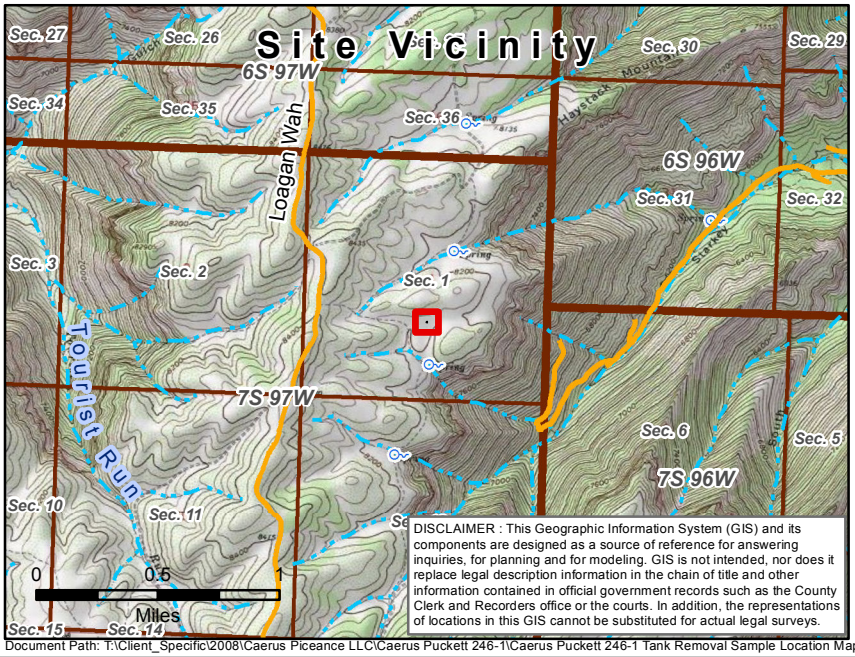
Puckett 246-1 (Location ID 324324)
Partially Buried Vessel Removal (Non-Facility ID 435760)
Form 4 (Notice of Completion)
Narrative Attachment
Document Date – 5/12/2015

This Form 4 (Notice of Completion) was prepared for the purpose of describing completed work associated with the assessment of soil during the removal of a partially buried vessel (PBV) (Non-Facility ID 435760) at the Puckett 246-1 (Location ID 324324) in the Caerus Piceance, LLC (Caerus) area of operations. This assessment was conducted using procedures approved under Colorado Oil and Gas Conservation Commission (COGCC) Remediation #8164. A Form 19 was submitted to the COGCC, but at the time of reporting, a spill/release tracking number had not been assigned. However, Carlos Lujan of the COGCC approved the closure of this project since confirmation samples proved successful remediation. 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 an absence of measureable hydrocarbons. Therefore, no soil was removed.

On October 3, 2013 confirmation soil samples were collected from the soil around and beneath the removed PBV (North Wall, 4', Footprint, 8', West Wall, 4', East Wall, 4', and South Wall, 4'). 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. Background samples from a nearby pad (Mesa 16, COGCC Facility Number 335519) were used for comparison. Sample locations are depicted on the attached Sample Location Map and laboratory analytical results are summarized in the attached analytical table. Laboratory analytical reports are included as an attachment.

Based on removal of the PBV and soil analytical results, Caerus requests an NFA designation for this project.



CAERUS OIL AND GAS LLC

Sample Location Map

Location: Caerus Puckett 246-1

Excavation Area: 343.845 sq. ft.

- Sample Locations
- Access Roads
- Intermittent Stream
- Excavation Area
- Section
- Township

N

HCSI ENVIRONMENTAL CONSULTANTS
HRL COMPLIANCE SOLUTIONS, INC.

Document Path: T:\Client_Specific\2008\Caerus Piceance LLC\Caerus Puckett 246-1\Caerus Puckett 246-1 Tank Removal Sample Location Map 12-6-2013.mxd

Date: 12/6/2013 bhall

Caerus Piceance LLC
Puckett 246-1 Partially Buried Vault Removal
Soil Sample Confirmation and Background Analytical Results

			Sample ID										
COGCC Table 910-1 Analytical Suite	**Table 910-1 Standard**	**Units**	**North Wall, 4'**	**South Wall, 4'**	**East Wall, 4'**	**West Wall, 4'**	**Footprint, 8'**	**BKGD 1**	**BKGD 2**	**BKGD 3**	**AS 1***	**AS 2***	**AS 3***
Sample Date			**10/3/2013**	**10/3/2013**	**10/3/2013**	**10/3/2013**	**10/3/2013**	**8/14/2012**	**8/14/2012**	**8/14/2012**	**5/4/2011**	**5/4/2011**	**5/4/2011**
Organics													
TEPH (DRO)	**500**	**mg/kg**	18	26	16	17	17	NA	NA	NA	NA	NA	NA
TVPH (GRO)	**500**	**mg/kg**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
TPH	**500**	**mg/kg**	18	26	16	17	17	NA	NA	NA	NA	NA	NA
BENZENE	**0.17**	**mg/kg**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
TOLUENE	**85**	**mg/kg**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
ETHYLBENZENE	**100**	**mg/kg**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
XYLENE TOTAL	**175**	**mg/kg**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
ACENAPHTHENE	**1,000**	**mg/kg**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
ANTHRACENE	**1,000**	**mg/kg**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
BENZO(A)ANTRHACENE	**0.22**	**mg/kg**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
BENZO(A)PYRENE	**0.022**	**mg/kg**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
BENZO(B)FLUORANTHENE	**0.22**	**mg/kg**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
BENZO(K)FLUORANTHENE	**2.2**	**mg/kg**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
CHRYSENE	**22**	**mg/kg**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
DIBENZO(A,H)ANTHRANCENE	**0.022**	**mg/kg**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
FLUORANTHENE	**1,000**	**mg/kg**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
FLUORENE	**1,000**	**mg/kg**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
INDENO(1,2,3-CD)PYRENE	**0.22**	**mg/kg**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
NAPHTHALENE	**23**	**mg/kg**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
PYRENE	**1,000**	**mg/kg**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
Metals													
MERCURY	**23**	**mg/kg**	ND	0.016	ND	ND	ND	NA	NA	NA	NA	NA	NA
ARSENIC	**0.39**	**mg/kg**	7.8	7.5	18	5.4	3.9	6.1	4.7	5.4	23	28	44
BARIUM	**15,000**	**mg/kg**	300	310	300	230	180	NA	NA	NA	NA	NA	NA
CADMIUM	**70**	**mg/kg**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
CHROMIUM (III)	**120,000**	**mg/kg**	39	35	35	34	20	NA	NA	NA	NA	NA	NA
CHROMIUM (VI)	**23**	**mg/kg**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
COPPER	**3,100**	**mg/kg**	25	23	30	17	20	NA	NA	NA	NA	NA	NA
LEAD	**400**	**mg/kg**	20	19	22	13	10	NA	NA	NA	NA	NA	NA
NICKEL	**1,600**	**mg/kg**	27	27	26	20	15	NA	NA	NA	NA	NA	NA
SELENIUM	**390**	**mg/kg**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
SILVER	**390**	**mg/kg**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
ZINC	**23,000**	**mg/kg**	80	80	89	64	49	NA	NA	NA	NA	NA	NA
Inorganics													
Sodium Absorption Ratio	**<12**	**unitless**	0.20	0.34	0.24	0.31	0.26	NA	NA	0.099	NA	NA	NA
Electric Conductivity	**<4mmhos/cm or 2x background**	**mmhos/cm**	0.45	0.66	0.65	0.77	0.67	NA	NA	0.89	NA	NA	NA
pH	**6 to 9**	**SU**	6.7	6.9	6.8	7.4	7.8	NA	NA	6.89	NA	NA	NA

Notes:

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

highlight indicates reading above COGCC Table 910-1 standards

ND - non detect

NA - not analyzed

SU - standard unit

mg/kg - milligram per kilogram

mmhos/cm - millimhos per centimeter

TEPH - total petroleum hydrocarbons - Diesel range organics

TVPH - total petroleum hydrocarbons - gasoline range organics

TPH - total petroleum hydrocarbons (TEPH and TVPH combined)

COGCC - Colorado Oil and Gas Conservation Commission

10-Oct-2013

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

Re: **Caerus Puckett 246-1 Tank Removal 10.3.13** Work Order: **1310329**

Dear Herman,

ALS Environmental received 5 samples on 05-Oct-2013 10:30 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 32.

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

Sincerely,

Ann Preston

Electronically approved by: Ann Preston

Ann Preston
Project Manager

Certificate No: MN 532786

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

ALS Group USA, Corp

Date: 10-Oct-13

Client: HRL Compliance Solutions
Project: Caerus Puckett 246-1 Tank Removal 10.3.13
Work Order: **1310329**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1310329-01	North Wall, 4'	Soil		10/3/2013 14:50	10/5/2013 10:30	☐
1310329-02	South Wall, 4'	Soil		10/3/2013 14:46	10/5/2013 10:30	☐
1310329-03	East Wall, 4'	Soil		10/3/2013 14:57	10/5/2013 10:30	☐
1310329-04	West Wall, 4'	Soil		10/3/2013 14:53	10/5/2013 10:30	☐
1310329-05	Footprint, 8'	Soil		10/3/2013 14:43	10/5/2013 10:30	☐

ALS Group USA, Corp

Date: 10-Oct-13

Client: HRL Compliance Solutions
Project: Caerus Puckett 246-1 Tank Removal 10.3.13
Work Order: 1310329

Case Narrative

Batch 52004 MS/MSD data for PAHs is not related to this project's samples. No data requires qualification.

Batch 52005 MS/MSD data for DRO is not related to this project's samples. No data requires qualification.

Batch 52017 MS/MSD data for Metals is not related to this project's samples. No data requires qualification.

Batch 52089 MS/MSD data for Hexavalent Chromium is not related to this project's samples. No data requires qualification.

ALS Group USA, Corp

Date: 10-Oct-13

Client: HRL Compliance Solutions
Project: Caerus Puckett 246-1 Tank Removal 10.3.13
WorkOrder: **1310329**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

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

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

ALS Group USA, Corp

Date: *10-Oct-13*

Client: HRL Compliance Solutions
Project: Caerus Puckett 246-1 Tank Removal 10.3.13
Work Order: 1310329
Sample ID: North Wall, 4'
Lab ID: 1310329-01
Collection Date: 10/3/2013 02:50 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep Date: **10/7/2013**	Analyst: **CW**
DRO (C10-C28)	**18**		**5.4**	**mg/Kg-dry**	1	10/8/2013 02:06 AM
Surr: 4-Terphenyl-d14	*63.1*		*39-115*	*%REC*	1	10/8/2013 02:06 AM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015**		Prep Date: **10/7/2013**	Analyst: **CW**
GRO (C6-C10)	ND		3.2	mg/Kg-dry	1	10/8/2013 12:05 PM
Surr: Toluene-d8	*96.6*		*50-150*	*%REC*	1	10/8/2013 12:05 PM
MERCURY BY CVAA			**SW7471**		Prep Date: **10/8/2013**	Analyst: **LR**
Mercury	ND		0.018	mg/Kg-dry	1	10/8/2013 04:27 PM
METALS BY ICP-MS			**SW6020A**		Prep Date: **10/7/2013**	Analyst: **ML**
Arsenic	**7.8**		**2.2**	**mg/Kg-dry**	5	10/7/2013 10:40 PM
Barium	**300**		**2.2**	**mg/Kg-dry**	5	10/7/2013 10:40 PM
Cadmium	ND		0.89	mg/Kg-dry	5	10/7/2013 10:40 PM
Chromium	**39**		**2.2**	**mg/Kg-dry**	5	10/7/2013 10:40 PM
Copper	**25**		**2.2**	**mg/Kg-dry**	5	10/7/2013 10:40 PM
Lead	**20**		**2.2**	**mg/Kg-dry**	5	10/7/2013 10:40 PM
Nickel	**27**		**2.2**	**mg/Kg-dry**	5	10/7/2013 10:40 PM
Selenium	ND		2.2	mg/Kg-dry	5	10/7/2013 10:40 PM
Silver	ND		2.2	mg/Kg-dry	5	10/7/2013 10:40 PM
Zinc	**80**		**4.5**	**mg/Kg-dry**	5	10/7/2013 10:40 PM
SOLUBLE CATIONS FOR SAR			**SW6020A**		Prep Date: **10/8/2013**	Analyst: **RH**
Calcium	**58**		**10**	**mg/L**	20	10/9/2013 12:10 AM
Magnesium	**11**		**4.0**	**mg/L**	20	10/9/2013 12:10 AM
Sodium	**6.3**		**4.0**	**mg/L**	20	10/9/2013 12:10 AM
SODIUM ADSORPTION RATIO			**USDA H60 METHO**		Prep Date: **10/8/2013**	Analyst: **RH**
Sodium Adsorption Ratio	**0.20**		**0.010**	**none**	1	10/8/2013
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW8270**		Prep Date: **10/7/2013**	Analyst: **HL**
Acenaphthene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:00 AM
Acenaphthylene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:00 AM
Anthracene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:00 AM
Benzo(a)anthracene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:00 AM
Benzo(a)pyrene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:00 AM
Benzo(b)fluoranthene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:00 AM
Benzo(g,h,i)perylene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:00 AM
Benzo(k)fluoranthene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:00 AM
Chrysene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:00 AM
Dibenzo(a,h)anthracene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:00 AM
Fluoranthene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:00 AM

