SAF-RC-110
100-H Burial Grounds Remaining Sites – Soil In-Process
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 5/6/15
INITIAL/DATE

COMMENTS:

SDG J02183 SAF-RC-110

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

Waste Site: 100-H-59:2 (excavation)

Analytical Data Package Prepared For

Washington Closure Hanford

Analysis Provided By

TestAmerica Richland
2800 George Washington Way
Richland WA, 99354
(509)375-3131
Assigned Laboratory Code: TARL

SDG Number: J02183

Data Package Contains 11 Pages

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

Washington Closure Hanford
2620 Fermi Avenue
Richland, WA 99354

April 30, 2015

Attention: Joan Kessner

SAF Number	:	RC-110
Date SDG Closed	:	April 27, 2015
Number of Samples	:	Five (5)
Sample Type	:	Soil
SDG Number	:	J02183
Data Deliverable	:	Quick Turn Metals / Summary

CASE NARRATIVE

I. Introduction

On April 27, 2015, five soil samples were received at TestAmerica for analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Washington Closure Hanford (WCH) specific ID;

WCH ID#	TARL ID#	MATRIX	DATE OF RECEIPT
J1V687	M6N20	SOIL	4/27/15
J1V688	M6N21	SOIL	4/27/15
J1V689	M6N22	SOIL	4/27/15
J1V690	M6N23	SOIL	4/27/15
J1V654	M6N25	SOIL	4/27/15

II. Sample Receipt

The samples were received in good condition and no anomalies were noted during check-in.

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors. The requested analyses were:

ICP Metals
ICP Metals by method SW-846 6010A

IV. Quality Control

SDG J02183 includes a minimum of one Laboratory Control Samples (LCS), one method (reagent)

blank, a duplicate sample, matrix spike sample and a matrix spike duplicate sample. Any exceptions have been noted in the "Comments" section.

Blanks and LCS are reported in mg/L units, other QC and sample results are reported in the same units.

V. Comments

ICP Metals

ICP Metals by method SW-846 6010A

One batch was analyzed for the samples with the standard metal request list.

Batch 5117086:

The sample and sample duplicate (J1V687) agreement is not within the acceptance limits for Cadmium and Lead. The MS and MSD agreement for Lead is not within the acceptance limits. This maybe attributed to the inhomogeniety of the matrix. Except as noted; the LCS, batch blank, samples, sample duplicate, MS, MSD, ICB, ICV, CCB and CCV results are within contractual limits.

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

Reviewed and approved:

