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**TestAmerica**

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

**ANALYTICAL REPORT**

F10-021

Lot #: F0B060420

SDG #: SL872

Mike Neely

CH2M Hill Plateau Remediation  
PO Box 1500, MS B6-06  
Richland, WA 99352

TESTAMERICA LABORATORIES, INC.

**RECEIVED**  
AUG 31 2010

**EDMC**



Michael C. Franks  
Project Manager

February 16, 2010

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# TestAmerica

## CASE NARRATIVE

THE LEADER IN ENVIRONMENTAL TESTING

CH2MHill Plateau Remediation Company  
P.O. Box 1600  
MS B3-60  
Richland, Washington 99352  
February 17, 2010  
Attention: Mike Neely

TestAmerica Laboratories, Inc.

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SDG	: SL872
Number of Samples	: one sample
Sample Matrix	: Solid
Data Deliverable	: Summary
Date SDG Closed	: February 5, 2010

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### II. Introduction

On February 5, 2010, one solid sample was received by TestAmerica - St. Louis for chemical analysis. The samples were received within temperature criteria. See the COC and CUR forms for documentation of any variations on receipt conditions and temperature. Upon receipt, the samples were given laboratory Ids to correspond with specific client Ids. Please refer to the Sample Summary sheets attached to this case narrative. This report is incomplete without the narrative.

The following SAFs are associated with this SDG: F10-021

### III. Analytical Results/ Methodology

The analytical results for this report are presented by analytical test. Each set of data includes sample identification information, analytical results and the appropriate detection limits. All results are based upon samples as they were received, i.e. wet weight, unless otherwise noted on the data sheets. See the attached Methods Summary Form for the methods used in this SDG.

MS/MSD/Dup analysis was done per the client requirements. Analytical batches that did not contain matrix QC were analyzed with a LCS/LCS duplicate.

Deviation from Request: None

### IV. Definitions

- QCBLK- Quality Control Blank, Method Blank
- QCLCS- Quality Control Laboratory Control Sample, Blank Spike
- DUP- Laboratory Duplicate
- MS- Matrix Spike
- MSD- Matrix Spike Duplicate

The term "Detection Limit" used in the analytical data report refers to either the lab's standard reporting limits or contractually required reporting limits, whichever is applicable.

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# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## **CH2M Hill Plateau Remediation Company**

February 17, 2010

SDG: SL872

TestAmerica Laboratories, Inc.

The following data qualifiers may be applicable to the results in this report, as appropriate.

- **B** – For inorganic analyses, the sample result is greater than the MDL but less than the RL.
- **B** – For organic analyses, Method Blank contamination. The Method Blank contains the target analyte at a concentration above the MDL.
- **J** – For organic analyses, the sample is estimated and less than the RL.
- **C** – For inorganic analyses, Method Blank contamination. The Method Blank contains the target analyte at a concentration above the MDL.
- **D** – For all analyses, the sample result was obtained from the analysis of a dilution.
- **N** – For inorganics and GC analyses, the spike/spike duplicate recoveries are outside QC limits.
- **T** – For GCMS analyses, the spike/spike duplicate recoveries are outside QC limits.

There were no observations or nonconformances for the following methods:

pH

I certify that this Summary Package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. The Laboratory Manager or a designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Reviewed and approved:



Michael Franks  
St. Louis Project Manager

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**METHODS SUMMARY**

FOB060420

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
Soil and Waste pH	SW846 9045C	SW846 DI-LEACHA

**References:**

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

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# SAMPLE SUMMARY

FOB060420

WO #	SAMPLE#	CLIENT	SAMPLE ID	SAMPLED DATE	SAMP TIME
LVCHR	001	B23K14		02/04/10	10:55

**NOTE (S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

COLLECTOR: **AL McIntyre**  
 ADDRESS: Upper & Lower Ale Buidi, Kirichen  
 TELEPHONE NO.: 376-2858  
 PROJECT COORDINATOR: WIDRIG, DL  
 PRICE CODE: 9B  
 DATA TURNAROUND: 7 Days / 15 Days  
 AIR QUALITY:   
 METHOD OF SHIPMENT: GOVERNMENT VEHICLE  
 FIELD LOGBOOK NO.: **HNFA507-8**  
 OFFSITE PROPERTY NO.: **N/A**  
 COA: 302228ES10  
 BILL OF LADING/AIR BILL NO.: **N/A 798365202068**

POSSIBLE SAMPLE HAZARDS/ REMARKS  
 Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

MATRIX*	PRESERVATION	None	None
None	None		
G/P	G/P		
1	1		
60mL	500mL		
pH (Soil) - 9.045;	SEE ITEM (1) BY SPECIAL INSTRUCTIONS		

SAMPLE NO.	MATRX*	SAMPLE DATE	SAMPLE TIME
23K14	OTHER LIQUID	2/4/10	1057 ✓

HAIN OF POSSESSION		SIGN/ PRINT NAMES	
ELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
<b>AL McIntyre</b>	2/4/10 1400	<b>Feb 6x</b>	
<b>ROEX</b>		<b>ABrwnson</b>	2-5-10 9:30

**SPECIAL INSTRUCTIONS**  
 \*\* The CACN for all analytical work at WSCF laboratory is 401587.  
 \*\* The analyses are listed on the SAF in the order that they should be performed. If you have questions, contact the SMR Project Coordinator.  
 (1) Gamma Spectroscopy {Europium-155, Cesium-137, Europium-154, Europium-152, Cobalt-60} Gamma Spec - Add-on {Americium-241, Radium-228, Sodium-22} Gross Alpha {Gross alpha} Gross Beta {Isotopic Plutonium; Isotopic Uranium {Uranium-233/234, Uranium-235, Uranium-238} Strontium-89,90 -- Total Sr; Technetium-99; Americium-241/Curium-244 {Curium-244} Plutonium-244 - CJH 1-18-10  
 {Plutonium-244} Tritium - H3 {Tritium} RADISO\_ICPMS {Thorium-232} CJH 1-18-10

**ORIGINAL**

LABORATORY SECTION: RECEIVED BY: TITLE: DATE/TIME:  
 FINAL SAMPLE DISPOSITION: DISPOSED BY: DATE/TIME:  
 00000006



Detailed Results

Tracking no.: 798365202068

Select time format: 12H

**Delivered**

**Delivered**  
Signed for by: B.DANIELS

Shipment Dates

Destination

Ship date Feb 4, 2010  
Delivery date Feb 5, 2010 9:13 AM

EARTH CITY, MO  
Signature Proof of Delivery

Shipment Facts

Service type	Priority Overnight	Delivered to	Shipping/Receiving
Weight	8.0 lbs/3.6 kg	Reference	GWS-169

Shipment Travel History

Select time zone: Local Scan Time

All shipment travel activity is displayed in local time for the location

Date/Time	Activity	Location	Details
Feb 5, 2010 9:13 AM	Delivered	EARTH CITY, MO	
Feb 5, 2010 7:16 AM	On FedEx vehicle for delivery	EARTH CITY, MO	
Feb 5, 2010 7:10 AM	At local FedEx facility	EARTH CITY, MO	
Feb 5, 2010 5:35 AM	At dest sort facility	BERKELEY, MO	
Feb 5, 2010 4:46 AM	Departed FedEx location	MEMPHIS, TN	
Feb 5, 2010 12:52 AM	Arrived at FedEx location	MEMPHIS, TN	
Feb 4, 2010 5:07 PM	Left FedEx origin facility	PASCO, WA	
Feb 4, 2010 4:04 PM	Picked up	PASCO, WA	
Feb 4, 2010 4:53 PM	Shipment information sent to FedEx		

Lot #(s): FOB250582-407, 414, 420  
589-409, 416, 420  
660 404-410, 417  
406-411, 418  
408-413, 419

TestAmerica St. Louis  
2/6/10

### CONDITION UPON RECEIPT FORM

Client: CHMPC

Quote No: 85253, 85257, 84392, 85255

COC/RFA No: Below

Initiated By: MB Date: 2-5-10 Time: 9:30

#### Shipping Information

Shipper:  FedEx  UPS  DHL  Courier  Client  Other: \_\_\_\_\_ Multiple Packages:  Y  N

Shipping # (s):*	Sample Temperature (s):**
1. <u>7983 6171 2571</u>	1. <u>6</u>
2. <u>6520 2068</u>	2. <u>5</u>
3. <u>7932 4307 6385</u>	3. <u>5</u>
4. <u>4308 8908</u>	4. <u>2</u>
5. <u>7983 6469 6852</u>	5. <u>2</u>
6. <u>7983 6515 0251</u>	6. <u>6</u>
7. <u>7932 4330 0047</u>	7. <u>2</u>
8. <u>4312 7806</u>	8. <u>5</u>
9. <u>7983 6423 4891</u>	9. <u>5</u>
10. <u>7983 6425 0810</u>	10. <u>6</u>

\*Numbered shipping lines correspond to Numbered Sample Temp lines

\*\*Sample must be received at 4°C ± 2°C. If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

Condition (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

1. <input checked="" type="radio"/> N	Are there custody seals present on the cooler?	8. <input checked="" type="radio"/> N	Are there custody seals present on bottles?
2. Y <input checked="" type="radio"/> N/A	Do custody seals on cooler appear to be tampered with?	9. Y <input checked="" type="radio"/> N/A	Do custody seals on bottles appear to be tampered with?
3. <input checked="" type="radio"/> N	Were contents of cooler frisked after opening, but before unpacking?	10. <input checked="" type="radio"/> N N/A	Was sample received with proper pH? (If not, make note below)
4. <input checked="" type="radio"/> N	Sample received with Chain of Custody?	11. <input checked="" type="radio"/> N	Sample received in proper containers?
5. <input checked="" type="radio"/> N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12. Y <input checked="" type="radio"/> N/A	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
6. <input checked="" type="radio"/> N	Was sample received broken?	13. Y N <input checked="" type="radio"/> N/A	Was Internal COC/Workshare received?
7. <input checked="" type="radio"/> N	Is sample volume sufficient for analysis?	14. Y N <input checked="" type="radio"/> N/A	Was pH taken by original TestAmerica lab?

<sup>1</sup> For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes: COC- F10-088-012; -013; -014; -015; -016; -017; 018  
F10-098-003; -001 F10-120-002 F10-089-009  
F10-029-033; -034; 035; -036; -037; -038; -060; -061 -062; 063; 0  
F09-067-370; -337  
F10-106-005; 004; 006; 10-001  
D10-005-001; D10-006-001; D10-003-001; D10-004-001  
F10-021-025  
X-10-009-4; S10-001-286; X10-030-4

\* received 523 NFL (1x6) broken

#### Corrective Action:

Client Contact Name: \_\_\_\_\_  
 Sample(s) processed "as is"  
 Sample(s) on hold until: \_\_\_\_\_  
 Project Management Review: mill

Informed by: \_\_\_\_\_  
 If released, notify: \_\_\_\_\_  
 Date: 02-09-10

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

# WET CHEMISTRY

CH2M Hill Plateau Remediation (ARRA)

Client Sample ID: B23K14

General Chemistry

Lot-Sample #....: FOB060420-001      Work Order #....: LVCHR      Matrix.....: SOLID  
 Date Sampled....: 02/04/10      Date Received...: 02/05/10  
 % Moisture.....:

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
pH (solid)	8.5	0.10	No Units	SW846 9045C	02/10/10	0040371
		Dilution Factor: 1		MDL.....:		

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LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Client Lot #...: FOB060420

Matrix.....: SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
pH (solid)	7.00	7.00	No Units	100	SW846 9045C	02/10/10	0040371

Work Order #: LVHEW1AA LCS Lot-Sample#: FOB090000-371  
Dilution Factor: 1

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

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SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F0B060420

Work Order #...: LVCHR-SMP  
LVCHR-DUP

Matrix.....: SOLID

Date Sampled...: 02/04/10

Date Received...: 02/05/10

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>						<u>ANALYSIS DATE</u>	<u>BATCH</u>
pH (solid)	8.5	8.5	No Units	0.12	(0-1.0)	SW846 9045C	SD Lot-Sample #: F0B060420-001	02/10/10	004037
Dilution Factor: 1									