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

ALS Group USA, Corp

Date: *10-Oct-13*

Client: HRL Compliance Solutions
Project: Caerus Puckett 246-1 Tank Removal 10.3.13 **Work Order:** 1310329
Sample ID: North Wall, 4' **Lab ID:** 1310329-01
Collection Date: 10/3/2013 02:50 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:00 AM
Indeno(1,2,3-cd)pyrene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:00 AM
Naphthalene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:00 AM
Pyrene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:00 AM
Surr: 2-Fluorobiphenyl	*83.6*		*12-100*	*%REC*	1	10/8/2013 09:00 AM
Surr: 4-Terphenyl-d14	*112*		*25-137*	*%REC*	1	10/8/2013 09:00 AM
Surr: Nitrobenzene-d5	*78.1*		*37-107*	*%REC*	1	10/8/2013 09:00 AM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep Date: **10/7/2013**	Analyst: **RS**
Benzene	ND		39	µg/Kg-dry	1	10/8/2013 07:53 AM
Ethylbenzene	ND		39	µg/Kg-dry	1	10/8/2013 07:53 AM
m,p-Xylene	ND		78	µg/Kg-dry	1	10/8/2013 07:53 AM
o-Xylene	ND		39	µg/Kg-dry	1	10/8/2013 07:53 AM
Toluene	ND		39	µg/Kg-dry	1	10/8/2013 07:53 AM
Xylenes, Total	ND		120	µg/Kg-dry	1	10/8/2013 07:53 AM
Surr: 1,2-Dichloroethane-d4	*91.1*		*70-130*	*%REC*	1	10/8/2013 07:53 AM
Surr: 4-Bromofluorobenzene	*93.0*		*70-130*	*%REC*	1	10/8/2013 07:53 AM
Surr: Dibromofluoromethane	*97.0*		*70-130*	*%REC*	1	10/8/2013 07:53 AM
Surr: Toluene-d8	*95.6*		*70-130*	*%REC*	1	10/8/2013 07:53 AM
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHO**		Prep Date: **10/8/2013**	Analyst: **JB**
Electrical Conductivity @ Saturation	**0.45**		**0.025**	**mmhos/cm @25**	5	10/8/2013 04:00 PM
CHROMIUM, TRIVALENT			**CALCULATION**			Analyst: **JJG**
Chromium, Trivalent	**39**		**0.65**	**mg/Kg-dry**	1	10/8/2013 03:41 PM
CHROMIUM, HEXAVALENT			**SW7196A**		Prep Date: **10/7/2013**	Analyst: **MB**
Chromium, Hexavalent	ND		0.64	mg/Kg-dry	1	10/8/2013 12:00 PM
MOISTURE			**A2540 G**			Analyst: **MEB**
Moisture	**23**		**0.050**	**% of sample**	1	10/7/2013 02:30 PM
PH			**SW9045D**		Prep Date: **10/7/2013**	Analyst: **KF**
pH	**6.7**			**s.u.**	1	10/7/2013 02:27 PM

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

ALS Group USA, Corp

Date: *10-Oct-13*

Client: HRL Compliance Solutions
Project: Caerus Puckett 246-1 Tank Removal 10.3.13
Work Order: 1310329
Sample ID: South Wall, 4'
Lab ID: 1310329-02
Collection Date: 10/3/2013 02:46 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep Date: **10/7/2013**	Analyst: **CW**
DRO (C10-C28)	**26**		**5.4**	**mg/Kg-dry**	1	10/8/2013 02:36 AM
Surr: 4-Terphenyl-d14	*53.9*		*39-115*	*%REC*	1	10/8/2013 02:36 AM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015**		Prep Date: **10/7/2013**	Analyst: **CW**
GRO (C6-C10)	ND		3.2	mg/Kg-dry	1	10/8/2013 12:29 PM
Surr: Toluene-d8	*94.9*		*50-150*	*%REC*	1	10/8/2013 12:29 PM
MERCURY BY CVAA			**SW7471**		Prep Date: **10/8/2013**	Analyst: **LR**
Mercury	**0.016**		**0.016**	**mg/Kg-dry**	1	10/8/2013 04:21 PM
METALS BY ICP-MS			**SW6020A**		Prep Date: **10/7/2013**	Analyst: **ML**
Arsenic	**7.5**		**2.1**	**mg/Kg-dry**	5	10/7/2013 10:47 PM
Barium	**310**		**2.1**	**mg/Kg-dry**	5	10/7/2013 10:47 PM
Cadmium	ND		0.85	mg/Kg-dry	5	10/7/2013 10:47 PM
Chromium	**35**		**2.1**	**mg/Kg-dry**	5	10/7/2013 10:47 PM
Copper	**23**		**2.1**	**mg/Kg-dry**	5	10/7/2013 10:47 PM
Lead	**19**		**2.1**	**mg/Kg-dry**	5	10/7/2013 10:47 PM
Nickel	**27**		**2.1**	**mg/Kg-dry**	5	10/7/2013 10:47 PM
Selenium	ND		2.1	mg/Kg-dry	5	10/7/2013 10:47 PM
Silver	ND		2.1	mg/Kg-dry	5	10/7/2013 10:47 PM
Zinc	**80**		**4.2**	**mg/Kg-dry**	5	10/7/2013 10:47 PM
SOLUBLE CATIONS FOR SAR			**SW6020A**		Prep Date: **10/8/2013**	Analyst: **RH**
Calcium	**95**		**10**	**mg/L**	20	10/9/2013 12:15 AM
Magnesium	**16**		**4.0**	**mg/L**	20	10/9/2013 12:15 AM
Sodium	**14**		**4.0**	**mg/L**	20	10/9/2013 12:15 AM
SODIUM ADSORPTION RATIO			**USDA H60 METHO**		Prep Date: **10/8/2013**	Analyst: **RH**
Sodium Adsorption Ratio	**0.34**		**0.010**	**none**	1	10/8/2013
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW8270**		Prep Date: **10/7/2013**	Analyst: **HL**
Acenaphthene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:31 AM
Acenaphthylene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:31 AM
Anthracene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:31 AM
Benzo(a)anthracene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:31 AM
Benzo(a)pyrene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:31 AM
Benzo(b)fluoranthene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:31 AM
Benzo(g,h,i)perylene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:31 AM
Benzo(k)fluoranthene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:31 AM
Chrysene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:31 AM
Dibenzo(a,h)anthracene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:31 AM
Fluoranthene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:31 AM

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

ALS Group USA, Corp

Date: *10-Oct-13*

Client: HRL Compliance Solutions
Project: Caerus Puckett 246-1 Tank Removal 10.3.13 **Work Order:** 1310329
Sample ID: South Wall, 4' **Lab ID:** 1310329-02
Collection Date: 10/3/2013 02:46 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:31 AM
Indeno(1,2,3-cd)pyrene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:31 AM
Naphthalene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:31 AM
Pyrene	ND		8.6	µg/Kg-dry	1	10/8/2013 09:31 AM
Surr: 2-Fluorobiphenyl	*82.0*		*12-100*	*%REC*	1	10/8/2013 09:31 AM
Surr: 4-Terphenyl-d14	*104*		*25-137*	*%REC*	1	10/8/2013 09:31 AM
Surr: Nitrobenzene-d5	*74.0*		*37-107*	*%REC*	1	10/8/2013 09:31 AM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep Date: **10/7/2013**	Analyst: **RS**
Benzene	ND		39	µg/Kg-dry	1	10/8/2013 08:17 AM
Ethylbenzene	ND		39	µg/Kg-dry	1	10/8/2013 08:17 AM
m,p-Xylene	ND		77	µg/Kg-dry	1	10/8/2013 08:17 AM
o-Xylene	ND		39	µg/Kg-dry	1	10/8/2013 08:17 AM
Toluene	ND		39	µg/Kg-dry	1	10/8/2013 08:17 AM
Xylenes, Total	ND		120	µg/Kg-dry	1	10/8/2013 08:17 AM
Surr: 1,2-Dichloroethane-d4	*93.4*		*70-130*	*%REC*	1	10/8/2013 08:17 AM
Surr: 4-Bromofluorobenzene	*94.9*		*70-130*	*%REC*	1	10/8/2013 08:17 AM
Surr: Dibromofluoromethane	*98.2*		*70-130*	*%REC*	1	10/8/2013 08:17 AM
Surr: Toluene-d8	*95.0*		*70-130*	*%REC*	1	10/8/2013 08:17 AM
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHO**		Prep Date: **10/8/2013**	Analyst: **JB**
Electrical Conductivity @ Saturation	**0.66**		**0.025**	**mmhos/cm @25**	5	10/8/2013 04:00 PM
CHROMIUM, TRIVALENT			**CALCULATION**			Analyst: **JJG**
Chromium, Trivalent	**35**		**0.64**	**mg/Kg-dry**	1	10/8/2013 03:41 PM
CHROMIUM, HEXAVALENT			**SW7196A**		Prep Date: **10/7/2013**	Analyst: **MB**
Chromium, Hexavalent	ND		0.63	mg/Kg-dry	1	10/8/2013 12:00 PM
MOISTURE			**A2540 G**			Analyst: **MEB**
Moisture	**22**		**0.050**	**% of sample**	1	10/7/2013 02:30 PM
PH			**SW9045D**		Prep Date: **10/7/2013**	Analyst: **KF**
pH	**6.9**			**s.u.**	1	10/7/2013 02:27 PM

