TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

W12-003

Lot #: F2D100428
SDG #: SL1264

Scot Fitzgerald

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

TESTAMERICA LABORATORIES, INC.

Jayna Awalt
Project Manager

April 20, 2012

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

CASE NARRATIVE

CH2MHill Plateau Remediation Company
P.O. Box 1600
MS B3-60
Richland, Washington 99352
April 23, 2012
Attention: Scot Fitzgerald

TestAmerica Laboratories, Inc.

SDG	: SL1264
Number of Samples	: four samples
Sample Matrix	: Water
Data Deliverable	: Summary
Date SDG Closed	: April 10, 2012

II. Introduction

On April 10, 2012, four water samples were 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: W12-003

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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CH2M Hill Plateau Remediation Company

April 23, 2012
SDG: SL1264

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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:

TOC

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:

Jayna Awalt

Jayna Awalt
St. Louis Project Manager

METHODS SUMMARY

F2D100428

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Total Organic Carbon	SW846 9060	SW846 9060

References:

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

SAMPLE SUMMARY

F2D100428

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
MRWQ5	001	B2L238	04/05/12	09:11
MRWRC	002	B2L237	04/05/12	09:11
MRWRF	003	B2L236	04/05/12	09:11
MRWRH	004	B2L235	04/05/12	09:11

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.

CH2MHill Plateau Remediation Company CHPRC 201 SL1264

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # W12-003-254

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SDG #SL1264

Collector	FM Hall CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	376-4650
SAF No.	W12-003	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071ES20
Project Title	RCRA, MARCH 2012	**Logbook No.**	HNF-N-506 47 143	**Ice Chest No.**	GWS-222-3
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7982 6117 5419
Protocol	RCRA	**Priority:**	15 Days **PRIORITY**	**Offsite Property No.**	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

Site Wide Generator Knowledge Information Form applies.
The CACN for all analytical work at WSCF is 401647.
VERIFICATION SAMPLING

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2L238	N	W	4/5/12	0911	1x250-mL aG	9060_TOC: TOC (1)	28 Days	HCl or H2SO4 to pH <2/Cool~4C
B2L237	N	W	↓	↓	1x250-mL aG	9060_TOC: TOC (1)	28 Days	HCl or H2SO4 to pH <2/Cool~4C
B2L236	N	W			1x250-mL aG	9060_TOC: TOC (1)	28 Days	HCl or H2SO4 to pH <2/Cool~4C
B2L235	N	W			1x20-mL P	Activity Scan	6 Months	None
B2L235	N	W			1x250-mL aG	9060_TOC: TOC (1)	28 Days	HCl or H2SO4 to pH <2/Cool~4C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
FM Hall CHPRC			APR 05 2012 1510	SSU #1			APR 05 2012 1510
SSU #1			APR 0 9 2012 0830	KC Patterson CHPRC			APR 0 9 2012 0830
KC Patterson CHPRC			APR 0 9 2012 1500	FEDEX			
FedEx				Nicholas Owens			4/10/12 0915

Matrix *

S	= Soil	DS	= Drum Solids		
SE	= Sediment	DL	= Drum Liquids		
SO	= Solid	T	= Tissue		
SL	= Sludge	WI	= Wipe		
W	= Water	L	= Liquid		
O	= Oil	V	= Vegetation		
A	= Air	X	= Other		

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PRINTED ON 3/20/2012

A-6004-842 (REV 2)

6 of 17

APRIL 23, 2012

TestAmerica - St. Louis

Print page | Close

FedEx

Detailed Results

Tracking no.: 798261175419 Select time format: **12H**

Delivered

Delivered
Signed for by: B.DANIELS

Shipment Dates	Destination
Ship date Apr 9, 2012	EARTH CITY, MO
Delivery date Apr 10, 2012 9:12 AM	Signature Proof of Delivery

Shipment Options

Hold at FedEx Location
Hold at FedEx Location service is not available for this shipment.

Shipment Facts

Service type	Priority Overnight	Delivered to	Shipping/Receiving
Weight	80.0 lbs/36.3 kg	Reference	GWS-222-3

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
Apr 10, 2012 9:12 AM	**Delivered**	EARTH CITY, MO	
Apr 10, 2012 7:02 AM	On FedEx vehicle for delivery	EARTH CITY, MO	
Apr 10, 2012 6:53 AM	At local FedEx facility	EARTH CITY, MO	
Apr 10, 2012 5:24 AM	At destination sort facility	BERKELEY, MO	
Apr 10, 2012 4:34 AM	Departed FedEx location	MEMPHIS, TN	
Apr 10, 2012 12:29 AM	Arrived at FedEx location	MEMPHIS, TN	
Apr 9, 2012 5:10 PM	Left FedEx origin facility	PASCO, WA	
Apr 9, 2012 4:15 PM	Picked up	PASCO, WA	
Apr 9, 2012 11:40 AM	Shipment information sent to FedEx		

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CUR Form #: 2 0 1

Lot #(s): F2D100426, F2D100428, ~~F2D100430~~, F2D100431

CONDITION UPON RECEIPT FORM

Client: CAPRC

Quote No: 90029

COC/RFA No: SEE BELOW

Initiated By: NVD Date: 4/10/12 Time: 0915

Shipping Information

Shipper: (FedEx) UPS DHL Courier Client Other: _____ Multiple Packages: Y (N)

Shipping # (s):*				Sample Temperature (s):**			
1.	7982 6117 5419	6.		1.	2	6.	
2.		7.		2.		7.	
3.		8.		3.		8.	
4.		9.		4.		9.	
5.		10.		5.		10.	

*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; Rad tests- Liquid or Solids; Perchlorate

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

1.	(Y) N	Are there custody seals present on the cooler?	8.	(Y) N	Are there custody seals present on bottles?
2.	Y (N) N/A	Do custody seals on cooler appear to be tampered with?	9.	Y (N) N/A	Do custody seals on bottles appear to be tampered with?
3.	(Y) N	Were contents of cooler frisked after opening, but before unpacking?	10.	(Y) N N/A	Was sample received with proper pH[1]? (If not, make note below)
4.	(Y) N	Sample received with Chain of Custody?	11.	Y N (N/A)	Containers for C-14, H-3 & I-129/131 marked with "Do Not Preserve" label?
5.	(Y) N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12.	(Y) N	Sample received in proper containers?
6.	Y (N)	Was sample received broken?	13.	Y (N) N/A	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7.	(Y) N	Is sample volume sufficient for analysis?	14.	Y N (N/A)	Was Internal COC/Workshare received?

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX, Oil & Grease and soils.

Notes:

I12-009-056
W12-003-081
W12-003-254
W12-004-046
-047
-167
-169

Corrective Action:

[ ] Client Contact Name: _____ Informed by: _____

[ ] Sample(s) processed "as is"

[ ] Sample(s) on hold until: _____ If released, notify: _____

Project Management Review: Tonya Arnold Date: 4/12/12

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.

ADMIN-0004 rev13, REVISED 05/27/11 \\Slsvr01\QA\FORMS\ST-LOUIS\ADMIN\Admin-0004 CUR.doc

WET CHEMISTRY

CH2M Hill Plateau Remediation DOE RL

Client Sample ID: B2L238

General Chemistry

Lot-Sample #...: F2D100428-001 **Work Order #...:** MRWQ5 **Matrix.....:** WATER
Date Sampled...: 04/05/12 **Date Received..:** 04/10/12

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon	**1.5**	**1.0**	**mg/L**	**SW846 9060**	**04/17/12**	**2108130**

Dilution Factor: 1 MDL.....: 0.26

CH2M Hill Plateau Remediation DOE RL

Client Sample ID: B2L237

General Chemistry

Lot-Sample #...: F2D100428-002 **Work Order #...:** MRWRC **Matrix.....:** WATER
Date Sampled...: 04/05/12 **Date Received..:** 04/10/12

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon	**1.3**	**1.0**	**mg/L**	**SW846 9060**	**04/17/12**	**2108130**

Dilution Factor: 1 MDL.....: 0.26

CH2M Hill Plateau Remediation DOE RL

Client Sample ID: B2L236

General Chemistry

Lot-Sample #...: F2D100428-003 **Work Order #...:** MRWRF **Matrix.....:** WATER
Date Sampled...: 04/05/12 **Date Received..:** 04/10/12

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon	**1.2**	**1.0**	**mg/L**	**SW846 9060**	**04/17/12**	**2108130**

Dilution Factor: 1 MDL.....: 0.26

CH2M Hill Plateau Remediation DOE RL

Client Sample ID: B2L235

General Chemistry

Lot-Sample #...: F2D100428-004 **Work Order #...:** MRWRH **Matrix.....:** WATER
Date Sampled...: 04/05/12 **Date Received..:** 04/10/12

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon	**1.5**	**1.0**	**mg/L**	**SW846 9060**	**04/17/12**	**2108130**

Dilution Factor: 1 MDL.....: 0.26

METHOD BLANK REPORT

General Chemistry

Client Lot #...: F2D100428 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon		Work Order #: MR3AL1AA		MB Lot-Sample #:	F2D170000-130	
	ND	1.0	mg/L	SW846 9060	04/17/12	2108130
		Dilution Factor: 1				

NOTE(S):

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

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Client Lot #...: F2D100428 **Matrix.....:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon	Work Order #: MR3AL1AC			LCS Lot-Sample#: F2D170000-130			
	6.00	5.87	mg/L	98	SW846 9060	04/17/12	2108130
		Dilution Factor: 1					

NOTE(S):

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

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: F2D100428 **Matrix.....:** WATER
Date Sampled...: 04/05/12 **Date Received..:** 04/10/12

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon	Work Order #...: MRWQ51AC					MS Lot-Sample #: F2D100428-001		
	1.5	5.00	6.70	mg/L	103	SW846 9060	04/17/12	2108130
			Dilution Factor: 1					

NOTE(S):

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

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F2D100428 **Work Order #...:** MRWQ5-SMP MRWQ5-DUP **Matrix.....:** WATER

Date Sampled...: 04/05/12 **Date Received..:** 04/10/12

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon						SD Lot-Sample #: F2D100428-001		
	1.5	1.5	mg/L	0.58	(0-20)	SW846 9060	04/17/12	2108130

Dilution Factor: 1