

NOVEMBER 09, 2012

TestAmerica - St. Louis

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

PROJECT NO. W06478I (Reported as SL1318)

C-14 CHPRC

Lot #: F2J170439

CH2M Hill Plateau Remediation DOE RL

CH2M Hill Plateau Remediation

PO Box 1600, MS H8-41

Richland, WA 99352

TESTAMERICA LABORATORIES, INC.



Jayna Awalt
Project Manager

November 9, 2012

TestAmerica

CASE NARRATIVE

THE LEADER IN ENVIRONMENTAL TESTING
 CH2M Hill Plateau Remediation Company

P.O. Box 1600

MS B3-60

Richland, Washington 99352

November 9, 2012

Attention: Scot Fitzgerald

TestAmerica Laboratories, Inc.

SDG	: SL1318
Number of Samples	: one sample
Sample Matrix	: Water
Data Deliverable	: Summary
Date SDG Closed	: October 17, 2012

II. Introduction

On October 17, 2012, one water 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: I12-021

Sample was received from TARL for Carbon 14 analysis. TARL is currently investigating the C14 method due to low results reported for the CY2011 blind samples. Per SDR13-015, the samples were sent to TASL for analysis. SIR request is included with this report.

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.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

CH2M Hill Plateau Remediation Company

November 9, 2012

SDG: SL1318

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:

Carbon 14

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
St. Louis Project Manager

SAMPLE ISSUE RESOLUTION

SIR NUM SDR13-015
REV NUM 0
DATE INITIATED 10/16/2012

SAMPLE EVENT INFORMATION

SAF NUM(S) I13-001, I12-021
OPERABLE UNIT(S) 100-KR-4
PROJECT(S) CERC13, CERC12
SAMPLE EVENT TITLE(S) CERC13, CERC12
LABORATORY TestAmerica Incorporated, Richland

SAMPLING INFORMATION

NUMBER OF SAMPLES 2
SAMPLE NUMBERS B2KJL0, B2M2W7
SAMPLE MATRIX WATER
COLLECTION DATE 9/20/2012 - 9/20/2012
SDG NUM W06478, W06479

ISSUE BACKGROUND

CLASS Laboratory Issue
TYPE Sample Diversion Initiated by Laboratory
DESCRIPTION TARL is currently investigating the C14_LSC: C-14 (1) method due to the low results reported for the CY2011 blind samples. TARL would like permission to send the C14 fractions to TASL. TASL will analyze the C14 samples and submit the final reports & EDDs for the SDGs included on this SIR.

DISPOSITION

DESCRIPTION PROPOSED DISPOSITION: TARL will initiate SIR and ship the samples to TASL. TASL will report the samples discussed above as W06478I & W06479I. Comments will be included the case narratives.

JUSTIFICATION ACCEPTED DISPOSITION: Accept proposed resolution.

 SUBMITTED BY: Sandra Seger/TARL DATE: 10/16/12
 ACCEPTED BY: Karen Waters-Husted/CHPRC DATE: 10/16/12

METHODS SUMMARY

F2J170439

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
Carbon 14 by LSC	EERF C-01-1	

References:

EERF EERF

SAMPLE SUMMARY

F2J170439

WO #	SAMPLE#	CLIENT	SAMPLE ID	SAMPLED DATE	SAMP TIME
MW08E	001	B2KJL0		09/20/12	13:19

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.

cont 168

CH2M Hill Plateau Remediation Company		C.O.C.# I12-021-130	
SL1318		Page 1 of 1	
Collector L.D. Wall CHPRC	Contact/Requester Karen Waters-Husted	Telephone No. 376-4650	
SAF No. I12-021	Sampling Origin Hanford Site	Purchase Order/Charge Code 30007IES20	
Project Title 100KR4, APRIL 2012	Logbook No. HNF-N-506 <i>36/18</i>	Ice Chest No. N/A	
Shipped To (Lab) TestAmerica Incorporated, Richland	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A	
Protocol CERCLA	Priority: 45 Days	Offsite Property No. N/A	

SPECIAL INSTRUCTIONS Hold Time No Yes
 100 Area Generator Knowledge Information Form applies.
 The CACN for all analytical work at WSCF is 401647.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2KJL0	N	W	9-20-12	1319	1x20-mL P	<i>MWPTR</i>	6 Months	None
B2KJL0	N	W	↓	↓	2x1-L GIP		6 Months	None

*SDG # W06478 I
 LOT # JFJ250441
 Report: 11-9-12*



Relinquished By L.D. Wall CHPRC	Date/Time SEP 20 2012 1540	Received By SSU-1	Sign <i>[Signature]</i>	Print <i>[Signature]</i>	Date/Time SEP 20 2012 1540	Matrix *
Relinquished By SSU-1	Date/Time 9-25-12 0845	Received By <i>ARM-Entyre</i>	Date/Time 9-25-12 0845			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
Relinquished By <i>ARM-Entyre</i>	Date/Time 9-25-12 1130	Received By <i>J. Beck</i>	Date/Time 9-25-12 1130			
Relinquished By <i>Sandra Seger</i>	Date/Time 10-16-12 14:28	Received By <i>Brian Daniels</i>	Date/Time 10/16/12 0930			

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

Please use SDG Number: W06478I

SDG W06478I needs to be analyzed in its own batch. Batch must include a blank, LCS and duplicate sample

Due Date is 11/09/12

If due date is met then the price code is 7N 45 Days / 45 Days which is \$102 per sample plus QC

CRDL is 200 pCi/l

Sample Check-in List

Date/Time Received: 9-25-12 | 1130 Container GM Screen Result: (Airlock) .04 Initials PS]
 Sample GM Screen Result (Sample Receiving) .02 Initials PS]

Client: Plow SDG #: WD0478 NA [] SAF #: I12-021 NA []

Lot Number: J2I250441

Chain of Custody # I12-021-130

Shipping Container ID: Hand de Qiu NA PS Air Bill Number: _____ NA PS

Samples received inside shipping container/cooler/box Yes] Continue with 1 through 4. Initial appropriate response.
 No [] Go to 5, add comment to #16.

1. Custody Seals on shipping container intact? Yes [] No [] No Custody Seal]
2. Custody Seals dated and signed? Yes [] No [] No Custody Seal]
3. Cooler temperature: _____ °C NA]
4. Vermiculite/packing materials is NA] Wet [] Dry []

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes] No []
6. Number of samples received (Each sample may contain multiple bottles): 1
7. Containers received: 1x Vial, 2x LP

8. Sample holding times exceeded? NA [] Yes [] No]

9. Samples have:
 tape _____ hazard labels
 custody seals appropriate sample labels

10. Matrix:
 A (FLT, Wipe, Solid, Soil) I (Water)
 S (Air, Niosh 7400) _____ T (Biological, Ni-63)

11. Samples:
 are in good condition _____ are leaking
 are broken _____ have air bubbles (Only for samples requiring no head space)
 Other _____

12. Sample pH appropriate for analysis requested Yes] No [] NA []
 (If acidification is necessary, then document sample ID, initial pH, amount of HNO₃ added and pH after addition on table overleaf)

RPL ID # of preservative used : NA

13. Were any anomalies identified in sample receipt? Yes [] No]

14. Description of anomalies (include sample numbers): NA _____

Print page | Close



Detailled Results

Tracking no.: 799209039096		Select time format: 12H	
Delivered		Delivered Signed for by: B.DANIELS	
Shipment Dates		Destination	
Ship date Oct 16, 2012		EARTH CITY, MO	
Delivery date Oct 17, 2012 9:27 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	16.0 lbs/8.8 kg		

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
Oct 17, 2012 9:27 AM	Delivered	EARTH CITY, MO	
Oct 17, 2012 7:38 AM	On FedEx vehicle for delivery	EARTH CITY, MO	
Oct 17, 2012 7:33 AM	At local FedEx facility	EARTH CITY, MO	
Oct 17, 2012 6:24 AM	At destination sort facility	BERKELEY, MO	
Oct 17, 2012 4:34 AM	Departed FedEx location	MEMPHIS, TN	
Oct 17, 2012 12:36 AM	Arrived at FedEx location	MEMPHIS, TN	
Oct 16, 2012 6:14 PM	Left FedEx origin facility	PASCO, WA	
Oct 16, 2012 3:48 PM	Picked up	PASCO, WA	
Oct 16, 2012 6:33 PM	Shipment Information sent to FedEx		

NOVEMBER 09, 2012

TestAmerica - St. Louis



Lot #(s):

F25170439
440

CUR Form #: 1 6 8

CONDITION UPON RECEIPT FORM

Client: CMRC



Quote No: 90057

COC/RFA No: F13-001-031, I12-021-130

Initiated By: BA

Date: 10/17/12

Time: 0950

Shipping Information

Shipper: FedEx

UPS

DHL

Courier

Client

Other:

Multiple Packages:

Y N

Shipping # (s):*

1. 7992 0903 9096

Sample Temperature (s):**

1. Ambient

2.

6.

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

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

Notes:

Corrective Action:

Client Contact Name:

Informed by:

Sample(s) processed "as is"

Sample(s) on hold until:

If released, notify:

Project Management Review:

Date: 10-19-12

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

CH2M Hill Plateau Remediation DOE RL

Client Sample ID: B2KJL0

Radiochemistry

Lab Sample ID: F2J170439-001
 Work Order: MW08E
 Matrix: WATER

Date Collected: 09/20/12 1319
 Date Received: 10/17/12 0930

Parameter	Result	Qual	Total Uncert. (2 σ +/-)	RL	MDC	Prep Date	Analysis Date
Carbon 14 by EERF C-01-1				pCi/L		Batch # 2305059	Yld %
Carbon 14	5.1	U	4.9	20.0	7.8	10/31/12	11/01/12

NOTE (S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC.

U Result is less than the sample detection limit.

METHOD BLANK REPORT

Radiochemistry

Client Lot ID: F2J170439
 Matrix: WATER

Parameter	Result	Qual	Total Uncert. (2 σ +/-)	RL	MDC	Prep Date	Lab Sample ID Analysis Date
Carbon 14 by EERF C-01-1			pCi/L	Batch #	2305059	Yld %	F2J310000-059B
Carbon 14	1.9	U	4.7	20.0	7.9	10/31/12	11/01/12

NOTE (S)

Data are incomplete without the case narrative.

MDC is determined using instrument performance only
 Bold results are greater than the MDC.

U Result is less than the sample detection limit.

Laboratory Control Sample Report

Radiochemistry

Client Lot ID: F2J170439
 Matrix: WATER

Parameter	Spike Amount	Result	Total Uncert. (2 σ +/-)	MDC	% Yld	% Rec	Lab Sample ID QC Control Limits
Carbon 14 by EERF C-01-1			pCi/L	C-01-1			F2J310000-059C
Carbon 14	1130	1080	120	8		96	(38 - 112)
	Batch #:	2305059		Analysis Date:	11/01/12		

NOTE(S)

MDC is determined by instrument performance only
 Calculations are performed before rounding to avoid round-off error in calculated results

MATRIX SPIKE REPORT

Radiochemistry

Client Lot Id: F2J170439
 Matrix: WATER

Date Sampled: 09/20/12
 Date Received: 10/17/12

Parameter	Spike Amount	Spike Result	Total Uncert. (2σ +/-)	Spike Yld.	Sample Result	Total Uncert. (2 σ +/-)	QC Sample ID		QC Control Limits
							%YLD	%REC	
Carbon 14 by EERF C-01-1			pCi/L		C-01-1		F2J170439-001		
Carbon 14	1120	795	88		5.1	4.9		70	(37-121)
	Batch #:	2305059		Analysis Date:	11/01/12				

NOTE (S)

Data are incomplete without the case narrative.
 Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE EVALUATION REPORT

Radiochemistry

Client Lot ID: F2J170439
 Matrix: WATER

Date Sampled: 09/20/12
 Date Received: 10/17/12

Parameter	SAMPLE Result	Total Uncert. (2σ+/-)	% Yld	DUPLICATE Result	Total Uncert. (2σ+/-)	% Yld	QC Sample ID Precision
Carbon 14 by EERF	C-01-1		pCi/L	C-01-1			F2J170439-001
Carbon 14	5.1 U	4.9		13.9	5.4		93 %RPD
	Batch #:	2305059 (Sample)		2305059 (Duplicate)			

NOTE (S)

Data are incomplete without the case narrative.
 Calculations are performed before rounding to avoid round-off error in calculated results

U Result is less than the sample detection limit.