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

ALS Group USA, Corp

Date: *10-Oct-13*

Client: HRL Compliance Solutions
Project: Caerus Puckett 246-1 Tank Removal 10.3.13 **Work Order:** 1310329
Sample ID: East Wall, 4' **Lab ID:** 1310329-03
Collection Date: 10/3/2013 02:57 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep Date: **10/7/2013**	Analyst: **CW**
DRO (C10-C28)	**16**		**5.2**	**mg/Kg-dry**	1	10/8/2013 03:06 AM
Surr: 4-Terphenyl-d14	*55.1*		*39-115*	*%REC*	1	10/8/2013 03:06 AM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015**		Prep Date: **10/7/2013**	Analyst: **CW**
GRO (C6-C10)	ND		3.2	mg/Kg-dry	1	10/8/2013 12:53 PM
Surr: Toluene-d8	*96.9*		*50-150*	*%REC*	1	10/8/2013 12:53 PM
MERCURY BY CVAA			**SW7471**		Prep Date: **10/8/2013**	Analyst: **LR**
Mercury	ND		0.017	mg/Kg-dry	1	10/8/2013 04:29 PM
METALS BY ICP-MS			**SW6020A**		Prep Date: **10/7/2013**	Analyst: **ML**
Arsenic	**18**		**2.1**	**mg/Kg-dry**	5	10/7/2013 10:53 PM
Barium	**300**		**2.1**	**mg/Kg-dry**	5	10/7/2013 10:53 PM
Cadmium	ND		0.83	mg/Kg-dry	5	10/7/2013 10:53 PM
Chromium	**35**		**2.1**	**mg/Kg-dry**	5	10/7/2013 10:53 PM
Copper	**30**		**2.1**	**mg/Kg-dry**	5	10/7/2013 10:53 PM
Lead	**22**		**2.1**	**mg/Kg-dry**	5	10/7/2013 10:53 PM
Nickel	**26**		**2.1**	**mg/Kg-dry**	5	10/7/2013 10:53 PM
Selenium	ND		2.1	mg/Kg-dry	5	10/7/2013 10:53 PM
Silver	ND		2.1	mg/Kg-dry	5	10/7/2013 10:53 PM
Zinc	**89**		**4.1**	**mg/Kg-dry**	5	10/7/2013 10:53 PM
SOLUBLE CATIONS FOR SAR			**SW6020A**		Prep Date: **10/8/2013**	Analyst: **RH**
Calcium	**87**		**10**	**mg/L**	20	10/9/2013 12:21 AM
Magnesium	**16**		**4.0**	**mg/L**	20	10/9/2013 12:21 AM
Sodium	**9.3**		**4.0**	**mg/L**	20	10/9/2013 12:21 AM
SODIUM ADSORPTION RATIO			**USDA H60 METHO**		Prep Date: **10/8/2013**	Analyst: **RH**
Sodium Adsorption Ratio	**0.24**		**0.010**	**none**	1	10/8/2013
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW8270**		Prep Date: **10/7/2013**	Analyst: **HL**
Acenaphthene	ND		8.3	µg/Kg-dry	1	10/8/2013 10:03 AM
Acenaphthylene	ND		8.3	µg/Kg-dry	1	10/8/2013 10:03 AM
Anthracene	ND		8.3	µg/Kg-dry	1	10/8/2013 10:03 AM
Benzo(a)anthracene	ND		8.3	µg/Kg-dry	1	10/8/2013 10:03 AM
Benzo(a)pyrene	ND		8.3	µg/Kg-dry	1	10/8/2013 10:03 AM
Benzo(b)fluoranthene	ND		8.3	µg/Kg-dry	1	10/8/2013 10:03 AM
Benzo(g,h,i)perylene	ND		8.3	µg/Kg-dry	1	10/8/2013 10:03 AM
Benzo(k)fluoranthene	ND		8.3	µg/Kg-dry	1	10/8/2013 10:03 AM
Chrysene	ND		8.3	µg/Kg-dry	1	10/8/2013 10:03 AM
Dibenzo(a,h)anthracene	ND		8.3	µg/Kg-dry	1	10/8/2013 10:03 AM
Fluoranthene	ND		8.3	µg/Kg-dry	1	10/8/2013 10:03 AM

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

ALS Group USA, Corp

Date: *10-Oct-13*

Client: HRL Compliance Solutions
Project: Caerus Puckett 246-1 Tank Removal 10.3.13 **Work Order:** 1310329
Sample ID: East Wall, 4' **Lab ID:** 1310329-03
Collection Date: 10/3/2013 02:57 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		8.3	µg/Kg-dry	1	10/8/2013 10:03 AM
Indeno(1,2,3-cd)pyrene	ND		8.3	µg/Kg-dry	1	10/8/2013 10:03 AM
Naphthalene	ND		8.3	µg/Kg-dry	1	10/8/2013 10:03 AM
Pyrene	ND		8.3	µg/Kg-dry	1	10/8/2013 10:03 AM
Surr: 2-Fluorobiphenyl	*83.8*		*12-100*	*%REC*	1	10/8/2013 10:03 AM
Surr: 4-Terphenyl-d14	*109*		*25-137*	*%REC*	1	10/8/2013 10:03 AM
Surr: Nitrobenzene-d5	*78.9*		*37-107*	*%REC*	1	10/8/2013 10:03 AM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep Date: **10/7/2013**	Analyst: **RS**
Benzene	ND		38	µg/Kg-dry	1	10/8/2013 08:41 AM
Ethylbenzene	ND		38	µg/Kg-dry	1	10/8/2013 08:41 AM
m,p-Xylene	ND		76	µg/Kg-dry	1	10/8/2013 08:41 AM
o-Xylene	ND		38	µg/Kg-dry	1	10/8/2013 08:41 AM
Toluene	ND		38	µg/Kg-dry	1	10/8/2013 08:41 AM
Xylenes, Total	ND		110	µg/Kg-dry	1	10/8/2013 08:41 AM
Surr: 1,2-Dichloroethane-d4	*94.2*		*70-130*	*%REC*	1	10/8/2013 08:41 AM
Surr: 4-Bromofluorobenzene	*92.0*		*70-130*	*%REC*	1	10/8/2013 08:41 AM
Surr: Dibromofluoromethane	*98.8*		*70-130*	*%REC*	1	10/8/2013 08:41 AM
Surr: Toluene-d8	*93.7*		*70-130*	*%REC*	1	10/8/2013 08:41 AM
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHO**		Prep Date: **10/8/2013**	Analyst: **JB**
Electrical Conductivity @ Saturation	**0.65**		**0.025**	**mmhos/cm @25**	5	10/8/2013 04:00 PM
CHROMIUM, TRIVALENT			**CALCULATION**			Analyst: **JJG**
Chromium, Trivalent	**35**		**0.64**	**mg/Kg-dry**	1	10/8/2013 03:41 PM
CHROMIUM, HEXAVALENT			**SW7196A**		Prep Date: **10/7/2013**	Analyst: **MB**
Chromium, Hexavalent	ND		0.62	mg/Kg-dry	1	10/8/2013 12:00 PM
MOISTURE			**A2540 G**			Analyst: **MEB**
Moisture	**21**		**0.050**	**% of sample**	1	10/7/2013 02:30 PM
PH			**SW9045D**		Prep Date: **10/7/2013**	Analyst: **KF**
pH	**6.8**			**s.u.**	1	10/7/2013 02:27 PM

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

ALS Group USA, Corp

Date: *10-Oct-13*

Client: HRL Compliance Solutions
Project: Caerus Puckett 246-1 Tank Removal 10.3.13 **Work Order:** 1310329
Sample ID: West Wall, 4' **Lab ID:** 1310329-04
Collection Date: 10/3/2013 02:53 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep Date: **10/7/2013**	Analyst: **CW**
DRO (C10-C28)	**17**		**5.1**	**mg/Kg-dry**	1	10/8/2013 03:36 AM
Surr: 4-Terphenyl-d14	*55.0*		*39-115*	*%REC*	1	10/8/2013 03:36 AM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015**		Prep Date: **10/7/2013**	Analyst: **CW**
GRO (C6-C10)	ND		3.0	mg/Kg-dry	1	10/8/2013 01:16 PM
Surr: Toluene-d8	*98.8*		*50-150*	*%REC*	1	10/8/2013 01:16 PM
MERCURY BY CVAA			**SW7471**		Prep Date: **10/8/2013**	Analyst: **LR**
Mercury	ND		0.016	mg/Kg-dry	1	10/8/2013 04:31 PM
METALS BY ICP-MS			**SW6020A**		Prep Date: **10/7/2013**	Analyst: **ML**
Arsenic	**5.4**		**2.3**	**mg/Kg-dry**	5	10/7/2013 10:59 PM
Barium	**230**		**2.3**	**mg/Kg-dry**	5	10/7/2013 10:59 PM
Cadmium	ND		0.90	mg/Kg-dry	5	10/7/2013 10:59 PM
Chromium	**28**		**2.3**	**mg/Kg-dry**	5	10/7/2013 10:59 PM
Copper	**17**		**2.3**	**mg/Kg-dry**	5	10/7/2013 10:59 PM
Lead	**13**		**2.3**	**mg/Kg-dry**	5	10/7/2013 10:59 PM
Nickel	**20**		**2.3**	**mg/Kg-dry**	5	10/7/2013 10:59 PM
Selenium	ND		2.3	mg/Kg-dry	5	10/7/2013 10:59 PM
Silver	ND		2.3	mg/Kg-dry	5	10/7/2013 10:59 PM
Zinc	**64**		**4.5**	**mg/Kg-dry**	5	10/7/2013 10:59 PM
SOLUBLE CATIONS FOR SAR			**SW6020A**		Prep Date: **10/8/2013**	Analyst: **RH**
Calcium	**110**		**10**	**mg/L**	20	10/9/2013 12:26 AM
Magnesium	**18**		**4.0**	**mg/L**	20	10/9/2013 12:26 AM
Sodium	**13**		**4.0**	**mg/L**	20	10/9/2013 12:26 AM
SODIUM ADSORPTION RATIO			**USDA H60 METHO**		Prep Date: **10/8/2013**	Analyst: **RH**
Sodium Adsorption Ratio	**0.31**		**0.010**	**none**	1	10/8/2013
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW8270**		Prep Date: **10/7/2013**	Analyst: **HL**
Acenaphthene	ND		8.1	µg/Kg-dry	1	10/8/2013 10:35 AM
Acenaphthylene	ND		8.1	µg/Kg-dry	1	10/8/2013 10:35 AM
Anthracene	ND		8.1	µg/Kg-dry	1	10/8/2013 10:35 AM
Benzo(a)anthracene	ND		8.1	µg/Kg-dry	1	10/8/2013 10:35 AM
Benzo(a)pyrene	ND		8.1	µg/Kg-dry	1	10/8/2013 10:35 AM
Benzo(b)fluoranthene	ND		8.1	µg/Kg-dry	1	10/8/2013 10:35 AM
Benzo(g,h,i)perylene	ND		8.1	µg/Kg-dry	1	10/8/2013 10:35 AM
Benzo(k)fluoranthene	ND		8.1	µg/Kg-dry	1	10/8/2013 10:35 AM
Chrysene	ND		8.1	µg/Kg-dry	1	10/8/2013 10:35 AM
Dibenzo(a,h)anthracene	ND		8.1	µg/Kg-dry	1	10/8/2013 10:35 AM
Fluoranthene	ND		8.1	µg/Kg-dry	1	10/8/2013 10:35 AM

