.36	7.215	6.629	79.3	75-125	12.57	1.72	20		
Nickel	21.72	0.36	7.215	16.86	67.3	75-125	22.07	1.63	20	S	
Selenium	7.787	0.72	7.215	0.4338	102	75-125	7.88	1.19	20		
Silver	7.095	0.36	7.215	0.04285	97.7	75-125	7.296	2.78	20		
Zinc	28.25	0.72	7.215	20.72	104	75-125	30.12	6.41	20		

The following samples were analyzed in this batch:

15101063-01A

15101063-02A

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

Client: Caerus Oil and Gas LLC
Work Order: 15101063
Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **77752** Instrument ID **ICP2** Method: **SW846 6010C**

DUP		Sample ID: 15101009-01CDUP				Units: mg/L		Analysis Date: 10/21/2015 12:26 PM		
Client ID:		Run ID: ICP2_151021A				SeqNo: 3521489		Prep Date: 10/21/2015		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	296.3	5.0	0	0	0	0-0	339.7	13.6		
Magnesium	145.9	2.0	0	0	0	0-0	165.7	12.7		
Sodium	2266	2.0	0	0	0	0-0	2461	8.26		

DUP		Sample ID: 15101009-01CDUP				Units: none		Analysis Date: 10/21/2015		
Client ID:		Run ID: SAR_151021A				SeqNo: 3521640		Prep Date: 10/21/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	26.93	0.010	0	0	0		27.37	1.64	50	

The following samples were analyzed in this batch:

15101063-01A	15101063-02A
--------------	--------------

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

Client: Caerus Oil and Gas LLC
Work Order: 15101063
Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **77778** Instrument ID **SVMS5** Method: **SW846 8270D**

MBLK				Sample ID: SBLKS1-77778-77778				Units: µg/Kg			Analysis Date: 10/21/2015 07:06 PM		
Client ID:			Run ID: SVMS5_151021A			SeqNo: 3523944		Prep Date: 10/21/2015		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	1198	0	1667	0	71.9	12-100	0						
Surr: 4-Terphenyl-d14	1617	0	1667	0	97	25-137	0						
Surr: Nitrobenzene-d5	1202	0	1667	0	72.1	37-107	0						

LCS		Sample ID: SLCSS1-77778-77778				Units: µg/Kg		Analysis Date: 10/21/2015 07:29 PM		
Client ID:		Run ID: SVMS5_151021A			SeqNo: 3523945		Prep Date: 10/21/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	563.7	6.7	666.7	0	84.5	45-110	0			
Anthracene	639.3	6.7	666.7	0	95.9	55-105	0			
Benzo(a)anthracene	669	6.7	666.7	0	100	50-110	0			
Benzo(a)pyrene	655	6.7	666.7	0	98.2	50-110	0			
Benzo(b)fluoranthene	664.3	6.7	666.7	0	99.6	45-115	0			
Benzo(k)fluoranthene	672.3	6.7	666.7	0	101	45-115	0			
Chrysene	667.3	6.7	666.7	0	100	55-110	0			
Dibenzo(a,h)anthracene	643	6.7	666.7	0	96.4	40-125	0			
Fluoranthene	662.3	6.7	666.7	0	99.3	55-115	0			
Fluorene	585.3	6.7	666.7	0	87.8	50-110	0			
Indeno(1,2,3-cd)pyrene	631.3	6.7	666.7	0	94.7	40-120	0			
Naphthalene	543	6.7	666.7	0	81.4	40-105	0			
Pyrene	675	6.7	666.7	0	101	45-125	0			
Surr: 2-Fluorobiphenyl	1397	0	1667	0	83.8	12-100	0			
Surr: 4-Terphenyl-d14	1643	0	1667	0	98.6	25-137	0			
Surr: Nitrobenzene-d5	1371	0	1667	0	82.3	37-107	0			

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

Client: Caerus Oil and Gas LLC
 Work Order: 15101063
 Project: Puckett 216-25

QC BATCH REPORT

Batch ID: 77778 Instrument ID SVMS5 Method: SW846 8270D

MS				Sample ID: 15101122-05A MS			Units: µg/Kg		Analysis Date: 10/21/2015 10:45 PM	
Client ID:		Run ID: SVMS5_151021A			SeqNo: 3523949		Prep Date: 10/21/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	554.7	6.6	658.4	0	84.2	45-110	0			
Anthracene	720.9	6.6	658.4	0	109	55-105	0			S
Benzo(a)anthracene	628.1	6.6	658.4	12.22	93.5	50-110	0			
Benzo(a)pyrene	622.2	6.6	658.4	6.605	93.5	50-110	0			
Benzo(b)fluoranthene	652.4	6.6	658.4	12.22	97.2	45-115	0			
Benzo(k)fluoranthene	646.5	6.6	658.4	5.944	97.3	45-115	0			
Chrysene	619.2	6.6	658.4	6.935	93	55-110	0			
Dibenzo(a,h)anthracene	616.2	6.6	658.4	0	93.6	40-125	0			
Fluoranthene	561.6	6.6	658.4	0	85.3	55-115	0			
Fluorene	611.3	6.6	658.4	0	92.8	50-110	0			
Indeno(1,2,3-cd)pyrene	601.1	6.6	658.4	7.926	90.1	40-120	0			
Naphthalene	515.5	6.6	658.4	0	78.3	40-105	0			
Pyrene	857.2	6.6	658.4	194.5	101	45-125	0			
Surr: 2-Fluorobiphenyl	1158	0	1646	0	70.4	12-100	0			
Surr: 4-Terphenyl-d14	1665	0	1646	0	101	25-137	0			
Surr: Nitrobenzene-d5	954.6	0	1646	0	58	37-107	0			

MSD				Sample ID: 15101122-05A MSD			Units: µg/Kg		Analysis Date: 10/21/2015 11:08 PM	
Client ID:		Run ID: SVMS5_151021A			SeqNo: 3523950		Prep Date: 10/21/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	553.2	6.5	648.2	0	85.3	45-110	554.7	0.264	30	
Anthracene	660.5	6.5	648.2	0	102	55-105	720.9	8.75	30	
Benzo(a)anthracene	591.5	6.5	648.2	12.22	89.4	50-110	628.1	6.01	30	
Benzo(a)pyrene	597.3	6.5	648.2	6.605	91.1	50-110	622.2	4.08	30	
Benzo(b)fluoranthene	620.6	6.5	648.2	12.22	93.9	45-115	652.4	5	30	
Benzo(k)fluoranthene	595.7	6.5	648.2	5.944	91	45-115	646.5	8.19	30	
Chrysene	580.1	6.5	648.2	6.935	88.4	55-110	619.2	6.52	30	
Dibenzo(a,h)anthracene	574.9	6.5	648.2	0	88.7	40-125	616.2	6.94	30	
Fluoranthene	545.1	6.5	648.2	0	84.1	55-115	561.6	2.98	30	
Fluorene	621.6	6.5	648.2	0	95.9	50-110	611.3	1.67	30	
Indeno(1,2,3-cd)pyrene	573.6	6.5	648.2	7.926	87.3	40-120	601.1	4.68	30	
Naphthalene	450.2	6.5	648.2	0	69.4	40-105	515.5	13.5	30	
Pyrene	792.7	6.5	648.2	194.5	92.3	45-125	857.2	7.82	30	
Surr: 2-Fluorobiphenyl	1137	0	1620	0	70.2	12-100	1158	1.82	40	
Surr: 4-Terphenyl-d14	1536	0	1620	0	94.8	25-137	1665	8.01	40	
Surr: Nitrobenzene-d5	841.3	0	1620	0	51.9	37-107	954.6	12.6	40	

The following samples were analyzed in this batch:

15101063-01A	15101063-02A
--------------	--------------

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

Client: Caerus Oil and Gas LLC
Work Order: 15101063
Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **77584** Instrument ID **VMS5** Method: **SW8260B**

MBLK Sample ID: MBLK-77584-77584				Units: µg/Kg			Analysis Date: 10/16/2015 12:45 PM			
Client ID:		Run ID: VMS5_151016A		SeqNo: 3515386		Prep Date: 10/16/2015		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	946	0	1000	0	94.6	70-130	0			
Surr: 4-Bromofluorobenzene	992	0	1000	0	99.2	70-130	0			
Surr: Dibromofluoromethane	927	0	1000	0	92.7	70-130	0			
Surr: Toluene-d8	970.5	0	1000	0	97	70-130	0			

LCS Sample ID: LCS-77584-77584				Units: µg/Kg			Analysis Date: 10/16/2015 11:28 A			
Client ID:		Run ID: VMS5_151016A		SeqNo: 3515385		Prep Date: 10/16/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	977.5	30	1000	0	97.8	75-125	0			
Ethylbenzene	995.5	30	1000	0	99.6	75-125	0			
m,p-Xylene	2082	60	2000	0	104	80-125	0			
o-Xylene	982	30	1000	0	98.2	75-125	0			
Toluene	967	30	1000	0	96.7	70-125	0			
Xylenes, Total	3064	90	3000	0	102	75-125	0			
Surr: 1,2-Dichloroethane-d4	939	0	1000	0	93.9	70-130	0			
Surr: 4-Bromofluorobenzene	1022	0	1000	0	102	70-130	0			
Surr: Dibromofluoromethane	978	0	1000	0	97.8	70-130	0			
Surr: Toluene-d8	965.5	0	1000	0	96.6	70-130	0			

MS Sample ID: 15101063-02A MS				Units: µg/Kg			Analysis Date: 10/23/2015 08:29 A			
Client ID: 216-25 WEST		Run ID: VMS8_151022B		SeqNo: 3526293		Prep Date: 10/16/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	920.5	30	1000	0	92	75-125	0			
Ethylbenzene	927	30	1000	0	92.7	75-125	0			
m,p-Xylene	1859	60	2000	46.5	90.6	80-125	0			
o-Xylene	923.5	30	1000	0	92.4	75-125	0			
Toluene	870.5	30	1000	0	87	70-125	0			
Xylenes, Total	2782	90	3000	46	91.2	75-125	0			
Surr: 1,2-Dichloroethane-d4	781.5	0	1000	0	78.2	70-130	0			
Surr: 4-Bromofluorobenzene	1060	0	1000	0	106	70-130	0			
Surr: Dibromofluoromethane	850.5	0	1000	0	85	70-130	0			
Surr: Toluene-d8	902.5	0	1000	0	90.2	70-130	0			