Rhonda Wagar
Project Manager

SDG: J02183
SAF: RC-110
BATCH: 5117086
MATRIX: SOIL
ANALYSIS DATE: 4/28/15

Client_id	Matrix	Result_t	Cas_nbr	Parameter	Result	Qualifier	Units	Reporting_Limits_S	Reporting_Limits	Uncertainty_1s	Analyzed_s	Analyzed_Decision_LCS	Recc	Added	Analysis_date_time	Batch_nbr	Test_Metho	Lab_sample_id
J1V687	**SOIL**	**CS**	**7440-22-4**	**Silver**	**5.10E-01**	U	UG/G	1.89E+00	1.89E+00	2.60E-01	0.2538	G			4/28/2015 13:06	5117086	46DQ	M6N201A0
J1V687	**SOIL**	**CS**	**7440-38-2**	**Arsenic**	**3.13E+00**	U	UG/G	1.71E+00	1.71E+00	1.50E+00	0.2538	G			4/28/2015 13:06	5117086	46DQ	M6N201A0
J1V687	**SOIL**	**CS**	**7440-39-3**	**Ba**	**9.64E+01**		UG/G	3.94E-01	3.94E-01	6.20E+00	0.2538	G			4/28/2015 13:06	5117086	46DQ	M6N201A0
J1V687	**SOIL**	**CS**	**7440-41-7**	**Beryllium**	**4.01E-01**		UG/G	2.56E-02	2.56E-02	2.50E-02	0.2538	G			4/28/2015 13:06	5117086	46DQ	M6N201A0
J1V687	**SOIL**	**CS**	**7440-43-9**	**Cadmium**	**5.02E-01**	U	UG/G	1.97E-01	1.97E-01	7.10E-02	0.2538	G			4/28/2015 13:06	5117086	46DQ	M6N201A0
J1V687	**SOIL**	**CS**	**7440-47-3**	**Chromium**	**1.43E+01**		UG/G	7.88E-01	7.88E-01	7.40E-01	0.2538	G			4/28/2015 13:06	5117086	46DQ	M6N201A0
J1V687	**SOIL**	**CS**	**7439-92-1**	**Lead**	**2.82E+01**		UG/G	8.47E-01	8.47E-01	7.60E-01	0.2538	G			4/28/2015 13:06	5117086	46DQ	M6N201A0
J1V687	**SOIL**	**CS**	**7782-49-2**	**Selenium**	**8.65E-01**	U	UG/G	2.36E+00	2.36E+00	6.80E-01	0.2538	G			4/28/2015 13:06	5117086	46DQ	M6N201A0
J1V688	**SOIL**	**CS**	**7440-22-4**	**Silver**	**-1.06E-01**	U	UG/G	1.93E+00	1.93E+00	1.20E-01	0.2482	G			4/28/2015 13:25	5117086	46DQ	M6N211AA
J1V688	**SOIL**	**CS**	**7440-38-2**	**Arsenic**	**2.91E+00**	U	UG/G	1.75E+00	1.75E+00	5.70E-01	0.2482	G			4/28/2015 13:25	5117086	46DQ	M6N211AA
J1V688	**SOIL**	**CS**	**7440-39-3**	**Ba**	**7.51E+01**		UG/G	4.03E-01	4.03E-01	7.40E-01	0.2482	G			4/28/2015 13:25	5117086	46DQ	M6N211AA
J1V688	**SOIL**	**CS**	**7440-41-7**	**Beryllium**	**3.95E-01**		UG/G	2.62E-02	2.62E-02	5.60E-03	0.2482	G			4/28/2015 13:25	5117086	46DQ	M6N211AA
J1V688	**SOIL**	**CS**	**7440-43-9**	**Cadmium**	**2.09E-01**	U	UG/G	2.01E-01	2.01E-01	7.90E-02	0.2482	G			4/28/2015 13:25	5117086	46DQ	M6N211AA
J1V688	**SOIL**	**CS**	**7440-47-3**	**Chromium**	**1.80E+01**		UG/G	8.06E-01	8.06E-01	2.40E-01	0.2482	G			4/28/2015 13:25	5117086	46DQ	M6N211AA
J1V688	**SOIL**	**CS**	**7439-92-1**	**Lead**	**1.51E+01**		UG/G	8.66E-01	8.66E-01	9.20E-01	0.2482	G			4/28/2015 13:25	5117086	46DQ	M6N211AA
J1V688	**SOIL**	**CS**	**7782-49-2**	**Selenium**	**7.19E-01**	U	UG/G	2.42E+00	2.42E+00	5.90E-01	0.2482	G			4/28/2015 13:25	5117086	46DQ	M6N211AA
J1V689	**SOIL**	**CS**	**7440-22-4**	**Silver**	**-1.04E-01**	U	UG/G	1.92E+00	1.92E+00	1.00E-01	0.2503	G			4/28/2015 13:29	5117086	46DQ	M6N221AA
J1V689	**SOIL**	**CS**	**7440-38-2**	**Arsenic**	**2.16E+00**	U	UG/G	1.74E+00	1.74E+00	8.40E-01	0.2503	G			4/28/2015 13:29	5117086	46DQ	M6N221AA
J1V689	**SOIL**	**CS**	**7440-39-3**	**Ba**	**6.77E+01**		UG/G	4.00E-01	4.00E-01	8.60E-02	0.2503	G			4/28/2015 13:29	5117086	46DQ	M6N221AA
J1V689	**SOIL**	**CS**	**7440-41-7**	**Beryllium**	**3.62E-01**		UG/G	2.60E-02	2.60E-02	8.40E-03	0.2503	G			4/28/2015 13:29	5117086	46DQ	M6N221AA
J1V689	**SOIL**	**CS**	**7440-43-9**	**Cadmium**	**1.68E-01**	U	UG/G	2.00E-01	2.00E-01	5.00E-02	0.2503	G			4/28/2015 13:29	5117086	46DQ	M6N221AA
J1V689	**SOIL**	**CS**	**7440-47-3**	**Chromium**	**9.90E+00**	U	UG/G	7.99E-01	7.99E-01	2.10E-02	0.2503	G			4/28/2015 13:29	5117086	46DQ	M6N221AA
J1V689	**SOIL**	**CS**	**7439-92-1**	**Lead**	**5.55E+00**	U	UG/G	8.59E-01	8.59E-01	2.90E-01	0.2503	G			4/28/2015 13:29	5117086	46DQ	M6N221AA
J1V689	**SOIL**	**CS**	**7782-49-2**	**Selenium**	**6.61E-01**	U	UG/G	2.40E+00	2.40E+00	1.10E+00	0.2503	G			4/28/2015 13:29	5117086	46DQ	M6N221AA
J1V690	**SOIL**	**CS**	**7440-22-4**	**Silver**	**-1.35E-01**	U	UG/G	1.92E+00	1.92E+00	9.60E-02	0.2503	G			4/28/2015 13:33	5117086	46DQ	M6N231AA
J1V690	**SOIL**	**CS**	**7440-38-2**	**Arsenic**	**2.73E+00**	U	UG/G	1.74E+00	1.74E+00	4.70E-01	0.2503	G			4/28/2015 13:33	5117086	46DQ	M6N231AA
J1V690	**SOIL**	**CS**	**7440-39-3**	**Ba**	**6.89E+01**		UG/G	4.00E-01	4.00E-01	3.80E-01	0.2503	G			4/28/2015 13:33	5117086	46DQ	M6N231AA
J1V690	**SOIL**	**CS**	**7440-41-7**	**Beryllium**	**3.60E-01**		UG/G	2.60E-02	2.60E-02	1.20E-02	0.2503	G			4/28/2015 13:33	5117086	46DQ	M6N231AA
J1V690	**SOIL**	**CS**	**7440-43-9**	**Cadmium**	**1.52E-01**	U	UG/G	2.00E-01	2.00E-01	5.90E-02	0.2503	G			4/28/2015 13:33	5117086	46DQ	M6N231AA
J1V690	**SOIL**	**CS**	**7440-47-3**	**Chromium**	**1.12E+01**		UG/G	7.99E-01	7.99E-01	1.40E-01	0.2503	G			4/28/2015 13:33	5117086	46DQ	M6N231AA
J1V690	**SOIL**	**CS**	**7439-92-1**	**Lead**	**6.27E+00**	U	UG/G	8.59E-01	8.59E-01	2.90E-01	0.2503	G			4/28/2015 13:33	5117086	46DQ	M6N231AA
J1V690	**SOIL**	**CS**	**7782-49-2**	**Selenium**	**8.11E-01**	U	UG/G	2.40E+00	2.40E+00	1.00E+00	0.2503	G			4/28/2015 13:33	5117086	46DQ	M6N231AA
J1V654	**SOIL**	**CS**	**7440-22-4**	**Silver**	**-1.30E-01**	U	UG/G	1.90E+00	1.90E+00	1.50E-01	0.2524	G			4/28/2015 13:37	5117086	46DQ	M6N251AA
J1V654	**SOIL**	**CS**	**7440-38-2**	**Arsenic**	**2.22E+00**	U	UG/G	1.72E+00	1.72E+00	3.30E-01	0.2524	G			4/28/2015 13:37	5117086	46DQ	M6N251AA
J1V654	**SOIL**	**CS**	**7440-39-3**	**Ba**	**6.74E+01**		UG/G	3.96E-01	3.96E-01	9.00E-01	0.2524	G			4/28/2015 13:37	5117086	46DQ	M6N251AA
J1V654	**SOIL**	**CS**	**7440-41-7**	**Beryllium**	**3.08E-01**		UG/G	2.58E-02	2.58E-02	8.70E-03	0.2524	G			4/28/2015 13:37	5117086	46DQ	M6N251AA
J1V654	**SOIL**	**CS**	**7440-43-9**	**Cadmium**	**1.73E-01**	U	UG/G	1.98E-01	1.98E-01	5.70E-02	0.2524	G			4/28/2015 13:37	5117086	46DQ	M6N251AA
J1V654	**SOIL**	**CS**	**7440-47-3**	**Chromium**	**9.90E+00**	U	UG/G	7.92E-01	7.92E-01	1.70E-01	0.2524	G			4/28/2015 13:37	5117086	46DQ	M6N251AA
J1V654	**SOIL**	**CS**	**7439-92-1**	**Lead**	**8.34E+00**	U	UG/G	8.52E-01	8.52E-01	2.80E-01	0.2524	G			4/28/2015 13:37	5117086	46DQ	M6N251AA
J1V654	**SOIL**	**CS**	**7782-49-2**	**Selenium**	**4.04E-01**	U	UG/G	2.38E+00	2.38E+00	7.90E-01	0.2524	G			4/28/2015 13:37	5117086	46DQ	M6N251AA
INTRA-LAB BLANK	SOIL	BLK	7440-22-4	Silver	-1.76E-02	U	MG/L	1.85E+00	1.85E+00	2.30E-03	0.2592	L			4/28/2015 12:15	5117086	46DQ	M6N3H1AA
INTRA-LAB BLANK	SOIL	BLK	7440-38-2	Arsenic	2.20E-01	U	MG/L	1.68E+00	1.68E+00	8.40E-01	0.2592	L			4/28/2015 12:15	5117086	46DQ	M6N3H1AA
INTRA-LAB BLANK	SOIL	BLK	7440-39-3	Ba	-1.09E-01	U	MG/L	3.86E-01	3.86E-01	7.30E-03	0.2592	L			4/28/2015 12:15	5117086	46DQ	M6N3H1AA
INTRA-LAB BLANK	SOIL	BLK	7440-41-7	Beryllium	1.12E-02	U	MG/L	2.51E-02	2.51E-02	2.50E-02	0.2592	L			4/28/2015 12:15	5117086	46DQ	M6N3H1AA
INTRA-LAB BLANK	SOIL	BLK	7440-43-9	Cadmium	-4.24E-03	U	MG/L	1.93E-01	1.93E-01	3.80E-02	0.2592	L			4/28/2015 12:15	5117086	46DQ	M6N3H1AA
INTRA-LAB BLANK	SOIL	BLK	7440-47-3	Chromium	7.25E-02	U	MG/L	7.72E-01	7.72E-01	1.90E-01	0.2592	L			4/28/2015 12:15	5117086	46DQ	M6N3H1AA
INTRA-LAB BLANK	SOIL	BLK	7439-92-1	Lead	-5.98E-03	U	MG/L	8.29E-01	8.29E-01	3.40E-01	0.2592	L			4/28/2015 12:15	5117086	46DQ	M6N3H1AA
INTRA-LAB BLANK	SOIL	BLK	7782-49-2	Selenium	3.79E-01	U	MG/L	2.31E+00	2.31E+00	7.70E-01	0.2592	L			4/28/2015 12:15	5117086	46DQ	M6N3H1AA
INTRA-LAB CHECK	SOIL	LCS	7440-22-4	Silver	1.90E+02		MG/L	1.92E+00	1.92E+00	9.00E-01	0.2504	L	0.95	199.7	4/28/2015 12:18	5117086	46DQ	M6N3H1AA
INTRA-LAB CHECK	SOIL	LCS	7440-38-2	Arsenic	1.93E+02		MG/L	1.74E+00	1.74E+00	3.30E-01	0.2504	L	0.97	199.7	4/28/2015 12:18	5117086	46DQ	M6N3H1AA
INTRA-LAB CHECK	SOIL	LCS	7440-39-3	Ba	1.96E+02		MG/L	3.99E-01	3.99E-01	3.20E-01	0.2504	L	0.98	199.7	4/28/2015 12:18	5117086	46DQ	M6N3H1AA
INTRA-LAB CHECK	SOIL	LCS	7440-41-7	Beryllium	1.91E+02		MG/L	2.60E-02	2.60E-02	4.70E-02	0.2504	L	0.96	199.7	4/28/2015 12:18	5117086	46DQ	M6N3H1AA
INTRA-LAB CHECK	SOIL	LCS	7440-43-9	Cadmium	1.93E+02		MG/L	2.00E-01	2.00E-01	8.30E-01	0.2504	L	0.97	199.7	4/28/2015 12:18	5117086	46DQ	M6N3H1AA
INTRA-LAB CHECK	SOIL	LCS	7440-47-3	Chromium	1.89E+02		MG/L	7.99E-01	7.99E-01	9.10E-01	0.2504	L	0.95	199.7	4/28/2015 12:18	5117086	46DQ	M6N3H1AA
INTRA-LAB CHECK	SOIL	LCS	7439-92-1	Lead	1.94E+02		MG/L	8.59E-01	8.59E-01	1.10E+00	0.2504	L	0.97	199.7	4/28/2015 12:18	5117086	46DQ	M6N3H1AA
INTRA-LAB CHECK	SOIL	LCS	7782-49-2	Selenium	1.90E+02		MG/L	2.40E+00	2.40E+00	1.10E+00	0.2504	L	0.95	199.7	4/28/2015 12:18	5117086	46DQ	M6N3H1AA
J1V687 DUP	SOIL	DUP	7440-22-4	Silver	3.07E-01	U	UG/G	1.93E+00	1.93E+00	7.50E-02	0.2492	G			4/28/2015 13:21	5117086	46DQ	M6N201A0
J1V687 DUP	SOIL	DUP	7440-38-2	Arsenic	3.40E+00	U	UG/G	1.75E+00	1.75E+00	6.10E-01	0.2492	G			4/28/2015 13:21	5117086	46DQ	M6N201A0
J1V687 DUP	SOIL	DUP	7440-39-3	Ba	7.98E+01		UG/G	4.01E-01	4.01E-01	2.50E+00	0.2492	G			4/28/2015 13:21	5117086	46DQ	M6N201A0
J1V687 DUP	SOIL	DUP	7440-41-7	Beryllium	3.96E-01		UG/G	2.61E-02	2.61E-02	6.00E-03	0.2492	G			4/28/2015 13:21	5117086	46DQ	M6N201A0
J1V687 DUP	SOIL	DUP	7440-43-9	Cadmium	2.08E+00		UG/G	2.01E-01	2.01E-01	4.10E-02	0.2492	G			4/28/2015 13:21	5117086	46DQ	M6N201A0
J1V687 DUP	SOIL	DUP	7440-47-3	Chromium	2.07E+01		UG/G	8.03E-01	8.03E-01	7.10E-01	0.2492	G			4/28/2015 13:21	5117086	46DQ	M6N201A0
J1V687 DUP	SOIL	DUP	7439-92-1	Lead	1.30E+02		UG/G	8.63E-01	8.63E-01	1.20E+00	0.2492	G			4/28/2015 13:21	5117086	46DQ	M6N201A0
J1V687 DUP	SOIL	DUP	7782-49-2	Selenium	5.34E-01	U	UG/G	2.41E+00	2.41E+00	3.30E-01	0.2492	G			4/28/2015 13:21	5117086	46DQ	M6N201A0
J1V687	SOIL	MS	7440-22-4	Silver	1.87E+02		% REC	1.92E+00	1.92E+00	6.20E+00	0.2504	L	0.94	199.7	4/28/2015 13:10	5117086	46DQ	M6N201A0
J1V687	SOIL	MS	7440-38-2	Arsenic	1.92E+02		% REC	1.74E+00	1.74E+00	7.00E+00	0.2504	L	0.96	199.7	4/28/2015 13:10	5117086	46DQ	M6N201A0
J1V687	SOIL	MS	7440-39-3	Ba	1.68E+02		% REC	3.99E-01	3.99E-01	1.20E+01	0.2504	L	0.84	199.7	4/28/2015 13:10	5117086	46DQ	M6N201A0
J1V687	SOIL	MS	7440-41-7	Beryllium	1.92E+02		% REC	2.60E-02	2.60E-02	7.90E+00	0.2504	L	0.96	199.7	4/28/2015 13:10	5117086	46DQ	M6N201A0

Client_id	Matrix	Result_t	Cas_nbr	Parameter	Result	Qualifier	Units	Reporting_Limits_S	Reporting_Limits	Uncertainty_1s	Analyzed_s	Analyzed_Decision_LCS	Recc	Added	Analysis_date_time	Batch_nbr	Test_Metho	Lab_sample_id
J1V687	SOIL	MS	7440-43-9	Cadmium	1.90E+02		% REC	2.00E-01	2.00E-01	5.70E+00	0.2504	L	0.95	199.7	4/28/2015 13:10	5117086	46DQ	M6N201A0
J1V687	SOIL	MS	7440-47-3	Chromium	1.85E+02		% REC	7.99E-01	7.99E-01	8.50E+00	0.2504	L	0.93	199.7	4/28/2015 13:10	5117086	46DQ	M6N201A0
J1V687	SOIL	MS	7439-92-1	Lead	1.77E+02		% REC	8.59E-01	8.59E-01	6.90E+00	0.2504	L	0.89	199.7	4/28/2015 13:10	5117086	46DQ	M6N201A0
J1V687	SOIL	MS	7782-49-2	Selenium	1.90E+02		% REC	2.40E+00	2.40E+00	5.70E+00	0.2504	L	0.95	199.7	4/28/2015 13:10	5117086	46DQ	M6N201A0
J1V687	SOIL	MSD	7440-22-4	Silver	1.89E+02		% REC	1.91E+00	1.91E+00	1.10E+01	0.2512	L	0.95	199	4/28/2015 13:16	5117086	46DQ	M6N201A0
J1V687	SOIL	MSD	7440-38-2	Arsenic	1.93E+02		% REC	1.73E+00	1.73E+00	8.90E-01	0.2512	L	0.97	199	4/28/2015 13:16	5117086	46DQ	M6N201A0
J1V687	SOIL	MSD	7440-39-3	Ba	1.79E+02		% REC	3.98E-01	3.98E-01	1.20E+01	0.2512	L	0.9	199	4/28/2015 13:16	5117086	46DQ	M6N201A0
J1V687	SOIL	MSD	7440-41-7	Beryllium	1.95E+02		% REC	2.59E-02	2.59E-02	1.40E+01	0.2512	L	0.98	199	4/28/2015 13:16	5117086	46DQ	M6N201A0
J1V687	SOIL	MSD	7440-43-9	Cadmium	1.90E+02		% REC	1.99E-01	1.99E-01	1.20E+00	0.2512	L	0.96	199	4/28/2015 13:16	5117086	46DQ	M6N201A0
J1V687	SOIL	MSD	7440-47-3	Chromium	1.92E+02		% REC	7.96E-01	7.96E-01	1.50E+01	0.2512	L	0.96	199	4/28/2015 13:16	5117086	46DQ	M6N201A0
J1V687	SOIL	MSD	7439-92-1	Lead	2.29E+02		% REC	8.56E-01	8.56E-01	1.60E+00	0.2512	L	1.15	199	4/28/2015 13:16	5117086	46DQ	M6N201A0
J1V687	SOIL	MSD	7782-49-2	Selenium	1.91E+02		% REC	2.39E+00	2.39E+00	1.80E+00	0.2512	L	0.96	199	4/28/2015 13:16	5117086	46DQ	M6N201A0

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-110-132

Collector: STOWE, QG	Company Contact: Joan Kessner	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Project Designation: 100-H Field Remediation	Sampling Location: 100-H-59:2 (excavation)		SAF No.: RC-110
Ice Chest No.: WCH-11-017	Field Logbook No.: EL-1627-09	COA: 01H5922600	Method of Shipment: Local Delivery
Shipped To: TestAmerica Richland	Offsite Property No.: n/A		Bill of Lading/Air Bill No.: n/A

Price Code: QT

Data Turnaround: 24 hrs

Other Labs Shipped To: n/A

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

cooling as required

Preservation	None	None
Type of Container	G/P	G/P
No. of Container(s)	1	1
Volume	125mL	125mL
Sample Analysis	See item (1) in Special Instructions	QTL TCLP ICP Metals - 1311/6010

Sample No.	Matrix	Sample Date	Sample Time		
J1V687 M6N20	SOIL	4/27/15	1201	X	X
J1V688 M6N21	SOIL	4/27/15	1207	X	X
J1V689 M6N22	SOIL	4/27/15	1212	X	X
J1V690 M6N23	SOIL	4/27/15	1217	X	X
J1V691 4/27/15	SOIL	[illegible]			

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe [signature]	1226 4-27-15	C. Martinez/C. Martinez	1226 4/27/15
C. Martinez/C. Martinez	1435 4/27/15	C. Bingham [signature]	4-27-15 1435
C. Bingham [signature] WCH	1505 4-27-15	Jack J. Bocktaler	4-27-15 / 1505

FINAL SAMPLE DISPOSITION — Disposal Method — Disposed By — Date/Time

SPECIAL INSTRUCTIONS

(1) Metals by ICP - 6010 - Quick Turn {Arsenic, Barium, Beryllium, Cadmium, Chromium, Lead, Selenium, Silver}

Please run 3-day TCLP ICP metals.
4/27/15 CMB

J5D270453
J02183
Due 4-28-15

J5D270453

REVIEWED BY K. Woodhouse
DATE 4-27-15

WCH-EE-011

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-110-126

Collector STOWE, QG	**Company Contact** Joan Kessner	**Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH
Project Designation 100-H Field Remediation	**Sampling Location** 100-H-59:2 (excavation)		**SAF No.** RC-110
Ice Chest No. WCH-11-017	**Field Logbook No.** EL-1627-09	**COA** 01H5922600	**Method of Shipment** Local Delivery
Shipped To TestAmerica Richland	**Offsite Property No.** n/A		**Bill of Lading/Air Bill No.** n/A

Price Code Qt

Data Turnaround 24 hrs

Other Labs Shipped To n/A

POSSIBLE SAMPLE HAZARDS/REMARKS
N/A

Special Handling and/or Storage
cooling as required

Preservation	None	None										
Type of Container	G/P	G/P										
No. of Container(s)	1	1										
Volume	125mL	125mL										
Sample Analysis	See item (1) in Special Instructions	QTL TCLP ICP Metals - 1311/6010										

Sample No.	Matrix	Sample Date	Sample Time										
~~J1V650~~	SOIL												
J1V651 4/27/15	SOIL												
J1V652	SOIL												
J1V653	SOIL												
J1V654 mbN25	SOIL	4/27/15	1158	X	X								

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	4-27-15 1226	C. Martinez/C. Martinez	4/27/15 1226
C. Martinez/C. Martinez	4/27/15 1435	C. Bingham	4-27-15 1435
C. Bingham WCH	4-27-15 1505	Zach J. Boll TALL	4-27-15/1505

FINAL SAMPLE DISPOSITION — Disposal Method — Disposed By — Date/Time

SPECIAL INSTRUCTIONS

Please run the TCLP ICP metals witha 3 day TAT.

(1) Metals by ICP - 6010 - Quick Turn {Arsenic, Barium, Beryllium, Cadmium, Chromium, Lead, Selenium, Silver}

J5D270453
J02183
Due 4-28-15

J5D270453

REVIEWED BY K. Weedman
DATE 4-27-15

WCH-EE-011

6010 Q.T. metals

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 4-27-15 / 1505 Container GM Screen Result: (Airlock) 0 cpm Initials [B]
Sample GM Screen Result (Sample Receiving) 0 cpm Initials [B]

Client: WCH SDG #: J02183 SAF #: RC-110 NA [ ]

Lot Number: J5D270453

Chain of Custody # RC-110-132; 126

Shipping Container ID or Air Bill Number : _____ NA [B]

Samples received inside shipping container/cooler/box Yes [B] 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 [B]
2. Custody Seals dated and signed? Yes [ ] No [ ] No Custody Seal [B]
3. Cooler temperature: _____ °C NA [B]
4. Vermiculite/packing materials is NA [B] Wet [ ] Dry [ ]

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes [B] No [ ]
6. Number of samples received (Each sample may contain multiple bottles): 5
7. Containers received: 10 x 125mLp
8. Sample holding times exceeded? NA [ ] Yes [ ] No [B]
9. Samples have: ____tape ____hazard labels [B] custody seals [B] appropriate sample labels
10. Matrix: [B] A (FLT, Wipe, Solid, Soil) ____I (Water) ____S (Air, Niosh 7400) ____T (Biological, Ni-63)
11. Samples:
    [B] 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 [B]
    (If acidification is necessary go to pH area & document sample ID, initial pH, amount of HNO_3 added and pH after addition on table)
13. Were any anomalies identified in sample receipt? Yes [ ] No [B]
14. Description of anomalies (include sample numbers): NA [B] _____
15. Sample Location, Sample Collector Listed on COC? * Yes [B] No [ ]
    *For documentation only. No corrective action needed.
16. Additional Information: N/A

[ ] Client/Courier denied temperature check. [ ] Client/Courier unpack cooler.

Sample Check-in List completed by Sample Custodian:
Signature: [signature] Date: 4-27-15

Client Notification needed? Yes [ ] No [X] Date: _____
By: _____
Person contacted: _____

[X] No action necessary; process as is

Project Manager [signature] Date 4/27/15

LS-023 Rev. 17, 05/13

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist

CHEMISTRY, First/Second Level Review

4/28/2015 3:31:36 PM

Lot No., Due Date: J5D270453; 04/28/2015
Client, Site: 127642; S00W235B00 HANFORD
QC Batch No., Method Test: 5117086; M6010_S 6010A
SDG, Matrix: J02183; SOIL

1.0 Initial Calibration

	Yes	No	N/A	2nd
1.1 Performed at required frequency with required number of levels?	✓			✓
1.2 Correlation coefficient within QC limits?	✓			✓
1.3 Initial calibration verification (ICV) analyzed immediately after calibr. and results within QC limits of +/- 10% at 0.75 ppm?	✓			✓
1.4 ICB analyzed immediately after ICV and concentration of all parameters +/- report limit from zero? RL per RadCalc.	✓			✓

2.0 Continuing Calibration

	Yes	No	N/A	2nd
2.1 CCV analyzed at required frequency and all parameters within QC limits or +/- 10% at 0.7500 ppm?	✓			✓
2.2 CCB analyzed at required frequency and all results +/- reporting limit from zero?	✓			✓

3.0 Sample Analysis

	Yes	No	N/A	2nd
3.1 Were any samples with concentration above the linear range diluted and reanalyzed?			✓	✓
3.2 Were all sample holding times met?	✓			✓

4.0 QC Samples

	Yes	No	N/A	2nd
4.1 All results for the preparation blank < reporting limits?	✓			✓
4.2 MS or MS/MSD recoveries within 25% at 1 ppm and within 20% RPD (for MSD)?		✓		✓
4.3 LCS precent recovery within 20% at 1 ppm and 20% RPD (for LCSD)?	✓			✓
4.4 "ICP Only: Sample and DUP within 35% RPD?"		✓		✓
4.5 ICP only: One serial dilution performed and within 10% of parent per SDG?	✓			✓
4.6 ICP only: RLV run per batch and within 20% of current values?	✓			✓
4.7 ICP only: ICSA,ICSAB analyzed at the required frequencies and within 20% of values per dilution record?	✓			✓

5.0 Other

	Yes	No	N/A	2nd
5.1 Are all nonconformances included and noted?	✓			✓
5.2 Is the correct date and time of analysis shown?	✓			✓
5.3 Did the analyst sign and date the digestion log for the analytical run?	✓			✓
5.4 Correct methodology used?	✓			✓
5.5 Transcriptions checked?	✓			✓
5.6 Calculations checked at minimum frequency?	✓			✓
5.7 Units checked?	✓			✓
5.8 Verified that appropriate data transferred to ReportDB?	✓			✓

6.0 Comments on any 'No' response:

NCM 10-30661 & 10-30662

First Level H. Raha **Date** 4/28/15 **Second** [illegible] **Date** 4/28/2015

TestAmerica Richland
QAS_RADCALCv4.8.66.3

Page 1

Clouseau
Nonconformance Memo

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

NCM #: **10-30661**
NCM Initiated By: Hooshang Rahavi
Date Opened: 04/28/2015
Date Closed:

Classification: **Anomaly**
Status: **PMREVIEW**
Production Area: Classical Chemistry
Tests: None
Lot #'s (Sample #'s): J5D270453 (1),
QC Batches: None.,

Nonconformance: Dups not within acceptance limits
Subcategory: Inhomogenity of the Sample

Problem Description / Root Cause

Name	Date	Description
Hooshang Rahavi	04/28/2015	The duplicate's RPD was above the acceptance criteria for Cadmium and ~~Chromium~~ Lead. The sample duplicate was not within acceptance criteria possibly due to inhomogeneity of the sample.

Corrective Action

Name	Date	Corrective Action
Hooshang Rahavi	04/28/2015	The data was reported as is; submitted for client review.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note	Response	Response Note

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position

Date Printed: 4/28/2015

Clouseau
Nonconformance Memo

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

NCM #: **10-30662**
NCM Initiated By: Hooshang Rahavi
Date Opened: 04/28/2015
Date Closed:

Classification: **Anomaly**
Status: **PMREVIEW**
Production Area: Classical Chemistry
Tests: None
Lot #'s (Sample #'s): J5D270453 (1),
QC Batches: None.,

Nonconformance: Other (describe in detail)
Subcategory: Other (explanation required)

Problem Description / Root Cause

Name	Date	Description
Hooshang Rahavi	04/28/2015	The different between Matrix Spike (MS) and Matrix Spike Duplicate (MSD) more than acceptable criteria for Lead.(RPD). RPD = 25.83

Corrective Action

Name	Date	Corrective Action
Hooshang Rahavi	04/28/2015	The data was reported as is; submitted for client review.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note	Response	Response Note

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position

Date Printed: 4/28/2015

Analytical Data Package Prepared For

Washington Closure Hanford

Analysis Provided By

TestAmerica Richland
2800 George Washington Way
Richland WA, 99354
(509)375-3131
Assigned Laboratory Code: TARL

SDG Number: J02183

Data Package Contains 10 Pages

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

Washington Closure Hanford
2620 Fermi Avenue
Richland, WA 99354

April 30, 2015

Attention: Joan Kessner

SAF Number	:	RC-110
Date SDG Closed	:	April 27, 2015
Number of Samples	:	Five (5)
Sample Type	:	Soil
SDG Number	:	J02183
Data Deliverable	:	3-Day / Summary

CASE NARRATIVE

I. Introduction

On April 27, 2015, five soil samples were received at TestAmerica for analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Washington Closure Hanford (WCH) specific ID;

WCH ID#	TARL ID#	MATRIX	DATE OF RECEIPT
J1V687	M6N3F	SOIL	4/27/15
J1V688	M6N3K	SOIL	4/27/15
J1V689	M6N3L	SOIL	4/27/15
J1V690	M6N3M	SOIL	4/27/15
J1V654	M6N3N	SOIL	4/27/15

II. Sample Receipt

The samples were received in good condition and no anomalies were noted during check-in.

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors. The requested analyses were:

ICP Metals
Metals by ICP (TCLP) method SW-846 6010A

IV. Quality Control

SDG J02183 includes a minimum of one Laboratory Control Samples (LCS) and one method (reagent) blank. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

V. Comments

ICP Metals

Metals by ICP (TCLP) method SW-846 6010A

Batch 5118036:

A 1:2 dilution was performed on the MS and MSD; Potassium was above the Linear Range. The room temperature during leaching was below the temperature limit. Except as noted; the LCS, batch blank, samples, MS, MSD, ICB, ICV, CCB and CCV results are within contractual limits.

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

Reviewed and approved:

Rhonda Wagar
Project Manager

SDG: J02183
SAF: RC-110
BATCH: 5118036 - TCLP
MATRIX: SOIL
ANALYSIS DATE: 4/30/15

Client_id	Matrix	Result_t	Cas_nbr	Parameter	Result	Qualifier	Units	Reporting_Limits_s	Reporting_Limits	Uncertainty_1s	Analyzed_sa	Analyzed_Decision_LC	SReco	Added/	Analysis_date_time	Batch_nbr	Test_Meth	Lab_sample_id
J1V687	**SOLID**	**CS**	**7440-22-4**	**Silver**	**2.42E-04**	U	MG/L	1.02E-02	1.02E-02	7.90E-04	100.0088	G			4/30/2015 9:21	5118036	JYDQ	M6N3F1A0
J1V687	**SOLID**	**CS**	**7440-38-2**	**Arsenic**	**6.00E-03**	U	MG/L	5.11E-02	5.11E-02	6.30E-03	100.0088	G			4/30/2015 9:21	5118036	JYDQ	M6N3F1A0
J1V687	**SOLID**	**CS**	**7440-39-3**	**Ba**	**4.38E-01**		MG/L	5.11E-02	5.11E-02	8.70E-04	100.0088	G			4/30/2015 9:21	5118036	JYDQ	M6N3F1A0
J1V687	**SOLID**	**CS**	**7440-43-9**	**Cadmium**	**9.66E-02**		MG/L	5.11E-03	5.11E-03	1.20E-03	100.0088	G			4/30/2015 9:21	5118036	JYDQ	M6N3F1A0
J1V687	**SOLID**	**CS**	**7440-47-3**	**Chromium**	**1.66E-02**	U	MG/L	1.02E-02	1.02E-02	7.50E-04	100.0088	G			4/30/2015 9:21	5118036	JYDQ	M6N3F1A0
J1V687	**SOLID**	**CS**	**7439-92-1**	**Lead**	**1.59E-02**	U	MG/L	5.11E-02	5.11E-02	2.40E-03	100.0088	G			4/30/2015 9:21	5118036	JYDQ	M6N3F1A0
J1V687	**SOLID**	**CS**	**7782-49-2**	**Selenium**	**7.69E-03**	U	MG/L	5.11E-02	5.11E-02	4.70E-03	100.0088	G			4/30/2015 9:21	5118036	JYDQ	M6N3F1A0
J1V688	**SOLID**	**CS**	**7440-22-4**	**Silver**	**4.97E-04**	U	MG/L	1.02E-02	1.02E-02	1.20E-03	100.0041	G			4/30/2015 9:39	5118036	JYDQ	M6N3K1AA
J1V688	**SOLID**	**CS**	**7440-38-2**	**Arsenic**	**1.20E-02**	U	MG/L	5.11E-02	5.11E-02	3.70E-03	100.0041	G			4/30/2015 9:39	5118036	JYDQ	M6N3K1AA
J1V688	**SOLID**	**CS**	**7440-39-3**	**Ba**	**4.07E-01**		MG/L	5.11E-02	5.11E-02	1.40E-02	100.0041	G			4/30/2015 9:39	5118036	JYDQ	M6N3K1AA
J1V688	**SOLID**	**CS**	**7440-43-9**	**Cadmium**	**1.89E-03**	U	MG/L	5.11E-03	5.11E-03	3.20E-04	100.0041	G			4/30/2015 9:39	5118036	JYDQ	M6N3K1AA
J1V688	**SOLID**	**CS**	**7440-47-3**	**Chromium**	**3.21E-02**	U	MG/L	1.02E-02	1.02E-02	2.00E-03	100.0041	G			4/30/2015 9:39	5118036	JYDQ	M6N3K1AA
J1V688	**SOLID**	**CS**	**7439-92-1**	**Lead**	**5.73E-03**	U	MG/L	5.11E-02	5.11E-02	3.10E-03	100.0041	G			4/30/2015 9:39	5118036	JYDQ	M6N3K1AA
J1V688	**SOLID**	**CS**	**7782-49-2**	**Selenium**	**8.92E-03**	U	MG/L	5.11E-02	5.11E-02	3.00E-03	100.0041	G			4/30/2015 9:39	5118036	JYDQ	M6N3K1AA
J1V689	**SOLID**	**CS**	**7440-22-4**	**Silver**	**2.83E-04**	U	MG/L	1.05E-02	1.05E-02	5.10E-04	100.0038	G			4/30/2015 9:43	5118036	JYDQ	M6N3L1AA
J1V689	**SOLID**	**CS**	**7440-38-2**	**Arsenic**	**1.04E-02**	U	MG/L	5.27E-02	5.27E-02	2.60E-03	100.0038	G			4/30/2015 9:43	5118036	JYDQ	M6N3L1AA
J1V689	**SOLID**	**CS**	**7440-39-3**	**Ba**	**3.63E-01**		MG/L	5.27E-02	5.27E-02	1.70E-02	100.0038	G			4/30/2015 9:43	5118036	JYDQ	M6N3L1AA
J1V689	**SOLID**	**CS**	**7440-43-9**	**Cadmium**	**4.61E-04**	U	MG/L	5.27E-03	5.27E-03	1.20E-04	100.0038	G			4/30/2015 9:43	5118036	JYDQ	M6N3L1AA
J1V689	**SOLID**	**CS**	**7440-47-3**	**Chromium**	**1.53E-03**	U	MG/L	1.05E-02	1.05E-02	1.10E-03	100.0038	G			4/30/2015 9:43	5118036	JYDQ	M6N3L1AA
J1V689	**SOLID**	**CS**	**7439-92-1**	**Lead**	**4.99E-04**	U	MG/L	5.27E-02	5.27E-02	8.20E-04	100.0038	G			4/30/2015 9:43	5118036	JYDQ	M6N3L1AA
J1V689	**SOLID**	**CS**	**7782-49-2**	**Selenium**	**9.23E-03**	U	MG/L	5.27E-02	5.27E-02	4.40E-03	100.0038	G			4/30/2015 9:43	5118036	JYDQ	M6N3L1AA
J1V690	**SOLID**	**CS**	**7440-22-4**	**Silver**	**3.83E-04**	U	MG/L	1.06E-02	1.06E-02	1.50E-03	99.9993	G			4/30/2015 9:46	5118036	JYDQ	M6N3M1AA
J1V690	**SOLID**	**CS**	**7440-38-2**	**Arsenic**	**9.54E-03**	U	MG/L	5.30E-02	5.30E-02	4.00E-03	99.9993	G			4/30/2015 9:46	5118036	JYDQ	M6N3M1AA
J1V690	**SOLID**	**CS**	**7440-39-3**	**Ba**	**3.79E-01**		MG/L	5.30E-02	5.30E-02	7.70E-04	99.9993	G			4/30/2015 9:46	5118036	JYDQ	M6N3M1AA
J1V690	**SOLID**	**CS**	**7440-43-9**	**Cadmium**	**2.65E-04**	U	MG/L	5.30E-03	5.30E-03	2.00E-04	99.9993	G			4/30/2015 9:46	5118036	JYDQ	M6N3M1AA
J1V690	**SOLID**	**CS**	**7440-47-3**	**Chromium**	**1.46E-03**	U	MG/L	1.06E-02	1.06E-02	9.10E-04	99.9993	G			4/30/2015 9:46	5118036	JYDQ	M6N3M1AA
J1V690	**SOLID**	**CS**	**7439-92-1**	**Lead**	**9.55E-04**	U	MG/L	5.30E-02	5.30E-02	4.10E-04	99.9993	G			4/30/2015 9:46	5118036	JYDQ	M6N3M1AA
J1V690	**SOLID**	**CS**	**7782-49-2**	**Selenium**	**9.36E-03**	U	MG/L	5.30E-02	5.30E-02	4.70E-03	99.9993	G			4/30/2015 9:46	5118036	JYDQ	M6N3M1AA
J1V654	**SOLID**	**CS**	**7440-22-4**	**Silver**	**2.25E-04**	U	MG/L	1.08E-02	1.08E-02	7.90E-04	100.0155	G			4/30/2015 10:03	5118036	JYDQ	M6N3N1AA
J1V654	**SOLID**	**CS**	**7440-38-2**	**Arsenic**	**1.02E-02**	U	MG/L	5.41E-02	5.41E-02	5.60E-03	100.0155	G			4/30/2015 10:03	5118036	JYDQ	M6N3N1AA
J1V654	**SOLID**	**CS**	**7440-39-3**	**Ba**	**4.16E-01**		MG/L	5.41E-02	5.41E-02	4.00E-03	100.0155	G			4/30/2015 10:03	5118036	JYDQ	M6N3N1AA
J1V654	**SOLID**	**CS**	**7440-43-9**	**Cadmium**	**5.93E-04**	U	MG/L	5.41E-03	5.41E-03	3.50E-04	100.0155	G			4/30/2015 10:03	5118036	JYDQ	M6N3N1AA
J1V654	**SOLID**	**CS**	**7440-47-3**	**Chromium**	**1.44E-03**	U	MG/L	1.08E-02	1.08E-02	9.90E-04	100.0155	G			4/30/2015 10:03	5118036	JYDQ	M6N3N1AA
J1V654	**SOLID**	**CS**	**7439-92-1**	**Lead**	**-6.77E-04**	U	MG/L	5.41E-02	5.41E-02	2.40E-03	100.0155	G			4/30/2015 10:03	5118036	JYDQ	M6N3N1AA
J1V654	**SOLID**	**CS**	**7782-49-2**	**Selenium**	**8.73E-03**	U	MG/L	5.41E-02	5.41E-02	3.30E-03	100.0155	G			4/30/2015 10:03	5118036	JYDQ	M6N3N1AA
INTRA-LAB BLANK	SOLID	BLK	7440-22-4	Silver	1.18E-04	U	MG/L	1.00E-02	1.00E-02	3.50E-04	100.0124	L			4/30/2015 9:08	5118036	JYDQ	M6PJL1AA
INTRA-LAB BLANK	SOLID	BLK	7440-38-2	Arsenic	6.17E-03	U	MG/L	5.00E-02	5.00E-02	9.00E-03	100.0124	L			4/30/2015 9:08	5118036	JYDQ	M6PJL1AA
INTRA-LAB BLANK	SOLID	BLK	7440-39-3	Ba	1.56E-02	U	MG/L	5.00E-02	5.00E-02	7.40E-05	100.0124	L			4/30/2015 9:08	5118036	JYDQ	M6PJL1AA
INTRA-LAB BLANK	SOLID	BLK	7440-43-9	Cadmium	1.09E-04	U	MG/L	5.00E-03	5.00E-03	3.00E-04	100.0124	L			4/30/2015 9:08	5118036	JYDQ	M6PJL1AA
INTRA-LAB BLANK	SOLID	BLK	7440-47-3	Chromium	7.29E-04	U	MG/L	1.00E-02	1.00E-02	4.40E-04	100.0124	L			4/30/2015 9:08	5118036	JYDQ	M6PJL1AA
INTRA-LAB BLANK	SOLID	BLK	7439-92-1	Lead	7.55E-04	U	MG/L	5.00E-02	5.00E-02	4.20E-04	100.0124	L			4/30/2015 9:08	5118036	JYDQ	M6PJL1AA
INTRA-LAB BLANK	SOLID	BLK	7782-49-2	Selenium	8.65E-03	U	MG/L	5.00E-02	5.00E-02	1.90E-03	100.0124	L			4/30/2015 9:08	5118036	JYDQ	M6PJL1AA
INTRA-LAB CHECK	SOLID	LCS	7440-22-4	Silver	1.11E+00		MG/L	1.00E-02	1.00E-02	9.20E-03	100.0124	L	1.11	1	4/30/2015 9:11	5118036	JYDQ	M6PJL1AA
INTRA-LAB CHECK	SOLID	LCS	7440-38-2	Arsenic	1.10E+00		MG/L	5.00E-02	5.00E-02	8.10E-03	100.0124	L	1.1	1	4/30/2015 9:11	5118036	JYDQ	M6PJL1AA
INTRA-LAB CHECK	SOLID	LCS	7440-39-3	Ba	9.26E-01		MG/L	5.00E-02	5.00E-02	8.40E-03	100.0124	L	0.93	1	4/30/2015 9:11	5118036	JYDQ	M6PJL1AA
INTRA-LAB CHECK	SOLID	LCS	7440-43-9	Cadmium	9.84E-01		MG/L	5.00E-03	5.00E-03	8.10E-03	100.0124	L	0.98	1	4/30/2015 9:11	5118036	JYDQ	M6PJL1AA
INTRA-LAB CHECK	SOLID	LCS	7440-47-3	Chromium	1.02E+00		MG/L	1.00E-02	1.00E-02	1.30E-02	100.0124	L	1.02	1	4/30/2015 9:11	5118036	JYDQ	M6PJL1AA
INTRA-LAB CHECK	SOLID	LCS	7439-92-1	Lead	8.31E-01		MG/L	5.00E-02	5.00E-02	7.40E-03	100.0124	L	0.83	1	4/30/2015 9:11	5118036	JYDQ	M6PJL1AA
INTRA-LAB CHECK	SOLID	LCS	7782-49-2	Selenium	1.18E+00		MG/L	5.00E-02	5.00E-02	1.80E-03	100.0124	L	1.18	1	4/30/2015 9:11	5118036	JYDQ	M6PJL1AA
J1V687 DUP	SOLID	DUP	7440-22-4	Silver	1.57E-03	U	MG/L	1.02E-02	1.02E-02	7.70E-04	100.0088	G			4/30/2015 9:36	5118036	JYDQ	M6N3F1A0
J1V687 DUP	SOLID	DUP	7440-38-2	Arsenic	7.54E-03	U	MG/L	5.11E-02	5.11E-02	3.10E-03	100.0088	G			4/30/2015 9:36	5118036	JYDQ	M6N3F1A0
J1V687 DUP	SOLID	DUP	7440-39-3	Ba	4.44E-01		MG/L	5.11E-02	5.11E-02	1.70E-03	100.0088	G			4/30/2015 9:36	5118036	JYDQ	M6N3F1A0
J1V687 DUP	SOLID	DUP	7440-43-9	Cadmium	9.71E-02		MG/L	5.11E-03	5.11E-03	2.00E-03	100.0088	G			4/30/2015 9:36	5118036	JYDQ	M6N3F1A0
J1V687 DUP	SOLID	DUP	7440-47-3	Chromium	1.65E-02	U	MG/L	1.02E-02	1.02E-02	7.80E-04	100.0088	G			4/30/2015 9:36	5118036	JYDQ	M6N3F1A0
J1V687 DUP	SOLID	DUP	7439-92-1	Lead	1.57E-02	U	MG/L	5.11E-02	5.11E-02	1.40E-03	100.0088	G			4/30/2015 9:36	5118036	JYDQ	M6N3F1A0
J1V687 DUP	SOLID	DUP	7782-49-2	Selenium	9.01E-03	U	MG/L	5.11E-02	5.11E-02	2.20E-03	100.0088	G			4/30/2015 9:36	5118036	JYDQ	M6N3F1A0
J1V687	SOLID	MS	7440-22-4	Silver	1.00E+00		% REC	2.04E-02	2.04E-02	7.00E-03	100.0088	L	0.98	1.022	4/30/2015 10:10	5118036	JYDQ	M6N3F1A0
J1V687	SOLID	MS	7440-38-2	Arsenic	1.06E+00		% REC	1.02E-01	1.02E-01	1.70E-02	100.0088	L	1.04	1.022	4/30/2015 10:10	5118036	JYDQ	M6N3F1A0
J1V687	SOLID	MS	7440-39-3	Ba	5.08E-01	U	% REC	1.02E-01	1.02E-01	1.70E-02	100.0088	L	0.9	0.564	4/30/2015 10:10	5118036	JYDQ	M6N3F1A0
J1V687	SOLID	MS	7440-43-9	Cadmium	8.99E-01		% REC	1.02E-02	1.02E-02	1.50E-02	100.0088	L	0.88	1.022	4/30/2015 10:10	5118036	JYDQ	M6N3F1A0
J1V687	SOLID	MS	7440-47-3	Chromium	1.01E+00		% REC	2.04E-02	2.04E-02	1.30E-02	100.0088	L	0.98	1.022	4/30/2015 10:10	5118036	JYDQ	M6N3F1A0
J1V687	SOLID	MS	7439-92-1	Lead	8.53E-01		% REC	1.02E-01	1.02E-01	6.10E-03	100.0088	L	0.83	1.022	4/30/2015 10:10	5118036	JYDQ	M6N3F1A0
J1V687	SOLID	MS	7782-49-2	Selenium	1.09E+00		% REC	1.02E-01	1.02E-01	4.20E-03	100.0088	L	1.07	1.022	4/30/2015 10:10	5118036	JYDQ	M6N3F1A0
J1V687	SOLID	MSD	7440-22-4	Silver	9.91E-01		% REC	2.04E-02	2.04E-02	6.90E-03	100.0088	L	0.97	1.022	4/30/2015 10:14	5118036	JYDQ	M6N3F1A0
J1V687	SOLID	MSD	7440-38-2	Arsenic	1.06E+00		% REC	1.02E-01	1.02E-01	1.20E-02	100.0088	L	1.04	1.022	4/30/2015 10:14	5118036	JYDQ	M6N3F1A0
J1V687	SOLID	MSD	7440-39-3	Ba	5.07E-01	U	% REC	1.02E-01	1.02E-01	3.10E-03	100.0088	L	0.9	0.563	4/30/2015 10:14	5118036	JYDQ	M6N3F1A0
J1V687	SOLID	MSD	7440-43-9	Cadmium	9.09E-01		% REC	1.02E-02	1.02E-02	4.80E-04	100.0088	L	0.89	1.022	4/30/2015 10:14	5118036	JYDQ	M6N3F1A0
J1V687	SOLID	MSD	7440-47-3	Chromium	1.01E+00		% REC	2.04E-02	2.04E-02	5.80E-03	100.0088	L	0.99	1.022	4/30/2015 10:14	5118036	JYDQ	M6N3F1A0
J1V687	SOLID	MSD	7439-92-1	Lead	8.56E-01		% REC	1.02E-01	1.02E-01	2.50E-03	100.0088	L	0.84	1.022	4/30/2015 10:14	5118036	JYDQ	M6N3F1A0

Client_id	Matrix	Result_ty	Cas_nbr	Parameter	Result	Qualifier	Units	Reporting_Limits_S	Reporting_Limits	Uncertainty_1s	Analyzed_sa	Analyzed_Decision_LCS	Reco	Added/	Analysis_date_time	Batch_nbr	Test_Meth	Lab_sample_id
J1V687	SOLID	MSD	7782-49-2	Selenium	1.08E+00		% REC	1.02E-01	1.02E-01	9.80E-03	100.0088	L	1.06	1.022	4/30/2015 10:14	5118036	JYDQ	M6N3F1A0

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-110-132

Collector: STOWE, QG	Company Contact: Joan Kessner	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: QT	Data Turnaround: 24 hrs		
Project Designation: 100-H Field Remediation	Sampling Location: 100-H-59:2 (excavation)		SAF No.: RC-110
Ice Chest No.: WCH-11-017	Field Logbook No.: EL-1627-09	COA: 01H5922600	Method of Shipment: Local Delivery
Shipped To: TestAmerica Richland	Offsite Property No.: n/A		Bill of Lading/Air Bill No.: n/A

Other Labs Shipped To: n/A

POSSIBLE SAMPLE HAZARDS/REMARKS
N/A

Special Handling and/or Storage
cooling as required

Preservation	None	None									
Type of Container	G/P	G/P									
No. of Container(s)	1	1									
Volume	125mL	125mL									
Sample Analysis	See item (1) in Special Instructions	QTL TCLP ICP Metals - 1311/6010									

Sample No.	Matrix	Sample Date	Sample Time										
J1V687 M6N3F	SOIL	4/27/15	1201	X	X								
J1V688 M6N3K	SOIL	4/27/15	1207	X	X								
J1V689 M6N3L	SOIL	4/27/15	1212	X	X								
J1V690 M6N3M	SOIL	4/27/15	1217	X	X								
J1V691 4/27/15	SOIL												

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By/Removed From: Quincy Stowe	Date/Time: 1226 4-27-15	Received By/Stored In: C. Martinez/C. Martinez	Date/Time: 1226 4/27/15
Relinquished By/Removed From: C. Martinez/C. Martinez	Date/Time: 1435 4/27/15	Received By/Stored In: C. Bingham	Date/Time: 4-27-15 1435
Relinquished By/Removed From: C. Bingham WCH	Date/Time: 1505 4-27-15	Received By/Stored In: Jack S Boultare	Date/Time: 4-27-15 / 1505
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

SPECIAL INSTRUCTIONS
(1) Metals by ICP - 6010 - Quick Turn {Arsenic, Barium, Beryllium, Cadmium, Chromium, Lead, Selenium, Silver}

Please run 3-day TCLP ICP metals.
4/27/15 CMB

J5D270454
J02183
Due 4-30-15

J5D270454

REVIEWED BY K. Woodward
DATE 4-27-15

WCH-EE-011

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-110-126

Collector: STOWE, QG	Company Contact: Joan Kessner	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Project Designation: 100-H Field Remediation	Sampling Location: 100-H-59:2 (excavation)		SAF No.: RC-110
Ice Chest No.: WCH-11-017	Field Logbook No.: EL-1627-09	COA: 01H5922600	Method of Shipment: Local Delivery
Shipped To: TestAmerica Richland	Offsite Property No.: n/A		Bill of Lading/Air Bill No.: n/A

Price Code: Qt

Data Turnaround: 24 hrs

Other Labs Shipped To: n/A

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

cooling as required

Preservation	None	None										
Type of Container	G/P	G/P										
No. of Container(s)	1	1										
Volume	125mL	125mL										
Sample Analysis	See item (1) in Special Instructions	QTL TCLP ICP Metals - 1311/6010										

Sample No.	Matrix	Sample Date	Sample Time										
~~J1V650~~	SOIL												
J1V651 4/27/15	SOIL												
J1V652	SOIL												
J1V653	SOIL												
J1V654 M6N3N	SOIL	4/27/15	1158	X	X								

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	1226 4-27-15	C. Martinez/C. Martinez	1226 4/27/15
C. Martinez/C. Martinez	1435 4/27/15	C. Bingham	4-27-15 1435
C. Bingham WCH	4-27-15 1505	Jack J. Bock TALE	4-27-15/1505

FINAL SAMPLE DISPOSITION — Disposal Method — Disposed By — Date/Time

SPECIAL INSTRUCTIONS

Please run the TCLP ICP metals witha 3 day TAT.

(1) Metals by ICP - 6010 - Quick Turn {Arsenic, Barium, Beryllium, Cadmium, Chromium, Lead, Selenium, Silver}

JSD270454
J02183
Due 4-30-15

REVIEWED BY K. Woodwinemal DATE 4-27-15

WCH-EE-011

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist

CHEMISTRY, First/Second Level Review

4/30/2015 2:36:22 PM

Lot No., Due Date: J5D270454; 04/30/2015
Client, Site: 127642; S00W235B00 HANFORD
QC Batch No., Method Test: 5118036; M6010_S 6010A
SDG, Matrix: J02183; SOIL

1.0 Initial Calibration

1.1 Performed at required frequency with required number of levels?	Yes ✓	No	N/A	2nd ✓
1.2 Correlation coefficient within QC limits?	Yes ✓	No	N/A	2nd ✓
1.3 Initial calibration verification (ICV) analyzed immediately after calibr. and results within QC limits of +/- 10% at 0.75 ppm?	Yes ✓	No	N/A	2nd ✓
1.4 ICB analyzed immediately after ICV and concentration of all parameters +/- report limit from zero? RL per RadCalc.	Yes ✓	No	N/A	2nd ✓

2.0 Continuing Calibration

2.1 CCV analyzed at required frequency and all parameters within QC limits or +/- 10% at 0.7500 ppm?	Yes ✓	No	N/A	2nd ✓
2.2 CCB analyzed at required frequency and all results +/- reporting limit from zero?	Yes ✓	No	N/A	2nd ✓

3.0 Sample Analysis

3.1 Were any samples with concentration above the linear range diluted and reanalyzed?	Yes ✓	No	N/A	2nd ✓
3.2 Were all sample holding times met?	Yes ✓	No	N/A	2nd ✓

4.0 QC Samples

4.1 All results for the preparation blank < reporting limits?	Yes ✓	No	N/A	2nd ✓
4.2 MS or MS/MSD recoveries within 25% at 1 ppm and within 20% RPD (for MSD)?	Yes ✓	No	N/A	2nd ✓
4.3 LCS precent recovery within 20% at 1 ppm and 20% RPD (for LCSD)?	Yes ✓	No	N/A	2nd ✓
4.4 "ICP Only: Sample and DUP within 35% RPD?"	Yes ✓	No	N/A	2nd ✓
4.5 ICP only: One serial dilution performed and within 10% of parent per SDG?	Yes ✓	No	N/A	2nd ✓
4.6 ICP only: RLV run per batch and within 20% of current values?	Yes ✓	No	N/A	2nd ✓
4.7 ICP only: ICSA,ICSAB analyzed at the required frequencies and within 20% of values per dilution record?	Yes ✓	No	N/A	2nd ✓

5.0 Other

5.1 Are all nonconformances included and noted?	Yes ✓	No	N/A	2nd ✓
5.2 Is the correct date and time of analysis shown?	Yes ✓	No	N/A	2nd ✓
5.3 Did the analyst sign and date the digestion log for the analytical run?	Yes ✓	No	N/A	2nd ✓
5.4 Correct methodology used?	Yes ✓	No	N/A	2nd ✓
5.5 Transcriptions checked?	Yes ✓	No	N/A	2nd ✓
5.6 Calculations checked at minimum frequency?	Yes ✓	No	N/A	2nd ✓
5.7 Units checked?	Yes ✓	No	N/A	2nd ✓
5.8 Verified that appropriate data transferred to ReportDB?	Yes ✓	No	N/A	2nd ✓

6.0 Comments on any 'No' response:

First Level H. Rahal **Date** 4/30/15 **Second** [signature] **Date** 4/30/15

TestAmerica Richland
QAS_RADCALCv4.8.66.3

Page 1

Clouseau
Nonconformance Memo

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

NCM #: **10-30695**
NCM Initiated By: Hooshang Rahavi
Date Opened: 04/30/2015
Date Closed: 04/30/2015

Classification: **Observation**
Status: **CLOSED**
Production Area: Classical Chemistry
Tests: None
Lot #'s (Sample #'s): J5D270454 (1),
QC Batches: None.,

Nonconformance: QA/QC Observation
Subcategory: Data accepted

Problem Description / Root Cause

Name	Date	Description
Hooshang Rahavi	04/30/2015	The following samples were above the Linear Range (LR) for Potassium, A 1:2 dilution were performed as specified by SOP; M6N3F1AK ('J1V687') M6N3F1AL ('J1V687')

Corrective Action

Name	Date	Corrective Action
Hooshang Rahavi	04/30/2015	

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note
	Response	Response Note			

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position

Date Printed: 4/30/2015

Page 1 of 1

Clouseau
Nonconformance Memo

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

NCM #: **10-30694**
NCM Initiated By: Hooshang Rahavi
Date Opened: 04/30/2015
Date Closed:

Classification: **Anomaly**
Status: **PMREVIEW**
Production Area: Classical Chemistry
Tests: 6010A
Lot #'s (Sample #'s): J5D270454 (1,2,3,4,5), J5D280000 (36),
QC Batches: 5118036,

Nonconformance: Other (describe in detail)
Subcategory: Other (explanation required)

Problem Description / Root Cause

Name	Date	Description
Hooshang Rahavi	04/30/2015	Leaching has to be between 21 and 25 degree, The room temperature failed for low temperature 16.9

Corrective Action

Name	Date	Corrective Action
Hooshang Rahavi	04/30/2015	Report data as is for client review.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note	Response	Response Note

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position

Date Printed: 4/30/2015