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

ALS Group USA, Corp

Date: *10-Oct-13*

Client: HRL Compliance Solutions
Project: Caerus Puckett 246-1 Tank Removal 10.3.13 **Work Order:** 1310329
Sample ID: West Wall, 4' **Lab ID:** 1310329-04
Collection Date: 10/3/2013 02:53 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		8.1	µg/Kg-dry	1	10/8/2013 10:35 AM
Indeno(1,2,3-cd)pyrene	ND		8.1	µg/Kg-dry	1	10/8/2013 10:35 AM
Naphthalene	ND		8.1	µg/Kg-dry	1	10/8/2013 10:35 AM
Pyrene	ND		8.1	µg/Kg-dry	1	10/8/2013 10:35 AM
Surr: 2-Fluorobiphenyl	*80.5*		*12-100*	*%REC*	1	10/8/2013 10:35 AM
Surr: 4-Terphenyl-d14	*109*		*25-137*	*%REC*	1	10/8/2013 10:35 AM
Surr: Nitrobenzene-d5	*73.9*		*37-107*	*%REC*	1	10/8/2013 10:35 AM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep Date: **10/7/2013**	Analyst: **RS**
Benzene	ND		37	µg/Kg-dry	1	10/8/2013 09:06 AM
Ethylbenzene	ND		37	µg/Kg-dry	1	10/8/2013 09:06 AM
m,p-Xylene	ND		73	µg/Kg-dry	1	10/8/2013 09:06 AM
o-Xylene	ND		37	µg/Kg-dry	1	10/8/2013 09:06 AM
Toluene	ND		37	µg/Kg-dry	1	10/8/2013 09:06 AM
Xylenes, Total	ND		110	µg/Kg-dry	1	10/8/2013 09:06 AM
Surr: 1,2-Dichloroethane-d4	*95.0*		*70-130*	*%REC*	1	10/8/2013 09:06 AM
Surr: 4-Bromofluorobenzene	*94.0*		*70-130*	*%REC*	1	10/8/2013 09:06 AM
Surr: Dibromofluoromethane	*99.6*		*70-130*	*%REC*	1	10/8/2013 09:06 AM
Surr: Toluene-d8	*93.6*		*70-130*	*%REC*	1	10/8/2013 09:06 AM
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHO**		Prep Date: **10/8/2013**	Analyst: **JB**
Electrical Conductivity @ Saturation	**0.77**		**0.025**	**mmhos/cm @25**	5	10/8/2013 04:00 PM
CHROMIUM, TRIVALENT			**CALCULATION**			Analyst: **JJG**
Chromium, Trivalent	**34**		**0.61**	**mg/Kg-dry**	1	10/8/2013 03:41 PM
CHROMIUM, HEXAVALENT			**SW7196A**		Prep Date: **10/7/2013**	Analyst: **MB**
Chromium, Hexavalent	ND		0.60	mg/Kg-dry	1	10/8/2013 12:00 PM
MOISTURE			**A2540 G**			Analyst: **MEB**
Moisture	**18**		**0.050**	**% of sample**	1	10/7/2013 02:30 PM
PH			**SW9045D**		Prep Date: **10/7/2013**	Analyst: **KF**
pH	**7.4**			**s.u.**	1	10/7/2013 02:27 PM

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

ALS Group USA, Corp

Date: *10-Oct-13*

Client: HRL Compliance Solutions
Project: Caerus Puckett 246-1 Tank Removal 10.3.13 **Work Order:** 1310329
Sample ID: Footprint, 8' **Lab ID:** 1310329-05
Collection Date: 10/3/2013 02:43 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep Date: **10/7/2013**	Analyst: **CW**
DRO (C10-C28)	**17**		**4.9**	**mg/Kg-dry**	1	10/8/2013 04:06 AM
Surr: 4-Terphenyl-d14	*54.2*		*39-115*	*%REC*	1	10/8/2013 04:06 AM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015**		Prep Date: **10/7/2013**	Analyst: **CW**
GRO (C6-C10)	ND		3.0	mg/Kg-dry	1	10/8/2013 01:40 PM
Surr: Toluene-d8	*93.7*		*50-150*	*%REC*	1	10/8/2013 01:40 PM
MERCURY BY CVAA			**SW7471**		Prep Date: **10/8/2013**	Analyst: **LR**
Mercury	ND		0.017	mg/Kg-dry	1	10/8/2013 04:33 PM
METALS BY ICP-MS			**SW6020A**		Prep Date: **10/7/2013**	Analyst: **ML**
Arsenic	**3.9**		**1.9**	**mg/Kg-dry**	5	10/7/2013 11:24 PM
Barium	**180**		**1.9**	**mg/Kg-dry**	5	10/7/2013 11:24 PM
Cadmium	ND		0.77	mg/Kg-dry	5	10/7/2013 11:24 PM
Chromium	**20**		**1.9**	**mg/Kg-dry**	5	10/7/2013 11:24 PM
Copper	**20**		**1.9**	**mg/Kg-dry**	5	10/7/2013 11:24 PM
Lead	**10**		**1.9**	**mg/Kg-dry**	5	10/7/2013 11:24 PM
Nickel	**15**		**1.9**	**mg/Kg-dry**	5	10/7/2013 11:24 PM
Selenium	ND		1.9	mg/Kg-dry	5	10/7/2013 11:24 PM
Silver	ND		1.9	mg/Kg-dry	5	10/7/2013 11:24 PM
Zinc	**49**		**3.8**	**mg/Kg-dry**	5	10/7/2013 11:24 PM
SOLUBLE CATIONS FOR SAR			**SW6020A**		Prep Date: **10/8/2013**	Analyst: **RH**
Calcium	**93**		**10**	**mg/L**	20	10/9/2013 12:32 AM
Magnesium	**16**		**4.0**	**mg/L**	20	10/9/2013 12:32 AM
Sodium	**10**		**4.0**	**mg/L**	20	10/9/2013 12:32 AM
SODIUM ADSORPTION RATIO			**USDA H60 METHO**		Prep Date: **10/8/2013**	Analyst: **RH**
Sodium Adsorption Ratio	**0.26**		**0.010**	**none**	1	10/8/2013
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW8270**		Prep Date: **10/7/2013**	Analyst: **HL**
Acenaphthene	ND		7.8	µg/Kg-dry	1	10/8/2013 11:07 AM
Acenaphthylene	ND		7.8	µg/Kg-dry	1	10/8/2013 11:07 AM
Anthracene	ND		7.8	µg/Kg-dry	1	10/8/2013 11:07 AM
Benzo(a)anthracene	ND		7.8	µg/Kg-dry	1	10/8/2013 11:07 AM
Benzo(a)pyrene	ND		7.8	µg/Kg-dry	1	10/8/2013 11:07 AM
Benzo(b)fluoranthene	ND		7.8	µg/Kg-dry	1	10/8/2013 11:07 AM
Benzo(g,h,i)perylene	ND		7.8	µg/Kg-dry	1	10/8/2013 11:07 AM
Benzo(k)fluoranthene	ND		7.8	µg/Kg-dry	1	10/8/2013 11:07 AM
Chrysene	ND		7.8	µg/Kg-dry	1	10/8/2013 11:07 AM
Dibenzo(a,h)anthracene	ND		7.8	µg/Kg-dry	1	10/8/2013 11:07 AM
Fluoranthene	ND		7.8	µg/Kg-dry	1	10/8/2013 11:07 AM

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

ALS Group USA, Corp

Date: *10-Oct-13*

Client: HRL Compliance Solutions
Project: Caerus Puckett 246-1 Tank Removal 10.3.13 **Work Order:** 1310329
Sample ID: Footprint, 8' **Lab ID:** 1310329-05
Collection Date: 10/3/2013 02:43 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		7.8	µg/Kg-dry	1	10/8/2013 11:07 AM
Indeno(1,2,3-cd)pyrene	ND		7.8	µg/Kg-dry	1	10/8/2013 11:07 AM
Naphthalene	ND		7.8	µg/Kg-dry	1	10/8/2013 11:07 AM
Pyrene	ND		7.8	µg/Kg-dry	1	10/8/2013 11:07 AM
Surr: 2-Fluorobiphenyl	*83.5*		*12-100*	*%REC*	1	10/8/2013 11:07 AM
Surr: 4-Terphenyl-d14	*111*		*25-137*	*%REC*	1	10/8/2013 11:07 AM
Surr: Nitrobenzene-d5	*79.3*		*37-107*	*%REC*	1	10/8/2013 11:07 AM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep Date: **10/7/2013**	Analyst: **RS**
Benzene	ND		36	µg/Kg-dry	1	10/8/2013 09:30 AM
Ethylbenzene	ND		36	µg/Kg-dry	1	10/8/2013 09:30 AM
m,p-Xylene	ND		73	µg/Kg-dry	1	10/8/2013 09:30 AM
o-Xylene	ND		36	µg/Kg-dry	1	10/8/2013 09:30 AM
Toluene	ND		36	µg/Kg-dry	1	10/8/2013 09:30 AM
Xylenes, Total	ND		110	µg/Kg-dry	1	10/8/2013 09:30 AM
Surr: 1,2-Dichloroethane-d4	*94.2*		*70-130*	*%REC*	1	10/8/2013 09:30 AM
Surr: 4-Bromofluorobenzene	*92.6*		*70-130*	*%REC*	1	10/8/2013 09:30 AM
Surr: Dibromofluoromethane	*98.8*		*70-130*	*%REC*	1	10/8/2013 09:30 AM
Surr: Toluene-d8	*93.3*		*70-130*	*%REC*	1	10/8/2013 09:30 AM
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHO**		Prep Date: **10/8/2013**	Analyst: **JB**
Electrical Conductivity @ Saturation	**0.67**		**0.025**	**mmhos/cm @25**	5	10/8/2013 04:00 PM
CHROMIUM, TRIVALENT			**CALCULATION**			Analyst: **JJG**
Chromium, Trivalent	**20**		**0.60**	**mg/Kg-dry**	1	10/8/2013 03:41 PM
CHROMIUM, HEXAVALENT			**SW7196A**		Prep Date: **10/7/2013**	Analyst: **MB**
Chromium, Hexavalent	ND		0.60	mg/Kg-dry	1	10/8/2013 12:00 PM
MOISTURE			**A2540 G**			Analyst: **MEB**
Moisture	**17**		**0.050**	**% of sample**	1	10/7/2013 02:30 PM
PH			**SW9045D**		Prep Date: **10/7/2013**	Analyst: **KF**
pH	**7.8**			**s.u.**	1	10/7/2013 02:27 PM

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

ALS Group USA, Corp

Date: 10-Oct-13

Client: HRL Compliance Solutions

QC BATCH REPORT

Work Order: 1310329

Project: Caerus Puckett 246-1 Tank Removal 10.3.13

Batch ID: **52005** Instrument ID **GC8** Method: **SW8015M**

MBLK Sample ID: **DBLKS1-52005-52005** Units: **mg/Kg** Analysis Date: **10/7/2013 03:35 PM**

Client ID: Run ID: **GC8_131007A** SeqNo: **2479010** Prep Date: **10/7/2013** 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	*1.099*	0	*1.667*	0	*66*	*39-115*	0			

LCS Sample ID: **DLCSS1-52005-52005** Units: **mg/Kg** Analysis Date: **10/7/2013 04:05 PM**

Client ID: Run ID: **GC8_131007A** SeqNo: **2479011** Prep Date: **10/7/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	123.3	4.2	166.7	0	74	49-124	0			
Surr: 4-Terphenyl-d14	*0.931*	0	*1.667*	0	*55.9*	*39-115*	0			

MS Sample ID: **1310324-17B MS** Units: **mg/Kg** Analysis Date: **10/7/2013 06:06 PM**

Client ID: Run ID: **GC8_131007A** SeqNo: **2479046** Prep Date: **10/7/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	378	8.3	332.4	33.76	104	49-130	0			
Surr: 4-Terphenyl-d14	*2.319*	0	*3.324*	0	*69.8*	*39-115*	0			

MSD Sample ID: **1310324-17B MSD** Units: **mg/Kg** Analysis Date: **10/7/2013 06:36 PM**

Client ID: Run ID: **GC8_131007A** SeqNo: **2479047** Prep Date: **10/7/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	257.8	7.8	313.9	33.76	71.4	49-130	378	37.8	30	R
Surr: 4-Terphenyl-d14	*1.877*	0	*3.139*	0	*59.8*	*39-115*	2.319	*21.1*	*30*	

The following samples were analyzed in this batch: 1310329-01B, 1310329-02B, 1310329-03B, 1310329-04B, 1310329-05B

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

Client: HRL Compliance Solutions
Work Order: 1310329
Project: Caerus Puckett 246-1 Tank Removal 10.3.13

QC BATCH REPORT

Batch ID: **52015** Instrument ID **GC10** Method: **SW8015**

MBLK Sample ID: **MBLK-52015-52015** Units: **µg/Kg** Analysis Date: **10/8/2013 11:42 AM**
Client ID: Run ID: **GC10_131008A** SeqNo: **2479574** Prep Date: **10/7/2013** 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	*4824*	0	*5000*	0	*96.5*	*50-150*	0			