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

Client: Caerus Oil and Gas LLC
Work Order: 15101063
Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **77584** Instrument ID **VMS5** Method: **SW8260B**

MSD					Sample ID: 15101063-02A MSD			Units: µg/Kg		Analysis Date: 10/23/2015 08:53 A	
Client ID: 216-25 WEST				Run ID: VMS8_151022B			SeqNo: 3526294		Prep Date: 10/16/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	936	30	1000	0	93.6	75-125	920.5	1.67	30		
Ethylbenzene	936	30	1000	0	93.6	75-125	927	0.966	30		
m,p-Xylene	1964	60	2000	46.5	95.8	80-125	1859	5.47	30		
o-Xylene	951.5	30	1000	0	95.2	75-125	923.5	2.99	30		
Toluene	959.5	30	1000	0	96	70-125	870.5	9.73	30		
Xylenes, Total	2915	90	3000	46	95.6	75-125	2782	4.65	30		
Surr: 1,2-Dichloroethane-d4	747.5	0	1000	0	74.8	70-130	781.5	4.45	30		
Surr: 4-Bromofluorobenzene	1056	0	1000	0	106	70-130	1060	0.331	30		
Surr: Dibromofluoromethane	834	0	1000	0	83.4	70-130	850.5	1.96	30		
Surr: Toluene-d8	958	0	1000	0	95.8	70-130	902.5	5.97	30		

The following samples were analyzed in this batch:

15101063-01A

15101063-02A

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

Client: Caerus Oil and Gas LLC
Work Order: 15101063
Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **77682** Instrument ID **WETCHEM** Method: **SW9045D**

LCS				Sample ID: LCS-77682-77682				Units: s.u.			Analysis Date: 10/19/2015 04:15 PM			
Client ID:				Run ID: WETCHEM_151019I				SeqNo: 3517550			Prep Date: 10/19/2015		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: 15101044-02A DUP				Units: s.u.			Analysis Date: 10/19/2015 04:15 PM		
Client ID:				Run ID: WETCHEM_151019I				SeqNo: 3517552		Prep Date: 10/19/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
pH	7.89	0	0	0	0	0-0	7.81	1.02	20				

DUP				Sample ID: 15101138-03A DUP				Units: s.u.			Analysis Date: 10/19/2015 04:15 PM		
Client ID:				Run ID: WETCHEM_151019I				SeqNo: 3517562		Prep Date: 10/19/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
pH	8.24	0	0	0	0	0-0	8.24	0	20				

The following samples were analyzed in this batch:

15101063-01A	15101063-02A
--------------	--------------

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

Client: Caerus Oil and Gas LLC
Work Order: 15101063
Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **77704** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK		Sample ID: MBLK-77704-77704				Units: mg/Kg		Analysis Date: 10/19/2015 04:00 PM		
Client ID:		Run ID: WETCHEM_151019K		SeqNo: 3517717		Prep Date: 10/18/2015		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-77704-77704				Units: mg/Kg		Analysis Date: 10/19/2015 04:00 PM		
Client ID:		Run ID: WETCHEM_151019K		SeqNo: 3517716		Prep Date: 10/18/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4.55 1.0 5 0 91 80-120 0

MS		Sample ID: 15101062-02A MS				Units: mg/Kg		Analysis Date: 10/19/2015 04:00 PM		
Client ID:		Run ID: WETCHEM_151019K		SeqNo: 3517705		Prep Date: 10/18/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 2.864 0.97 4.854 0.2255 54.4 75-125 0 S

MS		Sample ID: 15101062-02A MSI				Units: mg/Kg		Analysis Date: 10/19/2015 04:00 PM		
Client ID:		Run ID: WETCHEM_151019K		SeqNo: 3517707		Prep Date: 10/18/2015		DF: 100		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 2562 100 2623 0.2255 97.7 75-125 0

MSD		Sample ID: 15101062-02A MSD				Units: mg/Kg		Analysis Date: 10/19/2015 04:00 PM		
Client ID:		Run ID: WETCHEM_151019K		SeqNo: 3517706		Prep Date: 10/18/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 2.892 0.98 4.902 0.2255 54.4 75-125 2.864 0.976 20 S

The following samples were analyzed in this batch:

15101063-01A	15101063-02A
--------------	--------------

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

Client: Caerus Oil and Gas LLC
Work Order: 15101063
Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **77752** Instrument ID **WETCHEM** Method: **USDA H60 Metho**

DUP		Sample ID: 15101009-01C DUP				Units: mmhos/cm @25°		Analysis Date: 10/21/2015 03:30 PM		
Client ID:		Run ID: WETCHEM_151021V				SeqNo: 3521935		Prep Date: 10/21/2015		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	13.93	0.050	0	0	0		14.8	6.06	50	

The following samples were analyzed in this batch:

15101063-01A	15101063-02A
--------------	--------------

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

Client: Caerus Oil and Gas LLC
Work Order: 15101063
Project: Puckett 216-25

QC BATCH REPORT

Batch ID: **R174421** Instrument ID **MOIST** Method: **E160.3M**

MBLK		Sample ID: WBLKS-R174421				Units: % of sample		Analysis Date: 10/21/2015 02:52 PM		
Client ID:		Run ID: MOIST_151021B		SeqNo: 3523280		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-R174421				Units: % of sample		Analysis Date: 10/21/2015 02:52 PM		
Client ID:		Run ID: MOIST_151021B		SeqNo: 3523279		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: 15101057-01A DUP				Units: % of sample		Analysis Date: 10/21/2015 02:52 PM		
Client ID:		Run ID: MOIST_151021B		SeqNo: 3523247		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 6.16 0.050 0 0 0 6.02 2.3 20

DUP		Sample ID: 15101062-05A DUP				Units: % of sample		Analysis Date: 10/21/2015 02:52 PM		
Client ID:		Run ID: MOIST_151021B		SeqNo: 3523269		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 15.46 0.050 0 0 0 14.65 5.38 20

The following samples were analyzed in this batch:

15101063-01A	15101063-02A
--------------	--------------

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



15101063

Fall 2024

	SIGNATURE	PRINTED NAME	DATE	
RELINQUISHED BY	<i>Tyler Rust</i>	Tyler Rust	10/15/15	1525
RECEIVED BY	<i>[Signature]</i>	<i>[Signature]</i>	10-15-15	1525
RELINQUISHED BY	<i>[Signature]</i>	<i>[Signature]</i>	10-15-15	1540
RECEIVED BY	<i>[Signature]</i>	Diane F. Shea	10/16/15	1015
RELINQUISHED BY				
RECEIVED BY				

ORIGIN ID: RILA (816) 298-1033
 NICK MARTINEZ
 ALS ENVIRONMENTAL PARACHUTE
 PARACHUTE SERVICE CENTER
 127 EAST 1ST ST
 PARACHUTE, CO 81635
 UNITED STATES US

SHIP DATE: 15OCT15
 ACTWGT: 54.00 LB
 CAD: 228484041 NET 3870
 DIMS: 24x15x15 IN
 BILL SENDER

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

HOLLAND MI 49424

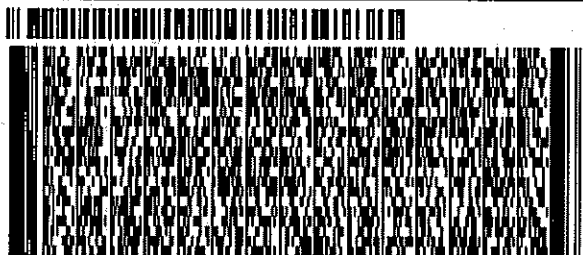
(816) 399-6070

REF: 101515-1

INV

PO: PARACHUTE

DEPT:



FedEx
Express



REL#
3785346

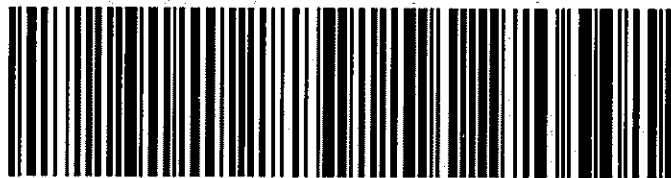
539.03401AG100

TRK#
0201 **7747 5305 6279**

FRI - 16 OCT 10:30A
PRIORITY OVERNIGHT

XX HLMA

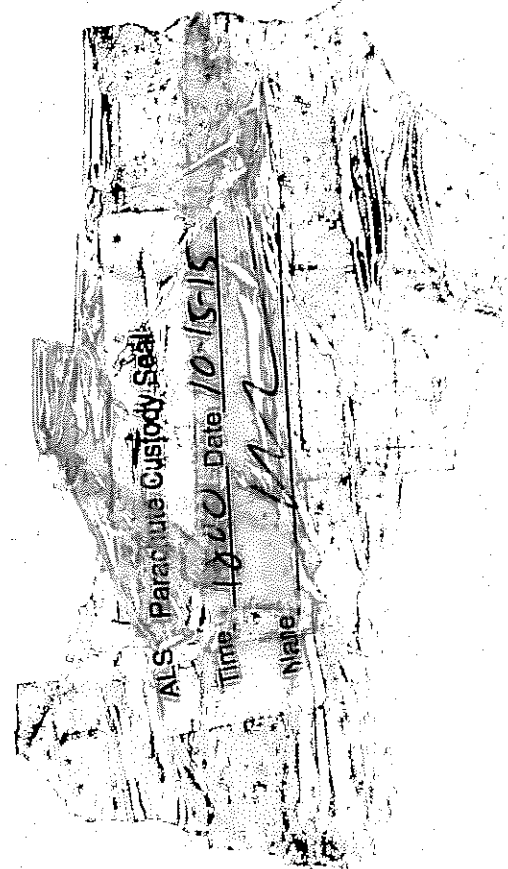
49424
MI-US GRR



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 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: 16-Oct-15 10:15

Work Order: 15101063

Received by: DS

Checklist completed by Diane Shaw 16-Oct-15
eSignature Date

Reviewed by: Lee Arnold 16-Oct-15
eSignature 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):	<u>3.2/3.2 c</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>10/16/2015 11:57:38 AM</u>		
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:	<u>-</u>		

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



01-Feb-2012

Herman Lucero
HRL Compliance Solutions
744 Horizon Ct. Suite 140
Grand Junction, CO 81506

Re: **PDC Mesa 16 Background 5/4/11**

Work Order: **1105150**

Dear Herman,

ALS Environmental received 5 samples on 06-May-2011 10:00 AM for the analyses presented in the following report.

This is a REVISED REPORT. The Case Narrative provides information discussing the reason for issuing a revised report. The total number of pages in this revision is 34.

If you have any questions regarding these test results, please feel free to contact me.

Sincerely,

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

Electronically approved by: Alex Csaszar

Ann Preston
Project Manager



ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP. Part of the ALS Group A Campbell Brothers Limited Company

Environmental The ALS logo, a stylized green triangle with a white flame inside.

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER



Client: HRL Compliance Solutions
Project: PDC Mesa 16 Background 5/4/11
Work Order: 1105150

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>
1105150-01	Drill Cuttings	Soil		5/4/2011 10:30	5/6/2011 10:00	☒
1105150-02	AS 1	Soil		5/4/2011 10:45	5/6/2011 10:00	☐
1105150-03	AS 2	Soil		5/4/2011 10:50	5/6/2011 10:00	☐
1105150-04	AS 3	Soil		5/6/2011 11:00	5/6/2011 10:00	☐
1105150-05	Background	Soil		5/4/2011 11:05	5/6/2011 10:00	☐

Client: HRL Compliance Solutions
Project: PDC Mesa 16 Background 5/4/11
Work Order: 1105150

Case Narrative

The Drill Cuttings data are not included in this revised report, per the client's request 1/11/12.

Batch 33205, Diesel Range Organics by GC-FID, Sample 1105150-01A: Surrogate recovery was above control limits due to matrix interference.

Batch 33203 MS/MSD data for Metals is not related to this project's samples.

Batch 33204 LCS/LCSD recoveries for a few Semi-volatile compounds were above control limits. All samples in this quality control batch were ND for these compounds. The MS/MSD data for Semi-Volatiles is not related to this project's samples.

Batch 33240 MS/MSD data for Hexavalent Chromium is not related to this project's samples.

A revised report was issued per client request to remove Drill Cuttings data.

Client: HRL Compliance Solutions
Project: PDC Mesa 16 Background 5/4/11
WorkOrder: 1105150

**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 detected below quantitation 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
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
SD	Serial Dilution
TDL	Target Detection Limit

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
mg/Kg-dry	Milligrams per Kilogram Dry Weight
s.u.	Standard Units



ALS Group USA, Corp

Date: 01-Feb-12

Client: HRL Compliance Solutions

Project: PDC Mesa 16 Background 5/4/11

Sample ID: AS 1

Collection Date: 5/4/2011 10:45 AM

Work Order: 1105150

Lab ID: 1105150-02

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS			SW6020A		Prep Date: 5/7/2011	Analyst: CES
Arsenic	23		0.94	mg/Kg-dry	2	5/10/2011 06:40 AM
MOISTURE			A2540 G			Analyst: JJG
Moisture	26		0.050	% of sample	1	5/6/2011 12:01 PM

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



Client:	HRL Compliance Solutions	Work Order:	1105150
Project:	PDC Mesa 16 Background 5/4/11	Lab ID:	1105150-03
Sample ID:	AS 2	Matrix:	SOIL
Collection Date:	5/4/2011 10:50 AM		

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS			SW6020A		Prep Date: 5/7/2011	Analyst: CES
Arsenic	28		1.1	mg/Kg-dry	2	5/10/2011 06:46 AM
MOISTURE			A2540 G			Analyst: JJG
Moisture	29		0.050	% of sample	1	5/6/2011 12:01 PM

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



ALS Group USA, Corp

Date: 01-Feb-12

Client: HRL Compliance Solutions

Project: PDC Mesa 16 Background 5/4/11

Sample ID: AS 3

Collection Date: 5/6/2011 11:00 AM

Work Order: 1105150

Lab ID: 1105150-04

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS			SW6020A		Prep Date: 5/7/2011	Analyst: CES
Arsenic	44		1.0	mg/Kg-dry	2	5/10/2011 06:52 AM
MOISTURE			A2540 G			Analyst: JJG
Moisture	25		0.050	% of sample	1	5/6/2011 12:01 PM

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

Client:	HRL Compliance Solutions	Work Order:	1105150
Project:	PDC Mesa 16 Background 5/4/11	Lab ID:	1105150-05
Sample ID:	Background	Matrix:	SOIL
Collection Date:	5/4/2011 11:05 AM		

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SUBCONTRACTED ANALYSES			SUBCONTRACT			Analyst: A&LGL
Subcontracted Analyses	Rcvd 5/11/11			attached	1	5/11/2011
MOISTURE			A2540 G			Analyst: JJG
Moisture	26		0.050	% of sample	1	5/6/2011 12:01 PM
PH			SW9045D			Analyst: JJG
pH	7.44			s.u.	1	5/6/2011 11:00 AM

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

Report Number: F11129-0258
Account Number: 91000

A & L GREAT LAKES LABORATORIES, INC.

3505 Conestoga Drive • Fort Wayne, Indiana 46808-4413 • Phone 260-483-4759 • Fax 260-483-5274
www.algreatlakes.com • lab@algreatlakes.com



REPORT PRINTED 2/1/2012

QUALITY ANALYSES FOR INFORMED DECISIONS

TO: ALS LABORATORY GROUP
3352 128TH AVE
HOLLAND, MI 49424-9263

RE: 1105150

DATE RECEIVED: 05/09/2011

DATE REPORTED: 02/01/2012

PAGE: 1

P.O. NUMBER: 20-122010075

ATTN: ANN PRESTON

REPORT OF ANALYSIS

LAB NO.	SAMPLE ID	ANALYSIS	RESULT	UNIT	METHOD
30107	05B	Sat'd Paste Extraction with DIW	1		USDA Handbook 60
		Conductivity (ECe)	0.21	mmho/cm	USDA Handbook 60
		Calcium (Sat'd Paste)	23	ppm	USDA Handbook 60
		Magnesium (Sat'd Paste)	8	ppm	USDA Handbook 60
		Sodium (Sat'd Paste)	16	ppm	USDA Handbook 60
		Sodium Adsorption Ratio (SAR)	0.7	-	USDA Handbook 60

ALS Group USA, Corp

Date: 01-Feb-12

Client: HRL Compliance Solutions
 Work Order: 1105150
 Project: PDC Mesa 16 Background 5/4/11

QC BATCH REPORT

Batch ID: 33205 Instrument ID GC8 Method: SW8015M

MBLK	Sample ID: DBLKS1-33205-33205				Units: mg/Kg		Analysis Date: 5/10/2011 09:15 PM			
Client ID:	Run ID: GC8_110510A				SeqNo: 1623019		Prep Date: 5/9/2011		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	ND	4.2								
Surr: 4-Terphenyl-d14	1.602	0	1.667	0	96.1	39-115	0			

LCS	Sample ID: DLCSS1-33205-33205					Units:mg/Kg		Analysis Date: 5/10/2011 07:37 PM		
Client ID:	Run ID: GC8_110510A				SeqNo:1623016		Prep Date: 5/9/2011		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	180.9	5.0	200	0	90.4	60-130	0			
Surr: 4-Terphenyl-d14	1.756	0	2	0	87.8	39-115	0			

LCSD	Sample ID: DLCSDS1-33205-33205					Units:mg/Kg		Analysis Date: 5/10/2011 08:02 PM		
Client ID:	Run ID: GC8_110510A				SeqNo:1623047		Prep Date: 5/9/2011		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
RO (C10-C28)	175.7	5.0	200	0	87.8	60-130	180.9	2.92	30	
Surr: 4-Terphenyl-d14	1.672	0	2	0	83.6	39-115	1.756	4.85	30	

MS	Sample ID: 1105174-04A MS				Units: mg/Kg		Analysis Date: 5/10/2011 03:57 PM			
Client ID:	Run ID: GC8_110510A				SeqNo: 1623008		Prep Date: 5/9/2011		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	299.6	8.2	328	8.159	88.9	60-130	0			
Surr: 4-Terphenyl-d14	2.175	0	3.28	0	66.3	39-115	0			

MSD	Sample ID: 1105174-04A MSD				Units: mg/Kg		Analysis Date: 5/10/2011 04:21 PM			
Client ID:	Run ID: GC8_110510A				SeqNo: 1623039		Prep Date: 5/9/2011		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	313.1	7.9	317.1	8.159	96.1	60-130	299.6	4.39	30	
Surr: 4-Terphenyl-d14	1.937	0	3.171	0	61.1	39-115	2.175	11.6	30	

The following samples were analyzed in this batch:

1105150-01A

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

Client: HRL Compliance Solutions
 Work Order: 1105150
 Project: PDC Mesa 16 Background 5/4/11

QC BATCH REPORT

Batch ID: R89951 Instrument ID GC9 Method: SW8015

MBLK	Sample ID: MBLK-R89951-R89951					Units: µg/L		Analysis Date: 5/10/2011 12:38 PM		
Client ID:	Run ID: GC9_110510B					SeqNo: 1622997		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	ND	200								
Surr: Toluene-d8	94.8	0	100	0	94.8	70-130	0			

LCS	Sample ID: LCS-R89951-R89951					Units: µg/L		Analysis Date: 5/10/2011 11:15 AM		
Client ID:	Run ID: GC9_110510B				SeqNo: 1622995		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	27010	200	25000	0	108	70-130	0			
Surr: Toluene-d8	104.5	0	100	0	105	70-130	0			

LCSD	Sample ID: LCSD-R89951-R89951					Units: µg/L		Analysis Date: 5/10/2011 11:41 AM		
Client ID:	Run ID: GC9_110510B				SeqNo: 1622996		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	28380	200	25000	0	114	70-130	27010	4.93	30	
 Surr: Toluene-d8	103.7	0	100	0	104	70-130	104.5	0.816	30	

MS	Sample ID: 1105136-03A MS				Units: µg/Kg		Analysis Date: 5/10/2011 09:44 PM			
Client ID:	Run ID: GC9_110510B				SeqNo: 1622987		Prep Date:		DF: 100	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	2573000	5,000	2500000	0	103	70-130	0			
Surr: Toluene-d8	9665	0	10000	0	96.6	50-150	0			

