

State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303)894-2100 Fax:(303)894-2109



#7938

FOR OGCC USE ONLY

RECEIVED
8/8/2013

SITE INVESTIGATION AND REMEDIATION WORKPLAN

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. Form 27 is intended to be used whenever possible. Additional documentation will be required when large volumes of soil and groundwater have been impacted or involve large facilities with multiple source areas. See Rule 910. Attach as many pages as needed to fully describe the proposed work.

CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

☐ Spill or Release ☐ Plug & Abandon ☐ Central Facility Closure ☒ Site/Facility Closure ☐ Other (describe): _____

OGCC Employee:

☐ Spill ☐ Complaint

☐ Inspection ☐ NOAV

Tracking No:

OGCC Operator Number: 10150

Name of Operator: Black Hills Plateau Production

Address: 1515 Wynkoop St., Suite 500

City: Denver State: CO Zip: 80202

Contact Name and Telephone:

Jessica Donahue

No: 720-210-1333

Fax: 303-566-3344

API Number: 05-077-09403

County: Mesa

Facility Name: _____

Facility Number: 420488

Well Name: Federal

Well Number: 35-2

Location: (QtrQtr, Sec, Twp, Rng, Meridian): SWSW Sect. 25, T9S R97W, 6th PM Latitude: 39.22639 Longitude: -108.1917

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): Produced Water

Site Conditions: Is location within a sensitive area (according to Rule 901e)? ☒ Y ☐ N If yes, attach evaluation.

Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): Non-Cropland Rangeland

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: See Form 2A, Document # 400100493

Potential receptors (water wells within 1/4 mi, surface waters, etc.): unnamed drainage

Description of Impact (if previously provided, refer to that form or document):

Impacted Media (check):



Soils



Vegetation



Groundwater



Surface Water

Extent of Impact:

Pit Only

None

None

None

How Determined:

Visual, Affected area limited to pit

Visual, Affected area limited to pit

Visual, Affected area limited to pit

Visual, Affected area limited to pit

REMEDIAL WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document):

On May 3, 2013, samples were collected from the pit bottom and pit walls to be analyzed for Table 910-1 compliance in order to close the pit.

Describe how source is to be removed:

All water has been either: evaporated from the pit, or removed via water truck and injected in the Hancock Gulch #1 injection well.

Describe how remediation of existing impacts is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, insitu bioremediation, burning of oily vegetation, etc.:

Soils will be backfilled into the pit.

FORM
27
Rev 6/99

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REMEDIATION WORKPLAN (Cont.)

Tracking Number: _____
Name of Operator: Black Hills
OGCC Operator No: _____
Received Date: _____
Well Name & No: Location ID # 312741
Facility Name & No: Pit # 420488

OGCC Employee: _____

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):

Groundwater not impacted

Describe reclamation plan. Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing. Use additional sheet for description if required.

The pit will be backfilled and compacted. The site is an active well site, so some reseeding may take place in areas not required for production.

Attach samples and analytical results taken to verify remediation of impacts. Show locations of samples on an onsite schematic or drawing.

Is further site investigation required? ☐ Y ☒ N If yes, describe:

Final disposition of E&P waste (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):

All soils will be backfilled into the pit upon approval from COGCC.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 5/3/13 Date Site Investigation Completed: _____ Date Remediation Plan Submitted: _____
Remediation Start Date: _____ Anticipated Completion Date: _____ Actual Completion Date: _____

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: Jessica Donahue

Signed: [Signature]

Title: Regulatory Technician

Date: 8/7/13

OGCC Approved: [Signature]

Title: EPS NW Region

Date: 08/21/2013

See attached photos and
analytical results
showing compliance w/COGCC Rules (Table 910-1)



10-May-2013

Kris Rowe
HRL Compliance Solutions
2385 F 1/2 Road
Grand Junction, CO 81505

Re: **Black Hills Shire Gulch Fed 35-2 Pit 5.3.13**

Work Order: **1305233**

Dear Kris,

ALS Environmental received 5 samples on 04-May-2013 09:30 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 30.

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

Sincerely,

A handwritten signature in black ink that reads "Ann Preston".

Electronically approved by: Ann Preston

Ann Preston
Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

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

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Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: HRL Compliance Solutions
Project: Black Hills Shire Gulch Fed 35-2 Pit 5.3.13
Work Order: 1305233

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1305233-01	Bottom	Soil		5/3/2013 12:30	5/4/2013 09:30	<input type="checkbox"/>
1305233-02	North Wall	Soil		5/3/2013 12:00	5/4/2013 09:30	<input type="checkbox"/>
1305233-03	South Wall	Soil		5/3/2013 12:15	5/4/2013 09:30	<input type="checkbox"/>
1305233-04	East Wall	Soil		5/3/2013 13:00	5/4/2013 09:30	<input type="checkbox"/>
1305233-05	West Wall	Soil		5/3/2013 12:45	5/4/2013 09:30	<input type="checkbox"/>

Client: HRL Compliance Solutions
Project: Black Hills Shire Gulch Fed 35-2 Pit 5.3.13
Work Order: 1305233

Case Narrative

Batch 48266 MS/MSD data for Metals is not related to this project's samples. No data requires qualification.

Batch R120434 duplicate data for Moisture is not related to this project's samples. No data requires qualification.

Client: HRL Compliance Solutions
Project: Black Hills Shire Gulch Fed 35-2 Pit 5.3.13
WorkOrder: 1305233

QUALIFIERS, ACRONYMS, UNITS

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

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
TDL	Target Detection Limit
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
µg/Kg-dry	Micrograms per Kilogram Dry Weight
mg/Kg-dry	Milligrams per Kilogram Dry Weight
mmhos/cm @25°F	Microhms-Centimeter at 25 Degrees Fahrenheit
none	
s.u.	Standard Units

ALS Group USA, Corp

Date: 10-May-13

Client: HRL Compliance Solutions
Project: Black Hills Shire Gulch Fed 35-2 Pit 5.3.13
Sample ID: Bottom
Collection Date: 5/3/2013 12:30 PM

Work Order: 1305233
Lab ID: 1305233-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	9.0		SW8015M		Prep Date: 5/7/2013	Analyst: RM
			4.6	mg/Kg-dry	1	5/8/2013 08:53 AM
Surr: 4-Terphenyl-d14	57.2		39-115	%REC	1	5/8/2013 08:53 AM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	ND		SW8015			Analyst: JD
			2.8	mg/Kg-dry	50	5/8/2013 07:13 PM
Surr: Toluene-d8	115		50-150	%REC	50	5/8/2013 07:13 PM
MERCURY BY CVAA						
Mercury	ND		SW7471		Prep Date: 5/6/2013	Analyst: LR
			0.018	mg/Kg-dry	1	5/6/2013 05:47 PM
METALS BY ICP-MS						
Arsenic	ND		SW6020A		Prep Date: 5/8/2013	Analyst: ML
			2.0	mg/Kg-dry	5	5/9/2013 12:05 AM
Barium	120		2.0	mg/Kg-dry	5	5/9/2013 12:05 AM
Cadmium	ND		0.79	mg/Kg-dry	5	5/9/2013 12:05 AM
Chromium	4.7		2.0	mg/Kg-dry	5	5/9/2013 12:05 AM
Copper	5.3		2.0	mg/Kg-dry	5	5/9/2013 12:05 AM
Lead	8.7		2.0	mg/Kg-dry	5	5/9/2013 12:05 AM
Nickel	3.2		2.0	mg/Kg-dry	5	5/9/2013 12:05 AM
Selenium	ND		2.0	mg/Kg-dry	5	5/9/2013 12:05 AM
Silver	ND		2.0	mg/Kg-dry	5	5/9/2013 12:05 AM
Zinc	32		4.0	mg/Kg-dry	5	5/9/2013 09:30 PM
SOLUBLE CATIONS FOR SAR						
Calcium	330		SW6020A		Prep Date: 5/6/2013	Analyst: RH
			11	mg/L-dry	20	5/10/2013 04:59 PM
Magnesium	110		4.5	mg/L-dry	20	5/10/2013 04:59 PM
Sodium	1,900		4.5	mg/L-dry	20	5/10/2013 04:59 PM
SODIUM ADSORPTION RATIO						
Sodium Adsorption Ratio	22		USDA H60 METHO		Prep Date: 5/6/2013	Analyst: RH
			0.010	none	1	5/9/2013
SEMI-VOLATILE ORGANIC COMPOUNDS						
Acenaphthene	43		SW8270		Prep Date: 5/7/2013	Analyst: HL
			17	µg/Kg-dry	1	5/8/2013 04:54 PM
Acenaphthylene	ND		33	µg/Kg-dry	1	5/8/2013 04:54 PM
Anthracene	54		17	µg/Kg-dry	1	5/8/2013 04:54 PM
Benzo(a)anthracene	23		19	µg/Kg-dry	1	5/8/2013 04:54 PM
Benzo(a)pyrene	42		19	µg/Kg-dry	1	5/8/2013 04:54 PM
Benzo(b)fluoranthene	31		20	µg/Kg-dry	1	5/8/2013 04:54 PM
Benzo(g,h,i)perylene	ND		31	µg/Kg-dry	1	5/8/2013 04:54 PM
Benzo(k)fluoranthene	49		20	µg/Kg-dry	1	5/8/2013 04:54 PM
Chrysene	37		17	µg/Kg-dry	1	5/8/2013 04:54 PM
Dibenzo(a,h)anthracene	ND		20	µg/Kg-dry	1	5/8/2013 04:54 PM
Fluoranthene	29		17	µg/Kg-dry	1	5/8/2013 04:54 PM

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

ALS Group USA, Corp

Date: 10-May-13

Client: HRL Compliance Solutions
Project: Black Hills Shire Gulch Fed 35-2 Pit 5.3.13
Sample ID: Bottom
Collection Date: 5/3/2013 12:30 PM

Work Order: 1305233
Lab ID: 1305233-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	44		17	µg/Kg-dry	1	5/8/2013 04:54 PM
Indeno(1,2,3-cd)pyrene	ND		22	µg/Kg-dry	1	5/8/2013 04:54 PM
Naphthalene	ND		17	µg/Kg-dry	1	5/8/2013 04:54 PM
Pyrene	27		17	µg/Kg-dry	1	5/8/2013 04:54 PM
Surr: 2-Fluorobiphenyl	71.4		12-100	%REC	1	5/8/2013 04:54 PM
Surr: 4-Terphenyl-d14	94.8		25-137	%REC	1	5/8/2013 04:54 PM
Surr: Nitrobenzene-d5	69.3		37-107	%REC	1	5/8/2013 04:54 PM
VOLATILE ORGANIC COMPOUNDS			SW8260		Prep Date: 5/6/2013	Analyst: BG
Benzene	ND		34	µg/Kg-dry	1	5/10/2013 06:11 AM
Ethylbenzene	ND		34	µg/Kg-dry	1	5/10/2013 06:11 AM
m,p-Xylene	ND		67	µg/Kg-dry	1	5/10/2013 06:11 AM
o-Xylene	ND		34	µg/Kg-dry	1	5/10/2013 06:11 AM
Toluene	ND		34	µg/Kg-dry	1	5/10/2013 06:11 AM
Xylenes, Total	ND		100	µg/Kg-dry	1	5/10/2013 06:11 AM
Surr: 1,2-Dichloroethane-d4	99.2		70-130	%REC	1	5/10/2013 06:11 AM
Surr: 4-Bromofluorobenzene	98.4		70-130	%REC	1	5/10/2013 06:11 AM
Surr: Dibromofluoromethane	91.6		70-130	%REC	1	5/10/2013 06:11 AM
Surr: Toluene-d8	99.0		70-130	%REC	1	5/10/2013 06:11 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO		Prep Date: 5/6/2013	Analyst: JB
Electrical Conductivity @ Saturation	13		0.050	mmhos/cm @25	10	5/10/2013 01:30 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: MB
Chromium, Trivalent	4.7		0.56	mg/Kg-dry	1	5/10/2013 11:05 AM
CHROMIUM, HEXAVALENT			SW7196A		Prep Date: 5/8/2013	Analyst: MB
Chromium, Hexavalent	ND		0.55	mg/Kg-dry	1	5/10/2013 09:20 AM
MOISTURE			A2540 G			Analyst: KF
Moisture	10		0.050	% of sample	1	5/7/2013 12:56 PM
PH			SW9045D			Analyst: KF
pH	8.7			s.u.	1	5/8/2013 10:45 AM

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

ALS Group USA, Corp

Date: 10-May-13

Client: HRL Compliance Solutions
Project: Black Hills Shire Gulch Fed 35-2 Pit 5.3.13
Sample ID: North Wall
Collection Date: 5/3/2013 12:00 PM

Work Order: 1305233
Lab ID: 1305233-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	29		SW8015M		Prep Date: 5/7/2013	Analyst: RM
			4.6	mg/Kg-dry	1	5/9/2013 03:21 AM
Surr: 4-Terphenyl-d14	68.8		39-115	%REC	1	5/9/2013 03:21 AM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	ND		SW8015			Analyst: JD
			2.8	mg/Kg-dry	50	5/8/2013 07:37 PM
Surr: Toluene-d8	117		50-150	%REC	50	5/8/2013 07:37 PM
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW8270		Prep Date: 5/7/2013	Analyst: RM
Acenaphthene	ND		17	µg/Kg-dry	1	5/8/2013 05:28 PM
Acenaphthylene	ND		33	µg/Kg-dry	1	5/8/2013 05:28 PM
Anthracene	ND		17	µg/Kg-dry	1	5/8/2013 05:28 PM
Benzo(a)anthracene	ND		19	µg/Kg-dry	1	5/8/2013 05:28 PM
Benzo(a)pyrene	ND		19	µg/Kg-dry	1	5/8/2013 05:28 PM
Benzo(b)fluoranthene	ND		20	µg/Kg-dry	1	5/8/2013 05:28 PM
Benzo(g,h,i)perylene	ND		31	µg/Kg-dry	1	5/8/2013 05:28 PM
Benzo(k)fluoranthene	ND		20	µg/Kg-dry	1	5/8/2013 05:28 PM
Chrysene	ND		17	µg/Kg-dry	1	5/8/2013 05:28 PM
Dibenzo(a,h)anthracene	ND		20	µg/Kg-dry	1	5/8/2013 05:28 PM
Fluoranthene	ND		17	µg/Kg-dry	1	5/8/2013 05:28 PM
Fluorene	ND		17	µg/Kg-dry	1	5/8/2013 05:28 PM
Indeno(1,2,3-cd)pyrene	ND		22	µg/Kg-dry	1	5/8/2013 05:28 PM
Naphthalene	ND		17	µg/Kg-dry	1	5/8/2013 05:28 PM
Pyrene	ND		17	µg/Kg-dry	1	5/8/2013 05:28 PM
Surr: 2-Fluorobiphenyl	74.3		12-100	%REC	1	5/8/2013 05:28 PM
Surr: 4-Terphenyl-d14	101		25-137	%REC	1	5/8/2013 05:28 PM
Surr: Nitrobenzene-d5	74.9		37-107	%REC	1	5/8/2013 05:28 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260		Prep Date: 5/6/2013	Analyst: BG
Benzene	ND		34	µg/Kg-dry	1	5/10/2013 06:36 AM
Ethylbenzene	ND		34	µg/Kg-dry	1	5/10/2013 06:36 AM
m,p-Xylene	ND		68	µg/Kg-dry	1	5/10/2013 06:36 AM
o-Xylene	ND		34	µg/Kg-dry	1	5/10/2013 06:36 AM
Toluene	ND		34	µg/Kg-dry	1	5/10/2013 06:36 AM
Xylenes, Total	ND		100	µg/Kg-dry	1	5/10/2013 06:36 AM
Surr: 1,2-Dichloroethane-d4	96.9		70-130	%REC	1	5/10/2013 06:36 AM
Surr: 4-Bromofluorobenzene	94.6		70-130	%REC	1	5/10/2013 06:36 AM
Surr: Dibromofluoromethane	89.4		70-130	%REC	1	5/10/2013 06:36 AM
Surr: Toluene-d8	97.8		70-130	%REC	1	5/10/2013 06:36 AM
MOISTURE						
			A2540 G			Analyst: RLF
Moisture	12		0.050	% of sample	1	5/8/2013 05:00 PM

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

ALS Group USA, Corp

Date: 10-May-13

Client: HRL Compliance Solutions
Project: Black Hills Shire Gulch Fed 35-2 Pit 5.3.13
Sample ID: South Wall
Collection Date: 5/3/2013 12:15 PM

Work Order: 1305233
Lab ID: 1305233-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	10		SW8015M		Prep Date: 5/7/2013	Analyst: RM
			4.4	mg/Kg-dry	1	5/9/2013 03:51 AM
Surr: 4-Terphenyl-d14	61.4		39-115	%REC	1	5/9/2013 03:51 AM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	ND		SW8015			Analyst: JD
			2.7	mg/Kg-dry	50	5/8/2013 08:02 PM
Surr: Toluene-d8	113		50-150	%REC	50	5/8/2013 08:02 PM
SEMI-VOLATILE ORGANIC COMPOUNDS						
SW8270					Prep Date: 5/7/2013	Analyst: RM
Acenaphthene	ND		16	µg/Kg-dry	1	5/8/2013 05:08 PM
Acenaphthylene	ND		31	µg/Kg-dry	1	5/8/2013 05:08 PM
Anthracene	ND		16	µg/Kg-dry	1	5/8/2013 05:08 PM
Benzo(a)anthracene	ND		18	µg/Kg-dry	1	5/8/2013 05:08 PM
Benzo(a)pyrene	ND		18	µg/Kg-dry	1	5/8/2013 05:08 PM
Benzo(b)fluoranthene	ND		19	µg/Kg-dry	1	5/8/2013 05:08 PM
Benzo(g,h,i)perylene	ND		29	µg/Kg-dry	1	5/8/2013 05:08 PM
Benzo(k)fluoranthene	ND		19	µg/Kg-dry	1	5/8/2013 05:08 PM
Chrysene	ND		16	µg/Kg-dry	1	5/8/2013 05:08 PM
Dibenzo(a,h)anthracene	ND		19	µg/Kg-dry	1	5/8/2013 05:08 PM
Fluoranthene	ND		16	µg/Kg-dry	1	5/8/2013 05:08 PM
Fluorene	ND		16	µg/Kg-dry	1	5/8/2013 05:08 PM
Indeno(1,2,3-cd)pyrene	ND		21	µg/Kg-dry	1	5/8/2013 05:08 PM
Naphthalene	ND		16	µg/Kg-dry	1	5/8/2013 05:08 PM
Pyrene	ND		16	µg/Kg-dry	1	5/8/2013 05:08 PM
Surr: 2-Fluorobiphenyl	68.5		12-100	%REC	1	5/8/2013 05:08 PM
Surr: 4-Terphenyl-d14	86.7		25-137	%REC	1	5/8/2013 05:08 PM
Surr: Nitrobenzene-d5	73.6		37-107	%REC	1	5/8/2013 05:08 PM
VOLATILE ORGANIC COMPOUNDS						
SW8260					Prep Date: 5/6/2013	Analyst: RS
Benzene	ND		32	µg/Kg-dry	1	5/10/2013 12:56 PM
Ethylbenzene	ND		32	µg/Kg-dry	1	5/10/2013 12:56 PM
m,p-Xylene	ND		64	µg/Kg-dry	1	5/10/2013 12:56 PM
o-Xylene	ND		32	µg/Kg-dry	1	5/10/2013 12:56 PM
Toluene	ND		32	µg/Kg-dry	1	5/10/2013 12:56 PM
Xylenes, Total	ND		96	µg/Kg-dry	1	5/10/2013 12:56 PM
Surr: 1,2-Dichloroethane-d4	101		70-130	%REC	1	5/10/2013 12:56 PM
Surr: 4-Bromofluorobenzene	98.3		70-130	%REC	1	5/10/2013 12:56 PM
Surr: Dibromofluoromethane	98.6		70-130	%REC	1	5/10/2013 12:56 PM
Surr: Toluene-d8	105		70-130	%REC	1	5/10/2013 12:56 PM
MOISTURE						
A2540 G						Analyst: RLF
Moisture	6.4		0.050	% of sample	1	5/8/2013 05:00 PM

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

ALS Group USA, Corp

Date: 10-May-13

Client: HRL Compliance Solutions
Project: Black Hills Shire Gulch Fed 35-2 Pit 5.3.13
Sample ID: East Wall
Collection Date: 5/3/2013 01:00 PM

Work Order: 1305233
Lab ID: 1305233-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep Date: 5/7/2013	Analyst: RM
DRO (C10-C28)	90		4.8	mg/Kg-dry	1	5/9/2013 04:52 AM
Surr: 4-Terphenyl-d14	73.1		39-115	%REC	1	5/9/2013 04:52 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015			Analyst: JD
GRO (C6-C10)	ND		2.9	mg/Kg-dry	50	5/8/2013 08:27 PM
Surr: Toluene-d8	117		50-150	%REC	50	5/8/2013 08:27 PM
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW8270		Prep Date: 5/7/2013	Analyst: RM
Acenaphthene	ND		17	µg/Kg-dry	1	5/8/2013 04:48 PM
Acenaphthylene	ND		34	µg/Kg-dry	1	5/8/2013 04:48 PM
Anthracene	ND		17	µg/Kg-dry	1	5/8/2013 04:48 PM
Benzo(a)anthracene	ND		19	µg/Kg-dry	1	5/8/2013 04:48 PM
Benzo(a)pyrene	ND		19	µg/Kg-dry	1	5/8/2013 04:48 PM
Benzo(b)fluoranthene	ND		21	µg/Kg-dry	1	5/8/2013 04:48 PM
Benzo(g,h,i)perylene	ND		32	µg/Kg-dry	1	5/8/2013 04:48 PM
Benzo(k)fluoranthene	ND		21	µg/Kg-dry	1	5/8/2013 04:48 PM
Chrysene	ND		17	µg/Kg-dry	1	5/8/2013 04:48 PM
Dibenzo(a,h)anthracene	ND		21	µg/Kg-dry	1	5/8/2013 04:48 PM
Fluoranthene	ND		17	µg/Kg-dry	1	5/8/2013 04:48 PM
Fluorene	ND		17	µg/Kg-dry	1	5/8/2013 04:48 PM
Indeno(1,2,3-cd)pyrene	ND		23	µg/Kg-dry	1	5/8/2013 04:48 PM
Naphthalene	ND		17	µg/Kg-dry	1	5/8/2013 04:48 PM
Pyrene	30		17	µg/Kg-dry	1	5/8/2013 04:48 PM
Surr: 2-Fluorobiphenyl	71.9		12-100	%REC	1	5/8/2013 04:48 PM
Surr: 4-Terphenyl-d14	106		25-137	%REC	1	5/8/2013 04:48 PM
Surr: Nitrobenzene-d5	69.5		37-107	%REC	1	5/8/2013 04:48 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260		Prep Date: 5/6/2013	Analyst: BG
Benzene	ND		34	µg/Kg-dry	1	5/10/2013 07:00 AM
Ethylbenzene	ND		34	µg/Kg-dry	1	5/10/2013 07:00 AM
m,p-Xylene	ND		69	µg/Kg-dry	1	5/10/2013 07:00 AM
o-Xylene	ND		34	µg/Kg-dry	1	5/10/2013 07:00 AM
Toluene	ND		34	µg/Kg-dry	1	5/10/2013 07:00 AM
Xylenes, Total	ND		100	µg/Kg-dry	1	5/10/2013 07:00 AM
Surr: 1,2-Dichloroethane-d4	97.8		70-130	%REC	1	5/10/2013 07:00 AM
Surr: 4-Bromofluorobenzene	97.2		70-130	%REC	1	5/10/2013 07:00 AM
Surr: Dibromofluoromethane	88.4		70-130	%REC	1	5/10/2013 07:00 AM
Surr: Toluene-d8	97.6		70-130	%REC	1	5/10/2013 07:00 AM
MOISTURE						
			A2540 G			Analyst: RLF
Moisture	13		0.050	% of sample	1	5/8/2013 05:00 PM

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

ALS Group USA, Corp

Date: 10-May-13

Client: HRL Compliance Solutions
Project: Black Hills Shire Gulch Fed 35-2 Pit 5.3.13
Sample ID: West Wall
Collection Date: 5/3/2013 12:45 PM

Work Order: 1305233
Lab ID: 1305233-05
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep Date: 5/7/2013	Analyst: RM
DRO (C10-C28)	36		4.7	mg/Kg-dry	1	5/9/2013 05:23 AM
Surr: 4-Terphenyl-d14	57.2		39-115	%REC	1	5/9/2013 05:23 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015			Analyst: JD
GRO (C6-C10)	ND		2.8	mg/Kg-dry	50	5/8/2013 08:51 PM
Surr: Toluene-d8	115		50-150	%REC	50	5/8/2013 08:51 PM
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW8270		Prep Date: 5/7/2013	Analyst: RM
Acenaphthene	ND		17	µg/Kg-dry	1	5/8/2013 04:28 PM
Acenaphthylene	ND		33	µg/Kg-dry	1	5/8/2013 04:28 PM
Anthracene	ND		17	µg/Kg-dry	1	5/8/2013 04:28 PM
Benzo(a)anthracene	ND		19	µg/Kg-dry	1	5/8/2013 04:28 PM
Benzo(a)pyrene	ND		19	µg/Kg-dry	1	5/8/2013 04:28 PM
Benzo(b)fluoranthene	ND		20	µg/Kg-dry	1	5/8/2013 04:28 PM
Benzo(g,h,i)perylene	ND		31	µg/Kg-dry	1	5/8/2013 04:28 PM
Benzo(k)fluoranthene	ND		20	µg/Kg-dry	1	5/8/2013 04:28 PM
Chrysene	ND		17	µg/Kg-dry	1	5/8/2013 04:28 PM
Dibenzo(a,h)anthracene	ND		20	µg/Kg-dry	1	5/8/2013 04:28 PM
Fluoranthene	ND		17	µg/Kg-dry	1	5/8/2013 04:28 PM
Fluorene	ND		17	µg/Kg-dry	1	5/8/2013 04:28 PM
Indeno(1,2,3-cd)pyrene	ND		22	µg/Kg-dry	1	5/8/2013 04:28 PM
Naphthalene	ND		17	µg/Kg-dry	1	5/8/2013 04:28 PM
Pyrene	ND		17	µg/Kg-dry	1	5/8/2013 04:28 PM
Surr: 2-Fluorobiphenyl	71.7		12-100	%REC	1	5/8/2013 04:28 PM
Surr: 4-Terphenyl-d14	97.1		25-137	%REC	1	5/8/2013 04:28 PM
Surr: Nitrobenzene-d5	72.8		37-107	%REC	1	5/8/2013 04:28 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260		Prep Date: 5/6/2013	Analyst: BG
Benzene	ND		34	µg/Kg-dry	1	5/10/2013 07:25 AM
Ethylbenzene	ND		34	µg/Kg-dry	1	5/10/2013 07:25 AM
m,p-Xylene	ND		68	µg/Kg-dry	1	5/10/2013 07:25 AM
o-Xylene	ND		34	µg/Kg-dry	1	5/10/2013 07:25 AM
Toluene	ND		34	µg/Kg-dry	1	5/10/2013 07:25 AM
Xylenes, Total	ND		100	µg/Kg-dry	1	5/10/2013 07:25 AM
Surr: 1,2-Dichloroethane-d4	96.2		70-130	%REC	1	5/10/2013 07:25 AM
Surr: 4-Bromofluorobenzene	98.2		70-130	%REC	1	5/10/2013 07:25 AM
Surr: Dibromofluoromethane	90.9		70-130	%REC	1	5/10/2013 07:25 AM
Surr: Toluene-d8	99.2		70-130	%REC	1	5/10/2013 07:25 AM
MOISTURE						
			A2540 G			Analyst: RLF
Moisture	11		0.050	% of sample	1	5/8/2013 05:00 PM

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

Client: HRL Compliance Solutions

QC BATCH REPORT

Work Order: 1305233

Project: Black Hills Shire Gulch Fed 35-2 Pit 5.3.13

Batch ID: 48220

Instrument ID GC8

Method: SW8015M

MBLK		Sample ID: DBLKS1-48220-48220				Units: mg/Kg		Analysis Date: 5/8/2013 06:51 AM		
Client ID:		Run ID: GC8_130507B				SeqNo: 2310411		Prep Date: 5/7/2013		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	1.017	0	1.667	0	61	39-115	0			

LCS		Sample ID: DLCSS1-48220-48220				Units: mg/Kg		Analysis Date: 5/8/2013 07:22 AM		
Client ID:		Run ID: GC8_130507B				SeqNo: 2310412		Prep Date: 5/7/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	146.4	4.2	166.7	0	87.8	49-124	0			
Surr: 4-Terphenyl-d14	0.9867	0	1.667	0	59.2	39-115	0			

MS		Sample ID: 1305233-01B MS				Units: mg/Kg		Analysis Date: 5/8/2013 07:52 AM		
Client ID: Bottom		Run ID: GC8_130507B				SeqNo: 2310413		Prep Date: 5/7/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	278.1	7.9	315	8.029	85.7	49-130	0			
Surr: 4-Terphenyl-d14	2.142	0	3.15	0	68	39-115	0			

MSD		Sample ID: 1305233-01B MSD				Units: mg/Kg		Analysis Date: 5/8/2013 08:23 AM		
Client ID: Bottom		Run ID: GC8_130507B				SeqNo: 2310414		Prep Date: 5/7/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	298.1	8.2	327.1	8.029	88.7	49-130	278.1	6.92	30	
Surr: 4-Terphenyl-d14	2.372	0	3.271	0	72.5	39-115	2.142	10.2	30	

The following samples were analyzed in this batch:

1305233-01B	1305233-02B	1305233-03B
1305233-04B	1305233-05B	

Client: HRL Compliance Solutions
Work Order: 1305233
Project: Black Hills Shire Gulch Fed 35-2 Pit 5.3.13

QC BATCH REPORT

Batch ID: **R120406** Instrument ID **GC10** Method: **SW8015**

MBLK		Sample ID: GBLK3-130507-R120406				Units: µg/L		Analysis Date: 5/8/2013 02:35 PM		
Client ID:		Run ID: GC10_130507D				SeqNo: 2310726		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								
<i>Surr: Toluene-d8</i>	<i>115.9</i>	<i>0</i>	<i>100</i>	<i>0</i>	<i>116</i>	<i>70-130</i>	<i>0</i>			

LCS		Sample ID: GLCS3-130507-R120406				Units: µg/L		Analysis Date: 5/8/2013 01:51 PM		
Client ID:		Run ID: GC10_130507D				SeqNo: 2310725		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)	7665	200	10000	0	76.6	70-130	0			
<i>Surr: Toluene-d8</i>	<i>105.1</i>	<i>0</i>	<i>100</i>	<i>0</i>	<i>105</i>	<i>70-130</i>	<i>0</i>			

MS		Sample ID: 1305273-01A MS				Units: µg/L		Analysis Date: 5/8/2013 10:55 PM		
Client ID:		Run ID: GC10_130507D				SeqNo: 2311349		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)	9754	200	10000	0	97.5	70-130	0			
<i>Surr: Toluene-d8</i>	<i>115.9</i>	<i>0</i>	<i>100</i>	<i>0</i>	<i>116</i>	<i>70-130</i>	<i>0</i>			

MSD		Sample ID: 1305273-01A MSD				Units: µg/L		Analysis Date: 5/8/2013 11:19 PM		
Client ID:		Run ID: GC10_130507D				SeqNo: 2311350		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)	9701	200	10000	0	97	70-130	9754	0.552	30	
<i>Surr: Toluene-d8</i>	<i>116.9</i>	<i>0</i>	<i>100</i>	<i>0</i>	<i>117</i>	<i>70-130</i>	<i>115.9</i>	<i>0.919</i>	<i>30</i>	

The following samples were analyzed in this batch:

1305233-01A	1305233-02A	1305233-03A
1305233-04A	1305233-05A	

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

Client: HRL Compliance Solutions
Work Order: 1305233
Project: Black Hills Shire Gulch Fed 35-2 Pit 5.3.13

QC BATCH REPORT

Batch ID: **48176** Instrument ID **HG1** Method: **SW7471**

MBLK		Sample ID: MBLK-48176-48176				Units: mg/Kg		Analysis Date: 5/6/2013 04:12 PM		
Client ID:		Run ID: HG1_130506A				SeqNo: 2306300		Prep Date: 5/6/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.001	0.020								J

LCS		Sample ID: LCS-48176-48176				Units: mg/Kg		Analysis Date: 5/6/2013 04:14 PM		
Client ID:		Run ID: HG1_130506A				SeqNo: 2306302		Prep Date: 5/6/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1704	0.020	0.1665		0	102	80-120	0		

MS		Sample ID: 1305158-01BMS				Units: mg/Kg		Analysis Date: 5/6/2013 04:18 PM		
Client ID:		Run ID: HG1_130506A				SeqNo: 2306305		Prep Date: 5/6/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1305	0.014	0.1166	0.02224	92.9	75-125		0		

MSD		Sample ID: 1305158-01BMSD				Units: mg/Kg		Analysis Date: 5/6/2013 04:20 PM		
Client ID:		Run ID: HG1_130506A				SeqNo: 2306306		Prep Date: 5/6/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1419	0.015	0.1232	0.02224	97.1	75-125	0.1305	8.33	35	

The following samples were analyzed in this batch:

1305233-01B

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

Client: HRL Compliance Solutions
Work Order: 1305233
Project: Black Hills Shire Gulch Fed 35-2 Pit 5.3.13

QC BATCH REPORT

Batch ID: **48209** Instrument ID **SAR** Method: **USDA H60 Method**

DUP		Sample ID: 1305231-04BDUP				Units: none		Analysis Date: 5/9/2013		
Client ID:		Run ID: SAR_130509A				SeqNo: 2314125		Prep Date: 5/6/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	0.07454	0.010	0	0	0		0.07685	3.05	50	

DUP		Sample ID: 1305231-04BDUP				Units: mg/L		Analysis Date: 5/10/2013 04:54 PM		
Client ID:		Run ID: ICPMS2_130510A				SeqNo: 2314140		Prep Date: 5/6/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	111.2	0.50	0	0	0	0-0	128.6	14.5		
Magnesium	28.01	0.20	0	0	0	0-0	32.15	13.8		
Sodium	3.396	0.20	0	0	0	0-0	3.761	10.2		

The following samples were analyzed in this batch: | 1305233-01C |

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

Client: HRL Compliance Solutions
Work Order: 1305233
Project: Black Hills Shire Gulch Fed 35-2 Pit 5.3.13

QC BATCH REPORT

Batch ID: **48266** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK		Sample ID: MBLK-48266-48266				Units: mg/Kg		Analysis Date: 5/8/2013 07:56 PM		
Client ID:		Run ID: ICPMS1_130507A				SeqNo: 2310844		Prep Date: 5/8/2013		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	0.0717	0.25								J
Silver	ND	0.25								

MBLK		Sample ID: MBLK-48266-48266				Units: mg/Kg		Analysis Date: 5/9/2013 01:40 PM		
Client ID:		Run ID: ICPMS1_130509A				SeqNo: 2311740		Prep Date: 5/8/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Zinc	0.0631	0.50								J

LCS		Sample ID: LCS-48266-48266				Units: mg/Kg		Analysis Date: 5/8/2013 08:02 PM		
Client ID:		Run ID: ICPMS1_130507A				SeqNo: 2310845		Prep Date: 5/8/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.124	0.25	5	0	82.5	80-120	0			
Barium	4.72	0.25	5	0	94.4	80-120	0			
Cadmium	4.474	0.10	5	0	89.5	80-120	0			
Chromium	4.435	0.25	5	0	88.7	80-120	0			
Copper	4.328	0.25	5	0	86.6	80-120	0			
Lead	4.776	0.25	5	0	95.5	80-120	0			
Nickel	4.338	0.25	5	0	86.8	80-120	0			
Silver	4.546	0.25	5	0	90.9	80-120	0			

LCS		Sample ID: LCS-48266-48266				Units: mg/Kg		Analysis Date: 5/9/2013 01:46 PM		
Client ID:		Run ID: ICPMS1_130509A				SeqNo: 2311741		Prep Date: 5/8/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	4.007	0.25	5	0	80.1	80-120	0			
Zinc	4.32	0.50	5	0	86.4	80-120	0			

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

Client: HRL Compliance Solutions
Work Order: 1305233
Project: Black Hills Shire Gulch Fed 35-2 Pit 5.3.13

QC BATCH REPORT

Batch ID: **48266** Instrument ID **ICPMS1** Method: **SW6020A**

MS Sample ID: 1305230-01BMS				Units: mg/Kg			Analysis Date: 5/8/2013 10:48 PM			
Client ID:		Run ID: ICPMS1_130507A		SeqNo: 2310872		Prep Date: 5/8/2013		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.596	0.38	7.587	2.627	78.7	75-125	0			
Cadmium	6.759	0.15	7.587	0.2579	85.7	75-125	0			
Chromium	18.26	0.38	7.587	10.13	107	75-125	0			
Copper	14.81	0.38	7.587	9.093	75.4	75-125	0			
Lead	16.26	0.38	7.587	8.808	98.2	75-125	0			
Nickel	16.21	0.38	7.587	9.978	82.1	75-125	0			
Selenium	5.857	0.38	7.587	0.5888	69.4	75-125	0			S
Silver	5.927	0.38	7.587	0.04019	77.6	75-125	0			

MS Sample ID: 1305230-01BMS				Units: mg/Kg			Analysis Date: 5/9/2013 02:16 PM			
Client ID:		Run ID: ICPMS1_130509A		SeqNo: 2311747		Prep Date: 5/8/2013		DF: 10		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	184.5	3.8	7.587	173	152	75-125	0			SO
Zinc	54.26	7.6	7.587	47.85	84.6	75-125	0			O

MSD Sample ID: 1305230-01BMSD				Units: mg/Kg			Analysis Date: 5/8/2013 10:54 PM			
Client ID:		Run ID: ICPMS1_130507A		SeqNo: 2310873		Prep Date: 5/8/2013		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.598	0.37	7.342	2.627	81.3	75-125	8.596	0.015	25	
Cadmium	6.518	0.15	7.342	0.2579	85.3	75-125	6.759	3.63	25	
Chromium	18.85	0.37	7.342	10.13	119	75-125	18.26	3.19	25	
Copper	15.04	0.37	7.342	9.093	81.1	75-125	14.81	1.57	25	
Lead	16.43	0.37	7.342	8.808	104	75-125	16.26	1.05	25	
Nickel	16.34	0.37	7.342	9.978	86.7	75-125	16.21	0.843	25	
Selenium	5.822	0.37	7.342	0.5888	71.3	75-125	5.857	0.6	25	S
Silver	5.731	0.37	7.342	0.04019	77.5	75-125	5.927	3.36	25	

MSD Sample ID: 1305230-01BMSD				Units: mg/Kg			Analysis Date: 5/9/2013 02:22 PM			
Client ID:		Run ID: ICPMS1_130509A		SeqNo: 2311750		Prep Date: 5/8/2013		DF: 10		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	207.9	3.7	7.342	173	475	75-125	184.5	11.9	25	SO
Zinc	52.23	7.3	7.342	47.85	59.7	75-125	54.26	3.82	25	SO

The following samples were analyzed in this batch: 1305233-01B

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

Client: HRL Compliance Solutions
Work Order: 1305233
Project: Black Hills Shire Gulch Fed 35-2 Pit 5.3.13

QC BATCH REPORT

Batch ID: **48219** Instrument ID **SVMS7** Method: **SW8270**

MBLK				Sample ID: SBLKS1-48219-48219				Units: µg/Kg			Analysis Date: 5/8/2013 09:43 AM			
Client ID:				Run ID: SVMS7_130508A				SeqNo: 2311717			Prep Date: 5/7/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
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												
Chrysene	ND	30												
Dibenzo(a,h)anthracene	ND	30												
Fluoranthene	ND	30												
Fluorene	ND	30												
Indeno(1,2,3-cd)pyrene	ND	30												
Naphthalene	ND	30												
Pyrene	ND	30												
Surr: 2-Fluorobiphenyl	1233	0	1667	0	74	12-100	0							
Surr: 4-Terphenyl-d14	1667	0	1667	0	100	25-137	0							
Surr: Nitrobenzene-d5	1141	0	1667	0	68.5	37-107	0							

LCS				Sample ID: SLCSS1-48219-48219			Units: µg/Kg		Analysis Date: 5/8/2013 09:20 AM		
Client ID:			Run ID: SVMS7_130508A			SeqNo: 2311716		Prep Date: 5/7/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	456.3	30	666.7	0	68.4	45-110	0				
Acenaphthylene	458.7	30	666.7	0	68.8	45-105	0				
Anthracene	463.3	30	666.7	0	69.5	55-105	0				
Benzo(a)anthracene	572.3	30	666.7	0	85.8	50-110	0				
Benzo(a)pyrene	591.3	30	666.7	0	88.7	50-110	0				
Benzo(b)fluoranthene	563.7	30	666.7	0	84.5	45-115	0				
Benzo(g,h,i)perylene	604	30	666.7	0	90.6	40-125	0				
Benzo(k)fluoranthene	506.3	30	666.7	0	75.9	45-115	0				
Chrysene	530.3	30	666.7	0	79.5	55-110	0				
Dibenzo(a,h)anthracene	598.7	30	666.7	0	89.8	40-125	0				
Fluoranthene	640.3	30	666.7	0	96	55-115	0				
Fluorene	476.7	30	666.7	0	71.5	50-110	0				
Indeno(1,2,3-cd)pyrene	639	30	666.7	0	95.8	40-120	0				
Naphthalene	474.3	30	666.7	0	71.1	40-105	0				
Pyrene	500	30	666.7	0	75	45-125	0				
Surr: 2-Fluorobiphenyl	1173	0	1667	0	70.4	12-100	0				
Surr: 4-Terphenyl-d14	1617	0	1667	0	97	25-137	0				
Surr: Nitrobenzene-d5	1159	0	1667	0	69.6	37-107	0				

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

Client: HRL Compliance Solutions
Work Order: 1305233
Project: Black Hills Shire Gulch Fed 35-2 Pit 5.3.13

QC BATCH REPORT

Batch ID: **48219** Instrument ID **SVMS7** Method: **SW8270**

MS				Units: µg/Kg			Analysis Date: 5/8/2013 12:14 PM			
Sample ID: 1305233-01B MS		Run ID: SVMS7_130508A		SeqNo: 2311719		Prep Date: 5/7/2013		DF: 1		
Client ID: Bottom										
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	935.3	59	1302	38.89	68.9	45-110	0			
Acenaphthylene	924.2	59	1302	0	71	45-105	0			
Anthracene	994.5	59	1302	48.19	72.7	55-105	0			
Benzo(a)anthracene	1196	59	1302	20.27	90.3	50-110	0			
Benzo(a)pyrene	1235	59	1302	37.23	92	50-110	0			
Benzo(b)fluoranthene	1183	59	1302	27.59	88.7	45-115	0			
Benzo(g,h,i)perylene	1106	59	1302	17.28	83.7	40-125	0			
Benzo(k)fluoranthene	1052	59	1302	43.54	77.5	45-115	0			
Chrysene	1060	59	1302	33.24	78.9	55-110	0			
Dibenzo(a,h)anthracene	1144	59	1302	0	87.8	40-125	0			
Fluoranthene	1339	59	1302	26.26	101	55-115	0			
Fluorene	965.2	59	1302	39.22	71.1	50-110	0			
Indeno(1,2,3-cd)pyrene	1235	59	1302	16.95	93.5	40-120	0			
Naphthalene	1015	59	1302	0	78	40-105	0			
Pyrene	1058	59	1302	24.26	79.4	45-125	0			
Surr: 2-Fluorobiphenyl	2305	0	3254	0	70.8	12-100	0			
Surr: 4-Terphenyl-d14	3187	0	3254	0	97.9	25-137	0			
Surr: Nitrobenzene-d5	2371	0	3254	0	72.9	37-107	0			

MSD				Units: µg/Kg			Analysis Date: 5/8/2013 11:10 AM			
Sample ID: 1305233-01B MSD		Run ID: SVMS7_130508A		SeqNo: 2311718		Prep Date: 5/7/2013		DF: 1		
Client ID: Bottom										
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	952.6	58	1289	38.89	70.9	45-110	935.3	1.83	30	
Acenaphthylene	1003	58	1289	0	77.8	45-105	924.2	8.22	30	
Anthracene	1047	58	1289	48.19	77.5	55-105	994.5	5.17	30	
Benzo(a)anthracene	1259	58	1289	20.27	96.1	50-110	1196	5.08	30	
Benzo(a)pyrene	1312	58	1289	37.23	98.9	50-110	1235	5.98	30	
Benzo(b)fluoranthene	1214	58	1289	27.59	92	45-115	1183	2.58	30	
Benzo(g,h,i)perylene	1321	58	1289	17.28	101	40-125	1106	17.6	30	
Benzo(k)fluoranthene	1060	58	1289	43.54	78.9	45-115	1052	0.732	30	
Chrysene	1131	58	1289	33.24	85.2	55-110	1060	6.46	30	
Dibenzo(a,h)anthracene	1281	58	1289	0	99.4	40-125	1144	11.4	30	
Fluoranthene	1468	58	1289	26.26	112	55-115	1339	9.12	30	
Fluorene	1072	58	1289	39.22	80.2	50-110	965.2	10.5	30	
Indeno(1,2,3-cd)pyrene	1414	58	1289	16.95	108	40-120	1235	13.5	30	
Naphthalene	1053	58	1289	0	81.7	40-105	1015	3.65	30	
Pyrene	1108	58	1289	24.26	84.1	45-125	1058	4.58	30	
Surr: 2-Fluorobiphenyl	2430	0	3223	0	75.4	12-100	2305	5.25	40	
Surr: 4-Terphenyl-d14	3036	0	3223	0	94.2	25-137	3187	4.88	40	
Surr: Nitrobenzene-d5	2410	0	3223	0	74.8	37-107	2371	1.62	40	

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

Client: HRL Compliance Solutions
Work Order: 1305233
Project: Black Hills Shire Gulch Fed 35-2 Pit 5.3.13

QC BATCH REPORT

Batch ID: **48219** Instrument ID **SVMS7** Method: **SW8270**

The following samples were analyzed in this batch:

1305233-01B	1305233-02B	1305233-03B
1305233-04B	1305233-05B	

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

Client: HRL Compliance Solutions
Work Order: 1305233
Project: Black Hills Shire Gulch Fed 35-2 Pit 5.3.13

QC BATCH REPORT

Batch ID: **48190** Instrument ID **VMS6** Method: **SW8260**

MBLK		Sample ID: MBLK-48190-48190				Units: µg/Kg		Analysis Date: 5/10/2013 12:51 PM		
Client ID:		Run ID: VMS6_130509B				SeqNo: 2313412		Prep Date: 5/6/2013		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	994.5	0	1000	0	99.4	70-130	0			
Surr: 4-Bromofluorobenzene	978.5	0	1000	0	97.8	70-130	0			
Surr: Dibromofluoromethane	949.5	0	1000	0	95	70-130	0			
Surr: Toluene-d8	986.5	0	1000	0	98.6	70-130	0			

MBLK		Sample ID: MBLK-48190-48190				Units: µg/Kg		Analysis Date: 5/10/2013 05:32 AM		
Client ID:		Run ID: VMS5_130509B				SeqNo: 2313567		Prep Date: 5/6/2013		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	1071	0	1000	0	107	70-130	0			
Surr: 4-Bromofluorobenzene	978	0	1000	0	97.8	70-130	0			
Surr: Dibromofluoromethane	994.5	0	1000	0	99.4	70-130	0			
Surr: Toluene-d8	1062	0	1000	0	106	70-130	0			

LCS		Sample ID: LCS-48190-48190				Units: µg/Kg		Analysis Date: 5/9/2013 11:38 PM		
Client ID:		Run ID: VMS6_130509B				SeqNo: 2313411		Prep Date: 5/6/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1090	30	1000	0	109	75-125	0			
Ethylbenzene	1074	30	1000	0	107	75-125	0			
m,p-Xylene	2152	60	2000	0	108	80-125	0			
o-Xylene	1084	30	1000	0	108	75-125	0			
Toluene	1036	30	1000	0	104	70-125	0			
Xylenes, Total	3236	90	3000	0	108	75-125	0			
Surr: 1,2-Dichloroethane-d4	980	0	1000	0	98	70-130	0			
Surr: 4-Bromofluorobenzene	1018	0	1000	0	102	70-130	0			
Surr: Dibromofluoromethane	1012	0	1000	0	101	70-130	0			
Surr: Toluene-d8	1006	0	1000	0	101	70-130	0			

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

Client: HRL Compliance Solutions
Work Order: 1305233
Project: Black Hills Shire Gulch Fed 35-2 Pit 5.3.13

QC BATCH REPORT

Batch ID: **48190** Instrument ID **VMS6** Method: **SW8260**

LCS					Sample ID: LCS-48190-48190			Units: µg/Kg		Analysis Date: 5/10/2013 04:22 AM	
Client ID:			Run ID: VMS5_130509B			SeqNo: 2313566		Prep Date: 5/6/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1014	30	1000	0	101	75-125	0				
Ethylbenzene	1048	30	1000	0	105	75-125	0				
m,p-Xylene	2095	60	2000	0	105	80-125	0				
o-Xylene	1058	30	1000	0	106	75-125	0				
Toluene	1026	30	1000	0	103	70-125	0				
Xylenes, Total	3152	90	3000	0	105	75-125	0				
Surr: 1,2-Dichloroethane-d4	1016	0	1000	0	102	70-130	0				
Surr: 4-Bromofluorobenzene	995	0	1000	0	99.5	70-130	0				
Surr: Dibromofluoromethane	1016	0	1000	0	102	70-130	0				
Surr: Toluene-d8	1056	0	1000	0	106	70-130	0				

MS				Sample ID: 1305233-03A MS				Units: µg/Kg		Analysis Date: 5/10/2013 01:42 PM			
Client ID: South Wall				Run ID: VMS5_130509B				SeqNo: 2313856		Prep Date: 5/6/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Benzene	855.5	30	1000	0	85.6	75-125	0						
Ethylbenzene	925.5	30	1000	0	92.6	75-125	0						
m,p-Xylene	1806	60	2000	0	90.3	80-125	0						
o-Xylene	931	30	1000	0	93.1	75-125	0						
Toluene	885.5	30	1000	0	88.6	70-125	0						
Xylenes, Total	2736	90	3000	0	91.2	75-125	0						
Surr: 1,2-Dichloroethane-d4	1006	0	1000	0	101	70-130	0						
Surr: 4-Bromofluorobenzene	1004	0	1000	0	100	70-130	0						
Surr: Dibromofluoromethane	1008	0	1000	0	101	70-130	0						
Surr: Toluene-d8	1061	0	1000	0	106	70-130	0						

MSD					Sample ID: 1305233-03A MSD			Units: µg/Kg		Analysis Date: 5/10/2013 02:05 PM	
Client ID: South Wall				Run ID: VMS5_130509B			SeqNo: 2313857		Prep Date: 5/6/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	812	30	1000	0	81.2	75-125	855.5	5.22	30		
Ethylbenzene	911	30	1000	0	91.1	75-125	925.5	1.58	30		
m,p-Xylene	1804	60	2000	0	90.2	80-125	1806	0.0554	30		
o-Xylene	926.5	30	1000	0	92.6	75-125	931	0.485	30		
Toluene	859.5	30	1000	0	86	70-125	885.5	2.98	30		
Xylenes, Total	2731	90	3000	0	91	75-125	2736	0.201	30		
Surr: 1,2-Dichloroethane-d4	980.5	0	1000	0	98	70-130	1006	2.57	30		
Surr: 4-Bromofluorobenzene	999	0	1000	0	99.9	70-130	1004	0.549	30		
Surr: Dibromofluoromethane	990.5	0	1000	0	99	70-130	1008	1.8	30		
Surr: Toluene-d8	1046	0	1000	0	105	70-130	1061	1.42	30		

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

Client: HRL Compliance Solutions
Work Order: 1305233
Project: Black Hills Shire Gulch Fed 35-2 Pit 5.3.13

QC BATCH REPORT

Batch ID: **48190** Instrument ID **VMS6** Method: **SW8260**

The following samples were analyzed in this batch:

1305233-01A	1305233-02A	1305233-03A
1305233-04A	1305233-05A	

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

Client: HRL Compliance Solutions
Work Order: 1305233
Project: Black Hills Shire Gulch Fed 35-2 Pit 5.3.13

QC BATCH REPORT

Batch ID: **48209** Instrument ID **WETCHEM** Method: **USDA H60 Method**

DUP		Sample ID: 1305231-04B DUP				Units: mmhos/cm @25°F		Analysis Date: 5/10/2013 01:30 PM		
Client ID:		Run ID: WETCHEM_130510J				SeqNo: 2313646		Prep Date: 5/6/2013		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	0.85	0.050	0	0	0		0.951	11.2	50	

The following samples were analyzed in this batch:

1305233-01C

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

Client: HRL Compliance Solutions
Work Order: 1305233
Project: Black Hills Shire Gulch Fed 35-2 Pit 5.3.13

QC BATCH REPORT

Batch ID: **48279** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK		Sample ID: MBLK-48279-48279				Units: mg/Kg		Analysis Date: 5/10/2013 09:20 AM		
Client ID:		Run ID: WETCHEM_130510A				SeqNo: 2312856		Prep Date: 5/8/2013		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-48279-48279				Units: mg/Kg		Analysis Date: 5/10/2013 09:20 AM		
Client ID:		Run ID: WETCHEM_130510A				SeqNo: 2312857		Prep Date: 5/8/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.917 0.50 1.984 0 96.6 75-110 0

MS		Sample ID: 1305230-01B MS				Units: mg/Kg		Analysis Date: 5/10/2013 09:20 AM		
Client ID:		Run ID: WETCHEM_130510A				SeqNo: 2312859		Prep Date: 5/8/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.243 0.49 1.961 0 63.4 60-130 0

MSD		Sample ID: 1305230-01B MSD				Units: mg/Kg		Analysis Date: 5/10/2013 09:20 AM		
Client ID:		Run ID: WETCHEM_130510A				SeqNo: 2312860		Prep Date: 5/8/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.31 0.50 1.984 0 66 60-130 1.243 5.2 30

The following samples were analyzed in this batch:

1305233-01B

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

Client: HRL Compliance Solutions
Work Order: 1305233
Project: Black Hills Shire Gulch Fed 35-2 Pit 5.3.13

QC BATCH REPORT

Batch ID: **R120351** Instrument ID **WETCHEM** Method: **SW9045D**

LCS		Sample ID: LCS-R120351-R120351					Units: s.u.		Analysis Date: 5/8/2013 10:45 AM		
Client ID:			Run ID: WETCHEM_130508E			SeqNo: 2309460		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
pH	4.45	0	4.4	0	101	90-110	0				

DUP	Sample ID: 1305231-04A DUP					Units: s.u.		Analysis Date: 5/8/2013 10:45 AM		
Client ID:			Run ID: WETCHEM_130508E			SeqNo: 2309462		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.87	0	0	0	0	0-0	7.87	0	20	

DUP				Sample ID: 1305283-05B DUP				Units: s.u.			Analysis Date: 5/8/2013 10:45 AM		
Client ID:				Run ID: WETCHEM_130508E				SeqNo: 2309473		Prep Date:		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
pH		8.89	0	0	0	0	0-0	8.89	0	20			

The following samples were analyzed in this batch:

1305233-01B

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

Client: HRL Compliance Solutions
Work Order: 1305233
Project: Black Hills Shire Gulch Fed 35-2 Pit 5.3.13

QC BATCH REPORT

Batch ID: **R120369** Instrument ID **MOIST** Method: **A2540 G**

MBLK		Sample ID: WBLKS-R120369				Units: % of sample			Analysis Date: 5/7/2013 12:56 PM		
Client ID:		Run ID: MOIST_130507D				SeqNo: 2309905			Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Moisture	0.04	0.050								J	

LCS		Sample ID: LCS-R120369				Units: % of sample			Analysis Date: 5/7/2013 12:56 PM		
Client ID:		Run ID: MOIST_130507D				SeqNo: 2309904			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: 1305231-02ADUP				Units: % of sample			Analysis Date: 5/7/2013 12:56 PM		
Client ID:		Run ID: MOIST_130507D				SeqNo: 2309894			Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Moisture	19.95	0.050	0	0	0	0-0	19.67	1.41	20		

DUP		Sample ID: 1305258-01ADUP				Units: % of sample			Analysis Date: 5/7/2013 12:56 PM		
Client ID:		Run ID: MOIST_130507D				SeqNo: 2309902			Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Moisture	32.47	0.050	0	0	0	0-0	33.5	3.12	20		

The following samples were analyzed in this batch:

1305233-01B

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

Client: HRL Compliance Solutions
Work Order: 1305233
Project: Black Hills Shire Gulch Fed 35-2 Pit 5.3.13

QC BATCH REPORT

Batch ID: **R120434** Instrument ID **MOIST** Method: **A2540 G**

MBLK	Sample ID: WBLKS-R120434					Units: % of sample		Analysis Date: 5/8/2013 05:00 PM		
Client ID:	Run ID: MOIST_130508B				SeqNo: 2311497		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-R120434					Units: % of sample		Analysis Date: 5/8/2013 05:00 PM		
Client ID:	Run ID: MOIST_130508B				SeqNo: 2311493		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: 1305233-05BDUP					Units: % of sample		Analysis Date: 5/8/2013 05:00 PM		
Client ID: West Wall	Run ID: MOIST_130508B				SeqNo: 2311487		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 13.39 0.050 0 0 0 0-0 11.16 18.2 20

DUP	Sample ID: 1305237-01ADUP					Units: % of sample		Analysis Date: 5/8/2013 05:00 PM		
Client ID:	Run ID: MOIST_130508B				SeqNo: 2311489		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 63.11 0.050 0 0 0 0-0 44.77 34 20 R

DUP	Sample ID: 1305321-06ADUP					Units: % of sample		Analysis Date: 5/8/2013 05:00 PM		
Client ID:	Run ID: MOIST_130508B				SeqNo: 2311491		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 31.17 0.050 0 0 0 0-0 32.58 4.42 20

The following samples were analyzed in this batch:

1305233-02B	1305233-03B	1305233-04B
1305233-05B		

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



Form 202r8

1305233

Form 202r8

1 of 1

By Lab or Return to Client

5/3/2013

STD

By Lab or Return to Client

STD

STD

INVOICE ATTN TO

CITY / STATE / ZIP

PHONE

FAX

E-MAIL

[illegible]

SAB / EC / pH

1

1

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TIME

17:00

0930

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[illegible]

Sample Receipt Checklist

Client Name: **HRL**

Date/Time Received: **04-May-13 09:30**

Work Order: **1305233**

Received by: **DS**

Checklist completed by Diane Shaw 06-May-13
eSignature Date

Reviewed by: Ann Preston 07-May-13
eSignature Date

Matrices: **Soil**

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.8 c</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>5/6/2013 9:29:51 AM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:			
Login Notes:			

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:

Rev. Date 10/00/141 #10671-001004-2000 Fed. A. P. N. I. F. I. N. U. S. A. 00

Pit Bottom and Walls	COGCC Standard (mg/kg)	Sample Locations					
		Pre Usage	Post Usage				
		Pit Bottom	Pit Bottom	East Wall	West Wall	North Wall	South Wall
TPH							
TEPH (DRO)	500	8.4	9.0	90	36	29	10
TVPH (GRO)		ND	ND	ND	ND	ND	ND
BTEX							
BENZENE	0.17	ND	ND	ND	ND	ND	ND
TOLUENE	85	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	100	ND	ND	ND	ND	ND	ND
XYLENE TOTAL	175	ND	ND	ND	ND	ND	ND
SEMI VOLS - PAH							
ACENAPHTHENE	1,000	ND	0.043	ND	ND	ND	ND
ANTHRACENE	1,000	ND	0.054	ND	ND	ND	ND
BENZO(A)ANTRHACENE	0.22	ND	0.023	ND	ND	ND	ND
BENZO(A)PYRENE	0.022	ND	0.042	ND	ND	ND	ND
BENZO(B)FLUORANTHENE	2.2	ND	0.031	ND	ND	ND	ND
BENZO(G,H,I)PERYLEN	N/A	ND	ND	ND	ND	ND	ND
BENZO(K)FLUORANTHENE	2.2	ND	0.049	ND	ND	ND	ND
CHRYSENE (mg/kg)	22	ND	0.037	ND	ND	ND	ND
DIBENZO(A,H)ANTHRACENE	0.022	ND	ND	ND	ND	ND	ND
FLUORANTHENE	1,000	ND	0.029	ND	ND	ND	ND
FLUORENE	1,000	ND	0.044	ND	ND	ND	ND
INDENO(1,2,3-CD)PYRENE	0.22	ND	ND	ND	ND	ND	ND
NAPHTHALENE	23	ND	ND	ND	ND	ND	ND
PYRENE	1,000	ND	0.027	0.03	ND	ND	ND
Metals							
ARSENIC	0.39	3.6	ND	-	-	-	-
BARIUM	15,000	160	120	-	-	-	-
CADMIUM	70	ND	ND	-	-	-	-
CHROMIUM	N/A	10	4.7	-	-	-	-
CHROMIUM (III)	120,000	10	4.7	-	-	-	-
CHROMIUM (IV)	23	ND	ND	-	-	-	-
COPPER	3,100	8.5	5.3	-	-	-	-
LEAD	400	9.1	8.7	-	-	-	-
MERCURY	23	ND	ND	-	-	-	-
NICKEL	1,600	10	3.2	-	-	-	-
SELENIUM	390	ND	ND	-	-	-	-
SILVER	390	ND	ND	-	-	-	-
ZINC	23,000	30	32	-	-	-	-
Inorganics							
ELECTRICAL CONDUCTIVITY (EC) (mmho/cm)	<4 mmhos or 2x BKGD	4.66	13	-	-	-	-
pH	between 6-9	7.83	8.7	-	-	-	-
SODIUM ADSORPTION RATIO (SAR)	<12	44.7	22	-	-	-	-