LCS Sample ID: **LCS-52015-52015** Units: **µg/Kg** Analysis Date: **10/8/2013 10:27 AM**
Client ID: Run ID: **GC10_131008A** SeqNo: **2479572** Prep Date: **10/7/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	403800	2,500	500000	0	80.8	70-130	0			
Surr: Toluene-d8	*6206*	0	*5000*	0	*124*	*50-150*	0			

MS Sample ID: **1310324-04A MS** Units: **µg/Kg** Analysis Date: **10/8/2013 07:33 PM**
Client ID: Run ID: **GC10_131008A** SeqNo: **2480155** Prep Date: **10/7/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	447300	2,500	500000	0	89.5	70-130	0			
Surr: Toluene-d8	*5154*	0	*5000*	0	*103*	*50-150*	0			

MSD Sample ID: **1310324-04A MSD** Units: **µg/Kg** Analysis Date: **10/8/2013 07:56 PM**
Client ID: Run ID: **GC10_131008A** SeqNo: **2480157** Prep Date: **10/7/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	424100	2,500	500000	0	84.8	70-130	447300	5.31	30	
Surr: Toluene-d8	*5051*	0	*5000*	0	*101*	*50-150*	5154	*2.02*	*30*	

The following samples were analyzed in this batch:

1310329-01A	1310329-02A	1310329-03A
1310329-04A	1310329-05A	

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

Client: HRL Compliance Solutions
Work Order: 1310329
Project: Caerus Puckett 246-1 Tank Removal 10.3.13

QC BATCH REPORT

Batch ID: **52090** Instrument ID **HG1** Method: **SW7471**

MBLK Sample ID: **MBLK-52090-52090** Units: **mg/Kg** Analysis Date: **10/8/2013 04:02 PM**
Client ID: Run ID: **HG1_131008A** SeqNo: **2479594** Prep Date: **10/8/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.0035	0.020								J

LCS Sample ID: **LCS-52090-52090** Units: **mg/Kg** Analysis Date: **10/8/2013 04:04 PM**
Client ID: Run ID: **HG1_131008A** SeqNo: **2479595** Prep Date: **10/8/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1892	0.020	0.1665	0	114	80-120	0			

MS Sample ID: **1310329-02BMS** Units: **mg/Kg** Analysis Date: **10/8/2013 04:23 PM**
Client ID: **South Wall, 4'** Run ID: **HG1_131008A** SeqNo: **2479620** Prep Date: **10/8/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1409	0.013	0.1098	0.01245	117	75-125	0			

MSD Sample ID: **1310329-02BMSD** Units: **mg/Kg** Analysis Date: **10/8/2013 04:25 PM**
Client ID: **South Wall, 4'** Run ID: **HG1_131008A** SeqNo: **2479646** Prep Date: **10/8/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1398	0.013	0.1088	0.01245	117	75-125	0.1409	0.797	35	

The following samples were analyzed in this batch:

1310329-01B	1310329-02B	1310329-03B
1310329-04B	1310329-05B	

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

Client: HRL Compliance Solutions
Work Order: 1310329
Project: Caerus Puckett 246-1 Tank Removal 10.3.13

QC BATCH REPORT

Batch ID: **51981** Instrument ID **ICPMS2** Method: **SW6020A** **(Dissolve)**

DUP Sample ID: **1310255-04BDUP** Units: **mg/L** Analysis Date: **10/9/2013 12:04 AM**
Client ID: Run ID: **ICPMS2_131008A** SeqNo: **2479895** Prep Date: **10/8/2013** DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	214.6	10	0	0	0	0-0	220.6	2.76		
Magnesium	34.18	4.0	0	0	0	0-0	35.3	3.22		
Sodium	16.14	4.0	0	0	0	0-0	17.94	10.6		

The following samples were analyzed in this batch:

1310329-01C	1310329-02C	1310329-03C
1310329-04C	1310329-05C	

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

Client: HRL Compliance Solutions
Work Order: 1310329
Project: Caerus Puckett 246-1 Tank Removal 10.3.13

QC BATCH REPORT

Batch ID: **52017** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK Sample ID: **MBLK-52017-52017** Units: **mg/Kg** Analysis Date: **10/7/2013 06:43 PM**
Client ID: Run ID: **ICPMS1_131007A** SeqNo: **2478069** Prep Date: **10/7/2013** 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								
Lead	ND	0.25								
Nickel	ND	0.25								
Selenium	ND	0.25								
Silver	ND	0.25								
Zinc	0.02896	0.50								J

LCS Sample ID: **LCS-52017-52017** Units: **mg/Kg** Analysis Date: **10/7/2013 06:49 PM**
Client ID: Run ID: **ICPMS1_131007A** SeqNo: **2478072** Prep Date: **10/7/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.39	0.25	5	0	87.8	80-120	0			
Barium	4.685	0.25	5	0	93.7	80-120	0			
Cadmium	4.688	0.10	5	0	93.8	80-120	0			
Chromium	4.677	0.25	5	0	93.5	80-120	0			
Copper	4.764	0.25	5	0	95.3	80-120	0			
Lead	4.87	0.25	5	0	97.4	80-120	0			
Nickel	4.691	0.25	5	0	93.8	80-120	0			
Selenium	4.178	0.25	5	0	83.6	80-120	0			
Silver	4.77	0.25	5	0	95.4	80-120	0			
Zinc	4.593	0.50	5	0	91.9	80-120	0			

MS Sample ID: **1310255-02AMS** Units: **mg/Kg** Analysis Date: **10/7/2013 07:51 PM**
Client ID: Run ID: **ICPMS1_131007A** SeqNo: **2478097** Prep Date: **10/7/2013** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	15.56	2.0	7.8	7.554	103	75-125	0			
Barium	211	2.0	7.8	210.2	9.43	75-125	0			SO
Cadmium	8.982	0.78	7.8	0.6698	107	75-125	0			
Chromium	31.39	2.0	7.8	21.13	132	75-125	0			S
Copper	25.02	2.0	7.8	17.92	90.9	75-125	0			
Lead	23.91	2.0	7.8	15.43	109	75-125	0			
Nickel	29.49	2.0	7.8	21.94	96.8	75-125	0			
Selenium	8.233	2.0	7.8	1.291	89	75-125	0			
Silver	7.722	2.0	7.8	0.06771	98.1	75-125	0			
Zinc	80.15	3.9	7.8	71.53	111	75-125	0			O

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

Client: HRL Compliance Solutions
Work Order: 1310329
Project: Caerus Puckett 246-1 Tank Removal 10.3.13

QC BATCH REPORT

Batch ID: **52017** Instrument ID **ICPMS1** Method: **SW6020A**

MSD Sample ID: **1310255-02AMSD** Units: **mg/Kg** Analysis Date: **10/7/2013 07:57 PM**
Client ID: Run ID: **ICPMS1_131007A** SeqNo: **2478100** Prep Date: **10/7/2013** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	15.29	1.9	7.634	7.554	101	75-125	15.56	1.74	25	
Barium	215.2	1.9	7.634	210.2	64.6	75-125	211	1.97	25	SO
Cadmium	8.863	0.76	7.634	0.6698	107	75-125	8.982	1.34	25	
Chromium	31.98	1.9	7.634	21.13	142	75-125	31.39	1.87	25	S
Copper	25.27	1.9	7.634	17.92	96.3	75-125	25.02	1.03	25	
Lead	24.37	1.9	7.634	15.43	117	75-125	23.91	1.93	25	
Nickel	30	1.9	7.634	21.94	106	75-125	29.49	1.7	25	
Selenium	8.149	1.9	7.634	1.291	89.8	75-125	8.233	1.03	25	
Silver	7.634	1.9	7.634	0.06771	99.1	75-125	7.722	1.16	25	
Zinc	82.25	3.8	7.634	71.53	140	75-125	80.15	2.59	25	SO

The following samples were analyzed in this batch: 1310329-01B 1310329-02B 1310329-03B 1310329-04B 1310329-05B

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

Client: HRL Compliance Solutions
Work Order: 1310329
Project: Caerus Puckett 246-1 Tank Removal 10.3.13

QC BATCH REPORT

Batch ID: **52004** Instrument ID **SVMS6** Method: **SW8270**

MBLK Sample ID: **SBLKS1-52004-52004** Units: **µg/Kg** Analysis Date: **10/8/2013 07:35 AM**
Client ID: Run ID: **SVMS6_131008A** SeqNo: **2478863** Prep Date: **10/7/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	ND	6.7								
Acenaphthylene	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(g,h,i)perylene	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	*1261*	0	*1667*	0	*75.7*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1935*	0	*1667*	0	*116*	*25-137*	0			
Surr: Nitrobenzene-d5	*1011*	0	*1667*	0	*60.7*	*37-107*	0			

LCS Sample ID: **SLCSS1-52004-52004** Units: **µg/Kg** Analysis Date: **10/8/2013 07:16 AM**
Client ID: Run ID: **SVMS6_131008A** SeqNo: **2479276** Prep Date: **10/7/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	541	6.7	666.7	0	81.1	45-110	0			
Acenaphthylene	532	6.7	666.7	0	79.8	45-105	0			
Anthracene	564.3	6.7	666.7	0	84.6	55-105	0			
Benzo(a)anthracene	589.3	6.7	666.7	0	88.4	50-110	0			
Benzo(a)pyrene	724.3	6.7	666.7	0	109	50-110	0			
Benzo(b)fluoranthene	738.3	6.7	666.7	0	111	45-115	0			
Benzo(g,h,i)perylene	650.3	6.7	666.7	0	97.5	40-125	0			
Benzo(k)fluoranthene	750.3	6.7	666.7	0	113	45-115	0			
Chrysene	652.7	6.7	666.7	0	97.9	55-110	0			
Dibenzo(a,h)anthracene	662	6.7	666.7	0	99.3	40-125	0			
Fluoranthene	578.3	6.7	666.7	0	86.7	55-115	0			
Fluorene	561	6.7	666.7	0	84.1	50-110	0			
Indeno(1,2,3-cd)pyrene	652.7	6.7	666.7	0	97.9	40-120	0			
Naphthalene	533.7	6.7	666.7	0	80	40-105	0			
Pyrene	656.7	6.7	666.7	0	98.5	45-125	0			
Surr: 2-Fluorobiphenyl	*1419*	0	*1667*	0	*85.1*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1959*	0	*1667*	0	*118*	*25-137*	0			
Surr: Nitrobenzene-d5	*1212*	0	*1667*	0	*72.7*	*37-107*	0			

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

Client: HRL Compliance Solutions
Work Order: 1310329
Project: Caerus Puckett 246-1 Tank Removal 10.3.13

QC BATCH REPORT

Batch ID: **52004** Instrument ID **SVMS6** Method: **SW8270**

MS Sample ID: **1310324-17B MS** Units: **µg/Kg** Analysis Date: **10/8/2013 09:02 AM**
Client ID: Run ID: **SVMS6_131008A** SeqNo: **2479278** Prep Date: **10/7/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1070	13	1319	0	81.1	45-110	0			
Acenaphthylene	1076	13	1319	0	81.6	45-105	0			
Anthracene	1164	13	1319	57.62	83.9	55-105	0			
Benzo(a)anthracene	1298	13	1319	96.04	91.2	50-110	0			
Benzo(a)pyrene	1610	13	1319	118.2	113	50-110	0			S
Benzo(b)fluoranthene	1574	13	1319	123.1	110	45-115	0			
Benzo(g,h,i)perylene	1314	13	1319	75.21	93.9	40-125	0			
Benzo(k)fluoranthene	1486	13	1319	54.69	108	45-115	0			
Chrysene	1295	13	1319	68.37	93	55-110	0			
Dibenzo(a,h)anthracene	1282	13	1319	43.63	93.9	40-125	0			
Fluoranthene	1239	13	1319	170.9	81	55-115	0			
Fluorene	1174	13	1319	0	89	50-110	0			
Indeno(1,2,3-cd)pyrene	1448	13	1319	97.34	102	40-120	0			
Naphthalene	1033	13	1319	0	78.3	40-105	0			
Pyrene	1464	13	1319	155.6	99.2	45-125	0			
Surr: 2-Fluorobiphenyl	*2814*	0	*3297*	0	*85.3*	*12-100*	0			
Surr: 4-Terphenyl-d14	*4066*	0	*3297*	0	*123*	*25-137*	0			
Surr: Nitrobenzene-d5	*2309*	0	*3297*	0	*70*	*37-107*	0			

MSD Sample ID: **1310324-17B MSD** Units: **µg/Kg** Analysis Date: **10/8/2013 03:56 PM**
Client ID: Run ID: **SVMS6_131008A** SeqNo: **2479645** Prep Date: **10/7/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1021	13	1281	0	79.7	45-110	1070	4.65	30	
Acenaphthylene	1081	13	1281	0	84.3	45-105	1076	0.403	30	
Anthracene	1153	13	1281	57.62	85.5	55-105	1164	0.948	30	
Benzo(a)anthracene	1286	13	1281	96.04	92.9	50-110	1298	0.95	30	
Benzo(a)pyrene	1487	13	1281	118.2	107	50-110	1610	7.95	30	
Benzo(b)fluoranthene	1460	13	1281	123.1	104	45-115	1574	7.54	30	
Benzo(g,h,i)perylene	1641	13	1281	75.21	122	40-125	1314	22.1	30	
Benzo(k)fluoranthene	1314	13	1281	54.69	98.3	45-115	1486	12.3	30	
Chrysene	1280	13	1281	68.37	94.6	55-110	1295	1.2	30	
Dibenzo(a,h)anthracene	1601	13	1281	43.63	122	40-125	1282	22.1	30	
Fluoranthene	1213	13	1281	170.9	81.4	55-115	1239	2.12	30	
Fluorene	1106	13	1281	0	86.3	50-110	1174	5.99	30	
Indeno(1,2,3-cd)pyrene	1831	13	1281	97.34	135	40-120	1448	23.4	30	S
Naphthalene	1001	13	1281	0	78.1	40-105	1033	3.17	30	
Pyrene	1368	13	1281	155.6	94.6	45-125	1464	6.81	30	
Surr: 2-Fluorobiphenyl	*2831*	0	*3203*	0	*88.4*	*12-100*	2814	*0.589*	*40*	
Surr: 4-Terphenyl-d14	*3859*	0	*3203*	0	*120*	*25-137*	4066	*5.24*	*40*	
Surr: Nitrobenzene-d5	*2259*	0	*3203*	0	*70.5*	*37-107*	2309	*2.17*	*40*	

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

Client: HRL Compliance Solutions
Work Order: 1310329
Project: Caerus Puckett 246-1 Tank Removal 10.3.13

QC BATCH REPORT

Batch ID: **52004** Instrument ID **SVMS6** Method: **SW8270**

The following samples were analyzed in this batch:

1310329-01B	1310329-02B	1310329-03B
1310329-04B	1310329-05B	

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

Client: HRL Compliance Solutions
Work Order: 1310329
Project: Caerus Puckett 246-1 Tank Removal 10.3.13

QC BATCH REPORT

Batch ID: **52014** Instrument ID **VMS5** Method: **SW8260B**

MBLK Sample ID: **MBLK-52014-52014** Units: **µg/Kg** Analysis Date: **10/7/2013 07:38 PM**
Client ID: Run ID: **VMS5_131007B** SeqNo: **2478461** Prep Date: **10/7/2013** 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	*1008*	0	*1000*	0	*101*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*983.5*	0	*1000*	0	*98.4*	*70-130*	0			
Surr: Dibromofluoromethane	*993.5*	0	*1000*	0	*99.4*	*70-130*	0			
Surr: Toluene-d8	*1000*	0	*1000*	0	*100*	*70-130*	0			

LCS Sample ID: **LCS-52014-52014** Units: **µg/Kg** Analysis Date: **10/7/2013 06:04 PM**
Client ID: Run ID: **VMS5_131007B** SeqNo: **2478457** Prep Date: **10/7/2013** 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			
Ethylbenzene	908.5	30	1000	0	90.8	75-125	0			
m,p-Xylene	1796	60	2000	0	89.8	80-125	0			
o-Xylene	923	30	1000	0	92.3	75-125	0			
Toluene	939	30	1000	0	93.9	70-125	0			
Xylenes, Total	2718	90	3000	0	90.6	75-125	0			
Surr: 1,2-Dichloroethane-d4	*1005*	0	*1000*	0	*100*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*994*	0	*1000*	0	*99.4*	*70-130*	0			
Surr: Dibromofluoromethane	*1038*	0	*1000*	0	*104*	*70-130*	0			
Surr: Toluene-d8	*993*	0	*1000*	0	*99.3*	*70-130*	0			

MS Sample ID: **1310251-01A MS** Units: **µg/Kg** Analysis Date: **10/8/2013 02:16 PM**
Client ID: Run ID: **VMS5_131007C** SeqNo: **2479380** Prep Date: **10/7/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	950	30	1000	0	95	75-125	0			
Ethylbenzene	1049	30	1000	0	105	75-125	0			
m,p-Xylene	2219	60	2000	144.5	104	80-125	0			
o-Xylene	1064	30	1000	0	106	75-125	0			
Toluene	993	30	1000	0	99.3	70-125	0			
Xylenes, Total	3282	90	3000	140	105	75-125	0			
Surr: 1,2-Dichloroethane-d4	*938.5*	0	*1000*	0	*93.8*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1094*	0	*1000*	0	*109*	*70-130*	0			
Surr: Dibromofluoromethane	*953*	0	*1000*	0	*95.3*	*70-130*	0			
Surr: Toluene-d8	*1070*	0	*1000*	0	*107*	*70-130*	0			

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

Client: HRL Compliance Solutions
Work Order: 1310329
Project: Caerus Puckett 246-1 Tank Removal 10.3.13

QC BATCH REPORT

Batch ID: **52014** Instrument ID **VMS5** Method: **SW8260B**

MSD Sample ID: **1310251-01A MSD** Units: **µg/Kg** Analysis Date: **10/8/2013 02:39 PM**
Client ID: Run ID: **VMS5_131007C** SeqNo: **2479414** Prep Date: **10/7/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	958	30	1000	0	95.8	75-125	950	0.839	30	
Ethylbenzene	984	30	1000	0	98.4	75-125	1049	6.39	30	
m,p-Xylene	1867	60	2000	144.5	86.1	80-125	2219	17.2	30	
o-Xylene	877.5	30	1000	0	87.8	75-125	1064	19.2	30	
Toluene	1006	30	1000	0	101	70-125	993	1.35	30	
Xylenes, Total	2744	90	3000	140	86.8	75-125	3282	17.9	30	
Surr: 1,2-Dichloroethane-d4	*928*	0	*1000*	0	*92.8*	*70-130*	938.5	*1.13*	*30*	
Surr: 4-Bromofluorobenzene	*873.5*	0	*1000*	0	*87.4*	*70-130*	1094	*22.4*	*30*	
Surr: Dibromofluoromethane	*941*	0	*1000*	0	*94.1*	*70-130*	953	*1.27*	*30*	
Surr: Toluene-d8	*1042*	0	*1000*	0	*104*	*70-130*	1070	*2.65*	*30*	

The following samples were analyzed in this batch: 1310329-01A 1310329-02A 1310329-03A 1310329-04A 1310329-05A

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

Client: HRL Compliance Solutions
Work Order: 1310329
Project: Caerus Puckett 246-1 Tank Removal 10.3.13

QC BATCH REPORT

Batch ID: **51981** Instrument ID **WETCHEM** Method: **USDA H60 Method**

DUP Sample ID: **1310255-04B DUP** Units: **mmhos/cm @25°C** Analysis Date: **10/8/2013 04:00 PM**

Client ID: Run ID: **WETCHEM_131008P** SeqNo: **2479634** Prep Date: **10/8/2013** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	1.405	0.025	0	0	0		1.455	3.5	50	

The following samples were analyzed in this batch:

1310329-01C 1310329-02C 1310329-03C
1310329-04C 1310329-05C

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

Client: HRL Compliance Solutions
Work Order: 1310329
Project: Caerus Puckett 246-1 Tank Removal 10.3.13

QC BATCH REPORT

Batch ID: **52035** Instrument ID **WETCHEM** Method: **SW9045D**

LCS Sample ID: **LCS-52035-52035** Units: **s.u.** Analysis Date: **10/7/2013 02:27 PM**
Client ID: Run ID: **WETCHEM_131007D** SeqNo: **2477198** Prep Date: **10/7/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	3.92	0	4	0	98	90-110	0			

DUP Sample ID: **1310255-01B DUP** Units: **s.u.** Analysis Date: **10/7/2013 02:27 PM**
Client ID: Run ID: **WETCHEM_131007D** SeqNo: **2477203** Prep Date: **10/7/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	8.37	0	0	0	0	0-0	8.35	0.239	20	

DUP Sample ID: **1310331-05A DUP** Units: **s.u.** Analysis Date: **10/7/2013 02:27 PM**
Client ID: Run ID: **WETCHEM_131007D** SeqNo: **2477211** Prep Date: **10/7/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	8	0	0	0	0	0-0	7.8	2.53	20	

The following samples were analyzed in this batch:

1310329-01B	1310329-02B	1310329-03B
1310329-04B	1310329-05B	

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

Client: HRL Compliance Solutions
Work Order: 1310329
Project: Caerus Puckett 246-1 Tank Removal 10.3.13

QC BATCH REPORT

Batch ID: **52089** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK Sample ID: **MBLK-52089-52089** Units: **mg/Kg** Analysis Date: **10/8/2013 12:00 PM**
Client ID: Run ID: **WETCHEM_131008C** SeqNo: **2478861** Prep Date: **10/7/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	ND	0.50								

LCS Sample ID: **LCS-52089-52089** Units: **mg/Kg** Analysis Date: **10/8/2013 12:00 PM**
Client ID: Run ID: **WETCHEM_131008C** SeqNo: **2478860** Prep Date: **10/7/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1.972	0.50	2	0	98.6	80-120	0			

MS Sample ID: **1310255-01B MS** Units: **mg/Kg** Analysis Date: **10/8/2013 12:00 PM**
Client ID: Run ID: **WETCHEM_131008C** SeqNo: **2478847** Prep Date: **10/7/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1.024	0.51	2.033	0.09274	45.8	75-125	0			S

MS Sample ID: **1310255-01B MSI** Units: **mg/Kg** Analysis Date: **10/8/2013 12:00 PM**
Client ID: Run ID: **WETCHEM_131008C** SeqNo: **2478849** Prep Date: **10/7/2013** DF: **50**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	741.1	25	739.1	0.09274	100	75-125	0			

MSD Sample ID: **1310255-01B MSD** Units: **mg/Kg** Analysis Date: **10/8/2013 12:00 PM**
Client ID: Run ID: **WETCHEM_131008C** SeqNo: **2478848** Prep Date: **10/7/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1	0.50	1.984	0.09274	45.7	75-125	741.1	199	20	SR

The following samples were analyzed in this batch:

1310329-01B	1310329-02B	1310329-03B
1310329-04B	1310329-05B	

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

Client: HRL Compliance Solutions
Work Order: 1310329
Project: Caerus Puckett 246-1 Tank Removal 10.3.13

QC BATCH REPORT

Batch ID: **R127983** Instrument ID **MOIST** Method: **A2540 G**

MBLK Sample ID: **WBLKS-R127983** Units: **% of sample** Analysis Date: **10/7/2013 02:30 PM**
Client ID: Run ID: **MOIST_131007A** SeqNo: **2478320** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	0.03	0.050								J

LCS Sample ID: **LCS-R127983** Units: **% of sample** Analysis Date: **10/7/2013 02:30 PM**
Client ID: Run ID: **MOIST_131007A** SeqNo: **2478316** 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: **1310324-01B DUP** Units: **% of sample** Analysis Date: **10/7/2013 02:30 PM**
Client ID: Run ID: **MOIST_131007A** SeqNo: **2478296** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	8.72	0.050	0	0	0	0-0	8.78	0.686	20	

DUP Sample ID: **1310329-01B DUP** Units: **% of sample** Analysis Date: **10/7/2013 02:30 PM**
Client ID: **North Wall, 4'** Run ID: **MOIST_131007A** SeqNo: **2478306** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	22.99	0.050	0	0	0	0-0	22.96	0.131	20	

The following samples were analyzed in this batch:

1310329-01B	1310329-02B	1310329-03B
1310329-04B	1310329-05B	

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

ALS Laboratory Group

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

Chain-of-Custody

Form 202r8

WORKORDER # 1310329

PAGE 1 of 1

DISPOSAL (By Lab) or Return to Client

PROJECT NAME	CAERUS PUCKETT 246-1	SAMPLER	Casey Richardson
PROJECT No.	# 13-199-11	SITE ID	TANK REMOVAL
		EDD FORMAT	
		PURCHASE ORDER	
COMPANY NAME	HCSI	BILL TO COMPANY	Caerus Piceance LLC
SEND REPORT TO	Herman Lucero	INVOICE ATTN TO	Ed Winters
ADDRESS	2385 F 1/2 Road	ADDRESS	120 Railroad Ave. Suite D
CITY / STATE / ZIP	Grand Junction, CO. 81505	CITY / STATE / ZIP	Parachute, CO 81635
PHONE	970-243-3271	PHONE	970-285-9606
FAX	970-243-3280	FAX	
E-MAIL	hlucero@hrlcomp.com crichardson@hrlcomp.com	E-MAIL	ewinters@caerusoilandgas.com

DATE: 10.4.13

TURNAROUND: 24 HOUR

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	DRO	GRO	BTEX	TOTAL METALS - TABEL 910-1	SEMI VOLS - PAH	SAR	EC	pH
1	NORTH WALL, 4'	SOIL	10-3-13	1450	3	8		X	X	X	X	X	X	X	X
2	SOUTH WALL, 4'	SOIL		1446	3	8		X	X	X	X	X	X	X	X
3	EAST WALL, 4'	SOIL		1457	3	8		X	X	X	X	X	X	X	X
4	WEST WALL, 4'	SOIL		1453	3	8		X	X	X	X	X	X	X	X
5	FOOTPRINT, 8'	SOIL		1443	3	8		X	X	X	X	X	X	X	X

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

For metals or anions, please detail analytes below.

Comments: 5.6°C

QC PACKAGE (check below)	
x	LEVEL II (Standard QC)
	LEVEL III (Std QC + forms)
	LEVEL IV (Std QC + forms + raw data)

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

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY		Casey Richardson	10.4.13	1700
RECEIVED BY		Diane F Shu	10/5/13	1030
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **HRL** Date/Time Received: **05-Oct-13 10:30**

Work Order: **1310329** Received by: **DS**

Checklist completed by Diane Shaw (eSignature) 05-Oct-13 (Date) Reviewed by: Ann Preston (eSignature) 08-Oct-13 (Date)

Matrices: Soil

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☐	No ☑	
Temperature(s)/Thermometer(s):	5.6 c		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	10/5/2013 10:47:19 AM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
Tel. +1 616 399 6070
Fax. +1 616 399 6185

CUSTODY SEAL
Date: 10.4.13 Time: 1700
Name: Casey R
Company: HCSI

ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
Tel. +1 616 399 6070
Fax. +1 616 399 6185

CUSTODY SEAL
Date: 10.4.13 Time: 1700
Name: Casey R
Company: HCSI

Seal Broken By:
Date:

FedEx Ex

1 From
Date 10.4.13
Sender's Name CASEY RICHARDSON Phone 970 243.3271
Company HCSI
Address 3385 F 1/2 ROAD
Dept/Floor/Suite/Room
City GRAND JCT. State CO ZIP 81505

2 Your Internal Billing Reference

3 To
Recipient's Name SAMPLE RECEIVING Phone 616 399.6070
Company ALS ENVIRONMENTAL
Address 3352 128TH AVE.
We cannot deliver to P.O. boxes or P.O. ZIP codes.
Dept/Floor/Suite/Room
Address
Use this line for the HOLD location address or for continuation of your shipping address.
City HOLLAND State MI ZIP 49424

HOLD Weekday
FedEx location address REQUIRED. NOT available for FedEx First Overnight.
HOLD Saturday
FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Next Business Day
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [X] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- [ ] FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.
- [ ] FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [X] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.
- [ ] FedEx Envelope*
- [ ] FedEx Pak*
- [ ] FedEx Box
- [ ] FedEx Tube
- [X] Other

6 Special Handling and Delivery Signature Options
- [ ] SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.
- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Someone at recipient's address may sign for delivery. Fee applies.
- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. Fee applies.

Does this shipment contain dangerous goods? One box must be checked.
- [X] No
- [ ] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg
- [ ] Cargo Aircraft Only

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

7 Payment Bill to: Enter FedEx Acct. No. or Credit Card No. below.
- [ ] Sender — Acct. No. in Section 1 will be billed.
- [X] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check
- [ ] Obtain recip. Acct. No.

Total Packages: 1 Total Weight: ____ lbs. Credit Card Auth.

†Our liability is limited to US$100 unless you declare a higher value. See the current FedEx Service Guide for details.

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23-Aug-2012

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

Re: **PDC Puckett 246-1 8/14/12** Work Order: **1208457**

Dear Herman,

ALS Environmental received 3 samples on 15-Aug-2012 09:30 AM for the analyses presented in the following report.

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

QC sample results for this data met 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,

Ann Preston

Electronically approved by: Ann Preston

Ann Preston
Project Manager

Certificate No: MN331938

ALS Group USA, Corp

Date: 23-Aug-12

Client: HRL Compliance Solutions
Project: PDC Puckett 246-1 8/14/12
Work Order: **1208457**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1208457-01	BKGD 1	Soil		8/14/2012 10:10	8/15/2012 09:30	☐
1208457-02	BKGD 2	Soil		8/14/2012 10:15	8/15/2012 09:30	☐
1208457-03	BKGD 3	Soil		8/14/2012 10:25	8/15/2012 09:30	☐

ALS Group USA, Corp

Date: 23-Aug-12

Client: HRL Compliance Solutions
Project: PDC Puckett 246-1 8/14/12
Work Order: 1208457

Case Narrative

Batch 43063 sample BKGD 3 MSD recovery for Arsenic was below control limits. Both the MS recovery and RPD met quality control criteria. No data requires qualification.

ALS Group USA, Corp

Date: 23-Aug-12

Client: HRL Compliance Solutions
Project: PDC Puckett 246-1 8/14/12
WorkOrder: **1208457**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte 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

Acronym	Description
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

Units Reported	Description
% of sample	Percent of Sample
mg/Kg-dry	Milligrams per Kilogram Dry Weight
µmhos/cm @25°	
none	
s.u.	Standard Units

ALS Group USA, Corp

Date: *23-Aug-12*

Client: HRL Compliance Solutions
Project: PDC Puckett 246-1 8/14/12 **Work Order:** 1208457
Sample ID: BKGD 1 **Lab ID:** 1208457-01
Collection Date: 8/14/2012 10:10 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS			**SW6020A**		Prep Date: **8/20/2012**	Analyst: **RH**
Arsenic	**6.1**		**0.83**	**mg/Kg-dry**	2	8/21/2012 03:41 PM
MOISTURE			**A2540 G**			Analyst: **NZ**
Moisture	**9.6**		**0.050**	**% of sample**	1	8/15/2012 02:00 PM

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

ALS Group USA, Corp

Date: *23-Aug-12*

Client: HRL Compliance Solutions
Project: PDC Puckett 246-1 8/14/12
Work Order: 1208457
Sample ID: BKGD 2
Lab ID: 1208457-02
Collection Date: 8/14/2012 10:15 AM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS			**SW6020A**		Prep Date: **8/20/2012**	Analyst: **RH**
Arsenic	**4.7**		**0.79**	**mg/Kg-dry**	2	8/21/2012 03:47 PM
MOISTURE			**A2540 G**			Analyst: **NZ**
Moisture	**9.7**		**0.050**	**% of sample**	1	8/15/2012 02:00 PM

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

ALS Group USA, Corp

Date: *23-Aug-12*

Client: HRL Compliance Solutions
Project: PDC Puckett 246-1 8/14/12 **Work Order:** 1208457
Sample ID: BKGD 3 **Lab ID:** 1208457-03
Collection Date: 8/14/2012 10:25 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS			**SW6020A**		Prep Date: **8/20/2012**	Analyst: **RH**
Arsenic	**5.4**		**0.81**	**mg/Kg-dry**	2	8/21/2012 02:32 PM
SOLUBLE CATIONS FOR SAR			**SW6020A**		Prep Date: **8/20/2012**	Analyst: **RH**
Calcium	**170**		**5.5**	**mg/L-dry**	10	8/22/2012 03:10 PM
Magnesium	**32**		**2.2**	**mg/L-dry**	10	8/22/2012 03:10 PM
Sodium	**5.7**		**2.2**	**mg/L-dry**	10	8/22/2012 03:10 PM
SODIUM ADSORPTION RATIO			**USDA H60 METHO**			Analyst: **RH**
Sodium Adsorption Ratio	**0.099**		**0.010**	**none**	1	8/22/2012
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHO**		Prep Date: **8/20/2012**	Analyst: **JB**
Electrical Conductivity @ Saturation	**0.89**		**0.050**	**mmhos/cm @25**	10	8/21/2012 01:30 PM
MOISTURE			**A2540 G**			Analyst: **NZ**
Moisture	**9.2**		**0.050**	**% of sample**	1	8/15/2012 02:00 PM
PH			**SW9045D**			Analyst: **JB**
pH	**6.89**			**s.u.**	1	8/16/2012 10:45 AM

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

ALS Group USA, Corp

Date: 23-Aug-12

Client: HRL Compliance Solutions

Work Order: 1208457

Project: PDC Puckett 246-1 8/14/12

QC BATCH REPORT

Batch ID: **43063** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK Sample ID: **MBLK-43063-43063** Units: **mg/Kg** Analysis Date: **8/21/2012 02:21 PM**

Client ID: Run ID: **ICPMS1_120821A** SeqNo: **2058464** Prep Date: **8/20/2012** DF: **1**

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

LCS Sample ID: **LCS-43063-43063** Units: **mg/Kg** Analysis Date: **8/21/2012 02:27 PM**

Client ID: Run ID: **ICPMS1_120821A** SeqNo: **2058465** Prep Date: **8/20/2012** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.32	0.25	5	0	86.4	80-120	0			

MS Sample ID: **1208457-03AMS** Units: **mg/Kg** Analysis Date: **8/21/2012 02:38 PM**

Client ID: **BKGD 3** Run ID: **ICPMS1_120821A** SeqNo: **2058469** Prep Date: **8/20/2012** DF: **2**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	13.47	0.81	8.104	4.875	106	75-125	0			

MSD Sample ID: **1208457-03AMSD** Units: **mg/Kg** Analysis Date: **8/21/2012 03:00 PM**

Client ID: **BKGD 3** Run ID: **ICPMS1_120821A** SeqNo: **2058609** Prep Date: **8/20/2012** DF: **2**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.13	0.76	7.61	4.875	69	75-125	13.47	28.3	25	SR

The following samples were analyzed in this batch: 1208457-01A 1208457-02A 1208457-03A

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

Client: HRL Compliance Solutions
Work Order: 1208457
Project: PDC Puckett 246-1 8/14/12

QC BATCH REPORT

Batch ID: **R108612** Instrument ID **MOIST** Method: **A2540 G**

MBLK Sample ID: **WBLKS1-R108612** Units: **% of sample** Analysis Date: **8/15/2012 02:00 PM**
Client ID: Run ID: **MOIST_120815D** SeqNo: **2054014** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	0.03	0.050								J

LCS Sample ID: **LCS-R108612** Units: **% of sample** Analysis Date: **8/15/2012 02:00 PM**
Client ID: Run ID: **MOIST_120815D** SeqNo: **2054010** 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: **1208455-01A DUP** Units: **% of sample** Analysis Date: **8/15/2012 02:00 PM**
Client ID: Run ID: **MOIST_120815D** SeqNo: **2054001** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	10.11	0.050	0	0	0	0-0	9.96	1.49	20	

The following samples were analyzed in this batch: 1208457-01A 1208457-02A 1208457-03A

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

Client: HRL Compliance Solutions
Work Order: 1208457
Project: PDC Puckett 246-1 8/14/12

QC BATCH REPORT

Batch ID: **R108640** Instrument ID **WETCHEM** Method: **SW9045D**

LCS Sample ID: **WLCSW1-120816-R108640** Units: **s.u.** Analysis Date: **8/16/2012 10:45 AM**
Client ID: Run ID: **WETCHEM_120816P** SeqNo: **2054620** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	4.38	0	4.4	0	99.5	90-110	0			

LCS Sample ID: **WLCSW1-120816-R108640** Units: **s.u.** Analysis Date: **8/16/2012 10:45 AM**
Client ID: Run ID: **WETCHEM_120816P** SeqNo: **2054632** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	4.38	0	4.4	0	99.5	90-110	0			

DUP Sample ID: **1208455-01A DUP** Units: **s.u.** Analysis Date: **8/16/2012 10:45 AM**
Client ID: Run ID: **WETCHEM_120816P** SeqNo: **2054622** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.49	0	0	0	0	0-0	6.49	0	20	

DUP Sample ID: **1208528-01C DUP** Units: **s.u.** Analysis Date: **8/16/2012 10:45 AM**
Client ID: Run ID: **WETCHEM_120816P** SeqNo: **2054634** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.24	0	0	0	0	0-0	7.24	0	20	

The following samples were analyzed in this batch: 1208457-03A

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

Chain of Custody Form

ALS Environmental

Page 1 of 1

COC ID: 00524

☐ Cincinnati, OH +1 513 733 5336 ☒ Holland, MI +1 616 399 6070 ☐ Salt Lake City, UT +1 801 266 7700
☐ Everett, WA +1 425 356 2600 ☐ Houston, TX +1 281 530 5656 ☐ Spring City, PA +1 610 948 4903
☐ Fort Collins, CO +1 970 490 1511 ☐ Middletown, PA +1 717 944 5541 ☐ York, PA +1 717 505 5280

ALS Project Manager: | Work Order #: 1208457

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	PDC PUCKETT 24G-1	A	ARSENIC
Work Order		Project Number		B	SAR
Company Name	HCSI	Bill To Company	PDC ENERGY	C	EC
Send Report To	HERMAN LUCERO	Invoice Attn.	ED WINTERS	D	pH
Address	2385 F 1/2 RD GRAND JCT, CO	Address	120 RAILROAD	E	
				F	
City/State/Zip	GRAND JCT. CO 81505	City/State/Zip	PARACHUTE, CO 81635	G	
Phone	970.243.3271	Phone	970.285.9606	H	
Fax		Fax		I	
e-Mail Address	hlucero@hcsi-co.com	e-Mail Address	ewinters@pdce.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	BKGD 1	8.14.12	1010	S	8	2	X										
2	BKGD 2	"	1015	S	8	1	X										
3	BKGD 3	"	1025	S	8	1	X	X	X	X							
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s): Please Print & Sign: CASEY RICHARDSON

Shipment Method: FedEx

Required Turnaround Time: ☒ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other _____

Results Due Date:

Relinquished by:	Date:	Time:	Received by:	Notes:
	8.14.12	1427	Lab Hub, LLC Parachute, CO	
Relinquished by:	Date:	Time:	Received by (Laboratory):	Cooler Temp.
Lab Hub	8/14/12	1430	FedEx 8/15/12 0930	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	2.4°C
DES	8/15/12	1030		

QC Package: (Check Box Below)
- ☒ Level II: Standard QC
- ☐ Level III: Std QC + Raw Data
- ☐ Level IV: SW846 CLP-Like
- ☐ Other: _____

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035

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

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **HRL** Date/Time Received: **15-Aug-12 09:30**

Work Order: **1208457** Received by: **DS**

Checklist completed by Diane Shaw eSignature 15-Aug-12 Date Reviewed by: Ann Preston eSignature 16-Aug-12 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):	2.4 c		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	8/15/2012 10:59:14 AM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

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

562 Huntington Point Lane

Clifton, CO 81520

Origin ID: GJTA

FedEx Express

J12201207160325

Ship Date: 14AUG12
ActWgt: 51.0 LB
CAD: 103923490/INET3300

Dims: 23 X 15 X 16 IN

Delivery Address Bar Code

Ref # 1001-081412-3
Invoice #
PO #
Dept #

SHIP TO: (616) 399-6070 BILL RECIPIENT

Sample Receiving
ALS Environmental - Holland
3352 128TH AVE

HOLLAND, MI 49424

WED - 15 AUG A4
STANDARD OVERNIGHT

TRK# 0201 7987 4266 2465

XX GRRA

49424
MI-US
GRR

515G2/0C34/AA44

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1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
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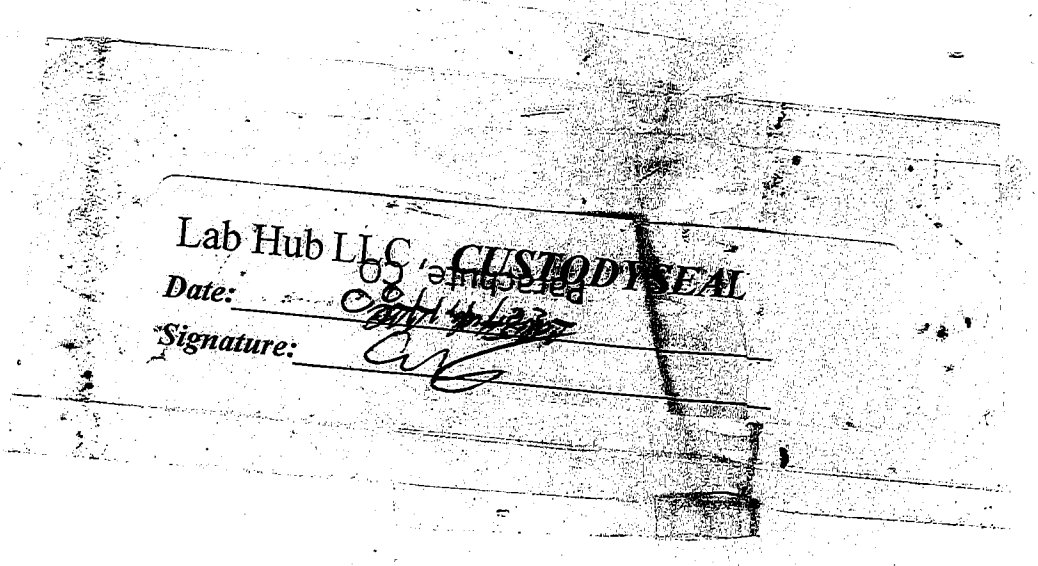

ALS Environmental

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,

Ann Preston

Electronically approved by: Alex Csaszar

Ann Preston
Project Manager

ACCREDITED IN ACCORDANCE WITH nelac
Certificate No: MN331938

ALS Group USA, Corp

Date: 01-Feb-12

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

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
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.

ALS Group USA, Corp

Date: 01-Feb-12

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

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte 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

Acronym	Description
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

Units Reported	Description
% 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
Work Order: 1105150
Sample ID: AS 1
Lab ID: 1105150-02
Collection Date: 5/4/2011 10:45 AM
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.

ALS Group USA, Corp

Date: *01-Feb-12*

Client: HRL Compliance Solutions
Project: PDC Mesa 16 Background 5/4/11
Work Order: 1105150
Sample ID: AS 2
Lab ID: 1105150-03
Collection Date: 5/4/2011 10:50 AM
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	**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 **Work Order:** 1105150
Sample ID: AS 3 **Lab ID:** 1105150-04
Collection Date: 5/6/2011 11:00 AM **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.

ALS Group USA, Corp

Date: *01-Feb-12*

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

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
Acount 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

QUALITY ANALYSES FOR INFORMED DECISIONS

REPORT PRINTED 2/1/2012

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

SOILMISC

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	Qual
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								

LCS 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**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
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								
3,3'-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.

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						J
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			
3-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.

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.

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			
3-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.

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.

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			
Xylenes, 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.

ALS Laboratory Group

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

Chain-of-Custody

Form 202r8

WORKORDER # 1105150

PAGE 1 of 1

DISPOSAL By Lab or Return to Client

PROJECT NAME	PDC Mesa 16 Drill Cuttings	SAMPLER	Casey Richardson
PROJECT No.		SITE ID	
		EDD FORMAT	
		PURCHASE ORDER	
COMPANY NAME	HRL Compliance Solutions, Inc.	BILL TO COMPANY	PDC
SEND REPORT TO	Herman Lucero	INVOICE ATTN TO	Adell Heneghan
ADDRESS	744 Horizon Ct. Suite 140	ADDRESS	1775 Sherman Street #3000
CITY / STATE / ZIP	Grand Junction, CO. 81506	CITY / STATE / ZIP	Denver, CO 80203
PHONE	970-243-3271	PHONE	303-860-5800
FAX	970-243-3280	FAX	
E-MAIL	hlucero@hrlcomp.com	E-MAIL	ahenehghan@petd.com

DATE 5/4/2011

TURNAROUND Standard

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	BTEX	TVPH	TEPH	TOTAL METALS - TABLE 910.1	SEMI VOLS	SAR	EC	pH	ARSENIC
1	Drill Cuttings	soil	5/4/2011	1030	3	4°C		x	x	x	x	x	x	x	x	
2	AS 1	soil	5/4/2011	1045	1	4°C										x
3	AS 2	soil	5/4/2011	1050	1	4°C										x
4	AS 3	soil	5/4/2011	1100	1	4°C										x
5	BACKGROUND	soil	5/4/2011	1105	1	4°C							x	x	x	

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

For metals or anions, please detail analytes below.

Comments: 2.8 °C

QC PACKAGE (check below)	
x	LEVEL II (Standard QC)
	LEVEL III (Std QC + forms)
	LEVEL IV (Std QC + forms + raw data)

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

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY		Casey Richardson	5/4/2011	1730
RECEIVED BY		KEITH WIERENGA	5/6/11	1000
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

ALS Environmental

Subcontractor:
A & L Great Lakes Agricultural La
3505 Conestoga Dr
Ft. Wayne, IN 46808

TEL: (260) 483-4759
FAX:
Acct #: 91000

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	1105150	A	Subcontracted Analyses (SUBCONTRACT)
Work Order		Project Number		B	
Company Name	ALS Group USA, Corp	Bill To Company	ALS Group USA, Corp	C	
Send Report To	Ann Preston	Inv Attn	Accounts Payable	D	
Address	3352 128th Avenue	Address	3352 128th Avenue	E	
				F	
City/State/Zip	Holland, Michigan 49424-9263	City/State/Zip	Holland, Michigan 49424-9263	G	
Phone	(616) 399-6070	Phone	(616) 399-6070	H	
Fax	(616) 399-6185	Fax	(616) 399-6185	I	
eMail Address	ann.preston@alsglobal.com	eMail CC		J	

Sample ID	Matrix	Collection Date 24hr	Bottle	A	B	C	D	E	F	G	H	I	J
1105150-01C (Drill Cuttings)	Soil	4/May/2011 10:30	(1) MISC	X									
1105150-05B (Background)	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
	5/6/11				Std
Relinquished by:	Date/Time	Received by:	Date/Time		

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 *Keith Werenga* (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):	2.8 C		
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: