TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

I12-001

Lot #: F2C200446
SDG #: SL1253A

Scot Fitzgerald

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

TESTAMERICA LABORATORIES, INC.

Jayna Awalt
Project Manager

April 2, 2012

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

CASE NARRATIVE

CH2M Hill Plateau Remediation Company
P.O. Box 1600
Mail Stop – R3-60
Richland, Washington 99352
April 3, 2012
Attention: Scot Fitzgerald

SDG	:	SL1253A
Number of Samples	:	1
Sample Matrix	:	Water
Data Deliverable	:	RDR-R7582
Date SDG Closed	:	March 20, 2012

II. Introduction

On March 19, 2012 data reanalysis orders were received at TestAmerica St. Louis.

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.

Analyses requested: see attached copies of RDRs.

Deviation from Request: No Deviation from requested methods.

IV. Definitions

The following codes are used to denote laboratory quality control samples and can be found in the data summary section of this report:
QCBLK- Quality Control Blank, Method Blank

QCLCS- Quality Control Laboratory Control Sample, Blank Spike

V. Comments

General: The re-analysis request consists of RDR# 120319TASL-R7582. Copies of the requests are included in this package for reference.

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

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THE LEADER IN ENVIRONMENTAL TESTING

CH2M Hill Plateau Remediation Company
April 3, 2012
SDG: SL1253A

TestAmerica Laboratories, Inc.

Metals Results: Reanalysis of sample B2HD05 for Total Metals analysis did not yield comparable results to the original analysis for Chromium, Manganese and Potassium. The final report and EDD for this re-analysis is included with this response.

Analysis Comments: Results for Samples are detailed below:

Analysis of the sample designated for MS/MSD is a sufficiently high concentration of Calcium (which interferes with Strontium) that the MS/MSD are above the instrument's calibration range. MS/MSD results are reported as estimated values.

Vanadium was detected in the method blank above the method detection limit but below the reporting limit. This analyte has been qualified accordingly with a "C" flag in the associated sample.

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

SL1253A

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Inductively Coupled Plasma (ICP) Metals	SW846 6010B	

References:

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

SAMPLE SUMMARY

SL1253A : F2C200446

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
MRH3E	001	B2HD05	02/10/12	08:50

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.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

REANALYSIS / SUB-CONTRACT / CLIENT RETURN FORM

Request Initiated by: J. Awalt
Request Date: 3/20/12
Quote Number: 90029
Client Number: 108302
SDG Number: SL1253A

Request is for (check one):

- [ ] Return to Client – *(Client FedEx #)*
- [X] Reanalysis
- [ ] Sub-Contract Sample
- [ ] Additional Analysis

New Lot (check one):

- [X] Yes
- [ ] No

Old Lot Number: F2B110405-002

Client ID	Sampled date/time*	Shelf Location	Line item from quote (include Rad Screen if required)
B2HD05	2/10/12 8:50	METS	6010_METALS_ICP: List-3 (18)

* or attach original Chain of Custody

Due Date for New Login:

Analytical	Report
4/2/12	4/3/12

For Sub-Contract or Return to Client ONLY

Shipping Address:

Contact Person:
Phone Number:

Project Manager Signature: JA

DO NOT HAVE LAB PULL ORIGINAL SAMPLE

Completed by: B. Tel Date: 3/20/12

New Login Lot Number: F2C200446 (place copy of this form in old file)

Initial that Containers were Re-labeled: BT (place below lot number of old label)

RECHECK, RECOUNT, OR REANALYSIS ORDER

03/19/2012

Order Number: **120319TASL-R7582**

TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63054

Sample Delivery Group:SL1253
Sample(s):
Method Name:6010_METALS_ICP

Sample#: B2HD05 Sample Date:2/10/2012 8:50:00 AM SAF #:I12-001

Lab Sample ID	RDR Action Start Date	Constituent	Action	TAT (Hardcopy/EDD)
F2B110405002	3/19/2012 1:29:57 PM	Calcium	REANALYZE	15 Days / 15 Days
Special Instructions:	Data out of trend, possible switched sample? Please re-analyze to confirm. Please report all originally requested 6010 metals. SLF 03/19/2012			
F2B110405002	3/19/2012 1:29:57 PM	Zinc	REANALYZE	15 Days / 15 Days
Special Instructions:	Data out of trend, possible switched sample? Please re-analyze to confirm. Please report all originally requested 6010 metals. SLF 03/19/2012			
F2B110405002	3/19/2012 1:29:57 PM	Magnesium	REANALYZE	15 Days / 15 Days
Special Instructions:	Data out of trend, possible switched sample? Please re-analyze to confirm. Please report all originally requested 6010 metals. SLF 03/19/2012			
F2B110405002	3/19/2012 1:29:57 PM	Barium	REANALYZE	15 Days / 15 Days
Special Instructions:	Data out of trend, possible switched sample? Please re-analyze to confirm. Please report all originally requested 6010 metals. SLF 03/19/2012			
F2B110405002	3/19/2012 1:29:57 PM	Potassium	REANALYZE	15 Days / 15 Days
Special Instructions:	Data out of trend, possible switched sample? Please re-analyze to confirm. Please report all originally requested 6010 metals. SLF 03/19/2012			
F2B110405002	3/19/2012 1:29:57 PM	Sodium	REANALYZE	15 Days / 15 Days
Special Instructions:	Data out of trend, possible switched sample? Please re-analyze to confirm. Please report all originally requested 6010 metals. SLF 03/19/2012			
F2B110405002	3/19/2012 1:29:57 PM	Vanadium	REANALYZE	15 Days / 15 Days
Special Instructions:	Data out of trend, possible switched sample? Please re-analyze to confirm. Please report all originally requested 6010 metals. SLF 03/19/2012			
F2B110405002	3/19/2012 1:29:57 PM	Strontium	REANALYZE	15 Days / 15 Days
Special Instructions:	Data out of trend, possible switched sample? Please re-analyze to confirm. Please report all originally requested 6010 metals. SLF 03/19/2012			
F2B110405002	3/19/2012 1:29:57 PM	Manganese	REANALYZE	15 Days / 15 Days
Special Instructions:	Data out of trend, possible switched sample? Please re-analyze to confirm. Please report all originally requested 6010 metals. SLF 03/19/2012			

Deliver Report Results to:CH2M Hill Plateau Remediation Company
P.O. Box 1600
Richland, WA 99352
C/O Mr.Scot Fitzgerald

SDG #SL1253A_RDR

CH2MHill Plateau Remediation Company SL1253 CWL 337

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # I12-001-353

Page 1 of 1

Collector	~~L.D. Wall~~ CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	376-4650
SAF No.	I12-001	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071ES20
Project Title	100KR4, OCTOBER 2011	**Logbook No.**	HNF-N-506 45 / 42	**Ice Chest No.**	~~N/A~~ 2/10/12 GWS-086
Shipped To (Lab)	**TASL**	**Method of Shipment**	GOVERNMENT VEHICLE	**Bill of Lading/Air Bill No.**	~~N/A~~ 793219585350
Protocol	CERCLA	**Priority:**	**30 Days** **PRIORITY**	**Offsite Property No.**	2/10/12 ~~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**

100 Area Generator Knowledge Information Form applies.
The CACN for all analytical work at WSCF is 401647.

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2HD08	Y	W	02/10/12	0850	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B2HD05	N	W	↓	↓	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	6 Months	HNO3 to pH <2
B2HD07	N	W	↓	↓	3x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	14 Days	HCl or H2SO4 to pH <2/Cool~4C
~~B2HD07~~	~~N~~	~~W~~			~~1x1-L G/P~~	~~Strontium-89,90 Total Sr~~	~~6 Months~~	~~HNO3 to pH <2~~
~~B2HD07~~	~~N~~	~~W~~			~~1x1-L G/P~~	~~TC99_3MDSK_LSC: Tc-99 (1)~~	~~6 Months~~	~~HCl to pH <2~~
~~B2HD07~~	~~N~~	~~W~~			~~1x250-mL G~~	~~TRITIUM_EIE_LSC: Tritium (1)~~	~~6 Months~~	~~None~~

~~N/A~~ 10-25-11 ~~N/A~~ 10-25-11 ~~N/A~~ 10-25-11

APRIL 03, 2012

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
~~L.D. Wall~~ CHPRC	L.D. Wall	L.D. Wall	FEB 10 2012 1400	FEDEX		LW 2/10/12	~~FEB 10 2012~~
Relinquished By	FEDEX		Date/Time	Received By	NICHOLAS OWENS		2/11/12 0810
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

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

A-6004-842 (REV 2)

TestAmerica - St. Louis

Print page | C

FedEx

Detailed Results

Tracking no.: 793218585350 Select time format: **12H**

Delivered

Delivered
Signed for by: N.OWENS

Shipment Dates	Destination
Ship date Feb 10, 2012	EARTH CITY, MO
Delivery date Feb 11, 2012 8:11 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	50.0 lbs/22.7 kg	Reference	GWS-086

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 11, 2012 8:11 AM	**Delivered**	EARTH CITY, MO	
Feb 11, 2012 7:46 AM	On FedEx vehicle for delivery	EARTH CITY, MO	
Feb 11, 2012 7:40 AM	At local FedEx facility	EARTH CITY, MO	
Feb 11, 2012 5:46 AM	At destination sort facility	BERKELEY, MO	
Feb 11, 2012 4:56 AM	Departed FedEx location	MEMPHIS, TN	
Feb 11, 2012 12:45 AM	Arrived at FedEx location	MEMPHIS, TN	
Feb 10, 2012 5:26 PM	Left FedEx origin facility	PASCO, WA	
Feb 10, 2012 4:05 PM	Picked up	PASCO, WA	
Feb 10, 2012 4:30 PM	Shipment information sent to FedEx		

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

CUR Form #: 3 3 7

Lot #(s): F2B110405, F2B110407, F2B110408, F2B110409

CONDITION UPON RECEIPT FORM

Client: CHPRC

Quote No: 90029

COC/RFA No: SEE BELOW

Initiated By: NJD Date: 2/11/12 Time: 0810

Shipping Information

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

Shipping # (s):*

1. 7932 1858 5350
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Sample Temperature (s):**

1. 3
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
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:

I12-001-353
I12-001-354
I12-018-025
S12-001-389
W12-002-005 BD 2/13/12
↓ 08L

Corrective Action:

☐ Client Contact Name: _____ Informed by: _____

☐ Sample(s) processed "as is"

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

Project Management Review: Jayna Arndt Date: 2/14/12

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 INITIALS AND THE DATE NEXT TO THAT ITEM.

CH2M Hill Plateau Remediation DOE RL

Client Sample ID: B2HD05

TOTAL Metals

Lot-Sample #...: F2C200446-001 **Matrix.....:** WATER
Date Sampled...: 02/10/12 **Date Received..:** 03/20/12

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 2081023						
Antimony	ND	60.0	ug/L	SW846 6010B	03/21-03/23/12	MRH3E1AA
		Dilution Factor: 1		MDL.....: 4.0		
Barium	**37.4 B**	**200**	**ug/L**	**SW846 6010B**	**03/21-03/23/12**	**MRH3E1AC**
		Dilution Factor: 1		MDL.....: 4.0		
Beryllium	ND	5.0	ug/L	SW846 6010B	03/21-03/23/12	MRH3E1AD
		Dilution Factor: 1		MDL.....: 0.61		
Cadmium	ND	5.0	ug/L	SW846 6010B	03/21-03/23/12	MRH3E1AE
		Dilution Factor: 1		MDL.....: 0.91		
Calcium	**49800**	**5000**	**ug/L**	**SW846 6010B**	**03/21-03/23/12**	**MRH3E1AF**
		Dilution Factor: 1		MDL.....: 106		
Chromium	**448**	**10.0**	**ug/L**	**SW846 6010B**	**03/21-03/23/12**	**MRH3E1AG**
		Dilution Factor: 1		MDL.....: 3.1		
Cobalt	ND	50.0	ug/L	SW846 6010B	03/21-03/23/12	MRH3E1AH
		Dilution Factor: 1		MDL.....: 4.0		
Copper	ND	25.0	ug/L	SW846 6010B	03/21-03/23/12	MRH3E1AJ
		Dilution Factor: 1		MDL.....: 4.6		
Iron	**37.2 B**	**100**	**ug/L**	**SW846 6010B**	**03/21-03/23/12**	**MRH3E1AK**
		Dilution Factor: 1		MDL.....: 28.2		
Magnesium	**12900**	**5000**	**ug/L**	**SW846 6010B**	**03/21-03/23/12**	**MRH3E1AL**
		Dilution Factor: 1		MDL.....: 132		
Manganese	ND	15.0	ug/L	SW846 6010B	03/21-03/23/12	MRH3E1AM
		Dilution Factor: 1		MDL.....: 3.3		
Nickel	ND	40.0	ug/L	SW846 6010B	03/21-03/23/12	MRH3E1AN
		Dilution Factor: 1		MDL.....: 13.3		
Potassium	**6040**	**5000**	**ug/L**	**SW846 6010B**	**03/21-03/23/12**	**MRH3E1AP**
		Dilution Factor: 1		MDL.....: 1650		
Silver	ND	10.0	ug/L	SW846 6010B	03/21-03/23/12	MRH3E1AQ
		Dilution Factor: 1		MDL.....: 6.0		

(Continued on next page)

CH2M Hill Plateau Remediation DOE RL

Client Sample ID: B2HD05

TOTAL Metals

Lot-Sample #...: F2C200446-001 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Sodium	**20800**	**5000**	**ug/L**	**SW846 6010B**	**03/21-03/23/12**	**MRH3E1AR**
		Dilution Factor: 1		MDL.....: 324		
Strontium	**248**	**50.0**	**ug/L**	**SW846 6010B**	**03/21-03/23/12**	**MRH3E1AT**
		Dilution Factor: 1		MDL.....: 0.54		
Vanadium	**15.2 B,C**	**50.0**	**ug/L**	**SW846 6010B**	**03/21-03/23/12**	**MRH3E1AU**
		Dilution Factor: 1		MDL.....: 4.1		
Zinc	ND	20.0	ug/L	SW846 6010B	03/21-03/23/12	MRH3E1AV
		Dilution Factor: 1		MDL.....: 7.0		

NOTE(S):

B Estimated result. Result is less than RL.

C Method blank contamination. The associated method blank contains the target analyte at a reportable level.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: SL1253A **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: F2C210000-023 **Prep Batch #...:** 2081023						
Antimony	ND	60.0	ug/L	SW846 6010B	03/21-03/23/12	MRJJ21AA
		Dilution Factor: 1				
Barium	ND	200	ug/L	SW846 6010B	03/21-03/23/12	MRJJ21AC
		Dilution Factor: 1				
Beryllium	ND	5.0	ug/L	SW846 6010B	03/21-03/23/12	MRJJ21AD
		Dilution Factor: 1				
Cadmium	ND	5.0	ug/L	SW846 6010B	03/21-03/23/12	MRJJ21AE
		Dilution Factor: 1				
Calcium	ND	5000	ug/L	SW846 6010B	03/21-03/23/12	MRJJ21AF
		Dilution Factor: 1				
Chromium	ND	10.0	ug/L	SW846 6010B	03/21-03/23/12	MRJJ21AG
		Dilution Factor: 1				
Cobalt	ND	50.0	ug/L	SW846 6010B	03/21-03/23/12	MRJJ21AH
		Dilution Factor: 1				
Copper	ND	25.0	ug/L	SW846 6010B	03/21-03/23/12	MRJJ21AJ
		Dilution Factor: 1				
Iron	ND	100	ug/L	SW846 6010B	03/21-03/23/12	MRJJ21AK
		Dilution Factor: 1				
Magnesium	ND	5000	ug/L	SW846 6010B	03/21-03/23/12	MRJJ21AL
		Dilution Factor: 1				
Manganese	ND	15.0	ug/L	SW846 6010B	03/21-03/23/12	MRJJ21AM
		Dilution Factor: 1				
Nickel	ND	40.0	ug/L	SW846 6010B	03/21-03/23/12	MRJJ21AN
		Dilution Factor: 1				
Potassium	ND	5000	ug/L	SW846 6010B	03/21-03/23/12	MRJJ21AP
		Dilution Factor: 1				
Silver	ND	10.0	ug/L	SW846 6010B	03/21-03/23/12	MRJJ21AQ
		Dilution Factor: 1				
Sodium	ND	5000	ug/L	SW846 6010B	03/21-03/23/12	MRJJ21AR
		Dilution Factor: 1				

(Continued on next page)

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: SL1253A **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Strontium	ND	50.0	ug/L	SW846 6010B	03/21-03/23/12	MRJJ21AT
		Dilution Factor: 1				
Vanadium	**5.8 B**	**50.0**	**ug/L**	**SW846 6010B**	**03/21-03/23/12**	**MRJJ21AU**
		Dilution Factor: 1				
Zinc	ND	20.0	ug/L	SW846 6010B	03/21-03/23/12	MRJJ21AV
		Dilution Factor: 1				

NOTE(S):

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

B Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: SL1253A **Matrix.....:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: F2C210000-023 **Prep Batch #...:** 2081023							
Antimony	500	522	ug/L	104	SW846 6010B	03/21-03/23/12	MRJJ21AW
			Dilution Factor: 1				
Barium	1000	1030	ug/L	103	SW846 6010B	03/21-03/23/12	MRJJ21AX
			Dilution Factor: 1				
Beryllium	1000	1050	ug/L	105	SW846 6010B	03/21-03/23/12	MRJJ21A0
			Dilution Factor: 1				
Cadmium	1000	1040	ug/L	104	SW846 6010B	03/21-03/23/12	MRJJ21A1
			Dilution Factor: 1				
Calcium	10000	10700	ug/L	107	SW846 6010B	03/21-03/23/12	MRJJ21A2
			Dilution Factor: 1				
Chromium	1000	1050	ug/L	105	SW846 6010B	03/21-03/23/12	MRJJ21A3
			Dilution Factor: 1				
Cobalt	1000	1080	ug/L	108	SW846 6010B	03/21-03/23/12	MRJJ21A4
			Dilution Factor: 1				
Copper	1000	1070	ug/L	107	SW846 6010B	03/21-03/23/12	MRJJ21A5
			Dilution Factor: 1				
Iron	10000	10400	ug/L	104	SW846 6010B	03/21-03/23/12	MRJJ21A6
			Dilution Factor: 1				
Magnesium	10000	10200	ug/L	102	SW846 6010B	03/21-03/23/12	MRJJ21A7
			Dilution Factor: 1				
Manganese	1000	1050	ug/L	105	SW846 6010B	03/21-03/23/12	MRJJ21A8
			Dilution Factor: 1				
Nickel	1000	1060	ug/L	106	SW846 6010B	03/21-03/23/12	MRJJ21A9
			Dilution Factor: 1				
Potassium	10000	9950	ug/L	100	SW846 6010B	03/21-03/23/12	MRJJ21CA
			Dilution Factor: 1				
Silver	100	102	ug/L	102	SW846 6010B	03/21-03/23/12	MRJJ21CC
			Dilution Factor: 1				

(Continued on next page)

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: SL1253A **Matrix.....:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Sodium	10000	10100	ug/L	101	SW846 6010B	03/21-03/23/12	MRJJ21CD
			Dilution Factor: 1				
Strontium	1000	1040	ug/L	104	SW846 6010B	03/21-03/23/12	MRJJ21CE
			Dilution Factor: 1				
Vanadium	1000	1030	ug/L	103	SW846 6010B	03/21-03/23/12	MRJJ21CF
			Dilution Factor: 1				
Zinc	1000	1030	ug/L	103	SW846 6010B	03/21-03/23/12	MRJJ21CG
			Dilution Factor: 1				

NOTE(S):

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

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: SL1253A **Matrix.....:** WATER
Date Sampled...: 02/10/12 **Date Received..:** 03/20/12

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: F2C200446-001 **Prep Batch #...:** 2081023									
Antimony									
	ND	500	514	ug/L	103		SW846 6010B	03/21-03/23/12	MRH3E1AW
	ND	500	515	ug/L	103	0.19	SW846 6010B	03/21-03/23/12	MRH3E1AX
			Dilution Factor: 1						
Barium									
	37.4	1000	1050	ug/L	101		SW846 6010B	03/21-03/23/12	MRH3E1A0
	37.4	1000	1050	ug/L	101	0.0	SW846 6010B	03/21-03/23/12	MRH3E1A1
			Dilution Factor: 1						
Beryllium									
	ND	1000	1040	ug/L	104		SW846 6010B	03/21-03/23/12	MRH3E1A2
	ND	1000	1030	ug/L	103	0.48	SW846 6010B	03/21-03/23/12	MRH3E1A3
			Dilution Factor: 1						
Cadmium									
	ND	1000	1020	ug/L	102		SW846 6010B	03/21-03/23/12	MRH3E1A4
	ND	1000	1010	ug/L	101	0.88	SW846 6010B	03/21-03/23/12	MRH3E1A5
			Dilution Factor: 1						
Calcium									
	49800	10000	58500	ug/L	87		SW846 6010B	03/21-03/23/12	MRH3E1A6
	49800	10000	58900	ug/L	90	0.61	SW846 6010B	03/21-03/23/12	MRH3E1A7
			Dilution Factor: 1						
Chromium									
	448	1000	1430	ug/L	98		SW846 6010B	03/21-03/23/12	MRH3E1A8
	448	1000	1420	ug/L	97	0.70	SW846 6010B	03/21-03/23/12	MRH3E1A9
			Dilution Factor: 1						
Cobalt									
	ND	1000	1020	ug/L	102		SW846 6010B	03/21-03/23/12	MRH3E1CA
	ND	1000	1020	ug/L	102	0.68	SW846 6010B	03/21-03/23/12	MRH3E1CC
			Dilution Factor: 1						
Copper									
	ND	1000	1040	ug/L	104		SW846 6010B	03/21-03/23/12	MRH3E1CD
	ND	1000	1030	ug/L	103	0.96	SW846 6010B	03/21-03/23/12	MRH3E1CE
			Dilution Factor: 1						

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MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: SL1253A **Matrix.....:** WATER
Date Sampled...: 02/10/12 **Date Received..:** 03/20/12

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Iron									
	37.2	10000	10200	ug/L	101		SW846 6010B	03/21-03/23/12	MRH3E1CF
	37.2	10000	10000	ug/L	100	0.99	SW846 6010B	03/21-03/23/12	MRH3E1CG
			Dilution Factor: 1						
Magnesium									
	12900	10000	22400	ug/L	95		SW846 6010B	03/21-03/23/12	MRH3E1CH
	12900	10000	22500	ug/L	96	0.35	SW846 6010B	03/21-03/23/12	MRH3E1CJ
			Dilution Factor: 1						
Manganese									
	ND	1000	1030	ug/L	103		SW846 6010B	03/21-03/23/12	MRH3E1CK
	ND	1000	1020	ug/L	102	0.29	SW846 6010B	03/21-03/23/12	MRH3E1CL
			Dilution Factor: 1						
Nickel									
	ND	1000	1020	ug/L	102		SW846 6010B	03/21-03/23/12	MRH3E1CM
	ND	1000	1010	ug/L	101	0.88	SW846 6010B	03/21-03/23/12	MRH3E1CN
			Dilution Factor: 1						
Potassium									
	6040	10000	15600	ug/L	96		SW846 6010B	03/21-03/23/12	MRH3E1CP
	6040	10000	15700	ug/L	96	0.25	SW846 6010B	03/21-03/23/12	MRH3E1CQ
			Dilution Factor: 1						
Silver									
	ND	100	99.1	ug/L	99		SW846 6010B	03/21-03/23/12	MRH3E1CR
	ND	100	98.2	ug/L	98	0.91	SW846 6010B	03/21-03/23/12	MRH3E1CT
			Dilution Factor: 1						
Sodium									
	20800	10000	30000	ug/L	92		SW846 6010B	03/21-03/23/12	MRH3E1CU
	20800	10000	30200	ug/L	94	0.59	SW846 6010B	03/21-03/23/12	MRH3E1CV
			Dilution Factor: 1						
Strontium									
	248	1000	1260	ug/L	101		SW846 6010B	03/21-03/23/12	MRH3E1CW
	248	1000	1260	ug/L	101	0.07	SW846 6010B	03/21-03/23/12	MRH3E1CX
			Dilution Factor: 1						
Vanadium									
	15.2	1000	1020	ug/L	101		SW846 6010B	03/21-03/23/12	MRH3E1C0
	15.2	1000	1020	ug/L	100	0.49	SW846 6010B	03/21-03/23/12	MRH3E1C1
			Dilution Factor: 1						

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MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: SL1253A **Matrix.....:** WATER
Date Sampled...: 02/10/12 **Date Received..:** 03/20/12

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Zinc									
	ND	1000	1010	ug/L	101		SW846 6010B	03/21-03/23/12	MRH3E1C2
	ND	1000	1000	ug/L	100	0.79	SW846 6010B	03/21-03/23/12	MRH3E1C3

Dilution Factor: 1

NOTE(S):

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