



744 Horizon Ct., STE 140
Grand Junction, CO 81506
Phone: 970-243-3271
Fax: 970-243-3280

March 2, 2011

Mr. Chris Canfield, P.G.
Environmental Protection Specialist
State of Colorado Oil and Gas Conservation Commission
707 Wapiti Ct. Suite 204
Rile, Colorado 81605

**RE: Williams Production Company RMT
Notice of Completion Report
Unocal GM 11-1 Remediation # 5053**

Dear Mr. Canfield:

This Colorado Oil and Gas Conservation Commission (COGCC) Notice of Completion Report (NOC) is being submitted as a request for "No Further Action" determination related to the production pit closure of the Williams Production RMT Company (Williams) facility identified as the GM 11-1. This facility is located in the NWNW Sec 1 T7S R96W 6PM, in Garfield County, CO. This NOC report is being submitted subsequent to the comprehensive and successful completion of tasks outlined in the approved Site Investigation and Remediation Plan (remediation #5053).

Should you have any questions or concerns in regards to the Form 27, please do not hesitate to contact me at your convenience.

Sincerely

A handwritten signature in black ink, appearing to read 'Kris Rowe', is written over a light blue horizontal line.

Kris Rowe
Environmental Scientist

CC: Karolina Blaney
Herman Lucero
File

State of Colorado
Oil and Gas Conservation Commission



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

FOR OGCC USE ONLY

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.

OGCC Employee:
 Spill Complaint
 Inspection NOAV
 Tracking No:

CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

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

OGCC Operator Number: <u>96850</u>	Contact Name and Telephone: <u>Karolina Blaney</u>
Name of Operator: <u>Williams Production RMT Company</u>	No: <u>970-683-2295</u>
Address: <u>1058 Country Road 215</u>	Fax: <u>970-285-9573</u>
City: <u>Parachute</u> State: <u>CO</u> Zip: <u>81635</u>	

API Number: <u>05-045-07271</u>	County: <u>Garfield</u>
Facility Name: <u>UNOCAL GM 11-1</u>	Facility Number: <u>334871</u>
Well Name: <u>UNOCAL GM 11-1</u>	Well Number: <u>N/A</u>
Location: (QtrQtr, Sec, Twp, Rng, Meridian): <u>NWNW, Sec 1, T7S, R96W, 6th PM</u> Latitude: <u>39.472099</u> Longitude: <u>-108.064895</u>	

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.): Rangeland, Non-irrigated

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Idelfonso-Lazear complex, Potts Ildefonso complex

Potential receptors (water wells within 1/4 mi, surface waters, etc.): none

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

Impacted Media (check):	Extent of Impact:	How Determined:
<input checked="" type="checkbox"/> Soils	<u>See Attached Notice of Competition Report</u>	<u>field screening, visual observations, and lab analytical confirmation sampling</u>
<input type="checkbox"/> Vegetation	_____	_____
<input type="checkbox"/> Groundwater	_____	_____
<input type="checkbox"/> Surface Water	_____	_____

REMEDIATION WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document):
See attached Noticed of Completion Report for Remediation # 5053

Describe how source is to be removed:
See attached Noticed of Completion Report for Remediation # 5053

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.:
See attached Noticed of Completion Report for Remediation # 5053



Tracking Number: _____
Name of Operator: _____
OGCC Operator No: _____
Received Date: _____
Well Name & No: _____
Facility Name & No: _____

REMEDIATION WORKPLAN (Cont.)

OGCC Employee: _____

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

See attached Noticed of Completion Report for Remediation # 5053

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.

See attached Noticed of Completion Report for Remediation # 5053

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:

See attached Noticed of Completion Report for Remediation # 5053

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

See attached Noticed of Completion Report for Remediation # 5053

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 9/1/2009 Date Site Investigation Completed: 9/1/2009 Date Remediation Plan Submitted: 9/25/2009
Remediation Start Date: 9/1/2010 Anticipated Completion Date: 12/1/2010 Actual Completion Date: 12/12/2010

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

Print Name: Karolina Blaney

Signed: Karolina Blaney

Title: Environmental Specialist

Date: 2/25/2011

OGCC Approved: _____

Title: _____

Date: _____

**WILLIAMS PRODUCTION RMT COMPANY
GRAND VALLEY FIELD
UNOCAL GM 11-1
NOTICE OF COMPLETION REPORT FOR
REMEDICATION #5053**

March 2011

Prepared For:



1058 County Road 215
P.O. Box 370
Parachute, Colorado 81635

Prepared By:



744 Horizon Court, Suite 140
Grand Junction, CO 81506
Phone: 970-243-3271
Fax: 970-243-3280

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Form 27 Attachment

Introduction

The purpose of this Notice of Completion report – for the closure of the UNOCAL GM 11-1 completion pit (hereinafter also referred to as GM 11-1) – is to provide detailed information and findings analysis for the previously submitted and approved Colorado Oil and Gas Conservation Commission (COGCC) Site Investigation and Remediation Workplan, Form 27. This report will provide the documentation necessary to demonstrate a comprehensive and diligent investigation of the pit and adjacent environment which was obtained as described and in accordance with all appropriate county, state and federal rules and regulations.

The subject Form 27 was delivered via electronic email on September 25, 2009. Preliminary approval to proceed with closure of the subject pit was issued by the COGCC and obtained by Williams Production RMT Company (Williams) on June 9, 2010; at which time the aforementioned remediation number was issued. Closure activities began in September, 2010 and were concluded on December 12, 2010. Information in this report includes, but is not limited to: field screening results; laboratory analytical; subliner soil remediation; liner recycling; pit sludge disposal; and complete backfilling of the completion pit.

Evacuation of Pit Contents

Remaining pit contents were removed from the pit using hydro-vac trucks and placed in a lined bermed containment to have free liquids removed and amended with soil for disposal.

Free standing liquids within the bermed containment were removed via vacuum truck and transported to the Parachute Evaporation Facility. Remaining sludge was amended with dry soil to allow for transport to an approved disposal facility. Amended pit contents were profiled for disposal to CB Industries, located in Delta, Colorado.

Any residual liquid present on the liner was allowed to dry prior to removal of the liner and subsequent management of the solid waste material.

Background Sampling

Four samples were collected from the up-gradient undisturbed hillside surrounding the pad. All background samples were analyzed for arsenic as well as additional analysis at one location which included inorganic parameters of COGCC Table 910-1(i.e. SAR, EC, pH). Refer to Table 5 and Appendix 5 for background sampling results.

Pit Liner Investigation and Integrity Assessment

The pit liner system – containing two layers of poly synthetic material/liner and one layer of felt. No noticeable rips or tears were discovered along the pit bottom or walls during the liner investigation.

Through historical researched, it was revealed that the pit liner had been replaced when the pit liner was suspected to have leaked in June, 2008. When the liner was removed and the impacted soils were remediated to meet COGCC Table 910-1 at that time; pre-2009 amendments.

Pit Liner Removal

Removal of the pit liners consisted of a crew cutting the liner along the crest of the pit at an elevation adjacent to the surface of the well pad. A trackhoe bucket was utilized to grab sections of the liner for extraction and place them in a lined earthen bermed containment cell for subsequent management. Sections of liner that contained residual or trace amounts of sludge were pulled, placed into the containment cell and allowed to dry. Liners were stored in a lined bermed containment pending recycling.

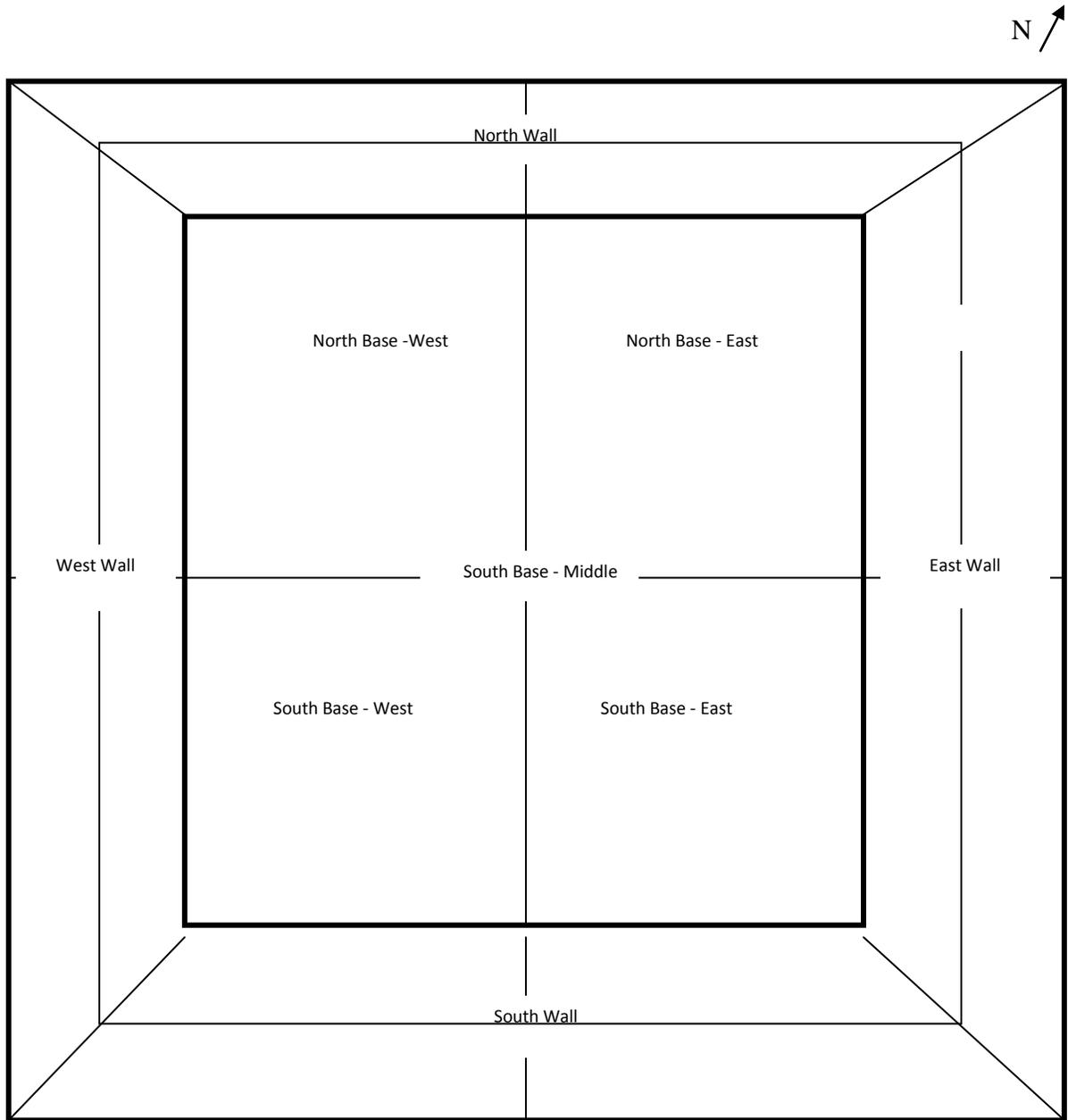
Subliner Soil Investigation and Activities

Subliner soils, examined below the pit lining, were inspected visually to identify areas which may exceed standards set forth in Table 910-1 of the COGCC 900-Series Rule for hydrocarbons within the soil. Soils on the pit floor were slightly stained and contained a mild hydrocarbon odor, indicating that there may have been impacts to the subliner soils.

No visual staining or signs of hydrocarbon impacts were observed on the pit walls during inspection. Field screening results indicate that no impacts were present above 500 ppm and warranted no excavation.

Figure 1 outlines the pit sampling nomenclature and Figure 2 is a GIS map of the pit outlining sample locations within the pit as well as background sample locations from the nearby uphill undisturbed soil.

Figure 1
Pit Sampling ID Layout



Hydrocarbon concentrations from laboratory analyses of the pit bottom are provided in Table 1 and indicate that remediation is required due to TEPH (DRO) concentrations being above COGCC Table 910-1 standards; additional details may be acquired by reviewing the raw analytical data presented in Appendix 1. Analytical data presented in Table 2 indicates that pit bottom (post excavation), and the north, south, and west walls all satisfy COGCC Table 910-1 standards; Table 3 provides analytical confirmation for the east wall, which was not initially sampled during the pre-excavation stage since contamination was highly evident and due to staining and hydrocarbon orders present (raw analytical results are available for review in Appendix 3 of this report)

- Confirmation samples, in accordance with Rule 905.b.(4), were collected from each of the side walls at a position that was centered vertically and horizontally on the wall face for confirmation of compliance with COGCC Rule 910 and Table 910-1; as well as verification of field screening analysis. Five (5) Grab samples were collected from the base of the pit to demonstrate compliance in accordance with Rule 905.b.(1).
- A Trimble Geo XT 2008 was used to collect GPS locations of each confirmation sample location from the pit walls and pit footprint. Fulfillment

Remediation Activities

Soil containing dark stains and a hydrocarbon odor located on the pit bottom and east wall revealed the presence of hydrocarbon concentrations which exceeded 500 ppm and required remediation. Based off analytical results from the pit remediation preformed in 2008, field screening was not preformed since clean up criteria for the pit conducted at that time fell under the old regulations of non-sensitive and possessed a threshold of 10,000 mg/kg. Relative to the subject activity, these concentrations exceeded the amended COGCC Table 910-1 standards and required excavation.

The pit bottom and east wall were excavated two feet below grade, at this depth, undisturbed soil was encountered and confirmation samples were collected. Table 2 & 3 provide analytical results for the post excavated pit bottom and east wall, indicating that concentrations now meet the newly amended COGCC Table 910-1 standards. A sample was collected from the center of the pit, which was identified as the lowest point within the pit footprint and analyzed for total metals to show compliance of COGCC Table 910-1 for the pit bottom.

Sample Analysis

See attached Table 1 (additional detail provided in Appendix 1) for summary of pit bottom raw analytical results, Table 2 (additional detail provided in Appendix 2) provides raw analytical results for the post excavated pit bottom, and north, south, and west walls, Table 3 provides analytical data for the east wall of the pit (additional detail provided in Appendix 3), Table 4

provides analytical confirmation for all landfarmed soil from the excavation footprint, and Table 5 for results from background sample analysis (additional detail provided in Appendix 5).

Management of Stockpiled Material

The pit liner was segregated according to material and placed in a bermed containment. Plastic lining material was placed in the south end of the containment and felt liners were placed on the north end. High Plains Services compressed and collected the liners and bound them to pallets for transportation to be recycled.

Pit sludge that was removed from the bottom of the pit, above the liner, and amended with dry soil was accepted for disposal to CB Industries and disposed of on December 14, 2009.

Soil excavated from the pit bottom and eastern wall was placed in a landfarm located on the well pad and treated via bioremediation. After soil meets COGCC Table 910-1 criteria, the landfarmed soil was utilized as backfill material and placed back into the pit. Table 4 contains confirmation analytical results for the landfarmed soil.

Backfill Material

Additional backfill material, aside from the landfarmed soil, was utilized during reclamation of the well pad by utilizing the stockpiled soil from the initial excavation of the pit.

- The soil was placed in lifts and was not compacted beyond the point of making an impenetrable layer but sufficient to suppose subsequent operations and prevent subsidence.
- The pit was reclaimed in accordance with the COGCC 1000 Series Rule in addition to all SUA/COA's per the land owner.

Exceptions to COGCC Table 910-1

The only exceedances with COGCC Table 910-1 are within the confines of constituents listed for inorganics and metals (i.e. arsenic). Refer to Appendix 6 for the Sundry Notice for consideration of background arsenic concentrations in the immediate area of the subject facility.

Analytical Data Management

See Appendix 1 for pre excavated pit bottom raw analytical data, Appendix 2 for post excavated pit bottom soil and pre excavated north, south, and west pit walls, Appendix 3 contains analytical results from post excavation of the eastern pit wall, Appendix 4 contains landfarmed confirmation sample results, and Appendix 5 contains background analytical data.

Figures

Figure 3



Visual representation of the east/northeast wall and east pit bottom post-excavation.

Summary Tables

Table 1: Pre Excavation Pit Bottom Analytical Results

PRE-EXCAVATION PIT BOTTOM	SAMPLE LOCATIONS	
	East Half	West Half
TEPH (DRO)	4090	719
TVPH (GRO)	23.8	21.8
BENZENE	ND	ND
TOLUENE	ND	ND
ETHYLBENZENE	0.0368	0.037
XYLENE TOTAL	0.0753	0.226

Note: all results are in, mg/kg = milligram per kilogram, unless noted otherwise
Exceedances are highlighted in yellow.

Table 2: Post Excavation of Pit Bottom and Pre Excavation of Pit Walls (N,S,W)

Post Pit Bottom and Pre Excavation of Pit Walls (N,S,W)	Center of Pit Bottom	East Pit Bottom - North Side	East Pit Bottom - South Side	West Pit Bottom - North Side	West Pit Bottom - South Side	North Pit Wall	South Pit Wall	West Pit Wall
TEPH (DRO)	ND	49.9	48.3	468	24.8	36.7	264	87.2
TVPH (GRO)	ND	1.9	ND	ND	ND	ND	ND	9.57
BENZENE	ND	ND	ND	ND	ND	ND	ND	ND
TOLUENE	ND	ND	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	ND	ND	ND	ND	ND	ND	ND	25.5
XYLENE TOTAL	ND	ND	ND	ND	ND	ND	ND	23.7
ACENAPHTHENE	ND	ND	ND	ND	ND	ND	ND	ND
ACENAPHTHYLENE	ND	ND	ND	ND	ND	ND	ND	ND
ANTHRACENE	ND	ND	ND	ND	ND	ND	ND	ND
BENZO(A)ANTHRACENE	ND	ND	ND	ND	ND	ND	ND	ND
BENZO(A)PYRENE	ND	ND	ND	ND	ND	ND	ND	ND
BENZO(B)FLUORANTHENE	ND	ND	ND	ND	ND	ND	ND	ND
BENZO(G,H,I)PERYLENE	ND	ND	ND	ND	ND	ND	ND	ND
BENZO(K)FLUORANTHENE	ND	ND	ND	ND	ND	ND	ND	ND
CHRYSENE	ND	ND	ND	ND	ND	ND	ND	ND
DIBENZO(A,H)ANTHRACENE	ND	ND	ND	ND	ND	ND	ND	ND
FLUORANTHENE	ND	ND	ND	ND	ND	ND	ND	ND
FLUORENE	ND	ND	ND	ND	ND	ND	ND	ND
INDENO(1,2,3-CD)PYRENE	ND	ND	ND	ND	ND	ND	ND	ND
NAPHTHALENE	ND	0.0023	ND	0.0212	ND	ND	ND	0.0043
PHENANTHRENE	ND	ND	ND	ND	ND	0.0067	ND	ND
PYRENE	ND	ND	ND	ND	ND	ND	ND	ND
ARSENIC	13.8							
BARIUM	251							
CADMIUM	0.96							
CHROMIUM	9.2							
CHROMIUM (III)	9.2							
CHROMIUM (IV)	2.3							
COPPER	19.3							
LEAD	10.9							
MERCURY	0.11							
NICKEL	13.6							
SELENIUM	4.6							
SILVER	2.9							
ZINC	49.7							

All results are in, mg/kg = milligram per kilogram, unless noted otherwise
Exceedances are highlighted in yellow

Table 3: East Wall Confirmation

East Wall Confirmaiton Sample	East Wall
TEPH (DRO)	ND
TVPH (GRO)	ND
BENZENE	ND
TOLUENE	ND
ETHYLBENZENE	ND
XYLENE TOTAL	ND
ACENAPHTHENE	ND
ACENAPHTHYLENE	ND
ANTHRACENE	ND
BENZO(A)ANTHRACENE	ND
BENZO(A)PYRENE	ND
BENZO(B)FLUORANTHENE	ND
BENZO(G,H,I)PERYLENE	ND
BENZO(K)FLUORANTHENE	ND
CHRYSENE	ND
DIBENZO(A,H)ANTHRACENE	ND
FLUORANTHENE	ND
FLUORENE	ND
INDENO(1,2,3-CD)PYRENE	ND
NAPHTHALENE	ND
PHENANTHRENE	ND
PYRENE	ND
ARSENIC	7
BARIUM	175
CADMIUM	0.9
CHROMIUM	8.2
CHROMIUM (III)	8.2
CHROMIUM (IV)	2.3
COPPER	14.8
LEAD	7.5
MERCURY	0.11
NICKEL	11.1
SELENIUM	4.5
SILVER	2.7
ZINC	39.7

All results are in, mg/kg = milligram per kilogram, unless noted otherwise

Table 4 Landfarmed Soil Confirmation Results

Landfarmed Soil	Landfarm
TEPH (DRO)	63
TVPH (GRO)	98
BENZENE	ND
TOLUENE	ND
ETHYLBENZENE	ND
XYLENE TOTAL	ND
ACENAPHTHENE	ND
ACENAPHTHYLENE	ND
ANTHRACENE	ND
BENZO(A)ANTHRACENE	ND
BENZO(A)PYRENE	ND
BENZO(B)FLUORANTHENE	ND
BENZO(G,H,I)PERYLENE	ND
BENZO(K)FLUORANTHENE	ND
CHRYSENE	ND
DIBENZO(A,H)ANTHRACENE	ND
FLUORANTHENE	ND
FLUORENE	ND
INDENO(1,2,3-CD)PYRENE	ND
NAPHTHALENE	ND
PHENANTHRENE	ND
PYRENE	ND
ARSENIC	10
BARIUM	1500
CADMIUM	0.53
CHROMIUM	13
CHROMIUM (III)	12
CHROMIUM (IV)	ND
COPPER	14
LEAD	13
MERCURY	0.12
NICKEL	14
SELENIUM	1.3
SILVER	1.5
ZINC	71
SODIUM ABSORPTION RATIO (UNITLESS)	12.4
ELECTRICAL CONDUCTIVITY (mmhos/cm)	5.09
pH (unitless)	8.6

All results are in, mg/kg = milligram per kilogram, unless noted otherwise

Table 5 Background Analytical Results

	Arsenic	Sodium Absorption Ratio (unitless)	Electro Conductivity (mmhos/cm)	pH (unitless)
BKGD 1	6.78	22.26	9.39	8.3
BKGD 2	11.5			
BKGD 3	6.54			
BKGD 4	6.79			

Note: All results are in mg/kg = milligram per kilogram, unless noted otherwise

Appendix 1: Pre-Excavation Pit Bottoms Raw Analytical Data



Technical Report for

HRL Compliance Solutions

EM 11-1 Pit Closure

Accutest Job Number: D13956

Sampling Date: 06/07/10

Report to:

HRL Compliance Solutions
744 Horizon Court Suite 140
Grand Junction, CO 81506
mmumby@hrlcomp.com

ATTN: Mark Mumby

Total number of pages in report: **25**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Jesse L. Smith
Laboratory Director

Client Service contact: Shea Greiner 303-425-6021

Certifications: CO, ID, NE, NM, ND (R-027) (PW) UT (NELAP CO00049)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.
Test results relate only to samples analyzed.



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1

2

3

4

5

6



Sample Summary

HRL Compliance Solutions

Job No: D13956

EM 11-1 Pit Closure

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
D13956-1	06/07/10	13:15 MM	06/08/10	SO	Soil	PIT EAST END
D13956-2	06/07/10	13:25 MM	06/08/10	SO	Soil	PIT WEST END

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: HRL Compliance Solutions

Job No D13956

Site: EM 11-1 Pit CLOsure

Report Dat 6/14/2010 1:50:59 PM

On 06/08/2010, 2 sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 4.9 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D13956 was assigned to the project. The lab sample IDs, client sample IDs, and dates of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Volatiles by GC By Method SW846 8015B

Matrix SO	Batch ID: GGB276
------------------	-------------------------

- All samples were analyzed within the recommended method holding time.
- Samples D13956-1MS and D13956-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- The matrix spike and matrix spike duplicate (MS/MSD) recoveries of TPH-GRO (C6-C10) are outside control limits. The blank spike (BS) recovery of TPH-GRO (C6-C10) is within the QC limits.
- Samples D13956-1, D13956-2, D13956-1MS, and D13956-1MSD have surrogates outside control limits. Probable cause due to matrix interference.

Volatiles by GC By Method SW846 8021B

Matrix SO	Batch ID: GTB276
------------------	-------------------------

- All samples were analyzed within the recommended method holding time.
- Samples D13956-1MS and D13956-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- The matrix spike and matrix spike duplicate (MS/MSD) recoveries of Benzene, Ethylbenzene, m,p-Xylene, o-Xylene, and Toluene are outside control limits. Outside control limits due to matrix interference. The blank spike (BS) recoveries of these analytes are within the QC limits.
- Samples D13956-1, D13956-2, D13956-1MS, and D13956-1MSD have surrogates outside control limits. Probable cause due to matrix interference. The blank spike (BS) surrogates recoveries are within the QC limits.

Extractables by GC By Method SW846-8015B

Matrix SO	Batch ID: OP1989
------------------	-------------------------

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Samples D13956-1MS and D13956-1MSD were used as the QC samples indicated.
- The matrix spike (MS) recovery of TPH-DRO (C10-C28) is outside control limits. Due to high level in sample relative to spike amount.
- The RPD for MSD of TPH-DRO (C10-C28) is outside control limits for sample OP1989-MSD. Due to low recovery on MS.
- Samples D13956-1 and OP1989-MSD have surrogates outside control limits. Probable cause due to matrix interference.

Wet Chemistry By Method SM19 2540B M

Matrix SO

Batch ID: GN4740

- The data for SM19 2540B M meets quality control requirements.

AMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

AMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by AMS indicated via signature on the report cover.



Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: PIT EAST END		
Lab Sample ID: D13956-1		Date Sampled: 06/07/10
Matrix: SO - Soil		Date Received: 06/08/10
Method: SW846 8015B		Percent Solids: 84.6
Project: EM 11-1 Pit Closure		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB5078.D	1	06/11/10	DG	n/a	n/a	GGB276
Run #2							

Run #	Initial Weight
Run #1	1.0 g
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	23.8	1.2	1.2	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	475% ^a		60-140%		

(a) Outside control limits due to matrix interference.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.1
3

Client Sample ID: PIT EAST END	
Lab Sample ID: D13956-1	Date Sampled: 06/07/10
Matrix: SO - Soil	Date Received: 06/08/10
Method: SW846 8021B	Percent Solids: 84.6
Project: EM 11-1 Pit Closure	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	TB5078.D	1	06/11/10	DG	n/a	n/a	GTB276
Run #2							

	Initial Weight
Run #1	1.0 g
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.9	5.9	ug/kg	
108-88-3	Toluene	ND	12	12	ug/kg	
100-41-4	Ethylbenzene	36.8	12	12	ug/kg	
	m,p-Xylene	168	12	12	ug/kg	
95-47-6	o-Xylene	75.3	12	12	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	155% ^a		60-140%

(a) Outside control limits due to matrix interference.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.1
3

Client Sample ID: PIT EAST END	
Lab Sample ID: D13956-1	Date Sampled: 06/07/10
Matrix: SO - Soil	Date Received: 06/08/10
Method: SW846-8015B SW846 3550B	Percent Solids: 84.6
Project: EM 11-1 Pit Closure	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD1912.D	10	06/10/10	CP	06/09/10	OP1989	GFD115
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	TPH-DRO (C10-C28)	4090	160	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	138% ^a		63-130%	

(a) Outside control limits due to matrix interference.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

32
3

Client Sample ID: PIT WEST END	
Lab Sample ID: D13956-2	Date Sampled: 06/07/10
Matrix: SO - Soil	Date Received: 06/08/10
Method: SW846 8015B	Percent Solids: 84.5
Project: EM 11-1 Pit Closure	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB5081.D	1	06/11/10	DG	n/a	n/a	GGB276
Run #2							

Run #	Initial Weight
Run #1	1.0 g
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	21.8	1.2	1.2	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	235% ^a		60-140%		

(a) Outside control limits due to matrix interference.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

32
3

Client Sample ID: PIT WEST END	
Lab Sample ID: D13956-2	Date Sampled: 06/07/10
Matrix: SO - Soil	Date Received: 06/08/10
Method: SW846 8021B	Percent Solids: 84.5
Project: EM 11-1 Pit Closure	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	TB5081.D	1	06/11/10	DG	n/a	n/a	GTB276
Run #2							

Run #	Initial Weight
Run #1	1.0 g
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.9	5.9	ug/kg	
108-88-3	Toluene	ND	12	12	ug/kg	
100-41-4	Ethylbenzene	33.7	12	12	ug/kg	
	m,p-Xylene	269	12	12	ug/kg	
95-47-6	o-Xylene	266	12	12	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	191% ^a		60-140%

(a) Outside control limits due to matrix interference.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

32
3

Client Sample ID: PIT WEST END	
Lab Sample ID: D13956-2	Date Sampled: 06/07/10
Matrix: SO - Soil	Date Received: 06/08/10
Method: SW846-8015B SW846 3550B	Percent Solids: 84.5
Project: EM 11-1 Pit Closure	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD1917.D	1	06/10/10	CP	06/09/10	OP1989	GFD115
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	TPH-DRO (C10-C28)	719	16	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	86%		63-130%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D13956
Account: HRLCCOGJ HRL Compliance Solutions
Project: EM 11-1 Pit Closure

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB276-MB	GB5076.D	1	06/11/10	DG	n/a	n/a	GGB276

The QC reported here applies to the following samples:

Method: SW846 8015B

D13956-1, D13956-2

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	1.0	1.0	mg/kg	

CAS No.	Surrogate Recoveries	Limits
120-82-1	1,2,4-Trichlorobenzene	90% 60-140%

5.1.1
5

Method Blank Summary

Job Number: D13956
Account: HRLCCOGJ HRL Compliance Solutions
Project: EM 11-1 Pit Closure

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GTB276-MB	TB5076.D	1	06/11/10	DG	n/a	n/a	GTB276

The QC reported here applies to the following samples:

Method: SW846 8021B

D13956-1, D13956-2

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	1.0	ug/kg	
100-41-4	Ethylbenzene	ND	2.0	2.0	ug/kg	
108-88-3	Toluene	ND	2.0	2.0	ug/kg	
95-47-6	o-Xylene	ND	2.0	2.0	ug/kg	
	m,p-Xylene	ND	2.0	2.0	ug/kg	

CAS No.	Surrogate Recoveries	Limits
120-82-1	1,2,4-Trichlorobenzene	88% 60-140%

5.1.2
5

Blank Spike Summary

Job Number: D13956
Account: HRLCCOGJ HRL Compliance Solutions
Project: EM 11-1 Pit Closure

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB276-BS	GB5077.D	1	06/11/10	DG	n/a	n/a	GGB276

The QC reported here applies to the following samples:

Method: SW846 8015B

D13956-1, D13956-2

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	11	9.53	87	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	101%	60-140%

5.2.1
5

Blank Spike Summary

Job Number: D13956
Account: HRLCCOGJ HRL Compliance Solutions
Project: EM 11-1 Pit Closure

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GTB276-BS	TB5077.D	1	06/11/10	DG	n/a	n/a	GTB276

The QC reported here applies to the following samples:

Method: SW846 8021B

D13956-1, D13956-2

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	136	114	84	70-130
100-41-4	Ethylbenzene	228	202	89	70-130
108-88-3	Toluene	1060	958	91	70-130
95-47-6	o-Xylene	330	295	90	70-130
	m,p-Xylene	750	652	87	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	98%	60-140%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D13956
Account: HRLCCOGJ HRL Compliance Solutions
Project: EM 11-1 Pit Closure

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D13956-1MS	GB5079.D	1	06/11/10	DG	n/a	n/a	GGB276
D13956-1MSD	GB5080.D	1	06/11/10	DG	n/a	n/a	GGB276
D13956-1	GB5078.D	1	06/11/10	DG	n/a	n/a	GGB276

The QC reported here applies to the following samples:

Method: SW846 8015B

D13956-1, D13956-2

CAS No.	Compound	D13956-1 mg/kg	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	23.8	13	27.4	28* a	24.8	8* a	10	62-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D13956-1	Limits
120-82-1	1,2,4-Trichlorobenzene	476%* a	514%* a	475%* a	60-140%

(a) Outside control limits due to matrix interference.

5.3.1
5

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D13956
Account: HRLCCOGJ HRL Compliance Solutions
Project: EM 11-1 Pit Closure

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D13956-1MS	TB5079.D	1	06/11/10	DG	n/a	n/a	GTB276
D13956-1MSD	TB5080.D	1	06/11/10	DG	n/a	n/a	GTB276
D13956-1	TB5078.D	1	06/11/10	DG	n/a	n/a	GTB276

The QC reported here applies to the following samples:

Method: SW846 8021B

D13956-1, D13956-2

CAS No.	Compound	D13956-1 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	161	106	66* a	98.2	61* a	8	70-130/30
100-41-4	Ethylbenzene	36.8	270	143	39* a	130	35* a	10	62-130/30
108-88-3	Toluene	ND	1250	817	65* a	737	59* a	10	70-130/30
95-47-6	o-Xylene	75.3	389	307	59* a	286	54* a	7	65-135/30
	m,p-Xylene	168	887	573	46* a	519	40* a	10	60-140/30

CAS No.	Surrogate Recoveries	MS	MSD	D13956-1	Limits
120-82-1	1,2,4-Trichlorobenzene	190% * a	342% * a	155% * a	60-140%

(a) Outside control limits due to matrix interference.

5.3.2
5



GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D13956
Account: HRLCCOGJ HRL Compliance Solutions
Project: EM 11-1 Pit Closure

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP1989-MB	FD1887.D	1	06/09/10	CP	06/09/10	OP1989	GFD115

The QC reported here applies to the following samples:

Method: SW846-8015B

D13956-1, D13956-2

CAS No.	Compound	Result	RL	Units	Q
	TPH-DRO (C10-C28)	ND	13	mg/kg	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	75% 63-130%

Blank Spike Summary

Job Number: D13956
Account: HRLCCOGJ HRL Compliance Solutions
Project: EM 11-1 Pit Closure

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP1989-BS	FD1888.D	1	06/09/10	CP	06/09/10	OP1989	GFD115

The QC reported here applies to the following samples:

Method: SW846-8015B

D13956-1, D13956-2

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	612	92	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	92%	63-130%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D13956
Account: HRLCCOGJ HRL Compliance Solutions
Project: EM 11-1 Pit Closure

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP1989-MS	FD1913.D	10	06/10/10	CP	06/09/10	OP1989	GFD115
OP1989-MSD	FD1914.D	10	06/10/10	CP	06/09/10	OP1989	GFD115
D13956-1	FD1912.D	10	06/10/10	CP	06/09/10	OP1989	GFD115

The QC reported here applies to the following samples:

Method: SW846-8015B

D13956-1, D13956-2

CAS No.	Compound	D13956-1 mg/kg	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	4090	783	3320	-98 ^a	5050	122	41 ^b	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D13956-1	Limits
84-15-1	o-Terphenyl	121%	146% ^c	138% ^c	63-130%

- (a) Outside control limits due to high level in sample relative to spike amount.
- (b) High RPD due to possible sample nonhomogeneity.
- (c) Outside control limits due to matrix interference.

Appendix 2: Post-Excavation of Pit Bottom and Pre Excavation of Pit Walls Raw Analytical Data



Technical Report for

HRL Compliance Solutions

GM11-1

Pit Closure

Accutest Job Number: D14454

Sampling Dates: 06/16/10 - 06/17/10

Report to:

HRL Compliance Solutions
744 Horizon Court Suite 140
Grand Junction, CO 81506
mmumby@hrlcomp.com

ATTN: Mark Mumby

Total number of pages in report: **88**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

A handwritten signature in cursive that reads "Jesse L. Smith".

Jesse L. Smith
Laboratory Director

Client Service contact: Shea Greiner 303-425-6021

Certifications: CO, ID, NE, NM, ND (R-027) (PW) UT (NELAP CO00049)

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Test results relate only to samples analyzed.



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Sample Summary

HRL Compliance Solutions

Job No: D14454

GM11-1
Project No: Pit Closure

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
D14454-1	06/16/10	12:45 MEM	06/22/10	SO	Soil	PIT BASE MIDDLE
D14454-2	06/16/10	13:15 MEM	06/22/10	SO	Soil	PIT BASE EAST END NORTH
D14454-3	06/16/10	13:20 MEM	06/22/10	SO	Soil	PIT BASE EAST END SOUTH
D14454-4	06/16/10	15:15 MEM	06/22/10	SO	Soil	PIT BASE WEST END NORTH
D14454-5	06/16/10	15:20 MEM	06/22/10	SO	Soil	PIT BASE WEST END SOUTH
D14454-6	06/17/10	13:20 MEM	06/22/10	SO	Soil	PIT WALL NORTH SIDE
D14454-7	06/17/10	13:30 MEM	06/22/10	SO	Soil	PIT WALL SOUTH SIDE
D14454-8	06/17/10	13:50 MEM	06/22/10	SO	Soil	PIT WALL WEST SIDE

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: HRL Compliance Solutions

Job No D14454

Site: GM11-1

Report Dat 7/7/2010 2:11:18 PM

On 06/22/2010, eight (8) samples, 0 Trip Blanks, and 0 Field Blanks were received at Accutest Mountain States (AMS) at a temperature of 4.0°C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D14454 was assigned to the project. The lab sample IDs, client sample IDs, and dates of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix SO	Batch ID: M:OP21825
------------------	----------------------------

- The data for SW846 8270C BY SIM meets quality control requirements.
- Analysis performed at Accutest Laboratories, Marlborough, MA.

Volatiles by GC By Method SW846 8015B

Matrix SO	Batch ID: GGA422
------------------	-------------------------

- All samples were analyzed within the recommended method holding time.
- Samples D14233-2MS and D14233-2MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- The matrix spike duplicate (MSD) recovery of TPH-GRO (C6-C10) is outside control limits. The blank spike (BS) recovery of TPH-GRO (C6-C10) is within QC limits, proving the analysis is in control.
- The RPD for the MS and MSD recoveries of TPH-GRO (C6-C10) is outside control limits due to the MSD recovery.
- Samples D14233-2MSD, D14454-7, and D14454-8 have the surrogate outside control limits due to coeluting interference. This does not affect the analysis of the target analytes, which elute before the interference.

Volatiles by GC By Method SW846 8021B

Matrix SO	Batch ID: GTA422
------------------	-------------------------

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Samples D14233-2MS and D14233-2MSD were used as the QC samples indicated.
- The matrix spike duplicate (MSD) recoveries of Benzene, Ethylbenzene, m,p-Xylene, o-Xylene, and Toluene are outside control limits. The blank spike (BS) recoveries of these analytes are within QC limits, proving the analysis is in control.
- The RPDs for the MS and MSD recoveries of Benzene, Ethylbenzene, m,p-Xylene, o-Xylene, of Toluene are outside control limits due to the MSD recoveries.
- Sample D14233-2MSD has the surrogate outside control limits due to coeluting interference. This does not affect the analysis of the target analytes, which elute before the interference.

Extractables by GC By Method SW846-8015B

Matrix SO	Batch ID: OP2067
------------------	-------------------------

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Samples D14454-1MS and D14454-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Metals By Method SW846 6010B

Matrix SO	Batch ID: MP2158
------------------	-------------------------

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Samples D14454-1MS, D14454-1MSD, and D14454-1SDL were used as the QC samples for the metals analysis.
- The matrix spike duplicate (MSD) recovery of Zinc is outside control limits. The blank spike (BS) recovery of Zinc is within QC limits, proving the analysis is in control.
- The serial dilution RPDs for Barium, Cadmium, Chromium, Lead, Nickel, Selenium, and Zinc are outside control limits for sample MP2158-SD1. The percent differences for Cadmium and Selenium are acceptable due to low initial sample concentration (< 50 times IDL).
- MP2158-SD1 for Barium, Chromium, Lead, Nickel, and Zinc: The serial dilution indicates possible matrix interference.

Metals By Method SW846 6020

Matrix SO	Batch ID: MP2159
------------------	-------------------------

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Samples D14454-1MS, D14454-1MSD, and D14454-1SDL were used as the QC samples for the metals analysis.
- The serial dilution RPD for Arsenic is outside control limits for sample MP2159-SD1.
- MP2159-SD1 for Arsenic: Serial dilution indicates possible matrix interference.

Metals By Method SW846 7471A

Matrix SO	Batch ID: MP2187
------------------	-------------------------

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Samples D14375-1MS and, D14375-1MSD were used as the QC samples for the Mercury analysis.

Wet Chemistry By Method ASTM E1498-76M

Matrix SO	Batch ID: M:GN32259
------------------	----------------------------

- The data for ASTM E1498-76M meets quality control requirements.
- The following samples were run outside of holding time for method ASTM E1498-76M: D14454-1
- Redox Potential Vs H2: Analysis performed at Accutest Laboratories, Marlborough, MA.

Wet Chemistry By Method SM19 2540B M

Matrix SO	Batch ID: GN4990
------------------	-------------------------

- The data for SM19 2540B M meets quality control requirements.

Wet Chemistry By Method SW846 3060/7196A M

Matrix SO	Batch ID: R3097
------------------	------------------------

- The data for SW846 3060/7196A M meets quality control requirements.
- Trivalent Chromium: Calculated as: (Chromium) - (Hexavalent Chromium)

Wet Chemistry By Method SW846 3060A/7196A

Matrix SO	Batch ID: M:GP11758
------------------	----------------------------

- The data for SW846 3060A/7196A meets quality control requirements.
- Hexavalent Chromium: Analysis performed at Accutest Laboratories, Marlborough, MA.

Wet Chemistry By Method SW846 9045C

Matrix SO	Batch ID: GN4980
------------------	-------------------------

- The following samples were run outside of holding time for method SW846 9045C: D14454-1

AMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

AMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by AMS indicated via signature on the report cover.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Accutest Mountain States

Job No D14454

Site: HRLCCOGJ: GM11-1

Report Date 7/7/2010 3:36:48 PM

8 Sample(s) were collected on between 06/16/2010 and 06/17/2010 and were received at Accutest on 06/22/2010 properly preserved, at 2.3 Deg. C and intact. These Samples received an Accutest job number of D14454. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix: SO

Batch ID: OP21825

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) M92336-1MS, M92336-1MSD were used as the QC samples indicated.
- Matrix Spike Recovery(s) for Acenaphthylene, Naphthalene are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.

Wet Chemistry By Method ASTM E1498-76M

Matrix: SO

Batch ID: GN32259

- Sample(s) D14620-3DUP were used as the QC samples for Redox Potential Vs H2.

Wet Chemistry By Method SW846 3060A/7196A

Matrix: SO

Batch ID: GP11758

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D14376-1MS, D14376-1DUP were used as the QC samples for Chromium, Hexavalent.
- RPD(s) for Duplicate for Chromium, Hexavalent are outside control limits for sample GP11758-D1. RPD acceptable due to low duplicate and sample concentrations.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report be used in its entirety. The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(D14454).



Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: PIT BASE MIDDLE	
Lab Sample ID: D14454-1	Date Sampled: 06/16/10
Matrix: SO - Soil	Date Received: 06/22/10
Method: SW846 8270C BY SIM SW846 3545	Percent Solids: 84.7
Project: GM11-1	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	F47752.D	1	07/05/10	AMA	06/30/10	M:OP21825	M:MSF2255
Run #2							

Run #	Initial Weight	Final Volume
Run #1	10.1 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	59	1.4	ug/kg	
208-96-8	Acenaphthylene	ND	59	2.2	ug/kg	
120-12-7	Anthracene	ND	59	1.9	ug/kg	
56-55-3	Benzo(a)anthracene	ND	59	1.5	ug/kg	
50-32-8	Benzo(a)pyrene	ND	59	1.7	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	59	1.4	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	59	4.6	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	59	2.2	ug/kg	
218-01-9	Chrysene	ND	59	1.8	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	59	3.4	ug/kg	
206-44-0	Fluoranthene	ND	59	1.9	ug/kg	
86-73-7	Fluorene	ND	59	1.0	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	59	3.0	ug/kg	
91-57-6	2-Methylnaphthalene	ND	59	2.5	ug/kg	
91-20-3	Naphthalene	ND	59	2.6	ug/kg	
85-01-8	Phenanthrene	ND	59	2.3	ug/kg	
129-00-0	Pyrene	ND	59	4.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	73%		30-130%
321-60-8	2-Fluorobiphenyl	69%		30-130%
1718-51-0	Terphenyl-d14	92%		30-130%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.1
3

Client Sample ID: PIT BASE MIDDLE	
Lab Sample ID: D14454-1	Date Sampled: 06/16/10
Matrix: SO - Soil	Date Received: 06/22/10
Method: SW846 8015B	Percent Solids: 84.7
Project: GM11-1	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA7129.D	1	06/25/10	DG	n/a	n/a	GGA422
Run #2							

	Initial Weight
Run #1	1.0 g
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	1.2	1.2	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	102%		60-140%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: PIT BASE MIDDLE	
Lab Sample ID: D14454-1	Date Sampled: 06/16/10
Matrix: SO - Soil	Date Received: 06/22/10
Method: SW846 8021B	Percent Solids: 84.7
Project: GM11-1	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	TA7129.D	1	06/25/10	DG	n/a	n/a	GTA422
Run #2							

	Initial Weight
Run #1	1.0 g
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.9	5.9	ug/kg	
108-88-3	Toluene	ND	12	12	ug/kg	
100-41-4	Ethylbenzene	ND	12	12	ug/kg	
	m,p-Xylene	ND	12	12	ug/kg	
95-47-6	o-Xylene	ND	12	12	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	116%		60-140%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.1
3

Client Sample ID: PIT BASE MIDDLE	
Lab Sample ID: D14454-1	Date Sampled: 06/16/10
Matrix: SO - Soil	Date Received: 06/22/10
Method: SW846-8015B SW846 3550B	Percent Solids: 84.7
Project: GM11-1	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD2249.D	1	06/24/10	CP	06/24/10	OP2067	GFD127
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	TPH-DRO (C10-C28)	ND	16	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	93%		63-130%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: PIT BASE MIDDLE	
Lab Sample ID: D14454-1	Date Sampled: 06/16/10
Matrix: SO - Soil	Date Received: 06/22/10
	Percent Solids: 84.7
Project: GM11-1	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	13.8	0.38	mg/kg	5	06/24/10	06/25/10 JM	SW846 6020 ²	SW846 3050B ⁵
Barium	251	0.96	mg/kg	1	06/24/10	06/25/10 JM	SW846 6010B ¹	SW846 3050B ⁴
Cadmium	< 0.96	0.96	mg/kg	1	06/24/10	06/25/10 JM	SW846 6010B ¹	SW846 3050B ⁴
Chromium	9.2	0.96	mg/kg	1	06/24/10	06/25/10 JM	SW846 6010B ¹	SW846 3050B ⁴
Copper	19.3	0.96	mg/kg	1	06/24/10	06/25/10 JM	SW846 6010B ¹	SW846 3050B ⁴
Lead	10.9	4.8	mg/kg	1	06/24/10	06/25/10 JM	SW846 6010B ¹	SW846 3050B ⁴
Mercury	< 0.11	0.11	mg/kg	1	06/28/10	06/28/10 RN	SW846 7471A ³	SW846 7471A ⁶
Nickel	13.6	2.9	mg/kg	1	06/24/10	06/25/10 JM	SW846 6010B ¹	SW846 3050B ⁴
Selenium	< 4.8	4.8	mg/kg	1	06/24/10	06/25/10 JM	SW846 6010B ¹	SW846 3050B ⁴
Silver	< 2.9	2.9	mg/kg	1	06/24/10	06/25/10 JM	SW846 6010B ¹	SW846 3050B ⁴
Zinc	49.7	2.9	mg/kg	1	06/24/10	06/25/10 JM	SW846 6010B ¹	SW846 3050B ⁴

- (1) Instrument QC Batch: MA776
- (2) Instrument QC Batch: MA777
- (3) Instrument QC Batch: MA781
- (4) Prep QC Batch: MP2158
- (5) Prep QC Batch: MP2159
- (6) Prep QC Batch: MP2187

RL = Reporting Limit

Report of Analysis

Client Sample ID: PIT BASE MIDDLE	Date Sampled: 06/16/10
Lab Sample ID: D14454-1	Date Received: 06/22/10
Matrix: SO - Soil	Percent Solids: 84.7
Project: GM11-1	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent ^a	< 2.3	2.3	mg/kg	1	06/29/10 12:34	AMA	SW846 3060A/7196A
Chromium, Trivalent ^b	9.2	3.3	mg/kg	1	06/29/10 12:34	AMA	SW846 3060/7196A M
Redox Potential Vs H2 ^a	310		mv	1	06/28/10	AMA	ASTM E1498-76M
Solids, Percent	84.7		%	1	06/22/10	SWT	SM19 2540B M
pH	9.63		su	1	06/22/10 11:20	CJ	SW846 9045C

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

(b) Calculated as: (Chromium) - (Chromium, Hexavalent)

RL = Reporting Limit

Report of Analysis

Client Sample ID:	PIT BASE EAST END NORTH	
Lab Sample ID:	D14454-2	Date Sampled: 06/16/10
Matrix:	SO - Soil	Date Received: 06/22/10
Method:	SW846 8270C BY SIM SW846 3545	Percent Solids: 85.4
Project:	GM11-1	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	F47753.D	1	07/05/10	AMA	06/30/10	M:OP21825	M:MSF2255
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.6 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	28	0.66	ug/kg	
208-96-8	Acenaphthylene	ND	28	1.1	ug/kg	
120-12-7	Anthracene	ND	28	0.92	ug/kg	
56-55-3	Benzo(a)anthracene	ND	28	0.70	ug/kg	
50-32-8	Benzo(a)pyrene	ND	28	0.82	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	28	0.69	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	28	2.2	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	28	1.1	ug/kg	
218-01-9	Chrysene	ND	28	0.87	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	28	1.6	ug/kg	
206-44-0	Fluoranthene	ND	28	0.90	ug/kg	
86-73-7	Fluorene	ND	28	0.50	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	28	1.4	ug/kg	
91-57-6	2-Methylnaphthalene	6.8	28	1.2	ug/kg	J
91-20-3	Naphthalene	2.3	28	1.2	ug/kg	J
85-01-8	Phenanthrene	ND	28	1.1	ug/kg	
129-00-0	Pyrene	ND	28	2.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	55%		30-130%
321-60-8	2-Fluorobiphenyl	54%		30-130%
1718-51-0	Terphenyl-d14	80%		30-130%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

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3

Client Sample ID: PIT BASE EAST END NORTH	
Lab Sample ID: D14454-2	Date Sampled: 06/16/10
Matrix: SO - Soil	Date Received: 06/22/10
Method: SW846 8015B	Percent Solids: 85.4
Project: GM11-1	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA7130.D	1	06/25/10	DG	n/a	n/a	GGA422
Run #2							

	Initial Weight
Run #1	1.0 g
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	1.90	1.2	1.2	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	105%		60-140%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

32
3

Client Sample ID: PIT BASE EAST END NORTH	
Lab Sample ID: D14454-2	Date Sampled: 06/16/10
Matrix: SO - Soil	Date Received: 06/22/10
Method: SW846 8021B	Percent Solids: 85.4
Project: GM11-1	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	TA7130.D	1	06/25/10	DG	n/a	n/a	GTA422
Run #2							

	Initial Weight
Run #1	1.0 g
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.9	5.9	ug/kg	
108-88-3	Toluene	ND	12	12	ug/kg	
100-41-4	Ethylbenzene	ND	12	12	ug/kg	
	m,p-Xylene	ND	12	12	ug/kg	
95-47-6	o-Xylene	ND	12	12	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	102%		60-140%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

32
3

Client Sample ID: PIT BASE EAST END NORTH	
Lab Sample ID: D14454-2	Date Sampled: 06/16/10
Matrix: SO - Soil	Date Received: 06/22/10
Method: SW846-8015B SW846 3550B	Percent Solids: 85.4
Project: GM11-1	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD2252.D	1	06/24/10	CP	06/24/10	OP2067	GFD127
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	TPH-DRO (C10-C28)	49.9	16	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	86%		63-130%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PIT BASE EAST END SOUTH	
Lab Sample ID:	D14454-3	Date Sampled: 06/16/10
Matrix:	SO - Soil	Date Received: 06/22/10
Method:	SW846 8270C BY SIM SW846 3545	Percent Solids: 86.6
Project:	GM11-1	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	F47754.D	1	07/05/10	AMA	06/30/10	M:OP21825	M:MSF2255
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	29	0.67	ug/kg	
208-96-8	Acenaphthylene	ND	29	1.1	ug/kg	
120-12-7	Anthracene	ND	29	0.93	ug/kg	
56-55-3	Benzo(a)anthracene	ND	29	0.71	ug/kg	
50-32-8	Benzo(a)pyrene	ND	29	0.83	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	29	0.70	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	29	2.2	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	29	1.1	ug/kg	
218-01-9	Chrysene	ND	29	0.88	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	29	1.7	ug/kg	
206-44-0	Fluoranthene	ND	29	0.91	ug/kg	
86-73-7	Fluorene	ND	29	0.51	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	29	1.5	ug/kg	
91-57-6	2-Methylnaphthalene	ND	29	1.2	ug/kg	
91-20-3	Naphthalene	ND	29	1.3	ug/kg	
85-01-8	Phenanthrene	ND	29	1.1	ug/kg	
129-00-0	Pyrene	ND	29	2.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	57%		30-130%
321-60-8	2-Fluorobiphenyl	56%		30-130%
1718-51-0	Terphenyl-d14	78%		30-130%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: PIT BASE EAST END SOUTH	
Lab Sample ID: D14454-3	Date Sampled: 06/16/10
Matrix: SO - Soil	Date Received: 06/22/10
Method: SW846 8015B	Percent Solids: 86.6
Project: GM11-1	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA7131.D	1	06/25/10	DG	n/a	n/a	GGA422
Run #2							

	Initial Weight
Run #1	1.0 g
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	1.2	1.2	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	96%		60-140%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: PIT BASE EAST END SOUTH	
Lab Sample ID: D14454-3	Date Sampled: 06/16/10
Matrix: SO - Soil	Date Received: 06/22/10
Method: SW846 8021B	Percent Solids: 86.6
Project: GM11-1	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	TA7131.D	1	06/25/10	DG	n/a	n/a	GTA422
Run #2							

	Initial Weight
Run #1	1.0 g
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.8	5.8	ug/kg	
108-88-3	Toluene	ND	12	12	ug/kg	
100-41-4	Ethylbenzene	ND	12	12	ug/kg	
	m,p-Xylene	ND	12	12	ug/kg	
95-47-6	o-Xylene	ND	12	12	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	105%		60-140%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: PIT BASE EAST END SOUTH	
Lab Sample ID: D14454-3	Date Sampled: 06/16/10
Matrix: SO - Soil	Date Received: 06/22/10
Method: SW846-8015B SW846 3550B	Percent Solids: 86.6
Project: GM11-1	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD2253.D	1	06/24/10	CP	06/24/10	OP2067	GFD127
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	TPH-DRO (C10-C28)	48.3	15	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	98%		63-130%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PIT BASE WEST END NORTH	
Lab Sample ID:	D14454-4	Date Sampled: 06/16/10
Matrix:	SO - Soil	Date Received: 06/22/10
Method:	SW846 8270C BY SIM SW846 3545	Percent Solids: 85.1
Project:	GM11-1	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	F47755.D	1	07/05/10	AMA	06/30/10	M:OP21825	M:MSF2255
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.4 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	29	0.67	ug/kg	
208-96-8	Acenaphthylene	ND	29	1.1	ug/kg	
120-12-7	Anthracene	ND	29	0.93	ug/kg	
56-55-3	Benzo(a)anthracene	ND	29	0.71	ug/kg	
50-32-8	Benzo(a)pyrene	ND	29	0.84	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	29	0.70	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	29	2.2	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	29	1.1	ug/kg	
218-01-9	Chrysene	ND	29	0.89	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	29	1.7	ug/kg	
206-44-0	Fluoranthene	ND	29	0.92	ug/kg	
86-73-7	Fluorene	ND	29	0.51	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	29	1.5	ug/kg	
91-57-6	2-Methylnaphthalene	37.4	29	1.2	ug/kg	
91-20-3	Naphthalene	21.2	29	1.3	ug/kg	J
85-01-8	Phenanthrene	ND	29	1.1	ug/kg	
129-00-0	Pyrene	ND	29	2.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	66%		30-130%
321-60-8	2-Fluorobiphenyl	62%		30-130%
1718-51-0	Terphenyl-d14	80%		30-130%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

3.4
3

Client Sample ID: PIT BASE WEST END NORTH	
Lab Sample ID: D14454-4	Date Sampled: 06/16/10
Matrix: SO - Soil	Date Received: 06/22/10
Method: SW846 8015B	Percent Solids: 85.1
Project: GM11-1	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA7132.D	1	06/25/10	DG	n/a	n/a	GGA422
Run #2							

	Initial Weight
Run #1	1.0 g
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	1.2	1.2	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	117%		60-140%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.4
3

Client Sample ID: PIT BASE WEST END NORTH	
Lab Sample ID: D14454-4	Date Sampled: 06/16/10
Matrix: SO - Soil	Date Received: 06/22/10
Method: SW846 8021B	Percent Solids: 85.1
Project: GM11-1	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	TA7132.D	1	06/25/10	DG	n/a	n/a	GTA422
Run #2							

Run #	Initial Weight
Run #1	1.0 g
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.9	5.9	ug/kg	
108-88-3	Toluene	ND	12	12	ug/kg	
100-41-4	Ethylbenzene	ND	12	12	ug/kg	
	m,p-Xylene	ND	12	12	ug/kg	
95-47-6	o-Xylene	ND	12	12	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	100%		60-140%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.4
3

Client Sample ID: PIT BASE WEST END NORTH	
Lab Sample ID: D14454-4	Date Sampled: 06/16/10
Matrix: SO - Soil	Date Received: 06/22/10
Method: SW846-8015B SW846 3550B	Percent Solids: 85.1
Project: GM11-1	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD2254.D	1	06/24/10	CP	06/24/10	OP2067	GFD127
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	TPH-DRO (C10-C28)	468	16	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	99%		63-130%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PIT BASE WEST END SOUTH	
Lab Sample ID:	D14454-5	Date Sampled: 06/16/10
Matrix:	SO - Soil	Date Received: 06/22/10
Method:	SW846 8270C BY SIM SW846 3545	Percent Solids: 83.4
Project:	GM11-1	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	F47756.D	1	07/05/10	AMA	06/30/10	M:OP21825	M:MSF2255
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.8 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	29	0.67	ug/kg	
208-96-8	Acenaphthylene	ND	29	1.1	ug/kg	
120-12-7	Anthracene	ND	29	0.94	ug/kg	
56-55-3	Benzo(a)anthracene	ND	29	0.72	ug/kg	
50-32-8	Benzo(a)pyrene	ND	29	0.84	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	29	0.70	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	29	2.3	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	29	1.1	ug/kg	
218-01-9	Chrysene	ND	29	0.89	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	29	1.7	ug/kg	
206-44-0	Fluoranthene	ND	29	0.92	ug/kg	
86-73-7	Fluorene	ND	29	0.51	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	29	1.5	ug/kg	
91-57-6	2-Methylnaphthalene	ND	29	1.2	ug/kg	
91-20-3	Naphthalene	ND	29	1.3	ug/kg	
85-01-8	Phenanthrene	ND	29	1.1	ug/kg	
129-00-0	Pyrene	ND	29	2.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	61%		30-130%
321-60-8	2-Fluorobiphenyl	59%		30-130%
1718-51-0	Terphenyl-d14	72%		30-130%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.5
3

Client Sample ID: PIT BASE WEST END SOUTH	
Lab Sample ID: D14454-5	Date Sampled: 06/16/10
Matrix: SO - Soil	Date Received: 06/22/10
Method: SW846 8015B	Percent Solids: 83.4
Project: GM11-1	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA7133.D	1	06/25/10	DG	n/a	n/a	GGA422
Run #2							

	Initial Weight
Run #1	1.0 g
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	1.2	1.2	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	98%		60-140%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.5
3

Client Sample ID: PIT BASE WEST END SOUTH	
Lab Sample ID: D14454-5	Date Sampled: 06/16/10
Matrix: SO - Soil	Date Received: 06/22/10
Method: SW846 8021B	Percent Solids: 83.4
Project: GM11-1	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	TA7133.D	1	06/25/10	DG	n/a	n/a	GTA422
Run #2							

Run #	Initial Weight
Run #1	1.0 g
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	6.0	6.0	ug/kg	
108-88-3	Toluene	ND	12	12	ug/kg	
100-41-4	Ethylbenzene	ND	12	12	ug/kg	
	m,p-Xylene	ND	12	12	ug/kg	
95-47-6	o-Xylene	ND	12	12	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	103%		60-140%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.5
3

Client Sample ID: PIT BASE WEST END SOUTH	
Lab Sample ID: D14454-5	Date Sampled: 06/16/10
Matrix: SO - Soil	Date Received: 06/22/10
Method: SW846-8015B SW846 3550B	Percent Solids: 83.4
Project: GM11-1	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD2255.D	1	06/24/10	CP	06/24/10	OP2067	GFD127
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	TPH-DRO (C10-C28)	24.8	16	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	94%		63-130%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PIT WALL NORTH SIDE		
Lab Sample ID:	D14454-6	Date Sampled:	06/17/10
Matrix:	SO - Soil	Date Received:	06/22/10
Method:	SW846 8270C BY SIM SW846 3545	Percent Solids:	75.6
Project:	GM11-1		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	F47757.D	1	07/05/10	AMA	06/30/10	M:OP21825	M:MSF2255
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	33	0.76	ug/kg	
208-96-8	Acenaphthylene	ND	33	1.2	ug/kg	
120-12-7	Anthracene	ND	33	1.1	ug/kg	
56-55-3	Benzo(a)anthracene	ND	33	0.82	ug/kg	
50-32-8	Benzo(a)pyrene	ND	33	0.95	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	33	0.80	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	33	2.6	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	33	1.3	ug/kg	
218-01-9	Chrysene	ND	33	1.0	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	33	1.9	ug/kg	
206-44-0	Fluoranthene	ND	33	1.0	ug/kg	
86-73-7	Fluorene	ND	33	0.58	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	33	1.7	ug/kg	
91-57-6	2-Methylnaphthalene	ND	33	1.4	ug/kg	
91-20-3	Naphthalene	ND	33	1.4	ug/kg	
85-01-8	Phenanthrene	6.7	33	1.3	ug/kg	J
129-00-0	Pyrene	ND	33	2.3	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	55%		30-130%
321-60-8	2-Fluorobiphenyl	51%		30-130%
1718-51-0	Terphenyl-d14	76%		30-130%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.6
3

Client Sample ID: PIT WALL NORTH SIDE	
Lab Sample ID: D14454-6	Date Sampled: 06/17/10
Matrix: SO - Soil	Date Received: 06/22/10
Method: SW846 8015B	Percent Solids: 75.6
Project: GM11-1	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA7134.D	1	06/25/10	DG	n/a	n/a	GGA422
Run #2							

	Initial Weight
Run #1	1.0 g
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	1.3	1.3	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	93%		60-140%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: PIT WALL NORTH SIDE	
Lab Sample ID: D14454-6	Date Sampled: 06/17/10
Matrix: SO - Soil	Date Received: 06/22/10
Method: SW846 8021B	Percent Solids: 75.6
Project: GM11-1	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	TA7134.D	1	06/25/10	DG	n/a	n/a	GTA422
Run #2							

Run #	Initial Weight
Run #1	1.0 g
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	6.6	6.6	ug/kg	
108-88-3	Toluene	ND	13	13	ug/kg	
100-41-4	Ethylbenzene	ND	13	13	ug/kg	
	m,p-Xylene	ND	13	13	ug/kg	
95-47-6	o-Xylene	ND	13	13	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	104%		60-140%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.6
3

Client Sample ID: PIT WALL NORTH SIDE	
Lab Sample ID: D14454-6	Date Sampled: 06/17/10
Matrix: SO - Soil	Date Received: 06/22/10
Method: SW846-8015B SW846 3550B	Percent Solids: 75.6
Project: GM11-1	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD2256.D	1	06/24/10	CP	06/24/10	OP2067	GFD127
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	TPH-DRO (C10-C28)	36.7	18	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	79%		63-130%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PIT WALL SOUTH SIDE	
Lab Sample ID:	D14454-7	Date Sampled: 06/17/10
Matrix:	SO - Soil	Date Received: 06/22/10
Method:	SW846 8270C BY SIM SW846 3545	Percent Solids: 85.8
Project:	GM11-1	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	F47758.D	1	07/05/10	AMA	06/30/10	M:OP21825	M:MSF2255
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.8 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	28	0.65	ug/kg	
208-96-8	Acenaphthylene	ND	28	1.0	ug/kg	
120-12-7	Anthracene	ND	28	0.91	ug/kg	
56-55-3	Benzo(a)anthracene	ND	28	0.69	ug/kg	
50-32-8	Benzo(a)pyrene	ND	28	0.81	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	28	0.68	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	28	2.2	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	28	1.1	ug/kg	
218-01-9	Chrysene	ND	28	0.86	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	28	1.6	ug/kg	
206-44-0	Fluoranthene	ND	28	0.89	ug/kg	
86-73-7	Fluorene	ND	28	0.49	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	28	1.4	ug/kg	
91-57-6	2-Methylnaphthalene	23.5	28	1.2	ug/kg	J
91-20-3	Naphthalene	ND	28	1.2	ug/kg	
85-01-8	Phenanthrene	ND	28	1.1	ug/kg	
129-00-0	Pyrene	ND	28	2.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	50%		30-130%
321-60-8	2-Fluorobiphenyl	48%		30-130%
1718-51-0	Terphenyl-d14	63%		30-130%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PIT WALL SOUTH SIDE	
Lab Sample ID:	D14454-7	Date Sampled: 06/17/10
Matrix:	SO - Soil	Date Received: 06/22/10
Method:	SW846 8015B	Percent Solids: 85.8
Project:	GM11-1	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA7135.D	1	06/25/10	DG	n/a	n/a	GGA422
Run #2							

Run #	Initial Weight
Run #1	1.0 g
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	1.2	1.2	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	156% ^a		60-140%		

(a) Outside control limits due to matrix interference.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: PIT WALL SOUTH SIDE	
Lab Sample ID: D14454-7	Date Sampled: 06/17/10
Matrix: SO - Soil	Date Received: 06/22/10
Method: SW846 8021B	Percent Solids: 85.8
Project: GM11-1	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	TA7135.D	1	06/25/10	DG	n/a	n/a	GTA422
Run #2							

Run #	Initial Weight
Run #1	1.0 g
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.8	5.8	ug/kg	
108-88-3	Toluene	ND	12	12	ug/kg	
100-41-4	Ethylbenzene	ND	12	12	ug/kg	
	m,p-Xylene	ND	12	12	ug/kg	
95-47-6	o-Xylene	ND	12	12	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	116%		60-140%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

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3

Client Sample ID: PIT WALL SOUTH SIDE	
Lab Sample ID: D14454-7	Date Sampled: 06/17/10
Matrix: SO - Soil	Date Received: 06/22/10
Method: SW846-8015B SW846 3550B	Percent Solids: 85.8
Project: GM11-1	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD2261.D	1	06/25/10	CP	06/24/10	OP2067	GFD127
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	TPH-DRO (C10-C28)	264	16	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	92%		63-130%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PIT WALL WEST SIDE	
Lab Sample ID:	D14454-8	Date Sampled: 06/17/10
Matrix:	SO - Soil	Date Received: 06/22/10
Method:	SW846 8270C BY SIM SW846 3545	Percent Solids: 86.1
Project:	GM11-1	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	F47759.D	1	07/05/10	AMA	06/30/10	M:OP21825	M:MSF2255
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.4 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	29	0.66	ug/kg	
208-96-8	Acenaphthylene	ND	29	1.1	ug/kg	
120-12-7	Anthracene	ND	29	0.92	ug/kg	
56-55-3	Benzo(a)anthracene	ND	29	0.71	ug/kg	
50-32-8	Benzo(a)pyrene	ND	29	0.83	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	29	0.70	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	29	2.2	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	29	1.1	ug/kg	
218-01-9	Chrysene	ND	29	0.88	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	29	1.6	ug/kg	
206-44-0	Fluoranthene	ND	29	0.91	ug/kg	
86-73-7	Fluorene	ND	29	0.50	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	29	1.4	ug/kg	
91-57-6	2-Methylnaphthalene	5.6	29	1.2	ug/kg	J
91-20-3	Naphthalene	4.3	29	1.3	ug/kg	J
85-01-8	Phenanthrene	ND	29	1.1	ug/kg	
129-00-0	Pyrene	ND	29	2.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	58%		30-130%
321-60-8	2-Fluorobiphenyl	57%		30-130%
1718-51-0	Terphenyl-d14	76%		30-130%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.8
3

Client Sample ID: PIT WALL WEST SIDE	
Lab Sample ID: D14454-8	Date Sampled: 06/17/10
Matrix: SO - Soil	Date Received: 06/22/10
Method: SW846 8015B	Percent Solids: 86.1
Project: GM11-1	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA7136.D	1	06/25/10	DG	n/a	n/a	GGA422
Run #2							

	Initial Weight
Run #1	1.0 g
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	9.57	1.2	1.2	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	152% ^a		60-140%		

(a) Outside control limits due to matrix interference.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: PIT WALL WEST SIDE	
Lab Sample ID: D14454-8	Date Sampled: 06/17/10
Matrix: SO - Soil	Date Received: 06/22/10
Method: SW846 8021B	Percent Solids: 86.1
Project: GM11-1	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	TA7136.D	1	06/25/10	DG	n/a	n/a	GTA422
Run #2							

	Initial Weight
Run #1	1.0 g
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.8	5.8	ug/kg	
108-88-3	Toluene	ND	12	12	ug/kg	
100-41-4	Ethylbenzene	25.5	12	12	ug/kg	
	m,p-Xylene	138	12	12	ug/kg	
95-47-6	o-Xylene	23.7	12	12	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	122%		60-140%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PIT WALL WEST SIDE		Date Sampled:	06/17/10
Lab Sample ID:	D14454-8		Date Received:	06/22/10
Matrix:	SO - Soil		Percent Solids:	86.1
Method:	SW846-8015B SW846 3550B			
Project:	GM11-1			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD2262.D	1	06/25/10	CP	06/24/10	OP2067	GFD127
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	TPH-DRO (C10-C28)	87.2	15	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	87%		63-130%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

4036 Youngfield Street, Wheat Ridge, Colorado 80033
TEL: 303-425-6021; 877-737-4521 FAX: 303-425-6854
www.accutest.com

FED-EX Tracking # _____ Bottle Order Control # _____
Accutest Quote # _____ Accutest Job # **D14454**

Client / Reporting Information		Project Information		Requested Analysis (see TEST CODE sheet)										Matrix Codes																
Company Name: HRL Compliance Solutions, Inc		Project Name: EM 11-1 Pit Closure		<p style="text-align: center;">Billing Information (if different from Report to)</p> <p>Company Name: _____ Street Address: _____ City: _____ State: _____ Zip: _____</p> <p>Client Purchase Order #: _____ Attention: _____</p> <p>City: _____ State: _____ Zip: _____</p> <p>Project Contact: M. Mumby E-mail: _____</p> <p>Phone #: 970-213-3271 Fax #: 970-213-3286</p> <p>Sampler(s) Name(s): MEM Project Manager: Mark Mumby</p>										<p>Matrix Codes</p> <p>DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank</p>																
Street Address: 741 Horizon Ct Suite 140		Street: _____																												
City: Grand Jct. CO State: 81506		City: _____ State: _____																												
Project Contact: M. Mumby		Project #: _____																												
Phone #: 970-213-3271 Fax #: 970-213-3286		Client Purchase Order #: _____																												
Sampler(s) Name(s): MEM		Project Manager: Mark Mumby		<p>Number of preserved Bottles</p> <table border="1"> <tr> <th>NOI</th> <th>NOI3</th> <th>NOI304</th> <th>NOI6</th> <th>DI Water</th> <th>ENCORE</th> <th>EMC</th> <th>EMC6</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>										NOI	NOI3	NOI304	NOI6	DI Water	ENCORE	EMC	EMC6									LAB USE ONLY
NOI	NOI3	NOI304	NOI6	DI Water	ENCORE	EMC	EMC6																							
Accutest Sample # _____		Field ID / Point of Collection		MECH/DEI Vial #	Date	Time	Sampled by	Matrix	# of bottles	NOI	NOI3	NOI304	NOI6	DI Water	ENCORE	EMC	EMC6													
		Pit Base Middle			6/16/10	12:45	MEM	SO	2									C1												
		Pit Base East End North				13:15												C2												
		Pit Base East End South				13:20												C3												
		Pit Base West End North				15:15												C4												
		Pit Base West End South				15:20												C5												
		Pit Wall North Side			6/17/10	13:20												C6												
		Pit Wall South Side				13:30												C7												
		Pit Wall West Side				13:50												C8												
Turnaround Time (Business days)		Approved By (Accutest PM): / Date:		Data Deliverable Information										Comments / Special Instructions																
<input type="checkbox"/> Std. 10 Business Days <input type="checkbox"/> UST Analysis 3-5 Days <input type="checkbox"/> 6 - 9 Day RUSH <input checked="" type="checkbox"/> 3 - 5 Day RUSH <input type="checkbox"/> 2 Day EMERGENCY <input type="checkbox"/> 1 Day EMERGENCY		<input type="checkbox"/> Level 1 <input checked="" type="checkbox"/> Level 2 <input type="checkbox"/> Level 3 <input type="checkbox"/> Level 4 Level 1 = Results Only Level 2 = Results + QC Summary + Case Narrative Level 3 = Results + QC Summary + Partial Raw data Level 4 = Full Deliverable		<input checked="" type="checkbox"/> PDF <input type="checkbox"/> EDD Format <input type="checkbox"/> Other _____										Do not Run Boron, Run for Total Borium																
Emergency & Rush T/A data available VIA Lablink		Sample Custody must be documented below each time samples change possession, including courier delivery.																												
Relinquished by Sampler: MEM		Date Time:	Received By: 1		Date Time:		Relinquished By: 2		Date Time:		Received By: MEM		Date Time: 6-22-10		Received By: MEM		Date Time: 9:49													
Relinquished by Sampler:		Date Time:	Received By: 3		Date Time:		Relinquished By: 4		Date Time:		Received By: 4		Date Time:		Received By: 4		Date Time:													
Relinquished by:		Date Time:	Received By: 5		Date Time:		Custody Seal #		<input type="checkbox"/> Intact <input checked="" type="checkbox"/> Not Intact		Preserved where applicable		<input type="checkbox"/> On Ice <input checked="" type="checkbox"/> Cooler Temp.		Cooler Temp. 4.0															

4.1
4

D14454: Chain of Custody

Page 1 of 1



GC Volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D14454
Account: HRLCCOGJ HRL Compliance Solutions
Project: GM11-1

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGA422-MB	GA7111.D	1	06/24/10	DG	n/a	n/a	GGA422

The QC reported here applies to the following samples:

Method: SW846 8015B

D14454-1, D14454-2, D14454-3, D14454-4, D14454-5, D14454-6, D14454-7, D14454-8

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	1.0	1.0	mg/kg	

CAS No.	Surrogate Recoveries	Limits
120-82-1	1,2,4-Trichlorobenzene	119% 60-140%

5.1.1
5

Method Blank Summary

Job Number: D14454
Account: HRLCCOGJ HRL Compliance Solutions
Project: GM11-1

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GTA422-MB	TA7111.D	1	06/24/10	DG	n/a	n/a	GTA422

The QC reported here applies to the following samples:

Method: SW846 8021B

D14454-1, D14454-2, D14454-3, D14454-4, D14454-5, D14454-6, D14454-7, D14454-8

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	5.0	ug/kg	
100-41-4	Ethylbenzene	ND	10	10	ug/kg	
108-88-3	Toluene	ND	10	10	ug/kg	
95-47-6	o-Xylene	ND	10	10	ug/kg	
	m,p-Xylene	ND	10	10	ug/kg	

CAS No.	Surrogate Recoveries	Limits
120-82-1	1,2,4-Trichlorobenzene	121% 60-140%

5.1.2
5

Blank Spike Summary

Job Number: D14454
Account: HRLCCOGJ HRL Compliance Solutions
Project: GM11-1

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGA422-BS	GA7112.D	1	06/24/10	DG	n/a	n/a	GGA422

The QC reported here applies to the following samples:

Method: SW846 8015B

D14454-1, D14454-2, D14454-3, D14454-4, D14454-5, D14454-6, D14454-7, D14454-8

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	11	10.1	92	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	128%	60-140%

5.2.1
5

Blank Spike Summary

Job Number: D14454
Account: HRLCCOGJ HRL Compliance Solutions
Project: GM11-1

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GTA422-BS	TA7112.D	1	06/24/10	DG	n/a	n/a	GTA422

The QC reported here applies to the following samples:

Method: SW846 8021B

D14454-1, D14454-2, D14454-3, D14454-4, D14454-5, D14454-6, D14454-7, D14454-8

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	136	131	96	70-130
100-41-4	Ethylbenzene	228	222	97	70-130
108-88-3	Toluene	1060	994	94	70-130
95-47-6	o-Xylene	330	332	101	70-130
	m,p-Xylene	750	755	101	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	131%	60-140%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D14454
Account: HRLCCOGJ HRL Compliance Solutions
Project: GM11-1

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D14233-2MS	GA7114.D	1	06/24/10	DG	n/a	n/a	GGA422
D14233-2MSD	GA7115.D	1	06/24/10	DG	n/a	n/a	GGA422
D14233-2	GA7113.D	1	06/24/10	DG	n/a	n/a	GGA422

The QC reported here applies to the following samples: Method: SW846 8015B

D14454-1, D14454-2, D14454-3, D14454-4, D14454-5, D14454-6, D14454-7, D14454-8

CAS No.	Compound	D14233-2 mg/kg	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND	13.7	11.2	82	3.03	22* a	115* a	62-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D14233-2	Limits
120-82-1	1,2,4-Trichlorobenzene	118%	50%* a	78%	60-140%

(a) Outside control limits due to matrix interference.

5.3.1
5

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D14454
Account: HRLCCOGJ HRL Compliance Solutions
Project: GM11-1

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D14233-2MS	TA7114.D	1	06/24/10	DG	n/a	n/a	GTA422
D14233-2MSD	TA7115.D	1	06/24/10	DG	n/a	n/a	GTA422
D14233-2	TA7113.D	1	06/24/10	DG	n/a	n/a	GTA422

The QC reported here applies to the following samples: **Method:** SW846 8021B

D14454-1, D14454-2, D14454-3, D14454-4, D14454-5, D14454-6, D14454-7, D14454-8

CAS No.	Compound	D14233-2 ug/kg	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	169	161	95	45.1	27* a	112* a	70-130/30
100-41-4	Ethylbenzene	ND	283	255	90	69.8	25* a	114* a	62-130/30
108-88-3	Toluene	ND	1310	1180	90	336	26* a	111* a	70-130/30
95-47-6	o-Xylene	ND	409	381	93	117	29* a	106* a	65-135/30
	m,p-Xylene	ND	932	865	93	244	26* a	112* a	60-140/30

CAS No.	Surrogate Recoveries	MS	MSD	D14233-2	Limits
120-82-1	1,2,4-Trichlorobenzene	123%	49%* a	83%	60-140%

(a) Outside control limits due to matrix interference.

5.3.2
5



GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D14454
Account: HRLCCOGJ HRL Compliance Solutions
Project: GM11-1

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2067-MB	FD2247.D	1	06/24/10	CP	06/24/10	OP2067	GFD127

The QC reported here applies to the following samples:

Method: SW846-8015B

D14454-1, D14454-2, D14454-3, D14454-4, D14454-5, D14454-6, D14454-7, D14454-8

CAS No.	Compound	Result	RL	Units	Q
	TPH-DRO (C10-C28)	ND	13	mg/kg	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	94% 63-130%

Blank Spike Summary

Job Number: D14454
Account: HRLCCOGJ HRL Compliance Solutions
Project: GM11-1

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2067-BS	FD2248.D	1	06/24/10	CP	06/24/10	OP2067	GFD127

The QC reported here applies to the following samples:

Method: SW846-8015B

D14454-1, D14454-2, D14454-3, D14454-4, D14454-5, D14454-6, D14454-7, D14454-8

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	627	94	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	97%	63-130%

6.2.1
6

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D14454
Account: HRLCCOGJ HRL Compliance Solutions
Project: GM11-1

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2067-MS	FD2250.D	1	06/24/10	CP	06/24/10	OP2067	GFD127
OP2067-MSD	FD2251.D	1	06/24/10	CP	06/24/10	OP2067	GFD127
D14454-1	FD2249.D	1	06/24/10	CP	06/24/10	OP2067	GFD127

The QC reported here applies to the following samples: Method: SW846-8015B

D14454-1, D14454-2, D14454-3, D14454-4, D14454-5, D14454-6, D14454-7, D14454-8

CAS No.	Compound	D14454-1 mg/kg	Spike Q	mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	ND	786	763	97	852	108	11	70-130/30	

CAS No.	Surrogate Recoveries	MS	MSD	D14454-1	Limits
84-15-1	o-Terphenyl	92%	106%	93%	63-130%

6.3.1
6



Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D14454
Account: HRLCCOGJ - HRL Compliance Solutions
Project: GM11-1

QC Batch ID: MP2158
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 06/24/10

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	.7	2		
Antimony	3.0	.17	.5		
Arsenic	2.5	.28	.72		
Barium	1.0	.014	.05	0.090	<1.0
Beryllium	1.0	.14	.21		
Boron	5.0	.35	.91		
Cadmium	1.0	.022	.12	0.050	<1.0
Calcium	40	1.7	2.7		
Chromium	1.0	.027	.18	0.070	<1.0
Cobalt	0.50	.048	.058		
Copper	1.0	.16	.38	0.72	<1.0
Iron	7.0	.77	.91		
Lead	5.0	.13	.24	0.090	<5.0
Lithium	0.20	.076	.09		
Magnesium	20	.58	.93		
Manganese	0.50	.021	.028		
Molybdenum	1.0	.041	.16		
Nickel	3.0	.038	.075	0.0	<3.0
Phosphorus	10	1.5	3.5		
Potassium	200	38	130		
Selenium	5.0	.28	.54	-0.17	<5.0
Silicon	5.0	1.2	.68		
Silver	3.0	.098	.068	0.0	<3.0
Sodium	40	23	6.3		
Strontium	5.0	.0091	.02		
Thallium	1.0	.31	.21		
Tin	5.0	1.4	.56		
Titanium	1.0	.0098	.041		
Uranium	5.0	.22	.53		
Vanadium	1.0	.027	.034		
Zinc	3.0	.076	.49	0.20	<3.0

Associated samples MP2158: D14454-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

7.1.1
7

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D14454
Account: HRLCCOGJ - HRL Compliance Solutions
Project: GM11-1

QC Batch ID: MP2158
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:

Metal

(anr) Analyte not requested

7.1.1

7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D14454
 Account: HRLCCOGJ - HRL Compliance Solutions
 Project: GM11-1

QC Batch ID: MP2158
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: mg/kg

Prep Date: 06/24/10

Metal	D14454-1 Original MS		SpikeLot MPICPALL % Rec	QC Limits	
Aluminum					
Antimony					
Arsenic					
Barium	251	409	189	83.6	75-125
Beryllium					
Boron					
Cadmium	0.52	41.8	47.2	87.4	75-125
Calcium					
Chromium	9.2	50.3	47.2	87.0	75-125
Cobalt					
Copper	19.3	64.5	47.2	95.7	75-125
Iron					
Lead	10.9	87.0	94.5	80.6	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel	13.6	51.8	47.2	80.9	75-125
Phosphorus					
Potassium					
Selenium	1.9	81.8	94.5	84.6	75-125
Silicon					
Silver	0.0	17.5	18.9	92.6	75-125
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc	49.7	85.2	47.2	75.2	75-125

Associated samples MP2158: D14454-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits

7.1.2
7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D14454
Account: HRLCCOGJ - HRL Compliance Solutions
Project: GM11-1

QC Batch ID: MP2158
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:

Metal

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D14454
 Account: HRLCCOGJ - HRL Compliance Solutions
 Project: GM11-1

QC Batch ID: MP2158
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: mg/kg

Prep Date: 06/24/10

Metal	D14454-1 Original MSD		SpikeLot MPICPAL % Rec		MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium	251	424	192	90.1	3.6	20
Beryllium						
Boron						
Cadmium	0.52	42.1	48	86.6	0.7	20
Calcium						
Chromium	9.2	49.9	48	84.8	0.8	20
Cobalt						
Copper	19.3	61.6	48	88.1	4.6	20
Iron						
Lead	10.9	87.7	96	80.0	0.8	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel	13.6	51.4	48	78.8	0.8	20
Phosphorus						
Potassium						
Selenium	1.9	82.6	96	84.1	1.0	20
Silicon						
Silver	0.0	17.7	19.2	92.2	1.1	20
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc	49.7	84.8	48	73.1N(a)	0.5	20

Associated samples MP2158: D14454-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits

7.1.2
7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D14454
Account: HRLCCOGJ - HRL Compliance Solutions
Project: GM11-1

QC Batch ID: MP2158
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:

Metal

- (N) Matrix Spike Rec. outside of QC limits
- (anr) Analyte not requested
- (a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D14454
 Account: HRLCCOGJ - HRL Compliance Solutions
 Project: GM11-1

QC Batch ID: MP2158
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: mg/kg

Prep Date: 06/24/10

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium	193	200	96.5	80-120
Beryllium				
Boron				
Cadmium	47.1	50	94.2	80-120
Calcium				
Chromium	50.3	50	100.6	80-120
Cobalt				
Copper	50.1	50	100.2	80-120
Iron				
Lead	95.2	100	95.2	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	47.5	50	95.0	80-120
Phosphorus				
Potassium				
Selenium	90.8	100	90.8	80-120
Silicon				
Silver	19.6	20	98.0	80-120
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	46.5	50	93.0	80-120

Associated samples MP2158: D14454-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits

7.1.3
7

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D14454
Account: HRLCCOGJ - HRL Compliance Solutions
Project: GM11-1

QC Batch ID: MP2158
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:

Metal

(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: D14454
 Account: HRLCCOGJ - HRL Compliance Solutions
 Project: GM11-1

QC Batch ID: MP2158
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: ug/l

Prep Date: 06/24/10

Metal	D14454-1 Original SDL 1:5		%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium	2610	2980	14.3*(a)	0-10
Beryllium				
Boron				
Cadmium	5.40	6.50	20.4 (b)	0-10
Calcium				
Chromium	96.0	112	16.7*(a)	0-10
Cobalt				
Copper	201	208	3.4	0-10
Iron				
Lead	113	128	13.1*(a)	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	142	172	20.9*(a)	0-10
Phosphorus				
Potassium				
Selenium	20.2	31.5	55.9 (b)	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	518	645	24.5*(a)	0-10

Associated samples MP2158: D14454-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits

7.1.4
7

SERIAL DILUTION RESULTS SUMMARY

Login Number: D14454
Account: HRLCCOGJ - HRL Compliance Solutions
Project: GM11-1

QC Batch ID: MP2158
Matrix Type: SOLID

Methods: SW846 6010B
Units: ug/l

Prep Date:

Metal

- (anr) Analyte not requested
- (a) Serial dilution indicates possible matrix interference.
- (b) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

7.1.4

7

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D14454
Account: HRLCCOGJ - HRL Compliance Solutions
Project: GM11-1

QC Batch ID: MP2159
Matrix Type: SOLID

Methods: SW846 6020
Units: mg/kg

Prep Date: 06/24/10

Metal	RL	IDL	MDL	MB raw	final
Aluminum	25	.14	.89		
Antimony	0.20	.001	.045		
Arsenic	0.40	.049	.26	0.11	<0.40
Barium	1.0	.0035	.17		
Beryllium	0.10	.0075	.014		
Boron	20	.97	2		
Cadmium	0.050	.023	.048		
Calcium	200	1.8	6.1		
Chromium	1.0	.021	.23		
Cobalt	0.10	.0033	.088		
Copper	1.0	.011	.14		
Iron	20	.81	6.1		
Lead	0.25	.0012	.18		
Magnesium	50	.067	1.3		
Manganese	0.50	.007	.089		
Molybdenum	0.50	.0044	.2		
Nickel	1.0	.0029	.074		
Phosphorus	30	1.8	5.6		
Potassium	100	2	9.1		
Selenium	0.20	.075	.14		
Silver	0.050	.0008	.029		
Sodium	250	.8	1.8		
Strontium	10	.004	.047		
Thallium	0.10	.015	.071		
Tin	5.0	.006	.17		
Titanium	1.0	.035	.071		
Uranium	0.25	.00038	.12		
Vanadium	2.0	.052	.99		
Zinc	5.0	.039	.53		

Associated samples MP2159: D14454-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

7.2.1
7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D14454
 Account: HRLCCOGJ - HRL Compliance Solutions
 Project: GM11-1

QC Batch ID: MP2159
 Matrix Type: SOLID

Methods: SW846 6020
 Units: mg/kg

Prep Date: 06/24/10

Metal	D14454-1 Original MS		SpikeLot MPICPALL % Rec		QC Limits
Aluminum					
Antimony					
Arsenic	13.8	94.7	94.5	85.7	60-119
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP2159: D14454-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

7.2.2
7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D14454
 Account: HRLCCOGJ - HRL Compliance Solutions
 Project: GM11-1

QC Batch ID: MP2159
 Matrix Type: SOLID

Methods: SW846 6020
 Units: mg/kg

Prep Date: 06/24/10

Metal	D14454-1 Original MSD		SpikeLot MPICPALL % Rec	MSD RPD	QC Limit	
Aluminum						
Antimony						
Arsenic	13.8	99.8	96	89.6	5.2	20
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP2159: D14454-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

7.2.2
7

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D14454
 Account: HRLCCOGJ - HRL Compliance Solutions
 Project: GM11-1

QC Batch ID: MP2159
 Matrix Type: SOLID

Methods: SW846 6020
 Units: mg/kg

Prep Date: 06/24/10

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	93.9	100	93.9	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP2159: D14454-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

7.2.3
7

SERIAL DILUTION RESULTS SUMMARY

Login Number: D14454
 Account: HRLCCOGJ - HRL Compliance Solutions
 Project: GM11-1

QC Batch ID: MP2159
 Matrix Type: SOLID

Methods: SW846 6020
 Units: ug/l

Prep Date: 06/24/10

Metal	D14454-1		QC	
	Original	SDL 5:25	%DIF	Limits

Aluminum				
Antimony				
Arsenic	144	167	16.1*(a)	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP2159: D14454-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested
 (a) Serial dilution indicates possible matrix interference.

7.2.4
7

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D14454
Account: HRLCCOGJ - HRL Compliance Solutions
Project: GM11-1

QC Batch ID: MP2187
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 06/28/10

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.10	.0011	.0012	-0.0021	<0.10

Associated samples MP2187: D14454-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

7.3.1

7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D14454
Account: HRLCCOGJ - HRL Compliance Solutions
Project: GM11-1

QC Batch ID: MP2187
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 06/28/10

Metal	D14375-1 Original MS	SpikeLot HGWSR1	% Rec	QC Limits
-------	-------------------------	--------------------	-------	--------------

Mercury 0.024 0.50 0.477 99.8 85-115

Associated samples MP2187: D14454-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

7.3.2
7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D14454
 Account: HRLCCOGJ - HRL Compliance Solutions
 Project: GM11-1

QC Batch ID: MP2187
 Matrix Type: SOLID

Methods: SW846 7471A
 Units: mg/kg

Prep Date: 06/28/10

Metal	D14375-1 Original MSD	SpikeLot HGWSR1	% Rec	MSD RPD	QC Limit
Mercury	0.024	0.50	0.477	99.8	0.0

Associated samples MP2187: D14454-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

7.3.2

7

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D14454
Account: HRLCCOGJ - HRL Compliance Solutions
Project: GM11-1

QC Batch ID: MP2187
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 06/28/10

Metal	BSP Result	Spikelot HGWSR1	% Rec	QC Limits
Mercury	0.41	0.4	102.5	80-120

Associated samples MP2187: D14454-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

7.3.3
7



General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D14454
Account: HRLCCOGJ - HRL Compliance Solutions
Project: GM11-1

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
pH	GN4980			su	8.00	8.01	100.1	99.3-100.7%

Associated Samples:
Batch GN4980: D14454-1
(*) Outside of QC limits

8.1

8



Misc. Forms

Custody Documents and Other Forms

(Accutest Labs of New England, Inc.)

Includes the following where applicable:

- Chain of Custody



ACCUTEST

DEPARTMENT OF CUSTOMER SERVICE

CHAIN OF CUSTODY

4036 Youngfield St., Wheat Ridge, CO 80033
303-425-6021 FAX: 303-425-6854

Accutest Job #: D14454
Accutest Quote #:
AMS P.O. #:
Project No.:

Client Information, Subcontract Laboratory Information, Analytical Information, Turnaround Information, Data Deliverable Information, Sample Custody, For Subcontract Laboratory Use Only

9.1 9

D14454: Chain of Custody
Page 1 of 2
Accutest Labs of New England, Inc.



Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D14454

Client: AMS

Immediate Client Services Action Required: No

Date / Time Received: 6/23/2010 10:00:00 AM

No. Coolers: 1

Client Service Action Required at Login: No

Project: N/A

Airbill #'s: N/A

<u>Cooler Security</u>	<u>Y</u>	<u>or</u>	<u>N</u>		<u>Y</u>	<u>or</u>	<u>N</u>
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>

<u>Cooler Temperature</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Cooler temp verification:			Infrared gun
3. Cooler media:			Ice (bag)

<u>Quality Control Preservation</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input type="checkbox"/>	
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input type="checkbox"/>	
3. Samples preserved property:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

<u>Sample Integrity - Documentation</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

<u>Sample Integrity - Condition</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:			Intact

<u>Sample Integrity - Instructions</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume rec'd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www.accutest.com

9.1
9



GC/MS Semi-volatiles

QC Data Summaries

(Accutest Labs of New England, Inc.)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D14454
Account: ALMS Accutest Mountain States
Project: HRLCCOGJ: GM11-1

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP21825-MB	F47744.D	1	07/05/10	AA	06/30/10	OP21825	MSF2255

The QC reported here applies to the following samples: **Method:** SW846 8270C BY SIM

D14454-1, D14454-2, D14454-3, D14454-4, D14454-5, D14454-6, D14454-7, D14454-8

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	24	0.56	ug/kg	
208-96-8	Acenaphthylene	ND	24	0.90	ug/kg	
120-12-7	Anthracene	ND	24	0.78	ug/kg	
56-55-3	Benzo(a)anthracene	ND	24	0.60	ug/kg	
50-32-8	Benzo(a)pyrene	ND	24	0.70	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	24	0.59	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	24	1.9	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	24	0.92	ug/kg	
218-01-9	Chrysene	ND	24	0.74	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	24	1.4	ug/kg	
206-44-0	Fluoranthene	ND	24	0.77	ug/kg	
86-73-7	Fluorene	ND	24	0.42	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	24	1.2	ug/kg	
91-57-6	2-Methylnaphthalene	ND	24	1.0	ug/kg	
91-20-3	Naphthalene	ND	24	1.1	ug/kg	
85-01-8	Phenanthrene	ND	24	0.95	ug/kg	
129-00-0	Pyrene	ND	24	1.7	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
4165-60-0	Nitrobenzene-d5	65%	30-130%
321-60-8	2-Fluorobiphenyl	62%	30-130%
1718-51-0	Terphenyl-d14	84%	30-130%

10.1.1 10

Blank Spike Summary

Job Number: D14454
Account: ALMS Accutest Mountain States
Project: HRLCCOGJ: GM11-1

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP21825-BS	F47745.D	1	07/05/10	AA	06/30/10	OP21825	MSF2255

The QC reported here applies to the following samples: **Method:** SW846 8270C BY SIM

D14454-1, D14454-2, D14454-3, D14454-4, D14454-5, D14454-6, D14454-7, D14454-8

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
83-32-9	Acenaphthene	2430	1360	56	40-140
208-96-8	Acenaphthylene	2430	1230	51	40-140
120-12-7	Anthracene	2430	1880	77	40-140
56-55-3	Benzo(a)anthracene	2430	2150	88	40-140
50-32-8	Benzo(a)pyrene	2430	1990	82	40-140
205-99-2	Benzo(b)fluoranthene	2430	1890	78	40-140
191-24-2	Benzo(g,h,i)perylene	2430	2510	103	40-140
207-08-9	Benzo(k)fluoranthene	2430	2040	84	40-140
218-01-9	Chrysene	2430	1860	76	40-140
53-70-3	Dibenzo(a,h)anthracene	2430	2400	99	40-140
206-44-0	Fluoranthene	2430	2050	84	40-140
86-73-7	Fluorene	2430	1640	67	40-140
193-39-5	Indeno(1,2,3-cd)pyrene	2430	2180	90	40-140
91-57-6	2-Methylnaphthalene	2430	1360	56	40-140
91-20-3	Naphthalene	2430	1160	48	40-140
85-01-8	Phenanthrene	2430	1620	67	40-140
129-00-0	Pyrene	2430	1990	82	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	53%	30-130%
321-60-8	2-Fluorobiphenyl	57%	30-130%
1718-51-0	Terphenyl-d14	80%	30-130%

10.2.1 10

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D14454
Account: ALMS Accutest Mountain States
Project: HRLCCOGJ: GM11-1

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP21825-MS	F47746.D	1	07/05/10	AA	06/30/10	OP21825	MSF2255
OP21825-MSD	F47747.D	1	07/05/10	AA	06/30/10	OP21825	MSF2255
M92336-1	F47748.D	1	07/05/10	AA	06/30/10	OP21825	MSF2255

The QC reported here applies to the following samples: **Method:** SW846 8270C BY SIM

D14454-1, D14454-2, D14454-3, D14454-4, D14454-5, D14454-6, D14454-7, D14454-8

CAS No.	Compound	M92336-1 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND	2720	1180	43	1290	47	9	40-140/30
208-96-8	Acenaphthylene	ND	2720	1060	39* a	1160	43	9	40-140/30
120-12-7	Anthracene	2.3	2720	1800	66	1920	71	6	40-140/30
56-55-3	Benzo(a)anthracene	3.8	2720	2070	76	2240	82	8	40-140/30
50-32-8	Benzo(a)pyrene	2.1	2720	1880	69	2020	74	7	40-140/30
205-99-2	Benzo(b)fluoranthene	5.9	2720	1810	66	1940	71	7	40-140/30
191-24-2	Benzo(g,h,i)perylene	ND	2720	2440	90	2580	95	6	40-140/30
207-08-9	Benzo(k)fluoranthene	2.3	2720	1930	71	2040	75	6	40-140/30
218-01-9	Chrysene	2.9	2720	1780	65	1900	70	7	40-140/30
53-70-3	Dibenzo(a,h)anthracene	ND	2720	2270	83	2410	89	6	40-140/30
206-44-0	Fluoranthene	5.5	2720	1990	73	2160	79	8	40-140/30
86-73-7	Fluorene	ND	2720	1470	54	1600	59	8	40-140/30
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2720	2100	77	2560	94	20	40-140/30
91-57-6	2-Methylnaphthalene	6.1	2720	1140	42	1240	45	8	40-140/30
91-20-3	Naphthalene	5.9	2720	997	36* a	1080	40	8	40-140/30
85-01-8	Phenanthrene	5.7	2720	1530	56	1650	60	8	40-140/30
129-00-0	Pyrene	5.9	2720	1950	71	2070	76	6	40-140/30

CAS No.	Surrogate Recoveries	MS	MSD	M92336-1	Limits
4165-60-0	Nitrobenzene-d5	40%	42%	37%	30-130%
321-60-8	2-Fluorobiphenyl	43%	46%	38%	30-130%
1718-51-0	Terphenyl-d14	71%	74%	52%	30-130%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.

10.3.1 10



General Chemistry

QC Data Summaries

(Accutest Labs of New England, Inc.)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries



METHOD BLANK AND SPIKE RESULTS SUMMARY
 GENERAL CHEMISTRY

Login Number: D14454
 Account: ALMS - Accutest Mountain States
 Project: HRLCCOGJ: GM11-1

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chromium, Hexavalent	GP11758/GN32261	2.0	0.30	mg/kg	40	36.5	91.3	80-120%
Chromium, Hexavalent	GP11758/GN32261			mg/kg	1290	1260	97.7	80-120%

Associated Samples:
 Batch GP11758: D14454-1
 (*) Outside of QC limits

11.1
 11

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D14454
Account: ALMS - Accutest Mountain States
Project: HRLCCOGJ: GM11-1

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chromium, Hexavalent	GP11758/GN32261	D14376-1	mg/kg	0.33	0.51	42.9(a)	0-20%
Redox Potential Vs H2	GN32259	D14620-3	mv	321	316	1.6	0-20%

Associated Samples:

Batch GN32259: D14454-1

Batch GP11758: D14454-1

(*) Outside of QC limits

(a) RPD acceptable due to low duplicate and sample concentrations.

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D14454
Account: ALMS - Accutest Mountain States
Project: HRLCCOGJ: GM11-1

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chromium, Hexavalent	GP11758/GN32261	D14376-1	mg/kg	0.33	44.3	41.9	93.8	75-125%
Chromium, Hexavalent	GP11758/GN32261	D14376-1	mg/kg	0.33	1310	1320	101.0	75-125%

Associated Samples:
Batch GP11758: D14454-1
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

11.3
11

Appendix 3: East Wall Confirmation Raw Analytical Data

Report of Analysis

Client Sample ID: NEW EXC EAST WALL	
Lab Sample ID: D14817-3	Date Sampled: 06/30/10
Matrix: SO - Soil	Date Received: 07/01/10
	Percent Solids: 87.5
Project: GM11-1	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	7.0	0.36	mg/kg	5	07/07/10	07/07/10 GJ	SW846 6020 ³	SW846 3050B ⁶
Barium	175	0.90	mg/kg	1	07/07/10	07/08/10 SH	SW846 6010B ²	SW846 3050B ⁵
Cadmium	< 0.90	0.90	mg/kg	1	07/07/10	07/08/10 SH	SW846 6010B ²	SW846 3050B ⁵
Chromium	8.2	0.90	mg/kg	1	07/07/10	07/08/10 SH	SW846 6010B ²	SW846 3050B ⁵
Copper	14.8	1.4	mg/kg	1	07/07/10	07/08/10 SH	SW846 6010B ²	SW846 3050B ⁵
Lead	7.5	4.5	mg/kg	1	07/07/10	07/08/10 SH	SW846 6010B ²	SW846 3050B ⁵
Mercury	< 0.11	0.11	mg/kg	1	07/01/10	07/01/10 RN	SW846 7471A ¹	SW846 7471A ⁴
Nickel	11.1	2.7	mg/kg	1	07/07/10	07/08/10 SH	SW846 6010B ²	SW846 3050B ⁵
Selenium	< 4.5	4.5	mg/kg	1	07/07/10	07/08/10 SH	SW846 6010B ²	SW846 3050B ⁵
Silver	< 2.7	2.7	mg/kg	1	07/07/10	07/08/10 SH	SW846 6010B ²	SW846 3050B ⁵
Zinc	39.7	2.7	mg/kg	1	07/07/10	07/08/10 SH	SW846 6010B ²	SW846 3050B ⁵

- (1) Instrument QC Batch: MA792
- (2) Instrument QC Batch: MA806
- (3) Instrument QC Batch: MA807
- (4) Prep QC Batch: MP2235
- (5) Prep QC Batch: MP2256
- (6) Prep QC Batch: MP2257

RL = Reporting Limit

Report of Analysis

Client Sample ID: NEW EXC EAST WALL	
Lab Sample ID: D14817-3	Date Sampled: 06/30/10
Matrix: SO - Soil	Date Received: 07/01/10
Method: SW846-8015B SW846 3550B	Percent Solids: 87.5
Project: GM11-1	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD2530.D	1	07/07/10	CP	07/06/10	OP2124	GFD133
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	TPH-DRO (C10-C28)	ND	15	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	90%		63-130%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: NEW EXC EAST WALL	
Lab Sample ID: D14817-3	Date Sampled: 06/30/10
Matrix: SO - Soil	Date Received: 07/01/10
Method: SW846 8021B	Percent Solids: 87.5
Project: GM11-1	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	TB5678.D	1	07/09/10	DG	n/a	n/a	GTB308
Run #2							

	Initial Weight
Run #1	1.0 g
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.7	5.7	ug/kg	
108-88-3	Toluene	ND	11	11	ug/kg	
100-41-4	Ethylbenzene	ND	11	11	ug/kg	
	m,p-Xylene	ND	11	11	ug/kg	
95-47-6	o-Xylene	ND	11	11	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	113%		60-140%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: NEW EXC EAST WALL	
Lab Sample ID: D14817-3	Date Sampled: 06/30/10
Matrix: SO - Soil	Date Received: 07/01/10
Method: SW846 8015B	Percent Solids: 87.5
Project: GM11-1	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB5678.D	1	07/09/10	DG	n/a	n/a	GGB308
Run #2							

	Initial Weight
Run #1	1.0 g
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	1.1	1.1	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	117%		60-140%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	NEW EXC EAST WALL		
Lab Sample ID:	D14817-3	Date Sampled:	06/30/10
Matrix:	SO - Soil	Date Received:	07/01/10
Method:	SW846 8270C BY SIM SW846 3540C	Percent Solids:	87.5
Project:	GM11-1		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G01292.D	1	07/06/10	TMB	07/02/10	OP2111	E3G33
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	7.6	7.1	ug/kg	
208-96-8	Acenaphthylene	ND	38	7.8	ug/kg	
120-12-7	Anthracene	ND	7.6	4.9	ug/kg	
56-55-3	Benzo(a)anthracene	ND	7.6	7.4	ug/kg	
50-32-8	Benzo(a)pyrene	ND	7.6	4.8	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	7.6	5.5	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	7.6	4.7	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	7.6	4.8	ug/kg	
218-01-9	Chrysene	ND	7.6	3.8	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	7.6	5.6	ug/kg	
206-44-0	Fluoranthene	ND	7.6	4.7	ug/kg	
86-73-7	Fluorene	ND	7.6	7.4	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	7.6	5.0	ug/kg	
90-12-0	1-Methylnaphthalene	ND	7.6	6.7	ug/kg	
91-57-6	2-Methylnaphthalene	ND	38	12	ug/kg	
91-20-3	Naphthalene	ND	38	8.4	ug/kg	
85-01-8	Phenanthrene	ND	7.6	6.0	ug/kg	
129-00-0	Pyrene	ND	7.6	5.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	63%		10-193%
321-60-8	2-Fluorobiphenyl	62%		20-138%
1718-51-0	Terphenyl-d14	64%		17-174%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: NEW EXC EAST WALL	
Lab Sample ID: D14817-3	Date Sampled: 06/30/10
Matrix: SO - Soil	Date Received: 07/01/10
Project: GM11-1	Percent Solids: 87.5

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent ^a	< 2.3	2.3	mg/kg	1	07/07/10 12:04	AMA	SW846 3060A/7196A
Chromium, Trivalent ^b	8.2	3.2	mg/kg	1	07/08/10 07:54	SH	SW846 3060/7196A M
Redox Potential Vs H2 ^a	328		mv	1	07/02/10	AMA	ASTM E1498-76M
Solids, Percent	87.5		%	1	07/02/10	JD	SM19 2540B M
pH ^c	8.87		su	1	07/01/10 12:00	JD	SW846 9045C

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

(b) Calculated as: (Chromium) - (Chromium, Hexavalent)

(c) Received out of hold.

RL = Reporting Limit

Appendix 4: Landfarmed Soil Confirmation Raw Analytical Data



29-Nov-2010

Kris Rowe
HRL Compliance Solutions
744 Horizon Ct. Suite 140
Grand Junction, CO 81506

Re: **Williams GM 11-1 Landfarm 11/17/10**

Work Order: **1011525**

Dear Kris,

ALS Environmental received 1 sample on 20-Nov-2010 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.

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 26.

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: Joseph Ribar

Ann Preston
Project Manager



Certificate No: IL100452

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

DOV#J UR X S#K VD /#FR US##Sdu#z i#kch#DOV#Dderudwru| #J urxs#D #F dp seh#Eurwkhw#Dp l#hg#Frp sdq|

Environmental ALS

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RIGHT SOLUTIONS RIGHT PARTNER

Client: HRL Compliance Solutions
Project: Williams GM 11-1 Landfarm 11/17/10
Work Order: 1011525

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>
1011525-01	Landfarm	Soil		11/17/2010 12:20	11/20/2010 10:30	<input type="checkbox"/>

Client: HRL Compliance Solutions
Project: Williams GM 11-1 Landfarm 11/17/10
Work Order: 1011525

Case Narrative

Sample Summary

Sample 1011525-01A was received and analyzed outside hold time.

QC Summary

Metals by ICP-MS

Batch 30660, Method 6020A, Samples 1011544-03B MS/MSD: Recoveries for several analytes were outside control limits due to sample matrix.

Semi-Volatile Organic Compounds

Batch 30628, Method 8270, Sample 1011471-02C MSD: RPDs out between two matrix spike recoveries. Acceptable but lower recoveries in the MSD. LCS/LCSD recoveries and precision were acceptable.

Hexavalent Chromium

Batch R84135, Method 7196A, Sample 1011533-01A MS/MSD: Recoveries were outside control limits due to matrix interference.

Client: HRL Compliance Solutions
Project: Williams GM 11-1 Landfarm 11/17/10
WorkOrder: 1011525

**QUALIFIERS,
ACRONYMS, UNITS**

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

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution

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

ALS Group USA, Corp

Date: 29-Nov-10

Client: HRL Compliance Solutions
Project: Williams GM 11-1 Landfarm 11/17/10
Sample ID: Landfarm
Collection Date: 11/17/2010 12:20 PM

Work Order: 1011525
Lab ID: 1011525-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			SW8015M		Prep Date: 11/22/2010	Analyst: RM
DRO (C10-C28)	63		5.6	mg/Kg-dry	1	11/22/2010 12:55 PM
<i>Surr: 4-Terphenyl-d14</i>	<i>54.4</i>		<i>30-125</i>	<i>%REC</i>	1	11/22/2010 12:55 PM
GASOLINE RANGE ORGANICS BY GC-FID			SW8015			Analyst: RM
GRO (C6-C10)	98		6.9	mg/Kg-dry	100	11/23/2010 03:36 AM
<i>Surr: Toluene-d8</i>	<i>107</i>		<i>50-150</i>	<i>%REC</i>	100	11/23/2010 03:36 AM
MERCURY BY CVAA			SW7471		Prep Date: 11/23/2010	Analyst: RH
Mercury	0.12		0.027	mg/Kg-dry	1	11/24/2010 08:17 AM
METALS BY ICP-MS			SW6020A		Prep Date: 11/22/2010	Analyst: RH
Arsenic	10		0.55	mg/Kg-dry	1	11/23/2010 06:31 PM
Barium	1,500		5.5	mg/Kg-dry	10	11/24/2010 11:54 AM
Cadmium	0.53		0.22	mg/Kg-dry	1	11/23/2010 06:31 PM
Chromium	13		0.55	mg/Kg-dry	1	11/23/2010 06:31 PM
Copper	14		0.55	mg/Kg-dry	1	11/23/2010 06:31 PM
Lead	13		0.55	mg/Kg-dry	1	11/23/2010 06:31 PM
Nickel	14		0.55	mg/Kg-dry	1	11/23/2010 06:31 PM
Selenium	1.3		0.55	mg/Kg-dry	1	11/23/2010 06:31 PM
Silver	1.5		0.55	mg/Kg-dry	1	11/23/2010 06:31 PM
Zinc	71		1.1	mg/Kg-dry	1	11/23/2010 06:31 PM
SUBCONTRACTED ANALYSES			SUBCONTRACT			Analyst: A&LGL
Subcontracted Analyses	See attached		as noted		1	11/27/2010
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270		Prep Date: 11/22/2010	Analyst: JG
Acenaphthene	ND		41	µg/Kg-dry	1	11/23/2010 11:18 PM
Anthracene	ND		41	µg/Kg-dry	1	11/23/2010 11:18 PM
Benzo(a)anthracene	ND		14	µg/Kg-dry	1	11/23/2010 11:18 PM
Benzo(a)pyrene	ND		14	µg/Kg-dry	1	11/23/2010 11:18 PM
Benzo(b)fluoranthene	ND		14	µg/Kg-dry	1	11/23/2010 11:18 PM
Benzo(g,h,i)perylene	ND		14	µg/Kg-dry	1	11/23/2010 11:18 PM
Benzo(k)fluoranthene	ND		20	µg/Kg-dry	1	11/23/2010 11:18 PM
Chrysene	ND		41	µg/Kg-dry	1	11/23/2010 11:18 PM
Dibenzo(a,h)anthracene	ND		14	µg/Kg-dry	1	11/23/2010 11:18 PM
Fluoranthene	ND		41	µg/Kg-dry	1	11/23/2010 11:18 PM
Fluorene	ND		41	µg/Kg-dry	1	11/23/2010 11:18 PM
Indeno(1,2,3-cd)pyrene	ND		14	µg/Kg-dry	1	11/23/2010 11:18 PM
Naphthalene	ND		41	µg/Kg-dry	1	11/23/2010 11:18 PM
Pyrene	ND		41	µg/Kg-dry	1	11/23/2010 11:18 PM
<i>Surr: 2,4,6-Tribromophenol</i>	<i>55.1</i>		<i>35-125</i>	<i>%REC</i>	1	11/23/2010 11:18 PM

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

ALS Group USA, Corp

Date: 29-Nov-10

Client: HRL Compliance Solutions
Project: Williams GM 11-1 Landfarm 11/17/10
Sample ID: Landfarm
Collection Date: 11/17/2010 12:20 PM

Work Order: 1011525
Lab ID: 1011525-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<i>Surr: 2-Fluorobiphenyl</i>	54.2		45-105	%REC	1	11/23/2010 11:18 PM
<i>Surr: 2-Fluorophenol</i>	74.2		35-105	%REC	1	11/23/2010 11:18 PM
<i>Surr: 4-Terphenyl-d14</i>	71.0		30-125	%REC	1	11/23/2010 11:18 PM
<i>Surr: Nitrobenzene-d5</i>	73.8		35-100	%REC	1	11/23/2010 11:18 PM
<i>Surr: Phenol-d6</i>	81.4		40-100	%REC	1	11/23/2010 11:18 PM
VOLATILE ORGANIC COMPOUNDS			SW8260		Analyst: CW	
Benzene	ND		24	µg/Kg-dry	100	11/24/2010 11:30 AM
Ethylbenzene	ND		16	µg/Kg-dry	100	11/24/2010 11:30 AM
m,p-Xylene	ND		21	µg/Kg-dry	100	11/24/2010 11:30 AM
o-Xylene	ND		17	µg/Kg-dry	100	11/24/2010 11:30 AM
Toluene	ND		16	µg/Kg-dry	100	11/24/2010 11:30 AM
Xylenes, Total	ND		38	µg/Kg-dry	100	11/24/2010 11:30 AM
CHROMIUM, TRIVALENT			CALCULATION		Analyst: MB	
Chromium, Trivalent	12			mg/L-dry	1	11/24/2010 04:00 PM
CHROMIUM, HEXAVALENT			SW7196A		Prep Date: 11/22/2010 Analyst: MB	
Chromium, Hexavalent	ND		0.69	mg/Kg-dry	1	11/23/2010 12:30 PM
MOISTURE			A2540 G		Analyst: KV	
Moisture	28		0.010	% of sample	1	11/21/2010 02:14 PM
PH			SW9045D		Analyst: JJG	
pH	8.6	H		s.u.	1	11/22/2010 02:00 PM

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

Report Number: F10327-0568

Account Number: 91000

A & L GREAT LAKES LABORATORIES, INC.

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



QUALITY ANALYSES FOR INFORMED DECISIONS

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

RE: LANDFARM

1011525

DATE RECEIVED: 11/23/2010
DATE REPORTED: 11/24/2010
PAGE: 1
P.O. NUMBER: 20-122009363

ATTN: ANN PRESTON

REPORT OF ANALYSIS

LAB NO.	SAMPLE ID	ANALYSIS	RESULT	UNIT	METHOD
75509	01B	Sat'd Paste Extraction with DIW			USDA Handbook 60
		Conductivity (ECe)	5.09	mmho/cm	USDA Handbook 60
		Calcium (Sat'd Paste)	257	ppm	USDA Handbook 60
		Magnesium (Sat'd Paste)	93	ppm	USDA Handbook 60
		Sodium (Sat'd Paste)	916	ppm	USDA Handbook 60
		Sodium Adsorption Ratio	12.4	-	USDA Handbook 60

Client: HRL Compliance Solutions

QC BATCH REPORT

Work Order: 1011525

Project: Williams GM 11-1 Landfarm 11/17/10

Batch ID: **30629** Instrument ID **GC8** Method: **SW8015M**

MBLK		Sample ID: DBLKS1-30629-30629			Units: mg/Kg			Analysis Date: 11/22/2010 12:55 PM		
Client ID:		Run ID: GC8_101122B			SeqNo: 1491948			Prep Date: 11/22/2010		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								
<i>Surr: 4-Terphenyl-d14</i>	1.198	0	1.667	0	71.9	30-125	0			

LCS		Sample ID: DLCSS1-30629-30629			Units: mg/Kg			Analysis Date: 11/22/2010 12:55 PM		
Client ID:		Run ID: GC8_101122B			SeqNo: 1491950			Prep Date: 11/22/2010		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	138.6	4.2	166.7	0	83.2	60-130	0			
<i>Surr: 4-Terphenyl-d14</i>	1.272	0	1.667	0	76.3	30-125	0			

LCSD		Sample ID: DLCSDS1-30629-30629			Units: mg/Kg			Analysis Date: 11/22/2010 12:55 PM		
Client ID:		Run ID: GC8_101122B			SeqNo: 1491949			Prep Date: 11/22/2010		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	130.3	4.2	166.7	0	78.2	60-130	138.6	6.2	30	
<i>Surr: 4-Terphenyl-d14</i>	1.158	0	1.667	0	69.5	30-125	1.272	9.34	30	

MS		Sample ID: 1011471-02C MS			Units: mg/Kg			Analysis Date: 11/22/2010 12:55 PM		
Client ID:		Run ID: GC8_101122B			SeqNo: 1491944			Prep Date: 11/22/2010		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	131.4	4.1	164.3	17.16	69.5	60-130	0			
<i>Surr: 4-Terphenyl-d14</i>	1.208	0	1.643	0	73.5	30-125	0			

MSD		Sample ID: 1011471-02C MSD			Units: mg/Kg			Analysis Date: 11/22/2010 12:55 PM		
Client ID:		Run ID: GC8_101122B			SeqNo: 1491945			Prep Date: 11/22/2010		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	123.7	4.2	166.2	17.16	64.1	60-130	131.4	6	30	
<i>Surr: 4-Terphenyl-d14</i>	0.936	0	1.662	0	56.3	30-125	1.208	25.3	30	

The following samples were analyzed in this batch: 1011525-01A

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

Client: HRL Compliance Solutions
 Work Order: 1011525
 Project: Williams GM 11-1 Landfarm 11/17/10

QC BATCH REPORT

Batch ID: **R84126** Instrument ID **GC9** Method: **SW8015**

MBLK		Sample ID: MB-R84126-R84126				Units: µg/Kg		Analysis Date: 11/23/2010 03:36 AM		
Client ID:		Run ID: GC9_101123A				SeqNo: 1491334		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)	ND	5,000								
<i>Surr: Toluene-d8</i>	<i>10310</i>	<i>0</i>	<i>10000</i>	<i>0</i>	<i>103</i>	<i>50-150</i>	<i>0</i>			

LCS		Sample ID: LCS-R84126-R84126				Units: µg/Kg		Analysis Date: 11/23/2010 03:36 AM		
Client ID:		Run ID: GC9_101123A				SeqNo: 1491335		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)	2388000	5,000	2500000	0	95.5	70-130	0			
<i>Surr: Toluene-d8</i>	<i>9481</i>	<i>0</i>	<i>10000</i>	<i>0</i>	<i>94.8</i>	<i>50-150</i>	<i>0</i>			

LCSD		Sample ID: LCSD-R84126-R84126				Units: µg/Kg		Analysis Date: 11/23/2010 03:36 AM		
Client ID:		Run ID: GC9_101123A				SeqNo: 1491354		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)	2457000	5,000	2500000	0	98.3	70-130	2388000	2.85	30	
<i>Surr: Toluene-d8</i>	<i>9627</i>	<i>0</i>	<i>10000</i>	<i>0</i>	<i>96.3</i>	<i>50-150</i>	<i>9481</i>	<i>1.53</i>	<i>30</i>	

MS		Sample ID: 1011530-01A MS				Units: µg/Kg		Analysis Date: 11/23/2010 03:36 AM		
Client ID:		Run ID: GC9_101123A				SeqNo: 1491352		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)	1982000	5,000	2500000	0	79.3	70-130	0			
<i>Surr: Toluene-d8</i>	<i>9178</i>	<i>0</i>	<i>10000</i>	<i>0</i>	<i>91.8</i>	<i>50-150</i>	<i>0</i>			

MSD		Sample ID: 1011530-01A MSD				Units: µg/Kg		Analysis Date: 11/23/2010 03:36 AM		
Client ID:		Run ID: GC9_101123A				SeqNo: 1491353		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)	1921000	5,000	2500000	0	76.8	70-130	1982000	3.11	30	
<i>Surr: Toluene-d8</i>	<i>9483</i>	<i>0</i>	<i>10000</i>	<i>0</i>	<i>94.8</i>	<i>50-150</i>	<i>9178</i>	<i>3.27</i>	<i>30</i>	

The following samples were analyzed in this batch: | 1011525-01A |

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

Client: HRL Compliance Solutions
Work Order: 1011525
Project: Williams GM 11-1 Landfarm 11/17/10

QC BATCH REPORT

Batch ID: **30668** Instrument ID **HG1** Method: **SW7471**

MBLK		Sample ID: MBLK-30668-30668			Units: mg/Kg			Analysis Date: 11/24/2010 07:39 AM		
Client ID:		Run ID: HG1_101124A			SeqNo: 1490455			Prep Date: 11/23/2010		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-30668-30668			Units: mg/Kg			Analysis Date: 11/24/2010 07:41 AM		
Client ID:		Run ID: HG1_101124A			SeqNo: 1490456			Prep Date: 11/23/2010		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1642	0.020	0.1665	0	98.6	80-120	-0.00275	0	0	

LCSD		Sample ID: LCSD-30668-30668			Units: mg/Kg			Analysis Date: 11/24/2010 07:42 AM		
Client ID:		Run ID: HG1_101124A			SeqNo: 1490457			Prep Date: 11/23/2010		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1571	0.020	0.1665	0	94.3	80-120	0.1642	4.46	20	

MS		Sample ID: 1011471-02CMS			Units: mg/Kg			Analysis Date: 11/24/2010 07:46 AM		
Client ID:		Run ID: HG1_101124A			SeqNo: 1490459			Prep Date: 11/23/2010		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.208	0.020	0.164	0.04952	96.6	75-125	0.04952	0	0	

MSD		Sample ID: 1011471-02CMSD			Units: mg/Kg			Analysis Date: 11/24/2010 07:48 AM		
Client ID:		Run ID: HG1_101124A			SeqNo: 1490460			Prep Date: 11/23/2010		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.2027	0.019	0.1614	0.04952	94.9	75-125	0.208	2.58	35	

The following samples were analyzed in this batch:

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

Client: HRL Compliance Solutions
 Work Order: 1011525
 Project: Williams GM 11-1 Landfarm 11/17/10

QC BATCH REPORT

Batch ID: **30660** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK		Sample ID: MBLK-30660-30660			Units: mg/Kg			Analysis Date: 11/23/2010 02:27 PM		
Client ID:		Run ID: ICPMS1_101123A			SeqNo: 1489728		Prep Date: 11/22/2010		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	0.01284	0.25								J
Cadmium	0.02133	0.10								J
Chromium	0.008345	0.25								J
Copper	ND	0.25								
Lead	0.01962	0.25								J
Nickel	0.087	0.25								J
Selenium	0.04544	0.25								J
Silver	ND	0.25								
Zinc	0.2431	0.50								J

LCS		Sample ID: LCS-30660-30660			Units: mg/Kg			Analysis Date: 11/23/2010 02:33 PM		
Client ID:		Run ID: ICPMS1_101123A			SeqNo: 1489729		Prep Date: 11/22/2010		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.25	0.25	5	0	85	80-120	0			
Barium	4.493	0.25	5	0	89.9	80-120	0			
Cadmium	4.284	0.10	5	0	85.7	80-120	0			
Chromium	4.63	0.25	5	0	92.6	80-120	0			
Copper	4.56	0.25	5	0	91.2	80-120	0			
Lead	4.586	0.25	5	0	91.7	80-120	0			
Nickel	4.412	0.25	5	0	88.2	80-120	0			
Selenium	4.04	0.25	5	0	80.8	80-120	0			
Silver	4.582	0.25	5	0	91.6	80-120	0			
Zinc	4.475	0.50	5	0	89.5	80-120	0			

LCSD		Sample ID: LCSD-30660-30660			Units: mg/Kg			Analysis Date: 11/23/2010 02:39 PM		
Client ID:		Run ID: ICPMS1_101123A			SeqNo: 1489730		Prep Date: 11/22/2010		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.292	0.25	5	0	85.8	80-120	4.25	0.972	20	
Barium	4.605	0.25	5	0	92.1	80-120	4.493	2.46	20	
Cadmium	4.389	0.10	5	0	87.8	80-120	4.284	2.43	20	
Chromium	4.638	0.25	5	0	92.8	80-120	4.63	0.173	20	
Copper	4.58	0.25	5	0	91.6	80-120	4.56	0.427	20	
Lead	4.628	0.25	5	0	92.6	80-120	4.586	0.901	20	
Nickel	4.448	0.25	5	0	89	80-120	4.412	0.824	20	
Silver	4.57	0.25	5	0	91.4	80-120	4.582	0.262	20	
Zinc	4.522	0.50	5	0	90.4	80-120	4.475	1.04	20	

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

Client: HRL Compliance Solutions
 Work Order: 1011525
 Project: Williams GM 11-1 Landfarm 11/17/10

QC BATCH REPORT

Batch ID: **30660** Instrument ID **ICPMS1** Method: **SW6020A**

LCSD		Sample ID: LCSD-30660-30660				Units: mg/Kg		Analysis Date: 11/24/2010 11:36 AM			
Client ID:		Run ID: ICPMS1_101123A				SeqNo: 1490849		Prep Date: 11/22/2010		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Selenium	4.092	0.25	5	0	81.8	80-120	4.04	1.27	20		

MS		Sample ID: 1011544-03BMS				Units: mg/Kg		Analysis Date: 11/23/2010 03:02 PM			
Client ID:		Run ID: ICPMS1_101123A				SeqNo: 1489734		Prep Date: 11/22/2010		DF: 2	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	14.59	0.70	7.022	9.357	74.6	80-120	0			S	
Barium	76.77	0.70	7.022	84.33	-108	80-120	0			SO	
Cadmium	6.559	0.28	7.022	1.334	74.4	80-120	0			S	
Chromium	35.49	0.70	7.022	36.73	-17.7	80-120	0			SO	
Copper	12.67	0.70	7.022	9.185	49.6	80-120	0			S	
Lead	27.3	0.70	7.022	20.52	96.6	80-120	0				
Nickel	11.81	0.70	7.022	6.919	69.6	80-120	0			S	
Selenium	6.365	0.70	7.022	0.8898	78	80-120	0			S	
Silver	5.316	0.70	7.022	0.1727	73.2	80-120	0			S	
Zinc	76.83	1.4	7.022	83.87	-100	80-120	0			SO	

MSD		Sample ID: 1011544-03BMSD				Units: mg/Kg		Analysis Date: 11/23/2010 03:31 PM			
Client ID:		Run ID: ICPMS1_101123A				SeqNo: 1489737		Prep Date: 11/22/2010		DF: 2	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	14.2	0.69	6.94	9.357	69.8	80-120	14.59	2.74	25	S	
Barium	76.75	0.69	6.94	84.33	-109	80-120	76.77	0.0227	25	SO	
Cadmium	6.693	0.28	6.94	1.334	77.2	80-120	6.559	2.02	25	S	
Chromium	36	0.69	6.94	36.73	-10.5	80-120	35.49	1.43	25	SO	
Copper	13.46	0.69	6.94	9.185	61.6	80-120	12.67	6.05	25	S	
Lead	26.83	0.69	6.94	20.52	90.9	80-120	27.3	1.75	25		
Nickel	11.97	0.69	6.94	6.919	72.8	80-120	11.81	1.4	25	S	
Selenium	6.626	0.69	6.94	0.8898	82.7	80-120	6.365	4.01	25		
Silver	5.536	0.69	6.94	0.1727	77.3	80-120	5.316	4.06	25	S	
Zinc	76.24	1.4	6.94	83.87	-110	80-120	76.83	0.767	25	SO	

The following samples were analyzed in this batch: 1011525-01A

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

Client: HRL Compliance Solutions
Work Order: 1011525
Project: Williams GM 11-1 Landfarm 11/17/10

QC BATCH REPORT

Batch ID: **30628** Instrument ID **SVMS6** Method: **SW8270**

MBLK Sample ID: **SBLKS1-30628-30628** Units: **µg/Kg** Analysis Date: **11/23/2010 10:09 AM**

Client ID: Run ID: **SVMS6_101123A** SeqNo: **1490697** Prep Date: **11/22/2010** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	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								
<i>Surr: 2,4,6-Tribromophenol</i>	1401	0	1667	0	84	35-125	0			
<i>Surr: 2-Fluorobiphenyl</i>	1089	0	1667	0	65.3	45-105	0			
<i>Surr: 2-Fluorophenol</i>	1292	0	1667	0	77.5	35-105	0			
<i>Surr: 4-Terphenyl-d14</i>	1329	0	1667	0	79.7	30-125	0			
<i>Surr: Nitrobenzene-d5</i>	1275	0	1667	0	76.5	35-100	0			
<i>Surr: Phenol-d6</i>	1440	0	1667	0	86.4	40-100	0			

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

Client: HRL Compliance Solutions
Work Order: 1011525
Project: Williams GM 11-1 Landfarm 11/17/10

QC BATCH REPORT

Batch ID: **30628** Instrument ID **SVMS6** Method: **SW8270**

LCS Sample ID: **SLCSS1-30628-30628** Units: **µg/Kg** Analysis Date: **11/23/2010 10:34 AM**

Client ID: Run ID: **SVMS6_101123A** SeqNo: **1490699** Prep Date: **11/22/2010** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1044	30	1333	0	78.3	45-110	0			
Anthracene	1206	30	1333	0	90.4	55-105	0			
Benzo(a)anthracene	1189	30	1333	0	89.2	50-110	0			
Benzo(a)pyrene	1140	30	1333	0	85.5	50-110	0			
Benzo(b)fluoranthene	1232	30	1333	0	92.4	45-115	0			
Benzo(g,h,i)perylene	1191	30	1333	0	89.4	40-125	0			
Benzo(k)fluoranthene	1158	30	1333	0	86.9	45-115	0			
Chrysene	1185	30	1333	0	88.9	55-110	0			
Dibenzo(a,h)anthracene	1205	30	1333	0	90.4	40-125	0			
Fluoranthene	1039	30	1333	0	77.9	55-115	0			
Fluorene	1192	30	1333	0	89.4	50-110	0			
Indeno(1,2,3-cd)pyrene	1184	30	1333	0	88.8	40-120	0			
Naphthalene	1055	30	1333	0	79.2	40-105	0			
Pyrene	1086	30	1333	0	81.5	45-125	0			
<i>Surr: 2,4,6-Tribromophenol</i>	1566	0	1667	0	94	35-125	0			
<i>Surr: 2-Fluorobiphenyl</i>	1143	0	1667	0	68.6	45-105	0			
<i>Surr: 2-Fluorophenol</i>	1252	0	1667	0	75.1	35-105	0			
<i>Surr: 4-Terphenyl-d14</i>	1337	0	1667	0	80.2	30-125	0			
<i>Surr: Nitrobenzene-d5</i>	1294	0	1667	0	77.7	35-100	0			
<i>Surr: Phenol-d6</i>	1331	0	1667	0	79.8	40-100	0			

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

Client: HRL Compliance Solutions
 Work Order: 1011525
 Project: Williams GM 11-1 Landfarm 11/17/10

QC BATCH REPORT

Batch ID: 30628 Instrument ID SVMS6 Method: SW8270

LCSD Sample ID: SLCSDS1-30628-30628 Units: µg/Kg Analysis Date: 11/23/2010 11:00 AM

Client ID: Run ID: SVMS6_101123A SeqNo: 1490700 Prep Date: 11/22/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1043	30	1333	0	78.2	45-110	1044	0.128	25	
Anthracene	1183	30	1333	0	88.7	55-105	1206	1.9	25	
Benzo(a)anthracene	1193	30	1333	0	89.5	50-110	1189	0.364	25	
Benzo(a)pyrene	1121	30	1333	0	84.1	50-110	1140	1.68	25	
Benzo(b)fluoranthene	1217	30	1333	0	91.3	45-115	1232	1.17	25	
Benzo(g,h,i)perylene	1173	30	1333	0	88	40-125	1191	1.52	25	
Benzo(k)fluoranthene	1088	30	1333	0	81.6	45-115	1158	6.23	25	
Chrysene	1194	30	1333	0	89.6	55-110	1185	0.756	25	
Dibenzo(a,h)anthracene	1188	30	1333	0	89.1	40-125	1205	1.37	25	
Fluoranthene	1039	30	1333	0	77.9	55-115	1039	0	25	
Fluorene	1186	30	1333	0	89	50-110	1192	0.477	25	
Indeno(1,2,3-cd)pyrene	1167	30	1333	0	87.6	40-120	1184	1.45	25	
Naphthalene	1059	30	1333	0	79.5	40-105	1055	0.378	25	
Pyrene	1111	30	1333	0	83.3	45-125	1086	2.25	25	
Surr: 2,4,6-Tribromophenol	1533	0	1667	0	92	35-125	1566	2.17	40	
Surr: 2-Fluorobiphenyl	1142	0	1667	0	68.5	45-105	1143	0.117	40	
Surr: 2-Fluorophenol	1274	0	1667	0	76.5	35-105	1252	1.74	40	
Surr: 4-Terphenyl-d14	1353	0	1667	0	81.2	30-125	1337	1.16	40	
Surr: Nitrobenzene-d5	1310	0	1667	0	78.6	35-100	1294	1.2	40	
Surr: Phenol-d6	1315	0	1667	0	78.9	40-100	1331	1.21	40	

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

Client: HRL Compliance Solutions
Work Order: 1011525
Project: Williams GM 11-1 Landfarm 11/17/10

QC BATCH REPORT

Batch ID: **30628** Instrument ID **SVMS6** Method: **SW8270**

MS		Sample ID: 1011471-02C MS			Units: µg/Kg		Analysis Date: 11/23/2010 11:26 AM			
Client ID:		Run ID: SVMS6_101123A			SeqNo: 1490702		Prep Date: 11/22/2010		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	977.6	30	1314	0	74.4	45-110	0			
Anthracene	1115	30	1314	0	84.8	55-105	0			
Benzo(a)anthracene	1126	30	1314	10.48	84.9	50-110	0			
Benzo(a)pyrene	1064	30	1314	13.76	79.9	50-110	0			
Benzo(b)fluoranthene	1107	30	1314	10.48	83.5	45-115	0			
Benzo(g,h,i)perylene	1142	30	1314	14.41	85.8	40-125	0			
Benzo(k)fluoranthene	1096	30	1314	0	83.4	45-115	0			
Chrysene	1116	30	1314	0	84.9	55-110	0			
Dibenzo(a,h)anthracene	1122	30	1314	8.516	84.7	40-125	0			
Fluoranthene	1015	30	1314	11.79	76.4	55-115	0			
Fluorene	1123	30	1314	0	85.4	50-110	0			
Indeno(1,2,3-cd)pyrene	1100	30	1314	11.79	82.8	40-120	0			
Naphthalene	970.1	30	1314	0	73.8	40-105	0			
Pyrene	1039	30	1314	11.14	78.2	45-125	0			
<i>Surr: 2,4,6-Tribromophenol</i>	<i>1569</i>	<i>0</i>	<i>1643</i>	<i>0</i>	<i>95.5</i>	<i>35-125</i>	<i>0</i>			
<i>Surr: 2-Fluorobiphenyl</i>	<i>1088</i>	<i>0</i>	<i>1643</i>	<i>0</i>	<i>66.2</i>	<i>45-105</i>	<i>0</i>			
<i>Surr: 2-Fluorophenol</i>	<i>1223</i>	<i>0</i>	<i>1643</i>	<i>0</i>	<i>74.5</i>	<i>35-105</i>	<i>0</i>			
<i>Surr: 4-Terphenyl-d14</i>	<i>1252</i>	<i>0</i>	<i>1643</i>	<i>0</i>	<i>76.2</i>	<i>30-125</i>	<i>0</i>			
<i>Surr: Nitrobenzene-d5</i>	<i>1221</i>	<i>0</i>	<i>1643</i>	<i>0</i>	<i>74.3</i>	<i>35-100</i>	<i>0</i>			
<i>Surr: Phenol-d6</i>	<i>1294</i>	<i>0</i>	<i>1643</i>	<i>0</i>	<i>78.8</i>	<i>40-100</i>	<i>0</i>			

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

Client: HRL Compliance Solutions
 Work Order: 1011525
 Project: Williams GM 11-1 Landfarm 11/17/10

QC BATCH REPORT

Batch ID: 30628 Instrument ID SVMS6 Method: SW8270

MSD		Sample ID: 1011471-02C MSD			Units: µg/Kg			Analysis Date: 11/23/2010 11:53 AM			
Client ID:		Run ID: SVMS6_101123A			SeqNo: 1490703		Prep Date: 11/22/2010		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	629.4	30	1311	0	48	45-110	977.6	43.3	30	R	
Anthracene	685.1	30	1311	0	52.3	55-105	1115	47.8	30	SR	
Benzo(a)anthracene	763.4	30	1311	10.48	57.4	50-110	1126	38.4	30	R	
Benzo(a)pyrene	718.9	30	1311	13.76	53.8	50-110	1064	38.8	30	R	
Benzo(b)fluoranthene	715.2	30	1311	10.48	53.8	45-115	1107	43	30	R	
Benzo(g,h,i)perylene	732.6	30	1311	14.41	54.8	40-125	1142	43.7	30	R	
Benzo(k)fluoranthene	750.6	30	1311	0	57.3	45-115	1096	37.4	30	R	
Chrysene	728.4	30	1311	0	55.6	55-110	1116	42.1	30	R	
Dibenzo(a,h)anthracene	732.3	30	1311	8.516	55.2	40-125	1122	42	30	R	
Fluoranthene	707.7	30	1311	11.79	53.1	55-115	1015	35.7	30	SR	
Fluorene	693	30	1311	0	52.9	50-110	1123	47.4	30	R	
Indeno(1,2,3-cd)pyrene	732.9	30	1311	11.79	55	40-120	1100	40	30	R	
Naphthalene	623.5	30	1311	0	47.6	40-105	970.1	43.5	30	R	
Pyrene	716.9	30	1311	11.14	53.8	45-125	1039	36.7	30	R	
Surr: 2,4,6-Tribromophenol	1000	0	1639	0	61	35-125	1569	44.3	40	R	
Surr: 2-Fluorobiphenyl	717.9	0	1639	0	43.8	45-105	1088	41	40	SR	
Surr: 2-Fluorophenol	785.4	0	1639	0	47.9	35-105	1223	43.6	40	R	
Surr: 4-Terphenyl-d14	848	0	1639	0	51.7	30-125	1252	38.5	40		
Surr: Nitrobenzene-d5	769.3	0	1639	0	46.9	35-100	1221	45.4	40	R	
Surr: Phenol-d6	807.7	0	1639	0	49.3	40-100	1294	46.3	40	R	

The following samples were analyzed in this batch: | 1011525-01A |

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

Client: HRL Compliance Solutions
 Work Order: 1011525
 Project: Williams GM 11-1 Landfarm 11/17/10

QC BATCH REPORT

Batch ID: **R84135** Instrument ID **VMS6** Method: **SW8260**

MBLK		Sample ID: VBLKW1-101124-R84135				Units: µg/L		Analysis Date: 11/24/2010 08:24 AM		
Client ID:		Run ID: VMS6_101124A				SeqNo: 1490832		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: VLCSW1-101124-R84135				Units: µg/L		Analysis Date: 11/24/2010 07:06 AM		
Client ID:		Run ID: VMS6_101124A				SeqNo: 1490243		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	20.38	1.0	20	0	102	80-120	0			
Ethylbenzene	21.79	1.0	20	0	109	75-125	0			
m,p-Xylene	43.98	2.0	40	0	110	75-130	0			
o-Xylene	22.26	1.0	20	0	111	80-120	0			
Toluene	20.63	1.0	20	0	103	75-120	0			
Xylenes, Total	66.24	2.0	60	0	110	75-130	0			

LCSD		Sample ID: VLCSW1-101124-R84135				Units: µg/L		Analysis Date: 11/24/2010 07:32 AM		
Client ID:		Run ID: VMS6_101124A				SeqNo: 1490244		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	19.69	1.0	20	0	98.4	80-120	20.38	3.44	30	
Ethylbenzene	20.44	1.0	20	0	102	75-125	21.79	6.39	30	
m,p-Xylene	41.3	2.0	40	0	103	75-130	43.98	6.29	30	
o-Xylene	21.11	1.0	20	0	106	80-120	22.26	5.3	30	
Toluene	19.47	1.0	20	0	97.4	75-120	20.63	5.79	30	
Xylenes, Total	62.41	2.0	60	0	104	75-130	66.24	5.95	30	

MS		Sample ID: 1011536-05A MS				Units: µg/L		Analysis Date: 11/24/2010 05:11 PM		
Client ID:		Run ID: VMS6_101124A				SeqNo: 1491528		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	17.33	1.0	20	0	86.6	80-120	0			
Ethylbenzene	18.8	1.0	20	0	94	75-125	0			
m,p-Xylene	39.16	2.0	40	0	97.9	75-130	0			
o-Xylene	19.52	1.0	20	0	97.6	80-120	0			
Toluene	17.56	1.0	20	0.17	87	75-120	0			
Xylenes, Total	58.68	2.0	60	0	97.8	75-130	0			

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

Client: HRL Compliance Solutions
Work Order: 1011525
Project: Williams GM 11-1 Landfarm 11/17/10

QC BATCH REPORT

Batch ID: **R84135** Instrument ID **VMS6** Method: **SW8260**

MSD		Sample ID: 1011536-05A MSD				Units: µg/L		Analysis Date: 11/24/2010 05:37 PM		
Client ID:		Run ID: VMS6_101124A				SeqNo: 1491529		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	16.93	1.0	20	0	84.6	80-120	17.33	2.34	30	
Ethylbenzene	18.34	1.0	20	0	91.7	75-125	18.8	2.48	30	
m,p-Xylene	38.24	2.0	40	0	95.6	75-130	39.16	2.38	30	
o-Xylene	19.1	1.0	20	0	95.5	80-120	19.52	2.18	30	
Toluene	17.2	1.0	20	0.17	85.2	75-120	17.56	2.07	30	
Xylenes, Total	57.34	2.0	60	0	95.6	75-130	58.68	2.31	30	

The following samples were analyzed in this batch: 1011525-01A

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

Client: HRL Compliance Solutions
Work Order: 1011525
Project: Williams GM 11-1 Landfarm 11/17/10

QC BATCH REPORT

Batch ID: **30644** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK		Sample ID: MBLK-30644-30644				Units: mg/Kg		Analysis Date: 11/23/2010 12:30 PM			
Client ID:		Run ID: WETCHEM_101123F				SeqNo: 1489430		Prep Date: 11/22/2010		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-30644-30644				Units: mg/Kg		Analysis Date: 11/23/2010 12:30 PM			
Client ID:		Run ID: WETCHEM_101123F				SeqNo: 1489428		Prep Date: 11/22/2010		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Chromium, Hexavalent	1.884	0.50	2	0	94.2	75-110	0				

LCSD		Sample ID: LCSD-30644-30644				Units: mg/Kg		Analysis Date: 11/23/2010 12:30 PM			
Client ID:		Run ID: WETCHEM_101123F				SeqNo: 1489429		Prep Date: 11/22/2010		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Chromium, Hexavalent	1.884	0.50	2	0	94.2	75-110	1.884	0	20		

MS		Sample ID: 1011533-01A MS				Units: mg/Kg		Analysis Date: 11/23/2010 12:30 PM			
Client ID:		Run ID: WETCHEM_101123F				SeqNo: 1489426		Prep Date: 11/22/2010		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Chromium, Hexavalent	0.4	0.50	2	0.596	-9.8	60-130	0			JS	

MSD		Sample ID: 1011533-01A MSD				Units: mg/Kg		Analysis Date: 11/23/2010 12:30 PM			
Client ID:		Run ID: WETCHEM_101123F				SeqNo: 1489427		Prep Date: 11/22/2010		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Chromium, Hexavalent	0.496	0.50	2	0.596	-5	60-130	0.4	0	30	JS	

The following samples were analyzed in this batch:

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

Client: HRL Compliance Solutions
Work Order: 1011525
Project: Williams GM 11-1 Landfarm 11/17/10

QC BATCH REPORT

Batch ID: **R84062** Instrument ID **WETCHEM** Method: **SW9045D**

DUP	Sample ID: 1011525-01A DUP				Units: s.u.			Analysis Date: 11/22/2010 02:00 PM			
Client ID: Landfarm	Run ID: WETCHEM_101122D				SeqNo: 1488554		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
pH	8.62	0	0	0	0	0-0	8.62	0	20	H	

DUP	Sample ID: 1011533-04A DUP				Units: s.u.			Analysis Date: 11/22/2010 02:00 PM			
Client ID:	Run ID: WETCHEM_101122D				SeqNo: 1488563		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
pH	8.57	0	0	0	0	0-0	8.57	0	20	H	

The following samples were analyzed in this batch:

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

Client: HRL Compliance Solutions
Work Order: 1011525
Project: Williams GM 11-1 Landfarm 11/17/10

QC BATCH REPORT

Batch ID: **R84118** Instrument ID **MOIST** Method: **A2540 G**

MBLK		Sample ID: WBLKS1-101121-R84118				Units: % of sample		Analysis Date: 11/21/2010 02:14 PM			
Client ID:		Run ID: MOIST_101121A				SeqNo: 1489746		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Moisture	ND	0.010									

DUP		Sample ID: 1011529-01A DUP				Units: % of sample		Analysis Date: 11/21/2010 02:14 PM			
Client ID:		Run ID: MOIST_101121A				SeqNo: 1489749		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Moisture	26.5	0.010	0	0	0	0-0	26.5	0	20		

The following samples were analyzed in this batch:

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

Client: HRL Compliance Solutions
Work Order: 1011525
Project: Williams GM 11-1 Landfarm 11/17/10

QC BATCH REPORT

Batch ID: **R84143** Instrument ID **MOIST** Method: **A2540 G**

MBLK		Sample ID: WBLKS1-101123-R84143				Units: % of sample		Analysis Date: 11/23/2010 11:05 AM		
Client ID:		Run ID: WETCHEM_101123M				SeqNo: 1490487		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	ND	0.010								

DUP		Sample ID: 1011527-02A DUP				Units: % of sample		Analysis Date: 11/23/2010 11:05 AM		
Client ID:		Run ID: WETCHEM_101123M				SeqNo: 1490490		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	13.8	0.010	0	0	0	0-0	15	8.33	20	

DUP		Sample ID: 1011539-04C DUP				Units: % of sample		Analysis Date: 11/23/2010 11:05 AM		
Client ID:		Run ID: WETCHEM_101123M				SeqNo: 1490506		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	83.8	0.010	0	0	0	0-0	83.9	0.119	20	

The following samples were analyzed in this batch:

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

Sample Receipt Checklist

Client Name: **HRL**

Date/Time Received: **20-Nov-10 10:30**

Work Order: **1011525**

Received by: **AP**

Checklist completed by Ann Preston 20-Nov-10
eSignature Date

Reviewed by: Ann Preston 22-Nov-10
eSignature Date

Matrices: soil
Carrier name: FedEx

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Temperature(s)/Thermometer(s):
- 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:



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 #	1011525
PAGE	1 of 1

PROJECT NAME	Williams GM 11-1 Landfarm	SAMPLER	KRIS ROWE				DATE	11/19/2010				DISPOSAL	By Lab or Return to Client			
PROJECT No.		SITE ID					TURNAROUND	24 hr 48								
		EDD FORMAT														
		PURCHASE ORDER														
COMPANY NAME	HRL COMPLIANCE SOLUTIONS Inc.	BILL TO COMPANY	WILLIAMS PRODUCTION RMT													
SEND REPORT TO	KRIS ROWE	INVOICE ATTN TO	KAROLINA BLANEY													
ADDRESS	744 HORIZON CT SUITE 140	ADDRESS	1058 COUNTY ROAD 215													
CITY / STATE / ZIP	GRAND JUNCTION CO 81506	CITY / STATE / ZIP	PARACHUTE CO 81635													
PHONE	970-243-3271	PHONE	970-683-2295													
FAX	970-243-3280	FAX														
E-MAIL	KROWE@HRLCOMP.COM	E-MAIL	KAROLINA.BLANEY@WILLIAMS.COM													
Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	TEPH	TYPH	BTEX	Semi Vols PAH	910.1 Total Metals (see comments)	SAR/EC/pH			
01	Landfarm	SO	11/17/2010	12:20	2			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:	QC PACKAGE (check below)
Report barium as total barium and do not run boron.	<input type="checkbox"/> LEVEL II (Standard QC)
	<input type="checkbox"/> LEVEL III (Std QC + forms)
	<input type="checkbox"/> LEVEL IV (Std QC + forms + raw data)
	<input type="checkbox"/>
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		KRIS ROWE	11/19/2010	17:00
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY			11/20/10	10:30pm
RELINQUISHED BY				
RECEIVED BY				

100% TODAY SEAL

DR

Date: 11/19/10
Signature: [Handwritten Signature]

Oakland, CA 800-233-8425

15897 REV 1004 NMH

FedEx Express US Airbill

FedEx Tracking Number 8739 4920 7600

1 From Please print and press hard. Sender's FedEx Account Number 8739 4920 7600

Date 11/19/10 Sender's FedEx Account Number 8739 4920 7600

Sender's Name K's Rowe Phone (979) 261 2015

Company HRL Compliance Solutions Inc. Dept./Floor/Suite/Rm 190

Address 744 Horizon CT State CO ZIP 81506

City Grand Junction City, State CO ZIP 81506

2 Your Internal Billing Reference Sample Receiving Phone (616) 399-6070

3 To Recipient's Name ALS Group Laboratory

Address 3352 128th AVE State MI ZIP 49424

City Holland City, State MI ZIP 49424

City Holland City, State MI ZIP 49424



Ship and track packages at fedex.com
Simplify your shipping. Manage your account. Access all the tools you need.

24°C



4a Express Package Service *To most locations. Packages up to 160 lbs.
 FedEx Priority Overnight Next business morning. FedEx Standard Overnight Next business afternoon. FedEx First Overnight Earliest next business morning delivery to select locations.
 FedEx 2Day Second business day. Thursday, Friday shipments will arrive on Monday unless SATURDAY Delivery is selected. Saturday Delivery NOT available.

4b Express Freight Service **To most locations. Packages over 150 lbs.
 FedEx 1Day Freight Next business day. Friday shipments will arrive on Monday unless SATURDAY Delivery is selected. Saturday Delivery NOT available.
 FedEx 2Day Freight Second business day. Friday shipments will arrive on Monday unless SATURDAY Delivery is selected. Saturday Delivery NOT available.

5 Packaging *Declared value limit \$500.
 FedEx Envelope* FedEx Poly* Includes FedEx Small Pak and FedEx Large Pak.
 FedEx Tube
 Other

6 Special Handling and Delivery Signature Options
 SATURDAY Delivery
 No Signature Required
 Direct Signature
 Indirect Signature
 Signature Required
 Signature Required - Obtain a signature for delivery.
 No Signature Required
 Signature Required
 Signature Required - Obtain a signature for delivery.

7 Payment Bill to:
Sender: Enter FedEx Acct. No. or Credit Card No. below.
 Acct. No. in Section 7
 Recipient
 Third Party
 Credit Card
 Cash/Check
FedEx Acct. No. 157 805 886
Exp. Date

Total Packages 3
Total Weight 157.805
Total Declared Value \$ 886.00

Does this shipment contain dangerous goods?
 No
 Yes
 As per attached Shipper's Declaration.
 Shipper's Declaration not required.
 Yes
 Shipper's Declaration not required.
 Dry Ice
 Dry Ice, 9 UN 1845
 Cargo Aircraft Only

Your liability is limited to \$100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms and our liability.

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Appendix 5: Background Raw Analytical Data

ALS Environmental

Date: 07-Oct-10

Client: HRL Compliance Solutions Inc.
Project: GM 11-1
Sample ID: BG 4
Collection Date: 9/29/2010 03:45 PM

Work Order: 1009955
Lab ID: 1009955-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS			Method: SW6020			Prep: SW3050A / 10/4/10	Analyst: SKS
Arsenic	6.79		0.057	0.476	mg/Kg	1	10/4/2010 18:23

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

ALS Environmental

Date: 07-Oct-10

Client: HRL Compliance Solutions Inc.
Project: GM 11-1
Sample ID: BG 3
Collection Date: 9/29/2010 03:30 PM

Work Order: 1009955
Lab ID: 1009955-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS			Method: SW6020			Prep: SW3050A / 10/4/10	Analyst: SKS
Arsenic	6.54		0.054	0.450	mg/Kg	1	10/4/2010 18:17

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

ALS Environmental

Date: 07-Oct-10

Client: HRL Compliance Solutions Inc.
Project: GM 11-1
Sample ID: BG 2
Collection Date: 9/29/2010 03:15 PM

Work Order: 1009955
Lab ID: 1009955-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS			Method: SW6020			Prep: SW3050A / 10/4/10	Analyst: SKS
Arsenic	11.5		0.058	0.481	mg/Kg	1	10/4/2010 18:11

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

ALS Environmental

Date: 07-Oct-10

Client: HRL Compliance Solutions Inc.
Project: GM 11-1
Sample ID: BG 1
Collection Date: 9/27/2010 03:00 PM

Work Order: 1009955
Lab ID: 1009955-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS			Method: SW6020			Prep: SW3050A / 10/4/10	Analyst: SKS
Arsenic	6.78		0.057	0.476	mg/Kg	1	10/4/2010 18:05

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

Client: HRL Compliance Solutions Inc.

Project: GM 11-1

Work Order: 1009955

Case Narrative

Sample GM11-1 analyzed for PAH and Metals Table 910-1 per client request.

Batch 46567, Mercury, Sample 1010008-02: MS/MSD performed on an unrelated sample.

Batch 46633, Metals, Sample 1010008-07: MS/MSD performed on an unrelated sample.

Client: HRL Compliance Solutions Inc.
Project: GM 11-1
Work Order: 1009955

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>
1009955-01	BG 1	Soil		9/27/2010 15:00	9/29/2010 09:00	<input type="checkbox"/>
1009955-02	BG 2	Soil		9/29/2010 15:15	9/29/2010 09:00	<input type="checkbox"/>
1009955-03	BG 3	Soil		9/29/2010 15:30	9/29/2010 09:00	<input type="checkbox"/>
1009955-04	BG 4	Soil		9/29/2010 15:45	9/29/2010 09:00	<input type="checkbox"/>
1009955-05	BG SAR	Soil		9/27/2010 15:15	9/29/2010 09:00	<input type="checkbox"/>
1009955-06	GM 11-1 Dirt Farm	Soil		9/27/2010 14:45	9/29/2010 09:00	<input type="checkbox"/>



07-Oct-2010

Mark Mumby
HRL Compliance Solutions Inc.
744 Horizon Ct Suite 140
Grand Junction, CO 81506

Tel: (970) 243-3271
Fax: (970) 243-3230

Re: GM 11-1

Work Order: **1009955**

Dear Mark,

ALS Environmental received 6 samples on 29-Sep-2010 09:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 25.

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

Sincerely,

A handwritten signature in cursive script that reads "Bethany Agarwal".

Electronically approved by: Mary K. Knowles

Bethany Agarwal
Project Manager



Certificate No: T104704231-09A-TX

ADDRESS 10450 Stancliff Rd, Suite 210 Houston, Texas 77099-4338 | PHONE (281) 530-5656 | FAX (281) 530-5887

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

Environmental ALS

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

ALS Environmental

Date: 07-Oct-10

Client: HRL Compliance Solutions Inc.
Project: GM 11-1
Sample ID: BG SAR
Collection Date: 9/27/2010 03:15 PM

Work Order: 1009955
Lab ID: 1009955-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>							
MISCELLANEOUS ANALYSIS			Method:NA				Analyst: SUB
Miscellaneous Analysis	See Attached		0			1	10/6/2010

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

Appendix 6: Sundry Notice Form 4

State of Colorado
Oil and Gas Conservation Commission



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

SUNDRY NOTICE

Submit original plus one copy. This form is to be used for general, technical and environmental sundry information. For proposed or completed operations, describe in full on Technical Information Page (Page 2 of this form.) Identify well or other facility by API Number or by OGCC Facility ID. Operator shall send an informational copy of all sundry notices for wells located in High Density Areas to the Local Government Designee (Rule 603b.)

1. OGCC Operator Number: 96850	4. Contact Name: Karolina Blaney	Complete the Attachment Checklist OP OGCC
2. Name of Operator: Williams Production RMT Company	Phone: 970-683-2295	
3. Address: 1058 County Road 215 City: Parachute State: CO Zip: 81635	Fax: 970-285-9573	
5. API Number 05-045-07271	OGCC Facility ID Number 334871	Survey Plat
6. Well/Facility Name: UNOCAL GM 11-1	7. Well/Facility Number N/A	Directional Survey
8. Location (Qtr/Sec, Twp, Rng, Meridian): NWNW, Sec 1, T7S, R96W, 6th PM		Surface Eqmpt Diagram
9. County: Garfield	10. Field Name: Grand Valley	Technical Info Page
11. Federal, Indian or State Lease Number:		Other

General Notice

CHANGE OF LOCATION: Attach New Survey Plat (a change of surface qtr/qtr is substantive and requires a new permit)

Change of Surface Footage from Exterior Section Lines:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Change of Surface Footage to Exterior Section Lines:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Change of Bottomhole Footage from Exterior Section Lines:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Change of Bottomhole Footage to Exterior Section Lines:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Bottomhole location Qtr/Clr, Sec, Twp, Rng, Mer
Latitude _____ Distance to nearest property line _____ Distance to nearest bldg, public rd, utility or RR _____
Longitude _____ Distance to nearest lease line _____ Is location in a High Density Area (rule 603b)? Yes/No _____
Ground Elevation _____ Distance to nearest well same formation _____ Surface owner consultation date: _____

GPS DATA:
Date of Measurement _____ PDOP Reading _____ Instrument Operator's Name _____

CHANGE SPACING UNIT
Formation _____ Formation Code _____ Spacing order number _____ Unit Acreage _____ Unit configuration _____

Remove from surface bond
Signed surface use agreement attached

CHANGE OF OPERATOR (prior to drilling):
Effective Date: _____
Plugging Bond: Blanket Individual

CHANGE WELL NAME NUMBER
From: _____
To: _____
Effective Date: _____

ABANDONED LOCATION:
Was location ever built? Yes No
Is site ready for inspection? Yes No
Date Ready for Inspection: _____

NOTICE OF CONTINUED SHUT IN STATUS
Date well shut in or temporarily abandoned: _____
Has Production Equipment been removed from site? Yes No
MIT required if shut in longer than two years. Date of last MIT _____

SPUD DATE: _____ REQUEST FOR CONFIDENTIAL STATUS (6 mos from date casing set)

SUBSEQUENT REPORT OF STAGE, SQUEEZE OR REMEDIAL CEMENT WORK *submit cbl and cement job summaries

Method used	Cementing tool setting/parf depth	Cement volume	Cement top	Cement bottom	Date

RECLAMATION: Attach technical page describing final reclamation procedures per Rule 1004.
Final reclamation will commence on approximately _____ Final reclamation is completed and site is ready for inspection.

Technical Engineering/Environmental Notice

Notice of Intent
Approximate Start Date: _____

Report of Work Done
Date Work Completed: _____

Details of work must be described in full on Technical Information Page (Page 2 must be submitted.)

<input type="checkbox"/> Intent to Recomplete (submit form 2)	<input type="checkbox"/> Request to Vent or Flare	<input type="checkbox"/> E&P Waste Disposal
<input type="checkbox"/> Change Drilling Plans	<input type="checkbox"/> Repair Well	<input type="checkbox"/> Beneficial Reuse of E&P Waste
<input type="checkbox"/> Gross Interval Changed?	<input type="checkbox"/> Rule 502 variance requested	<input type="checkbox"/> Status Update/Change of Remediation Plans
<input type="checkbox"/> Casing/Cementing Program Change	<input checked="" type="checkbox"/> Other: Background	for Spills and Releases

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

Signed: Karolina Blaney Date: 2/25/2011 Email: Karolina.Blaney@williams.com
Print Name: Karolina Blaney Title: Environmental Specialist

COGCC Approved: _____ Title: _____ Date: _____
CONDITIONS OF APPROVAL, IF ANY: _____

TECHNICAL INFORMATION PAGE



FOR OGCC USE ONLY

1. OGCC Operator Number: 96850	API Number: 05-045-07271
2. Name of Operator: Williams Production RMT	OGCC Facility ID # 334871
3. Well/Facility Name: UNOCAL GM 11-1	Well/Facility Number: N/A
4. Location (QtrQtr, Sec, Twp, Rng, Meridian): NWNW, Sec 1, T7S, R96W, 6th PM	

This form is to be completed whenever a Sundry Notice is submitted requiring detailed report of work to be performed or completed. This form shall be transmitted within 30 days of work completed as a "subsequent" report and must accompany Form 4, page 1.

5. **DESCRIBE PROPOSED OR COMPLETED OPERATIONS**

This COGCC Form 4 is being submitted as a request to consider the background concentration levels for arsenic at the UNOCAL GM 11-1 well pad relative to production pit closure at the subject facility in accordance with footnote 1 to the COGCC Table 9101-1.

The request is based on the analytical results below (see attached analytical).

Two (2) grab samples were collected from locations within the pit footprint at depths of approximately 25' to 25.6' below pad grade to ascertain the arsenic concentrations of the facility.

UNOCAL GM 11-1 Pit Bottom Center 13.8 mg/kg
UNOCAL GM 11-1 East Wall Excavation 7 mg/kg

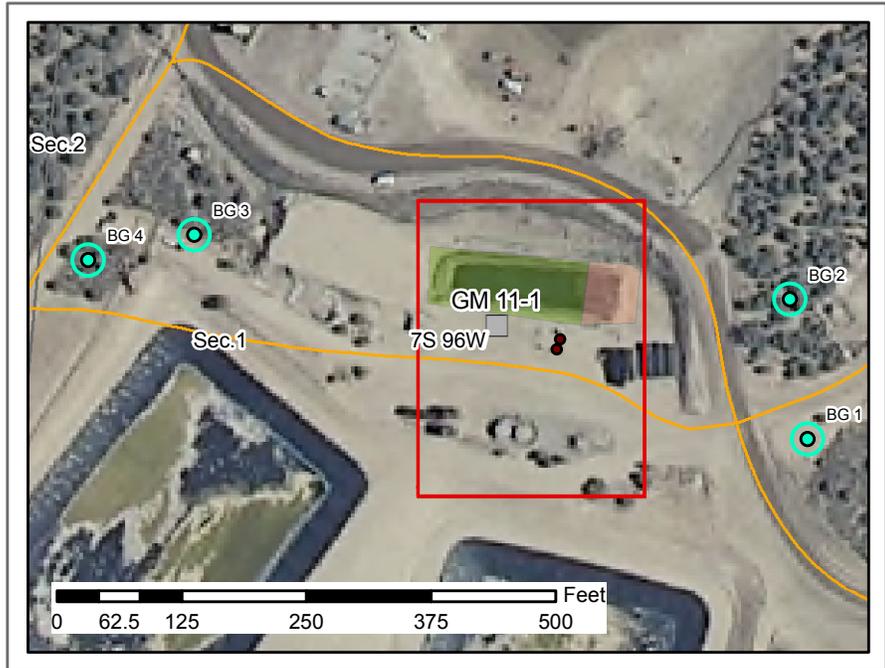
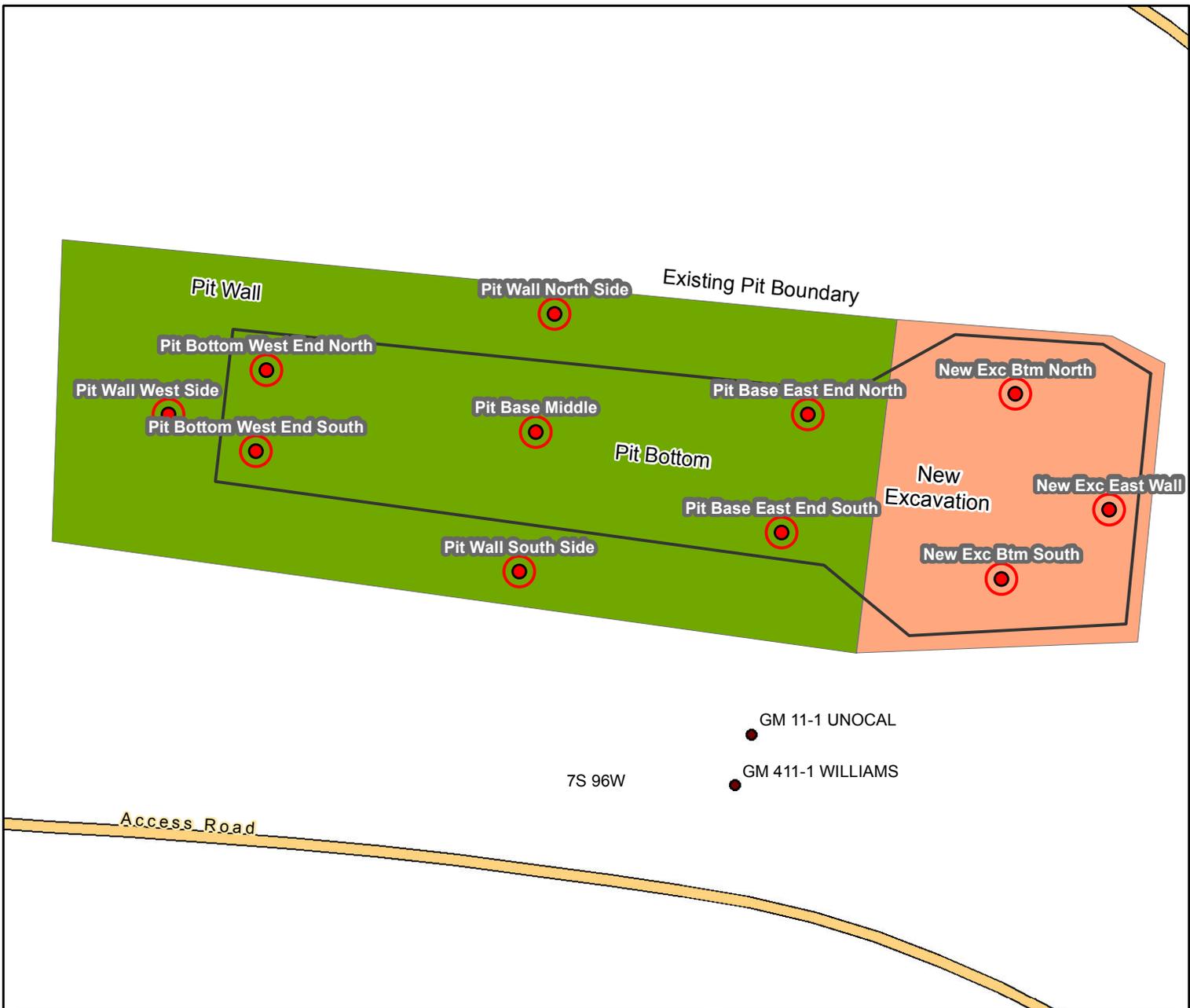
Average concentration - 10.4 mg/kg

Four (4) grab samples were collected from nearby non-impacted, native soil from surface to 6" below to establish the background arsenic concentrations.

UNOCAL GM 11-1 BKGD 1 - 6.78 mg/kg
UNOCAL GM 11-1 BKGD 2 - 11.5 mg/kg
UNOCAL GM 11-1 BKGD 3 - 6.54 mg/kg
UNOCAL GM 11-1 BKGD 4 - 6.79 mg/kg

Average concentration - 7.90 mg/kg

Williams is requesting this approval in order to proceed with closure and reclamation of the completions pit on the UNOCAL GM 11-1 well pad.



GM 11-1 Sample Locations *Williams Production RMT*

Legend

Location Features	PLSS
● Well Head Location	▭ Township
○ Background Sample	▭ Section
● Sample Point	▬ Williams Access Roads



07-Oct-2010

Mark Mumby
HRL Compliance Solutions Inc.
744 Horizon Ct Suite 140
Grand Junction, CO 81506

Tel: (970) 243-3271
Fax: (970) 243-3230

Re: GM 11-1

Work Order: **1009955**

Dear Mark,

ALS Environmental received 6 samples on 29-Sep-2010 09:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 25.

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

Sincerely,

A handwritten signature in cursive script that reads "Bethany Agarwal".

Electronically approved by: Mary K. Knowles

Bethany Agarwal
Project Manager



Certificate No: T104704231-09A-TX

ADDRESS 10450 Stancliff Rd, Suite 210 Houston, Texas 77099-4338 | PHONE (281) 530-5656 | FAX (281) 530-5887

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

Environmental

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: HRL Compliance Solutions Inc.
Project: GM 11-1
Work Order: 1009955

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>
1009955-01	BG 1	Soil		9/27/2010 15:00	9/29/2010 09:00	<input type="checkbox"/>
1009955-02	BG 2	Soil		9/29/2010 15:15	9/29/2010 09:00	<input type="checkbox"/>
1009955-03	BG 3	Soil		9/29/2010 15:30	9/29/2010 09:00	<input type="checkbox"/>
1009955-04	BG 4	Soil		9/29/2010 15:45	9/29/2010 09:00	<input type="checkbox"/>
1009955-05	BG SAR	Soil		9/27/2010 15:15	9/29/2010 09:00	<input type="checkbox"/>
1009955-06	GM 11-1 Dirt Farm	Soil		9/27/2010 14:45	9/29/2010 09:00	<input type="checkbox"/>

Client: HRL Compliance Solutions Inc.

Project: GM 11-1

Work Order: 1009955

Case Narrative

Sample GM11-1 analyzed for PAH and Metals Table 910-1 per client request.

Batch 46567, Mercury, Sample 1010008-02: MS/MSD performed on an unrelated sample.

Batch 46633, Metals, Sample 1010008-07: MS/MSD performed on an unrelated sample.

ALS Environmental

Date: 07-Oct-10

Client: HRL Compliance Solutions Inc.

Project: GM 11-1

Sample ID: BG 1

Collection Date: 9/27/2010 03:00 PM

Work Order: 1009955

Lab ID: 1009955-01

Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS			Method: SW6020			Prep: SW3050A / 10/4/10	Analyst: SKS
Arsenic	6.78		0.057	0.476	mg/Kg	1	10/4/2010 18:05

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

ALS Environmental

Date: 07-Oct-10

Client: HRL Compliance Solutions Inc.
Project: GM 11-1
Sample ID: BG 2
Collection Date: 9/29/2010 03:15 PM

Work Order: 1009955
Lab ID: 1009955-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS			Method: SW6020			Prep: SW3050A / 10/4/10	Analyst: SKS
Arsenic	11.5		0.058	0.481	mg/Kg	1	10/4/2010 18:11

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

ALS Environmental

Date: 07-Oct-10

Client: HRL Compliance Solutions Inc.

Project: GM 11-1

Sample ID: BG 3

Collection Date: 9/29/2010 03:30 PM

Work Order: 1009955

Lab ID: 1009955-03

Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS			Method: SW6020			Prep: SW3050A / 10/4/10	Analyst: SKS
Arsenic	6.54		0.054	0.450	mg/Kg	1	10/4/2010 18:17

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

ALS Environmental

Date: 07-Oct-10

Client: HRL Compliance Solutions Inc.

Project: GM 11-1

Sample ID: BG 4

Collection Date: 9/29/2010 03:45 PM

Work Order: 1009955

Lab ID: 1009955-04

Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS			Method: SW6020			Prep: SW3050A / 10/4/10	Analyst: SKS
Arsenic	6.79		0.057	0.476	mg/Kg	1	10/4/2010 18:23

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

ALS Environmental

Date: 07-Oct-10

Client: HRL Compliance Solutions Inc.

Project: GM 11-1

Sample ID: BG SAR

Collection Date: 9/27/2010 03:15 PM

Work Order: 1009955

Lab ID: 1009955-05

Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MISCELLANEOUS ANALYSIS			Method:NA				Analyst: SUB
Miscellaneous Analysis	See Attached		0			1	10/6/2010

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