MS	Sample ID: 1105174-04B MS				Units: µg/Kg		Analysis Date: 5/10/2011 10:10 PM			
Client ID:	Run ID: GC9_110510B				SeqNo: 1622988		Prep Date:		DF: 118	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	2956000	5,900	2950000	0	100	70-130	0			
Surr: Toluene-d8	11290	0	11800	0	95.7	50-150	0			

MSD	Sample ID: 1105136-03A MSD					Units: µg/Kg		Analysis Date: 5/10/2011 10:36 PM		
Client ID:	Run ID: GC9_110510B				SeqNo: 1622989		Prep Date:		DF: 100	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	2406000	5,000	2500000	0	96.3	70-130	2573000	6.68	30	
Surr: Toluene-d8	9269	0	10000	0	92.7	50-150	9665	4.18	30	

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

Client: HRL Compliance Solutions
Work Order: 1105150
Project: PDC Mesa 16 Background 5/4/11

QC BATCH REPORT

Batch ID: **R89951** Instrument ID **GC9** Method: **SW8015**

MSD	Sample ID: 1105174-04B MSD				Units: µg/Kg		Analysis Date: 5/10/2011 11:01 PM			
Client ID:	Run ID: GC9_110510B				SeqNo: 1622990		Prep Date:		DF: 118	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	2744000	5,900	2950000	0	93	70-130	2956000	7.46	30	
Surr: Toluene-d8	11240	0	11800	0	95.2	50-150	11290	0.45	30	

The following samples were analyzed in this batch:

1105150-01B

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

Client: HRL Compliance Solutions
 Work Order: 1105150
 Project: PDC Mesa 16 Background 5/4/11

QC BATCH REPORT

Batch ID: 33259 Instrument ID HG1 Method: SW7471

MBLK	Sample ID: MBLK-33259-33259					Units:mg/Kg		Analysis Date: 5/12/2011 12:36 PM		
Client ID:	Run ID: HG1_110512A				SeqNo:1623668		Prep Date: 5/12/2011		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-33259-33259					Units:mg/Kg		Analysis Date: 5/12/2011 12:38 PM		
Client ID:	Run ID: HG1_110512A				SeqNo:1623669		Prep Date: 5/12/2011		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1652	0.020	0.1665	0	99.2	80-120	0			

LCSD	Sample ID: LCSD-33259-33259					Units:mg/Kg		Analysis Date: 5/12/2011 12:40 PM		
Client ID:	Run ID: HG1_110512A				SeqNo:1623670		Prep Date: 5/12/2011		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1705	0.020	0.1665	0	102	80-120	0.1652	3.13	20	

MS	Sample ID: 1105208-03BMS				Units: mg/Kg		Analysis Date: 5/12/2011 01:14 PM			
Client ID:	Run ID: HG1_110512A				SeqNo: 1623685		Prep Date: 5/12/2011		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1671	0.018	0.1516	0.006278	106	75-125	0			

MSD	Sample ID: 1105208-03BMSD					Units:mg/Kg		Analysis Date: 5/12/2011 01:16 PM		
	Client ID:	Run ID: HG1_110512A			SeqNo:1623686		Prep Date: 5/12/2011		DF: 1	
	Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit
Mercury	0.1695	0.019	0.1611	0.006278	101	75-125	0.1671	1.41	35	

The following samples were analyzed in this batch:

1105150-01A

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

Client: HRL Compliance Solutions
 Work Order: 1105150
 Project: PDC Mesa 16 Background 5/4/11

QC BATCH REPORT

Batch ID: 33203 Instrument ID ICPMS1 Method: SW6020A

MBLK	Sample ID: MBLK-33203-33203				Units: mg/Kg		Analysis Date: 5/10/2011 04:12 AM			
Client ID:	Run ID: ICPMS1_110509A				SeqNo: 1621165		Prep Date: 5/7/2011		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	0.10								
Chromium	ND	0.25								
Copper	ND	0.25								
Nickel	ND	0.25								
Selenium	ND	0.25								
Silver	ND	0.25								
Zinc	ND	0.50								

MBLK	Sample ID: MBLK-33203-33203					Units:mg/Kg		Analysis Date: 5/10/2011 01:17 PM		
Client ID:	Run ID: ICPMS1_110509A				SeqNo: 1621829		Prep Date: 5/7/2011		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	ND	0.25								

CS	Sample ID: LCS-33203-33203					Units:mg/Kg		Analysis Date: 5/10/2011 04:18 AM		
Client ID:	Run ID: ICPMS1_110509A				SeqNo: 1621167		Prep Date: 5/7/2011		DF: 2	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	5.132	0.50	5	0	103	80-120	0			
Barium	4.909	0.50	5	0	98.2	80-120	0			
Cadmium	4.589	0.20	5	0	91.8	80-120	0			
Chromium	5.625	0.50	5	0	112	80-120	0			
Copper	5.414	0.50	5	0	108	80-120	0			
Nickel	5.598	0.50	5	0	112	80-120	0			
Selenium	4.753	0.50	5	0	95.1	80-120	0			
Silver	4.485	0.50	5	0	89.7	80-120	0			
Zinc	5.422	1.0	5	0	108	80-120	0			

LCS	Sample ID: LCS-33203-33203				Units:mg/Kg		Analysis Date: 5/10/2011 01:47 PM			
Client ID:	Run ID: ICPMS1_110509A				SeqNo: 1621832		Prep Date: 5/7/2011		DF: 2	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	4.871	0.50	5	0	97.4	80-120	0			

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

Client: HRL Compliance Solutions
 Work Order: 1105150
 Project: PDC Mesa 16 Background 5/4/11

QC BATCH REPORT

Batch ID: 33203 Instrument ID ICPMS1 Method: SW6020A

LCSD		Sample ID: LCSD-33203-33203				Units: mg/Kg		Analysis Date: 5/10/2011 04:24 AM		
Client ID:		Run ID: ICPMS1_110509A				SeqNo: 1621169		Prep Date: 5/7/2011		DF: 2
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.943	0.50	5	0	98.9	80-120	5.132	3.75	20	
Barium	4.747	0.50	5	0	94.9	80-120	4.909	3.36	20	
Cadmium	4.422	0.20	5	0	88.4	80-120	4.589	3.71	20	
Chromium	5.33	0.50	5	0	107	80-120	5.625	5.39	20	
Copper	5.166	0.50	5	0	103	80-120	5.414	4.69	20	
Nickel	5.33	0.50	5	0	107	80-120	5.598	4.9	20	
Selenium	4.559	0.50	5	0	91.2	80-120	4.753	4.17	20	
Silver	4.271	0.50	5	0	85.4	80-120	4.485	4.89	20	
Zinc	5.176	1.0	5	0	104	80-120	5.422	4.64	20	

LCSD		Sample ID: LCSD-33203-33203				Units: mg/Kg		Analysis Date: 5/10/2011 01:53 PM		
Client ID:		Run ID: ICPMS1_110509A				SeqNo: 1621833		Prep Date: 5/7/2011		DF: 2
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	4.738	0.50	5	0	94.8	80-120	4.871	2.77	20	

MS		Sample ID: 1105171-04BMS				Units: mg/Kg		Analysis Date: 5/10/2011 10:13 AM		
Client ID:		Run ID: ICPMS1_110509A				SeqNo: 1621291		Prep Date: 5/7/2011		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.409	0.41	8.157	1.531	84.3	80-120	0			
Barium	51.66	0.41	8.157	40.99	131	80-120	0			SO
Cadmium	7.184	0.16	8.157	0.03361	87.7	80-120	0			
Lead	13.59	0.41	8.157	4.057	117	80-120	0			
Selenium	6.488	0.41	8.157	0.2389	76.6	80-120	0			S
Silver	7.121	0.41	8.157	0.002449	87.3	80-120	0			
Zinc	18.16	0.82	8.157	11.3	84.1	80-120	0			

MS		Sample ID: 1105171-04BMS				Units: mg/Kg		Analysis Date: 5/10/2011 06:20 PM		
Client ID:		Run ID: ICPMS1_110509A				SeqNo: 1622158		Prep Date: 5/7/2011		DF: 2
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	9.561	0.82	8.157	1.912	93.8	80-120	0			

MS		Sample ID: 1105171-04BMS				Units: mg/Kg		Analysis Date: 5/11/2011 11:00 AM		
Client ID:		Run ID: ICPMS2_110511A				SeqNo: 1622606		Prep Date: 5/7/2011		DF: 2
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium	12.8	0.82	8.157	4.15	106	80-120	0			

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

Client: HRL Compliance Solutions
 Work Order: 1105150
 Project: PDC Mesa 16 Background 5/4/11

QC BATCH REPORT

Batch ID: 33203 Instrument ID ICPMS1 Method: SW6020A

MSD	Sample ID: 1105171-04BMSD					Units:mg/Kg		Analysis Date: 5/10/2011 10:19 AM		
Client ID:	Run ID: ICPMS1_110509A				SeqNo: 1621292		Prep Date: 5/7/2011		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.626	0.41	8.278	1.531	85.7	80-120	8.409	2.54	25	
Barium	49.83	0.41	8.278	40.99	107	80-120	51.66	3.61	25	O
Cadmium	7.455	0.17	8.278	0.03361	89.7	80-120	7.184	3.7	25	
Lead	13.82	0.41	8.278	4.057	118	80-120	13.59	1.72	25	
Selenium	6.759	0.41	8.278	0.2389	78.8	80-120	6.488	4.1	25	S
Silver	7.342	0.41	8.278	0.002449	88.7	80-120	7.121	3.06	25	
Zinc	20.02	0.83	8.278	11.3	105	80-120	18.16	9.74	25	

MSD	Sample ID: 1105171-04BMSD					Units:mg/Kg		Analysis Date: 5/10/2011 06:26 PM		
Client ID:	Run ID: ICPMS1_110509A				SeqNo:1622159		Prep Date: 5/7/2011		DF: 2	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	9.882	0.83	8.278	1.912	96.3	80-120	9.561	3.3	25	

MSD	Sample ID: 1105171-04BMSD					Units: mg/Kg		Analysis Date: 5/11/2011 11:05 AM			
Client ID:	Run ID: ICPMS2_110511A					SeqNo: 1622607		Prep Date: 5/7/2011		DF: 2	
					SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Analyte	Result	PQL	SPK Val								
Chromium	13.09	0.83	8.278		4.15	108	80-120	12.8	2.29	25	

The following samples were analyzed in this batch:

1105150-01A	1105150-02A	1105150-03A
1105150-04A		

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

Client: HRL Compliance Solutions
 Work Order: 1105150
 Project: PDC Mesa 16 Background 5/4/11

QC BATCH REPORT

Batch ID: 33204 Instrument ID SVMS5 Method: SW8270

MBLK Sample ID: SBLKS1-33204-33204 Units: µg/Kg Analysis Date: 5/11/2011 09:02 AM

Client ID: Run ID: SVMS5_110510A SeqNo: 1622740 Prep Date: 5/9/2011 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	ND	160								
1,2-Dichlorobenzene	ND	160								
1,3-Dichlorobenzene	ND	160								
1,4-Dichlorobenzene	ND	160								
2,4,5-Trichlorophenol	ND	160								
2,4,6-Trichlorophenol	ND	160								
2,4-Dichlorophenol	ND	160								
2,4-Dimethylphenol	ND	330								
2,4-Dinitrophenol	ND	660								
2,4-Dinitrotoluene	ND	160								
2,6-Dinitrotoluene	ND	160								
2-Chloronaphthalene	ND	80								
2-Chlorophenol	ND	160								
2-Methylnaphthalene	ND	80								
2-Methylphenol	ND	160								
2-Nitroaniline	ND	660								
2-Nitrophenol	ND	160								
2,3'-Dichlorobenzidine	ND	660								
3-Nitroaniline	ND	660								
4,6-Dinitro-2-methylphenol	ND	330								
4-Bromophenyl phenyl ether	ND	160								
4-Chloro-3-methylphenol	ND	160								
4-Chloroaniline	ND	660								
4-Chlorophenyl phenyl ether	ND	160								
4-Methylphenol	ND	160								
4-Nitroaniline	ND	660								
4-Nitrophenol	ND	660								
Acenaphthene	ND	30								
Acenaphthylene	ND	30								
Anthracene	ND	30								
Benzo(a)anthracene	ND	30								
Benzo(a)pyrene	ND	30								
Benzo(b)fluoranthene	ND	30								
Benzo(g,h,i)perylene	ND	30								
Benzo(k)fluoranthene	ND	30								
Bis(2-chloroethoxy)methane	ND	160								
Bis(2-chloroethyl)ether	ND	160								
Bis(2-chloroisopropyl)ether	ND	160								
Bis(2-ethylhexyl)phthalate	ND	330								
Butyl benzyl phthalate	ND	160								
Carbazole	ND	160								
Chrysene	ND	30								

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

Client: HRL Compliance Solutions
 Work Order: 1105150
 Project: PDC Mesa 16 Background 5/4/11

QC BATCH REPORT

Batch ID: 33204	Instrument ID SVMS5	Method: SW8270						
Dibenzo(a,h)anthracene	ND	30						
Dibenzofuran	ND	160						
Diethyl phthalate	ND	330						
Dimethyl phthalate	ND	330						
Di-n-butyl phthalate	76.67	330						
Di-n-octyl phthalate	ND	160						
Famphur	ND	0						
Fluoranthene	ND	30						
Fluorene	ND	30						
Hexachlorobenzene	ND	160						
Hexachlorobutadiene	ND	160						
Hexachlorocyclopentadiene	ND	330						
Hexachloroethane	ND	160						
Indeno(1,2,3-cd)pyrene	ND	30						
Isophorone	ND	160						
Naphthalene	ND	30						
Nitrobenzene	ND	160						
N-Nitrosodi-n-propylamine	ND	160						
N-Nitrosodiphenylamine	ND	160						
Pentachlorophenol	ND	330						
Phenanthrene	ND	30						
Phenol	ND	160						
Pyrene	ND	30						
Pyridine	ND	160						
Surr: 2,4,6-Tribromophenol	1198	0	1667	0	71.9	34-140	0	
Surr: 2-Fluorobiphenyl	953	0	1667	0	57.2	12-100	0	
Surr: 2-Fluorophenol	1080	0	1667	0	64.8	33-117	0	
Surr: 4-Terphenyl-d14	1615	0	1667	0	96.9	25-137	0	
Surr: Nitrobenzene-d5	1009	0	1667	0	60.6	37-107	0	
Surr: Phenol-d6	1033	0	1667	0	62	40-106	0	

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

Client: HRL Compliance Solutions
 Work Order: 1105150
 Project: PDC Mesa 16 Background 5/4/11

QC BATCH REPORT

Batch ID: 33204 Instrument ID SVMS5 Method: SW8270

LCS		Sample ID: SLCSS1-33204-33204				Units: µg/Kg		Analysis Date: 5/11/2011 09:36 AM		
Client ID:		Run ID: SVMS5_110510A				SeqNo: 1622741		Prep Date: 5/9/2011		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	1021	160	1333	0	76.6	45-110	0			
1,2-Dichlorobenzene	993	160	1333	0	74.5	45-95	0			
1,3-Dichlorobenzene	960.7	160	1333	0	72.1	40-100	0			
1,4-Dichlorobenzene	978	160	1333	0	73.4	35-105	0			
2,4,5-Trichlorophenol	1066	160	1333	0	80	50-110	0			
2,4,6-Trichlorophenol	1022	160	1333	0	76.7	45-110	0			
2,4-Dichlorophenol	1030	160	1333	0	77.3	45-110	0			
2,4-Dimethylphenol	1065	330	1333	0	79.9	30-105	0			
2,4-Dinitrophenol	745	660	1333	0	55.9	15-130	0			
2,4-Dinitrotoluene	1073	160	1333	0	80.5	50-115	0			
2,6-Dinitrotoluene	1135	160	1333	0	85.1	50-110	0			
2-Chloronaphthalene	1045	80	1333	0	78.4	45-105	0			
2-Chlorophenol	976.7	160	1333	0	73.3	45-105	0			
2-Methylnaphthalene	1102	80	1333	0	82.7	45-105	0			
2-Methylphenol	1018	160	1333	0	76.3	40-105	0			
2-Nitroaniline	1348	660	1333	0	101	45-120	0			
2-Nitrophenol	1008	160	1333	0	75.6	40-110	0			
2-Nitroaniline	1197	660	1333	0	89.8	25-150	0			
4-Bromophenyl phenyl ether	1161	160	1333	0	87.1	45-115	0			
4-Chloro-3-methylphenol	1155	160	1333	0	86.6	45-115	0			
4-Chloroaniline	4827	660	1333	0	362	15-110	0			SE
4-Chlorophenyl phenyl ether	1031	160	1333	0	77.3	45-110	0			
4-Methylphenol	1058	160	1333	0	79.3	40-105	0			
4-Nitroaniline	952	660	1333	0	71.4	35-150	0			
4-Nitrophenol	1033	660	1333	0	77.5	15-140	0			
Acenaphthene	1040	30	1333	0	78	45-110	0			
Acenaphthylene	1110	30	1333	0	83.3	45-105	0			
Anthracene	1225	30	1333	0	91.9	55-105	0			
Benzo(a)anthracene	1094	30	1333	0	82.1	50-110	0			
Benzo(a)pyrene	1171	30	1333	0	87.9	50-110	0			
Benzo(b)fluoranthene	1115	30	1333	0	83.6	45-115	0			
Benzo(g,h,i)perylene	1082	30	1333	0	81.2	40-125	0			
Benzo(k)fluoranthene	1194	30	1333	0	89.6	45-115	0			
Bis(2-chloroethoxy)methane	1081	160	1333	0	81.1	45-110	0			
Bis(2-chloroethyl)ether	1010	160	1333	0	75.8	40-105	0			
Bis(2-chloroisopropyl)ether	1009	160	1333	0	75.7	20-115	0			
Bis(2-ethylhexyl)phthalate	1183	330	1333	0	88.7	45-125	0			
Butyl benzyl phthalate	1117	160	1333	0	83.8	50-125	0			
Carbazole	1909	160	1333	0	143	50-150	0			
Chrysene	1158	30	1333	0	86.9	55-110	0			
Dibenzo(a,h)anthracene	1152	30	1333	0	86.4	40-125	0			
Dibenzofuran	1128	160	1333	0	84.6	50-105	0			

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

Client: HRL Compliance Solutions
 Work Order: 1105150
 Project: PDC Mesa 16 Background 5/4/11

QC BATCH REPORT

Batch ID: 33204	Instrument ID SVMS5		Method: SW8270					
Diethyl phthalate	1194	330	1333	0	89.5	50-115	0	
Dimethyl phthalate	1143	330	1333	0	85.8	50-110	0	
Di-n-butyl phthalate	1105	330	1333	0	82.9	55-110	0	
Di-n-octyl phthalate	1169	160	1333	0	87.7	40-130	0	
Fluoranthene	1342	30	1333	0	101	55-115	0	
Fluorene	1127	30	1333	0	84.6	50-110	0	
Hexachlorobenzene	1162	160	1333	0	87.2	45-120	0	
Hexachlorobutadiene	1034	160	1333	0	77.5	40-115	0	
Hexachlorocyclopentadiene	812	330	1333	0	60.9	40-115	0	
Hexachloroethane	983	160	1333	0	73.7	35-110	0	
Indeno(1,2,3-cd)pyrene	1120	30	1333	0	84	40-120	0	
Isophorone	1096	160	1333	0	82.2	45-110	0	
Naphthalene	1035	30	1333	0	77.7	40-105	0	
Nitrobenzene	1063	160	1333	0	79.7	40-115	0	
N-Nitrosodi-n-propylamine	1079	160	1333	0	80.9	40-115	0	
N-Nitrosodiphenylamine	1665	160	1333	0	125	50-115	0	S
Pentachlorophenol	933.7	330	1333	0	70	25-120	0	
Phenanthrene	1199	30	1333	0	90	50-110	0	
Phenol	1040	160	1333	0	78	40-100	0	
Pyrene	1123	30	1333	0	84.2	45-125	0	
Surr: 2,4,6-Tribromophenol	1488	0	1667	0	89.3	34-140	0	
Surr: 2-Fluorobiphenyl	1260	0	1667	0	75.6	12-100	0	
Surr: 2-Fluorophenol	1255	0	1667	0	75.3	33-117	0	
Surr: 4-Terphenyl-d14	1649	0	1667	0	99	25-137	0	
Surr: Nitrobenzene-d5	1315	0	1667	0	78.9	37-107	0	
Surr: Phenol-d6	1284	0	1667	0	77	40-106	0	

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

Client: HRL Compliance Solutions
 Work Order: 1105150
 Project: PDC Mesa 16 Background 5/4/11

QC BATCH REPORT

Batch ID: 33204 Instrument ID SVMS5 Method: SW8270

LCSD Sample ID: SLCSDS1-33204-33204				Units: µg/Kg			Analysis Date: 5/11/2011 10:10 AM			
Client ID:		Run ID: SVMS5_110510A			SeqNo: 1622742		Prep Date: 5/9/2011		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	1090	160	1333	0	81.7	45-110	1021	6.54	25	
1,2-Dichlorobenzene	1061	160	1333	0	79.6	45-95	993	6.65	25	
1,3-Dichlorobenzene	1039	160	1333	0	78	40-100	960.7	7.87	25	
1,4-Dichlorobenzene	1059	160	1333	0	79.4	35-105	978	7.95	25	
2,4,5-Trichlorophenol	1180	160	1333	0	88.5	50-110	1066	10.1	25	
2,4,6-Trichlorophenol	1108	160	1333	0	83.1	45-110	1022	8.04	25	
2,4-Dichlorophenol	1110	160	1333	0	83.2	45-110	1030	7.45	25	
2,4-Dimethylphenol	1026	330	1333	0	77	30-105	1065	3.67	25	
2,4-Dinitrophenol	1090	660	1333	0	81.7	15-130	745	37.6	25	R
2,4-Dinitrotoluene	1111	160	1333	0	83.4	50-115	1073	3.48	25	
2,6-Dinitrotoluene	1175	160	1333	0	88.2	50-110	1135	3.52	25	
2-Chloronaphthalene	1115	80	1333	0	83.6	45-105	1045	6.42	25	
2-Chlorophenol	1050	160	1333	0	78.8	45-105	976.7	7.24	25	
2-Methylnaphthalene	1168	80	1333	0	87.6	45-105	1102	5.79	25	
2-Methylphenol	1092	160	1333	0	81.9	40-105	1018	7.08	25	
2-Nitroaniline	1293	660	1333	0	97	45-120	1348	4.11	25	
2-Nitrophenol	1119	160	1333	0	83.9	40-110	1008	10.4	25	
3-Nitroaniline	1233	660	1333	0	92.5	25-110	1197	2.94	25	
4-Bromophenyl phenyl ether	1158	160	1333	0	86.9	45-115	1161	0.23	25	
4-Chloro-3-methylphenol	1209	160	1333	0	90.7	45-115	1155	4.57	25	
4-Chloroaniline	5039	660	1333	0	378	15-110	4827	4.3	25	SE
4-Chlorophenyl phenyl ether	1058	160	1333	0	79.4	45-110	1031	2.65	25	
4-Methylphenol	1127	160	1333	0	84.6	40-105	1058	6.38	25	
4-Nitroaniline	1004	660	1333	0	75.3	35-150	952	5.35	25	
4-Nitrophenol	1144	660	1333	0	85.8	15-140	1033	10.3	25	
Acenaphthene	1106	30	1333	0	83	45-110	1040	6.18	25	
Acenaphthylene	1171	30	1333	0	87.9	45-105	1110	5.35	25	
Anthracene	1243	30	1333	0	93.2	55-105	1225	1.46	25	
Benzo(a)anthracene	1135	30	1333	0	85.2	50-110	1094	3.68	25	
Benzo(a)pyrene	1206	30	1333	0	90.4	50-110	1171	2.89	25	
Benzo(b)fluoranthene	1158	30	1333	0	86.9	45-115	1115	3.81	25	
Benzo(g,h,i)perylene	1134	30	1333	0	85.1	40-125	1082	4.69	25	
Benzo(k)fluoranthene	1390	30	1333	0	104	45-115	1194	15.2	25	
Bis(2-chloroethoxy)methane	1169	160	1333	0	87.7	45-110	1081	7.88	25	
Bis(2-chloroethyl)ether	1102	160	1333	0	82.6	40-105	1010	8.65	25	
Bis(2-chloroisopropyl)ether	1068	160	1333	0	80.1	20-115	1009	5.68	25	
Bis(2-ethylhexyl)phthalate	1213	330	1333	0	91	45-125	1183	2.53	25	
Butyl benzyl phthalate	1162	160	1333	0	87.2	50-125	1117	3.95	25	
Carbazole	1921	160	1333	0	144	50-150	1909	0.609	25	
Chrysene	1182	30	1333	0	88.7	55-110	1158	2.08	25	
Dibenzo(a,h)anthracene	1212	30	1333	0	90.9	40-125	1152	5.08	25	
Dibenzofuran	1168	160	1333	0	87.6	50-105	1128	3.48	25	

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

Client: HRL Compliance Solutions
 Work Order: 1105150
 Project: PDC Mesa 16 Background 5/4/11

QC BATCH REPORT

Batch ID: 33204		Instrument ID SVMS5		Method: SW8270						
Diethyl phthalate	1224	330	1333	0	91.8	50-115	1194	2.54	25	
Dimethyl phthalate	1172	330	1333	0	87.9	50-110	1143	2.45	25	
Di-n-butyl phthalate	1125	330	1333	0	84.4	55-110	1105	1.76	25	
Di-n-octyl phthalate	1195	160	1333	0	89.6	40-130	1169	2.23	25	
Fluoranthene	1400	30	1333	0	105	55-115	1342	4.26	25	
Fluorene	1160	30	1333	0	87	50-110	1127	2.86	25	
Hexachlorobenzene	1186	160	1333	0	89	45-120	1162	2.04	25	
Hexachlorobutadiene	1095	160	1333	0	82.1	40-115	1034	5.73	25	
Hexachlorocyclopentadiene	932.3	330	1333	0	69.9	40-115	812	13.8	25	
Hexachloroethane	1062	160	1333	0	79.6	35-110	983	7.69	25	
Indeno(1,2,3-cd)pyrene	1175	30	1333	0	88.1	40-120	1120	4.79	25	
Isophorone	1169	160	1333	0	87.7	45-110	1096	6.45	25	
Naphthalene	1114	30	1333	0	83.6	40-105	1035	7.35	25	
Nitrobenzene	1128	160	1333	0	84.6	40-115	1063	5.96	25	
N-Nitrosodi-n-propylamine	1149	160	1333	0	86.2	40-115	1079	6.31	25	
N-Nitrosodiphenylamine	1697	160	1333	0	127	50-115	1665	1.94	25	S
Pentachlorophenol	1092	330	1333	0	81.9	25-120	933.7	15.6	25	
Phenanthrene	1220	30	1333	0	91.5	50-110	1199	1.71	25	
Phenol	1132	160	1333	0	84.9	40-100	1040	8.44	25	
Pyrene	1179	30	1333	0	88.5	45-125	1123	4.92	25	
Surr: 2,4,6-Tribromophenol	1509	0	1667	0	90.6	34-140	1488	1.42	40	
Surr: 2-Fluorobiphenyl	1376	0	1667	0	82.6	12-100	1260	8.83	40	
Surr: 2-Fluorophenol	1331	0	1667	0	79.8	33-117	1255	5.85	40	
Surr: 4-Terphenyl-d14	1723	0	1667	0	103	25-137	1649	4.35	40	
Surr: Nitrobenzene-d5	1442	0	1667	0	86.5	37-107	1315	9.21	40	
Surr: Phenol-d6	1361	0	1667	0	81.7	40-106	1284	5.82	40	

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

Client: HRL Compliance Solutions
 Work Order: 1105150
 Project: PDC Mesa 16 Background 5/4/11

QC BATCH REPORT

Batch ID: 33204 Instrument ID SVMS5 Method: SW8270

MS	Sample ID: 1105174-04A MS				Units: µg/Kg		Analysis Date: 5/11/2011 10:45 AM			
Client ID:	Run ID: SVMS5_110510A				SeqNo: 1622743		Prep Date: 5/9/2011		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	1534	320	2632	0	58.3	45-110	0			
1,2-Dichlorobenzene	1422	320	2632	0	54	45-95	0			
1,3-Dichlorobenzene	1321	320	2632	0	50.2	40-100	0			
1,4-Dichlorobenzene	1329	320	2632	0	50.5	35-105	0			
2,4,5-Trichlorophenol	2204	320	2632	0	83.7	50-110	0			
2,4,6-Trichlorophenol	2183	320	2632	0	82.9	45-110	0			
2,4-Dichlorophenol	2010	320	2632	0	76.4	45-110	0			
2,4-Dimethylphenol	1683	650	2632	0	64	30-105	0			
2,4-Dinitrophenol	625.9	1,300	2632	0	23.8	15-130	0			J
2,4-Dinitrotoluene	2061	320	2632	0	78.3	50-115	0			
2,6-Dinitrotoluene	2154	320	2632	0	81.8	50-110	0			
2-Chloronaphthalene	1817	160	2632	0	69	45-105	0			
2-Chlorophenol	1637	320	2632	0	62.2	45-105	0			
2-Methylnaphthalene	1809	160	2632	9.926	68.3	45-105	0			
2-Methylphenol	1777	320	2632	0	67.5	40-105	0			
2-Nitroaniline	2436	1,300	2632	0	92.5	45-120	0			
2-Nitrophenol	1768	320	2632	0	67.2	40-110	0			
2-Nitroaniline	2351	1,300	2632	0	89.3	25-110	0			
4-Bromophenyl phenyl ether	1906	320	2632	0	72.4	45-115	0			
4-Chloro-3-methylphenol	2288	320	2632	0	86.9	45-115	0			
4-Chloroaniline	6998	1,300	2632	0	266	15-110	0			SE
4-Chlorophenyl phenyl ether	1770	320	2632	0	67.2	45-110	0			
4-Methylphenol	1901	320	2632	0	72.2	40-105	0			
4-Nitroaniline	1619	1,300	2632	0	61.5	35-150	0			
4-Nitrophenol	2178	1,300	2632	0	82.7	15-140	0			
Acenaphthene	1949	59	2632	31.43	72.9	45-110	0			
Acenaphthylene	2013	59	2632	16.54	75.8	45-105	0			
Anthracene	2359	59	2632	100.3	85.8	55-105	0			
Benzo(a)anthracene	3552	59	2632	666.4	110	50-110	0			
Benzo(a)pyrene	3721	59	2632	654.5	116	50-110	0			S
Benzo(b)fluoranthene	3741	59	2632	759.4	113	45-115	0			
Benzo(g,h,i)perylene	2599	59	2632	307.7	87	40-125	0			
Benzo(k)fluoranthene	5017	59	2632	882.1	157	45-115	0			SE
Bis(2-chloroethoxy)methane	1906	320	2632	0	72.4	45-110	0			
Bis(2-chloroethyl)ether	1587	320	2632	0	60.3	40-105	0			
Bis(2-chloroisopropyl)ether	1568	320	2632	0	59.6	20-115	0			
Bis(2-ethylhexyl)phthalate	1915	650	2632	35.4	71.4	45-125	0			
Butyl benzyl phthalate	1747	320	2632	0	66.4	50-125	0			
Carbazole	4235	320	2632	0	161	50-150	0			SE
Chrysene	3682	59	2632	770.9	111	55-110	0			S
Dibenzo(a,h)anthracene	2195	59	2632	116.1	79	40-125	0			
Dibenzofuran	2051	320	2632	14.89	77.3	50-105	0			

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

Client: HRL Compliance Solutions
 Work Order: 1105150
 Project: PDC Mesa 16 Background 5/4/11

QC BATCH REPORT

Batch ID: 33204	Instrument ID SVMS5		Method: SW8270					
Diethyl phthalate	2124	650	2632	0	80.7	50-115	0	
Dimethyl phthalate	2268	650	2632	212.4	78.1	50-110	0	
Di-n-butyl phthalate	1830	650	2632	75.77	66.6	55-110	0	
Di-n-octyl phthalate	2114	320	2632	63.2	77.9	40-130	0	
Fluoranthene	8671	59	2632	2204	246	55-115	0	SE
Fluorene	2105	59	2632	45.66	78.2	50-110	0	
Hexachlorobenzene	1997	320	2632	0	75.9	45-120	0	
Hexachlorobutadiene	1443	320	2632	0	54.8	40-115	0	
Hexachlorocyclopentadiene	485	650	2632	0	18.4	40-115	0	JS
Hexachloroethane	1213	320	2632	0	46.1	35-110	0	
Indeno(1,2,3-cd)pyrene	2644	59	2632	274.6	90	40-120	0	
Isophorone	1953	320	2632	0	74.2	45-110	0	
Naphthalene	1629	59	2632	8.603	61.6	40-105	0	
Nitrobenzene	1744	320	2632	0	66.3	40-115	0	
N-Nitrosodi-n-propylamine	1874	320	2632	0	71.2	40-115	0	
N-Nitrosodiphenylamine	2458	320	2632	0	93.4	50-115	0	
Pentachlorophenol	1934	650	2632	0	73.5	25-120	0	
Phenanthrene	4681	59	2632	837.4	146	50-110	0	SE
Phenol	1797	320	2632	0	68.3	40-100	0	
Pyrene	5847	59	2632	1471	166	45-125	0	SE
Surr: 2,4,6-Tribromophenol	2791	0	3291	0	84.8	34-140	0	
Surr: 2-Fluorobiphenyl	1997	0	3291	0	60.7	12-100	0	
Surr: 2-Fluorophenol	2156	0	3291	0	65.5	33-117	0	
Surr: 4-Terphenyl-d14	2081	0	3291	0	63.2	25-137	0	
Surr: Nitrobenzene-d5	2319	0	3291	0	70.5	37-107	0	
Surr: Phenol-d6	2328	0	3291	0	70.7	40-106	0	

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

Client: HRL Compliance Solutions
 Work Order: 1105150
 Project: PDC Mesa 16 Background 5/4/11

QC BATCH REPORT

Batch ID: 33204 Instrument ID SVMS5 Method: SW8270

MSD		Sample ID: 1105174-04A MSD				Units: µg/Kg		Analysis Date: 5/11/2011 11:19 AM		
Client ID:		Run ID: SVMS5_110510A				SeqNo: 1622744		Prep Date: 5/9/2011		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	1663	310	2567	0	64.8	45-110	1534	8.07	30	
1,2-Dichlorobenzene	1516	310	2567	0	59	45-95	1422	6.35	30	
1,3-Dichlorobenzene	1376	310	2567	0	53.6	40-100	1321	4.06	30	
1,4-Dichlorobenzene	1443	310	2567	0	56.2	35-105	1329	8.19	30	
2,4,5-Trichlorophenol	2258	310	2567	0	88	50-110	2204	2.43	30	
2,4,6-Trichlorophenol	2214	310	2567	0	86.2	45-110	2183	1.41	30	
2,4-Dichlorophenol	2090	310	2567	0	81.4	45-110	2010	3.91	30	
2,4-Dimethylphenol	1814	640	2567	0	70.7	30-105	1683	7.46	30	
2,4-Dinitrophenol	415.9	1,300	2567	0	16.2	15-130	625.9	0	30	J
2,4-Dinitrotoluene	2067	310	2567	0	80.5	50-115	2061	0.275	30	
2,6-Dinitrotoluene	2180	310	2567	0	84.9	50-110	2154	1.22	30	
2-Chloronaphthalene	1955	150	2567	0	76.1	45-105	1817	7.29	30	
2-Chlorophenol	1684	310	2567	0	65.6	45-105	1637	2.83	30	
2-Methylnaphthalene	1988	150	2567	9.926	77	45-105	1809	9.42	30	
2-Methylphenol	1903	310	2567	0	74.1	40-105	1777	6.83	30	
2-Nitroaniline	2476	1,300	2567	0	96.5	45-120	2436	1.66	30	
2-Nitrophenol	1801	310	2567	0	70.2	40-110	1768	1.84	30	
3-Nitroaniline	2447	1,300	2567	0	95.3	25-110	2351	3.98	30	
4-Bromophenyl phenyl ether	2128	310	2567	0	82.9	45-115	1906	11	30	
4-Chloro-3-methylphenol	2366	310	2567	0	92.2	45-115	2288	3.34	30	
4-Chloroaniline	7413	1,300	2567	0	289	15-110	6998	5.76	30	SE
4-Chlorophenyl phenyl ether	1930	310	2567	0	75.2	45-110	1770	8.64	30	
4-Methylphenol	2048	310	2567	0	79.8	40-105	1901	7.45	30	
4-Nitroaniline	1667	1,300	2567	0	64.9	35-150	1619	2.92	30	
4-Nitrophenol	2259	1,300	2567	0	88	15-140	2178	3.69	30	
Acenaphthene	2073	58	2567	31.43	79.5	45-110	1949	6.16	30	
Acenaphthylene	2190	58	2567	16.54	84.7	45-105	2013	8.45	30	
Anthracene	2399	58	2567	100.3	89.5	55-105	2359	1.71	30	
Benzo(a)anthracene	3363	58	2567	666.4	105	50-110	3552	5.48	30	
Benzo(a)pyrene	3566	58	2567	654.5	113	50-110	3721	4.26	30	S
Benzo(b)fluoranthene	3690	58	2567	759.4	114	45-115	3741	1.36	30	
Benzo(g,h,i)perylene	2051	58	2567	307.7	67.9	40-125	2599	23.5	30	
Benzo(k)fluoranthene	4774	58	2567	882.1	152	45-115	5017	4.95	30	SE
Bis(2-chloroethoxy)methane	1976	310	2567	0	77	45-110	1906	3.63	30	
Bis(2-chloroethyl)ether	1575	310	2567	0	61.4	40-105	1587	0.769	30	
Bis(2-chloroisopropyl)ether	1668	310	2567	0	65	20-115	1568	6.14	30	
Bis(2-ethylhexyl)phthalate	2036	640	2567	35.4	77.9	45-125	1915	6.12	30	
Butyl benzyl phthalate	1873	310	2567	0	73	50-125	1747	6.98	30	
Carbazole	4375	310	2567	0	170	50-150	4235	3.26	30	SE
Chrysene	3614	58	2567	770.9	111	55-110	3682	1.85	30	S
Dibenzo(a,h)anthracene	1939	58	2567	116.1	71	40-125	2195	12.4	30	
Dibenzofuran	2172	310	2567	14.89	84	50-105	2051	5.72	30	

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

Client: HRL Compliance Solutions
 Work Order: 1105150
 Project: PDC Mesa 16 Background 5/4/11

QC BATCH REPORT

Batch ID: 33204	Instrument ID SVMS5		Method: SW8270						
Diethyl phthalate	2237	640	2567	0	87.1	50-115	2124	5.16	30
Dimethyl phthalate	2212	640	2567	212.4	77.9	50-110	2268	2.5	30
Di-n-butyl phthalate	1935	640	2567	75.77	72.4	55-110	1830	5.62	30
Di-n-octyl phthalate	2388	310	2567	63.2	90.5	40-130	2114	12.2	30
Fluoranthene	7003	58	2567	2204	187	55-115	8671	21.3	30 SE
Fluorene	2203	58	2567	45.66	84	50-110	2105	4.53	30
Hexachlorobenzene	2159	310	2567	0	84.1	45-120	1997	7.8	30
Hexachlorobutadiene	1578	310	2567	0	61.5	40-115	1443	8.95	30
Hexachlorocyclopentadiene	341.5	640	2567	0	13.3	40-115	485	0	30 JS
Hexachloroethane	1145	310	2567	0	44.6	35-110	1213	5.75	30
Indeno(1,2,3-cd)pyrene	2213	58	2567	274.6	75.5	40-120	2644	17.7	30
Isophorone	2061	310	2567	0	80.3	45-110	1953	5.37	30
Naphthalene	1794	58	2567	8.603	69.5	40-105	1629	9.62	30
Nitrobenzene	1842	310	2567	0	71.7	40-115	1744	5.44	30
N-Nitrosodi-n-propylamine	1974	310	2567	0	76.9	40-115	1874	5.2	30
N-Nitrosodiphenylamine	2284	310	2567	0	89	50-115	2458	7.35	30
Pentachlorophenol	2038	640	2567	0	79.4	25-120	1934	5.26	30
Phenanthrene	4218	58	2567	837.4	132	50-110	4681	10.4	30 SE
Phenol	1841	310	2567	0	71.7	40-100	1797	2.44	30
Pyrene	5017	58	2567	1471	138	45-125	5847	15.3	30 SE
Surr: 2,4,6-Tribromophenol	2815	0	3210	0	87.7	34-140	2791	0.866	40
Surr: 2-Fluorobiphenyl	2286	0	3210	0	71.2	12-100	1997	13.5	40
Surr: 2-Fluorophenol	2143	0	3210	0	66.8	33-117	2156	0.621	40
Surr: 4-Terphenyl-d14	2491	0	3210	0	77.6	25-137	2081	17.9	40
Surr: Nitrobenzene-d5	2337	0	3210	0	72.8	37-107	2319	0.77	40
Surr: Phenol-d6	2353	0	3210	0	73.3	40-106	2328	1.09	40

The following samples were analyzed in this batch: 1105150-01A

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

Client: HRL Compliance Solutions
 Work Order: 1105150
 Project: PDC Mesa 16 Background 5/4/11

QC BATCH REPORT

Batch ID: R89919 Instrument ID VMS5 Method: SW8260

MBLK	Sample ID: VBLKW2-110510-R89919					Units: µg/L		Analysis Date: 5/11/2011 12:16 PM		
Client ID:	Run ID: VMS5_110510B				SeqNo: 1622018		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	1.0								
Ethylbenzene	ND	1.0								
m,p-Xylene	ND	2.0								
o-Xylene	ND	1.0								
Toluene	ND	1.0								
Xylenes, Total	ND	2.0								

LCS	Sample ID: VLCSW2-110510-R89919					Units: µg/L		Analysis Date: 5/10/2011 10:59 PM		
Client ID:	Run ID: VMS5_110510B				SeqNo: 1622016		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	22.67	1.0	20	0	113	80-120	0			
Ethylbenzene	22.42	1.0	20	0	112	75-125	0			
m,p-Xylene	42.21	2.0	40	0	106	75-130	0			
o-Xylene	21.2	1.0	20	0	106	80-120	0			
Toluene	21.6	1.0	20	0	108	75-120	0			
Ylenes, Total	63.41	2.0	60	0	106	75-130	0			

LCSD	Sample ID: VLCSDW2-110510-R89919					Units: µg/L		Analysis Date: 5/10/2011 11:25 PM		
Client ID:	Run ID: VMS5_110510B				SeqNo: 1622017		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	21.8	1.0	20	0	109	80-120	22.67	3.91	30	
Ethylbenzene	21.34	1.0	20	0	107	75-125	22.42	4.94	30	
m,p-Xylene	40.57	2.0	40	0	101	75-130	42.21	3.96	30	
o-Xylene	20.4	1.0	20	0	102	80-120	21.2	3.85	30	
Toluene	20.82	1.0	20	0	104	75-120	21.6	3.68	30	
Xylenes, Total	60.97	2.0	60	0	102	75-130	63.41	3.92	30	

MS	Sample ID: 1105174-04B MS				Units: µg/Kg		Analysis Date: 5/11/2011 08:21 AM			
Client ID:	Run ID: VMS5_110510B				SeqNo: 1622623		Prep Date:		DF: 118	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	2674	120	2360	0	113	75-125	0			
Ethylbenzene	2434	240	2360	0	103	75-125	0			
m,p-Xylene	4506	240	4720	0	95.5	80-125	0			
o-Xylene	2283	120	2360	0	96.8	75-125	0			
Toluene	2491	180	2360	0	106	70-125	0			
Xylenes, Total	6790	350	7080	0	95.9	75-125	0			

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

Client: HRL Compliance Solutions
Work Order: 1105150
Project: PDC Mesa 16 Background 5/4/11

QC BATCH REPORT

Batch ID: R89919 Instrument ID VMS5 Method: SW8260

MSD	Sample ID: 1105174-04B MSD				Units: µg/Kg		Analysis Date: 5/11/2011 08:47 AM			
Client ID:	Run ID: VMS5_110510B				SeqNo: 1622624		Prep Date:		DF: 118	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	2657	120	2360	0	113	75-125	2674	0.62	30	
Ethylbenzene	2447	240	2360	0	104	75-125	2434	0.532	30	
m,p-Xylene	4515	240	4720	0	95.6	80-125	4506	0.183	30	
o-Xylene	2259	120	2360	0	95.7	75-125	2283	1.09	30	
Toluene	2493	180	2360	0	106	70-125	2491	0.0947	30	
Xylenes, Total	6773	350	7080	0	95.7	75-125	6790	0.244	30	

The following samples were analyzed in this batch:

1105150-01B

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

Client: HRL Compliance Solutions
 Work Order: 1105150
 Project: PDC Mesa 16 Background 5/4/11

QC BATCH REPORT

Batch ID: 33240 Instrument ID WETCHEM Method: SW7196A

MBLK	Sample ID: MBLK-33240-33240				Units: mg/Kg		Analysis Date: 5/10/2011 04:00 PM			
Client ID:	Run ID: WETCHEM_110510H				SeqNo: 1621803		Prep Date: 5/9/2011		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	ND	0.49								

LCS	Sample ID: LCS-33240-33240				Units:mg/Kg		Analysis Date: 5/10/2011 04:00 PM			
Client ID:	Run ID: WETCHEM_110510H				SeqNo:1621804		Prep Date: 5/9/2011		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1.667	0.48	1.938	0	86	75-110	0			

LCSD	Sample ID: LCSD-33240-33240					Units:mg/Kg		Analysis Date: 5/10/2011 04:00 PM		
Client ID:	Run ID: WETCHEM_110510H					SeqNo:1621812		Prep Date: 5/9/2011		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1.623	0.49	1.946	0	83.4	75-110	1.667	2.68	20	

MS	Sample ID: 1105084-01B MS				Units:mg/Kg		Analysis Date: 5/10/2011 04:00 PM			
Client ID:	Run ID: WETCHEM_110510H				SeqNo:1621807		Prep Date: 5/9/2011		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1.1	0.50	1.992	0	55.2	60-130	0			S

MSD	Sample ID: 1105084-01B MSD					Units:mg/Kg		Analysis Date: 5/10/2011 04:00 PM		
Client ID:	Run ID: WETCHEM_110510H				SeqNo:1621808		Prep Date: 5/9/2011		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1.138	0.49	1.969	0	57.8	60-130	1.1	3.41	30	S

The following samples were analyzed in this batch:

1105150-01A

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

Client: HRL Compliance Solutions
Work Order: 1105150
Project: PDC Mesa 16 Background 5/4/11

QC BATCH REPORT

Batch ID: R89791 Instrument ID WETCHEM Method: SW9040

DUP Sample ID: 1105145-01A DUP Units: s.u. Analysis Date: 5/6/2011 11:00 AM

Client ID: Run ID: WETCHEM_110506E SeqNo: 1618948 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.85	0	0	0	0	0-0	6.85	0	20	

DUP Sample ID: 1105149-05A DUP Units: s.u. Analysis Date: 5/6/2011 11:00 AM

Client ID: Run ID: WETCHEM_110506E SeqNo: 1618954 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.45	0	0	0	0	0-0	6.45	0	20	

The following samples were analyzed in this batch:

1105150-01A 1105150-05A

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

Client: HRL Compliance Solutions
 Work Order: 1105150
 Project: PDC Mesa 16 Background 5/4/11

QC BATCH REPORT

Batch ID: R89852 Instrument ID MOIST Method: A2540 G

MBLK	Sample ID: WBLKS1-R89852	Units: % of sample				Analysis Date: 5/6/2011 12:01 PM				
Client ID:		Run ID: MOIST_110506D		SeqNo: 1620089		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-R89852	Units: % of sample				Analysis Date: 5/6/2011 12:01 PM				
Client ID:		Run ID: MOIST_110506D		SeqNo: 1620085		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: 1105138-21A DUP	Units: % of sample				Analysis Date: 5/6/2011 12:01 PM				
Client ID:		Run ID: MOIST_110506D		SeqNo: 1620065		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	18.18	0.050	0	0	0	0-0	18.06	0.662	20	

DUP	Sample ID: 1105150-01A DUP	Units: % of sample				Analysis Date: 5/6/2011 12:01 PM				
Client ID: Drill Cuttings		Run ID: MOIST_110506D		SeqNo: 1620079		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	36.15	0.050	0	0	0	0-0	35.4	2.1	20	

The following samples were analyzed in this batch:

1105150-01A	1105150-02A	1105150-03A
1105150-04A	1105150-05A	

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

[illegible]

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

For metals or anions, please detail analytes below.

Comments: 28°C 		QC PACKAGE (check below) ☒ LEVEL II (Standard QC) ☐ LEVEL III (Std QC + forms) ☐ LEVEL IV (Std QC + forms + raw data)	
For metals or anions, please detail analytes below.			
Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035			

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

**Subcontractor:**

A & L Great Lakes Agricultural Lab
3505 Conesloga Dr

TEL: (260) 483-4759

FAX:

Acct #:

Ft Wayne, IN 46808

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Date: 06-May-11

COC ID: 2910

Due Date 12-May-11

Customer Information		Project Information		Parameter/Method Request for Analysis												
Purchase Order	Project Name	Project Number	Subcontracted Analyses (SUBCONTRACT)													
Work Order			A	B	C	D	E	F	G	H	I	J				
Company Name	ALS Group USA, Corp	Bill To Company	B	C	D	E	F	G	H	I	J					
Send Report To	Ann Preston	Accounts Payable	D	E	F	G	H	I	J							
Address	3352 128th Avenue	Address	E	F	G	H	I	J								
City/State/Zip	Holland, Michigan 49424-9263	City/State/Zip	G	H	I	J										
Phone	(616) 399-6070	Phone	H	I	J											
Fax	(616) 399-6185	Fax	I	J												
eMail Address	ann.preston@alsglobal.com	eMail CC	J													
Sample ID		Matrix	Collection Date 24hr		Bottle											
1105150-01C (Drill Cuttings)	Soil	Soil	4/May/2011 10:30	(1) MISC	A	B	C	D	E	F	G	H	I	J		
1105150-05B (Background)	Soil	Soil	4/May/2011 11:05	(1) 8OZGNEAT	X											

Comments:

Please run for SAR-EC

Relinquished by:

Date/Time

Received by:

Date/Time

Cooler IDs

Report/QC Level

Relinquished by:

Date/Time

Received by:

Date/Time

Cooler IDs

Report/QC Level

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: HRL

Date/Time Received: 06-May-11 10:00

Work Order: 1105150

Received by: KRW

Checklist completed by *Leith Warenga*
eSignature

06-May-11
Date

Reviewed by: *Ann Preston*
eSignature

13-May-11
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):	<u>2.8 C</u>		
Cooler(s)/Kit(s):			
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: