0092369

SAF-RC-176
ARRA Remaining Sites Confirmation Sampling – Other
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 11/30/10
INITIAL/DATE

COMMENTS:

SDG J00920 SAF-RC-176

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

Sample Location: 100-K-88 Surface Samples

RECEIVED
DEC 09 2010
EDMC

Analytical Data Package Prepared For

Washington Closure Hanford

RECEIVED
NOV 2010

Radiochemical Analysis By

TestAmerica

2800 G.W. Way, Richland Wa, 99354, (509)-375-3131

Assigned Laboratory Code: TARL

Data Package Contains 24 *Pages*

Report No.: 45229

Results in this report relate only to the sample(s) analyzed.

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
J00920	RC-176	J1B4T7	J0K100559-1	L9T3E1AA	9L9T3E10	0314336
		J1B4T8	J0K100559-2	L9T3K1AA	9L9T3K10	0314336
		J1B4T9	J0K100559-3	L9T3N1AA	9L9T3N10	0314336

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

TestAmerica Laboratories, Inc.

Washington Hanford Closure
2620 Fermi Avenue
Richland, WA 99354

November 29, 2010

Attention: Joan Kessner

SAF Number	:	RC-176
Date SDG Closed	:	November 10, 2010
Number of Samples	:	Three (3)
Sample Type	:	Other
SDG Number	:	J00920
Data Deliverable	:	15/15 Summary

CASE NARRATIVE

I. Introduction

On November 10, 2010 three samples were received at TestAmerica for chemistry analysis. Upon receipt, the samples were assigned the following laboratory ID number to correspond with the Washington Closure Hanford (WCH) specific ID:

WCH ID#	TARL ID#	MATRIX	DATE OF RECEIPT
J1B4T7	L9T3E	OTHER	11/10/10
J1B4T8	L9T3K	OTHER	11/10/10
J1B4T9	L9T3N	OTHER	11/10/10

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:

Chemical Analysis
Hexavalent Chromium by EPA method 7196A

IV. Quality Control

The analytical results for each analysis performed includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

V. Comments

Chemical Analysis
Hexavalent Chromium by EPA method 7196A:
Sample J1B4T7 had yellow masses which the analyst suspected was sulfur. After digestion the sample was turbid. The duplicate for this sample did not agree with the original sample result. This is possibly due to the inhomogeniety of the sample. The MS was also outside acceptance limits. Except as noted, the LCS, batch blank, sample, sample duplicate (J1B4T7) and sample matrix spike (J1B4T7) results are within contractual requirements.

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:

Sandra Seger
Project Manager

Drinking Water Method Cross References

	DRINKING WATER ASTM METHOD CROSS REFERENCES	
Referenced Method	**Isotope(s)**	**TestAmerica Richland's SOP No.**
EPA 901.1	Cs-134, I-131	RL-GAM-001
EPA 900.0	Alpha & Beta	RL-GPC-001
EPA 00-02	Gross Alpha (Coprecipitation)	RL-GPC-002
EPA 903.0	Total Alpha Radium (Ra-226)	RL-RA-002
EPA 903.1	Ra-226	RL-RA-001
EPA 904.0	Ra-228	RL-RA-001
EPA 905.0	Sr-89/90	RL-GPC-003
ASTM D5174	Uranium	RL-KPA-003
EPA 906.0	Tritium	RL-LSC-005

Results in this report relate only to the sample(s) analyzed.

Uncertainty Estimation

TestAmerica Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, R = constants * f(x,y,z,...). The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value (S/?n), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

Report Definitions

Action Lev	An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.
Batch	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
Bias	Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.
COC No	Chain of Custody Number assigned by the Client or TestAmerica.
Count Error (#s)	Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.
Total Uncert (#s) ***u_c - Combined Uncertainty.***	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, ***u_c the combined uncertainty.*** The uncertainty is absolute and in the same units as the result.
(#s), Coverage Factor	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
CRDL (RL)	Contractual Required Detection Limit as defined in the Client's Statement Of Work or TestAmerica "default" nominal detection limit. Often referred to the reporting level (RL)
Lc	Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. Lc=(1.645 * Sqrt(2*(BkgrndCnt/BkgrndCntMin)/SCntMin)) * (ConvFct/(Eff*Yld*Abn*Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero.
Lot-Sample No	The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.
MDC|MDA	Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. MDC = (4.65 * Sqrt((BkgrndCnt/BkgrndCntMin)/SCntMin) + 2.71/SCntMin) * (ConvFct/(Eff * Yld * Abn * Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability.
Primary Detector	The instrument identifier associated with the analysis of the sample aliquot.
Ratio U-234/U-238	The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.
Rst/MDC	Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Rst/TotUcert	Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Report DB No	Sample Identifier used by the report system. The number is based upon the first five digits of the **Work Order** Number.
RER	The equation Replicate Error Ratio = (S-D)/[sqrt($TPUs^2$ + $TPUd^2$)] as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the total uncertainty of the duplicate sample.
SDG	Sample Delivery Group Number assigned by the Client or assigned by TestAmerica upon sample receipt.
Sum Rpt Alpha Spec Rst(s)	The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.
Work Order	The LIMS software assign test specific identifier.
Yield	The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

Isotope	Richland SOP #	Old Richland SOP #	Method Reference	Title
Asbestos	RL-ASB-001	N/A	NIOSH 7400	Fiber Counting by Phase Contrast Microscopy based on NIOSH 7400
Asbestos	RL-ASB-002	N/A	NIOSH 9002	Sample Prep and Analysis for Asbestos (bulk) by Polarized Light Microscopy based on NIOSH 9002
Alpha - Gross	ARCHIVED	RICH-RB-5035	Liquid Scintillation Anal/ Packard	DETERMINATION OF GROSS ALPHA IN NASAL SMEARS BY LIQUID SCINTILLATION COUNTING
Alpha - Gross	RL-GPC-001	RICH-RC-5014	9310 / EPA SW846 900.0 / EPA 600	DETERMINATION OF GROSS ALPHA AND GROSS BETA IN WATER BY METHOD 9310
Alpha - Gross	RL-GPC-007	RICH-RC-5020	SM 7110B EPA 680	DETERMINATION OF GROSS ALPHA AND GROSS BETA IN SOIL, SHORELINE SOIL, FOOD AND VEGETATION
Alpha - Gross	RL-GPC-002	RICH-RC-5021	00-02 EPA 520	DETERMINATION OF GROSS ALPHA ACTIVITY IN WATER BY COPRECIPITATION
Alpha - Gross	RL-GPC-008	RICH-RC-5036	ER100 / LANL	PREPARATION OF AIR FILTERS FOR GROSS ALPHA/BETA AND COMPOSITING AIR FILTERS
Am	RL-ALP-003	RICH-RC-5072	Mod RP 725 / DOE0089T EXT Chromatography	SEPARATION OF AMERICIUM, CURIUM, AND URANIUM BY EXTRACTION CHROMATOGRAPHY
Am	RL-ALP-010	RICH-RC-5080	Am05/Pu11HASL 300 NAS-NS-3006	SEQUENTIAL SEPARATION OF PLUTONIUM AND AMERICIUM
Beta - Gross	RL-GPC-001	RICH-RC-5014	9310 / EPA SW846 900.0 / EPA 600	DETERMINATION OF GROSS ALPHA AND GROSS BETA IN WATER BY METHOD 9310
Beta - Gross	RL-GPC-007	RICH-RC-5020	SM 7110B EPA 680	DETERMINATION OF GROSS ALPHA AND GROSS BETA IN SOIL, SHORELINE SOIL, FOOD AND VEGETATION
Beta - Gross	RL-GPC-008	RICH-RC-5036	ER100 / LANL	PREPARATION OF AIR FILTERS FOR GROSS ALPHA/BETA AND COMPOSITING AIR FILTERS
C14	RL-LSC-001	RICH-RB-5013	Mod H-02 / EPA 520	TRITIUM, CARBON-14, NICKEL-63 OR PHOSPHORUS-32 ANALYSIS IN URINE
C14	RL-LSC-008	RICH-RC-5022	EPA C-01 / EPA 520	CARBON 14 BY DIGESTION METHOD
C14	RL-LSC-009	RICH-RC-5040	Mod C14 / EPA 680	DETERMINATION OF CARBON-14 BY BENZENE SYNTHESIS
C14	RL-LSC-010	RICH-RC-5046	EPA C-01 / EPA 520	DETERMINATION OF CARBON-14 IN GRAPHITE AND SOIL
C14	RL-LSC-011	RICH-RC-5047	Mod H-02 / EPA 520	DETERMINATION OF CARBON-14 IN WATER BY DIRECT COUNTING
Cm	RL-ALP-003	RICH-RC-5072	Mod RP 725 / DOE0089T EXT Chromatography	SEPARATION OF AMERICIUM, CURIUM, AND URANIUM BY EXTRACTION CHROMATOGRAPHY
Coliform	RL-WC-001	RICH-WC-5001	9222B	DETERMINATION OF TOTAL COLIFORM: MULTIPLE TUBE FERMENTATION TECHNIQUE
Coliform	RL-WC-002	RICH-WC-5002	9131	TOTAL COLIFORMS BY MEMBRANE FILTRATION
Coliform	RL-WC-005	RICH-WC-5007	9223	TOTAL COLIFORM BY THE COLILERT METHOD
Cr6+	RL-WC-003	RICH-WC-5003	7196A, SW846	DETERMINATION OF HEXAVALENT CHROMIUM [Cr(VI)] IN WATER, SOIL, AND SIMILAR MATRICES
Cr6+	RL-WC-004	RICH-WC-5005	3060 / SW846	DETERMINATION OF HEXAVALENT CHROMIUM (CrVI) IN SOLID MATRICES WITH ALKALINE DIGESTION
Fe	RL-LSC-015	RICH-RC-5074	EXT Chromatography ModFe55/PNL-ALO-435	SEPARATION OF IRON AND NICKEL BY EXTRACTION CHROMATOGRAPHY
Fe55	RL-LSC-016	RICH-RC-5025	R4-73-014 / EPA HASL 300	DETERMINATION OF IRON-55 AND IRON-59 IN WATER
Fe59	RL-LSC-016	RICH-RC-5025	R4-73-014 / EPA HASL 300	DETERMINATION OF IRON-55 AND IRON-59 IN WATER
Gamma	RL-GAM-001	RICH-RC-5017	901.0 / HASL 300 ASTM D5649	PREPARATION OF ALL MATRICES FOR ANALYSIS BY GAMMA SPECTROSCOPY
H3	RL-LSC-001	RICH-RB-5013	Mod H-02 / EPA 520	TRITIUM, CARBON-14, NICKEL-63 OR PHOSPHORUS-32 ANALYSIS IN URINE
H3	RL-LSC-003	RICH-RB-5034	7500-3 / SM	DETERMINATION OF TRITIUM IN URINE BY DISTILLATION
H3	RL-LSC-004	RICH-RC-5004	H5 / EPA LV539	DETERMINATION OF TRITIUM IN AIR
H3	RL-LSC-005	RICH-RC-5007	Mod 906.0 / EPA 600	SEPARATION OF TRITIUM IN WATER AND AQUEOUS COMPONENT OF WINE
H3	RL-LSC-007	RICH-RC-5024	H-3 by EE EPA LV539 / HASL 300	DETERMINATION OF LOW LEVEL TRITIUM IN WATER BY ELECTROLYTIC ENRICHMENT
H3	RL-LSC-002	RICH-RC-5037	H-3 in Water/Tissue / LV 539	DETERMINATION OF TRITIUM BY CRYOGENIC DISTILLATION
H3	RL-LSC-006	RICH-RC-5048	H-3 in Water/Tissue / LV 539	TRITIUM PREPARATION IN MILK SAMPLES
I129	RL-GAM-002	RICH-RC-5025	R4-73-0141/EPA ASTM D2334 (Discontinued)	DETERMINATION OF IODINE-131 AND 129 IN WATER BY SOLVENT EXTRACTION METHOD
I131	RL-GAM-002	RICH-RC-5025	R4-73-0141/EPA ASTM D2334 (Discontinued)	DETERMINATION OF IODINE-131 AND 129 IN WATER BY SOLVENT EXTRACTION METHOD
I131	ARCHIVED	RICH-RC-5049	HASL 300 (1983)	DETERMINATION OF IODINE-131 IN MILK BY BATCH ION-EXCHANGE
Metals	ARCHIVED	BHI-MT-0001	6010	ICP-AE SPECTROSCOPY, SPECTROMETRIC METHOD FOR TRACE ELEMENT ANALYSIS, METHOD 6010A FOR Bechtel
Metals	RL-MT-001	RICH-MT-0001	6010B	ICP-AES for TRACE ELEMENT ANALYSIS, METHOD 6010B

Isotope	Richland SOP #	Old Richland SOP #	Method Reference	Title
Metals	RL-MT-002	RICH-MT-0002	SW486 3050B	ACID DIGESTION FOR ICP ANALYSIS
Metals	RL-MT-003	RICH-MT-0003	NIOSH 7300	DIGESTION PREP based on METHOD NIOSH 7300
Ni	RL-LSC-015	RICH-RC-5074	EXT Chromatography ModFe55/PNL-ALO-435	SEPARATION OF IRON AND NICKEL BY EXTRACTION CHROMATOGRAPHY
Ni63	RL-LSC-001	RICH-RB-5013	Mod H-02 / EPA 520	TRITIUM, CARBON-14, NICKEL-63 OR PHOSPHORUS-32 ANALYSIS IN URINE
Ni63	RL-LSC-017	RICH-RC-5069	EXT Chromatography Mod RP300 / DOE0089T	SEPARATION OF NI-63 BY EXTRACTION CHROMATOGRAPHY
Np	RL-ALP-013	RICH-RC-5009	NAS-NS-3060	DETERMINATION OF NEPTUNIUM-237 BY LIQUID-LIQUID EXTRACTION IN ALL MATRICES
Np	RL-ALP-006	RICH-RC-5064	EXT Chromatography	SEPARATION OF NEPTUNIUM BY EXTRACTION CHROMATOGRAPHY
P32	RL-LSC-001	RICH-RB-5013	Mod H-02 / EPA 520	TRITIUM, CARBON-14, NICKEL-63 OR PHOSPHORUS-32 ANALYSIS IN URINE
Pb	RL-ALP-011	RICH-RC-5076	EXT Chromatography	DETERMINATION OF LEAD-210 BY EXTRACTION CHROMATOGRAPHY
Po	RL-ALP-007	RICH-RB-5001	NAS-NS-3037 HASL 300	DETERMINATION OF POLONIUM-210 IN URINE
Po	RL-ALP-012	RICH-RC-5012	Po-01 / HASL 300 Mod U01 HASL 300	SEPARATION OF ISOTOPIC URANIUM AND POLONIUM-210 IN WATER, SOIL AND FILTERS
Prep - Bioassay	ARCHIVED	RICH-RB-0001		PREPARATION FOR RAPID BIOASSAY ANALYSES
Prep - Bioassay	RL-PRP-001	RICH-RB-5002	Mod Pu06 / HASL 300	PREPARATION OF URINE AND BLOOD SAMPLES
Prep - Bioassay	ARCHIVED	RICH-RB-5004	ASTM D1429-95	DETERMINATION OF SPECIFIC GRAVITY OF URINE
Prep - Bioassay	RL-RPL-002	RICH-RB-5036	Pub 6490,6601 / PNL	PREPARATION OF SYNTHETIC URINE AND FECES USING RECIPES FROM HPS N13.30 PREFORMANCE TESTING
Prep - Bioassay	RL-PRP-002	RICH-RB-5037	LA-10300-M R200 ASTM D3865	PREPARATION OF FECAL SAMPLES USING HYDROFLUORIC ACID DIGESTION
Prep - Bioassay	RL-RPL-003	RICH-RC-5028	ICRP Publication 23	PREPARATION OF SYNTHETIC URINE AND FECES
Prep - Count	RL-ALP-016	RICH-RC-5003	G-03 / HASL 300	COPRECIPITATION OF SOME ACTINIDES ON NEODYMIUM FLUORIDE FOR ALPHA-PARTICLE SPECTROMETRY
Prep - Count	RL-ALP-015	RICH-RC-5009	G-03 / HASL 300 Anal Chem 1972	ELECTRODEPOSITION OF ACTINIDES
Prep - Count	RL-ALP-014	RICH-RC-5065	Morrison & Freiser NAS-NS-3050	ANHYDROUS ETHER EXTRACTION OF URANIUM
Prep - Env	RL-KPA-001	RICH-RC-5015	ASTM / D5174-97	ENVIRONMENTAL SAMPLE PREPARATION FOR URANIUM BY LASER-INDUCED PHOSPHORESCENCE
Prep - Env	RL-PRP-004	RICH-RC-5016	Sr02 / HASL 300	PREPARATION OF ENVIRONMENTAL MATRICES
Prep - Env	RL-PRP-007	RICH-RC-5045	Mod Pu02 / HASL 300	PREPARATION OF MIXED BED RESINS AND PRE-FILTERS
Prep - Env	RL-PRP-008	RICH-RC-5068	Mod ER100 / LA10300	PREPARATION OF SOIL, VEGETATION AND AIR FILTERS BY MIXED STRONG ACID LEACHING
Prep - Resin	RL-ALP-017	RICH-RC-5018	Mod Pu11 / Mod 300	ION-EXCHANGE PREPARATION
Prep - Soil	RL-PRP-003	RICH-RC-5013	Pu02A / HASL 300	PREPARATION OF SOIL SAMPLES
Prep - Soil	RL-PRP-005	RICH-RC-5019	D5259 / ASTM SW 846/3015/3051/3052	PREPARATION AND DISSOLUTION OF SEDIMENTS AND SOIL BY MICROWAVE BOMB DIGESTION
Prep - Soil	RL-PRP-006	RICH-RC-5032	Pu02A / HASL 300	COMPLETE DISSOLUTION BY MIXED ACIDS IN A TEFLON BEAKER
Prep - Soil	RL-PRP-009	RICH-RC-5077	Mod ER100 / LA10300	PREPARATION OF SMALL SOIL SAMPLES FOR GAMMA SPEC AND/OR RADIOCHEM ANAL BY ACID DIGESTION
Prep - Urine	RL-PRP-010	RICH-RC-5086	AnalyticaChemActa1992 RP800 / DOE0089T	URINE AND WATER SAMPLE PREPARATION BY CALCIUM PHOSPHATE PRECIPITATION
Prep - Water	RL-PRP-010	RICH-RC-5086	AnalyticaChemActa1992 RP800 / DOE0089T	URINE AND WATER SAMPLE PREPARATION BY CALCIUM PHOSPHATE PRECIPITATION
Pu	ARCHIVED	RICH-RB-5015	Pu11 / HASL 300	RAPID DETERMINATION OF PLUTONIUM IN FECES
Pu	RL-ALP-002	RICH-RC-5010	Pu11 / HASL 300	DETERMINATION OF ISOTOPIC PLUTONIUM IN ALL MATRICES
Pu	RL-ALP-010	RICH-RC-5080	Am03 HASL 300 Pu11 / HASL 300	SEQUENTIAL SEPARATION OF PLUTONIUM AND AMERICIUM
Pu	RL-ALP-001	RICH-RC-5087	AnalyticaChemActa1992 RP800 / DOE0089T	DETERMINATION OF PLUTONIUM BY EXTRACTION CHROMATOGRAPHY
Ra	RL-RA-001	RICH-RC-5005	903.1 / EPA 600	RADIUM-226 AND RADIUM-228 SEPARATION IN RADIOCHEMICAL MATRICES - ADAPTED FROM EPA 903.1 AND 904.0
Ra	RL-RA-001	RICH-RC-5005	904.0 / EPA 600	RADIUM-226 AND RADIUM-228 SEPARATION IN RADIOCHEMICAL MATRICES - ADAPTED FROM EPA 903.1 AND 904.0
Ra	RL-RA-002	RICH-RC-5027	Mod D2460/ ASTM 903.0 / EPA 600	DETERMINATION OF TOTAL RADIUM
Rn	RL-LSC-019	RICH-RC-5082	913.0 / EPA	DETERMINATION OF RADON-222 - ADAPTED FROM METHOD 913.0

Isotope	Richland SOP #	Old Richland SOP #	Method Reference	Title
S35	ARCHIVED	RICH-RB-5020	Hillebrand, Lundell, Bright, Hoffman 1953	DETERMINATION OF SULFUR-35 IN URINE
Se79	RL-LSC-012	RICH-RC-5043	Selenium / NAS-NS-3030	RADIOCHEMICAL DETERMINATION OF SELENIUM-79
Solubility	ARCHIVED	RICH-RC-5035	Kalfward&Thomas PNL3716	DETERMINATION OF SOLUBILITY OF RADIOACTIVE PARTICLE CONSTITUENTS
Sr	RL-GPC-005	RICH-RB-5007	Mod Sr02 / HASL 300 Mod 905.0 / EPA 600	DETERMINATION OF TOTAL STRONTIUM IN URINE
Sr	RL-GPC-006	RICH-RB-5021	Mod Sr02 / HASL300 Mod 905.0 / EPA 600	DETERMINATION OF STRONTIUM IN FECES
Sr	ARCHIVED	RICH-RB-5022	Mod Sr02 / HASL300 Mod 905.0 / EPA 600	DETERMINATION OF TOTAL STRONTIUM IN URINE FOR RAPID ANALYSIS
Sr	ARCHIVED	RICH-RB-5031	Mod Sr02 / HASL300 Mod 905.0 / EPA 600	RAPID DETERMINATION OF TOTAL STRONTIUM IN FECES
Sr	RL-GPC-003	RICH-RC-5006	Mod Sr02 / HASL300 Mod 905.0 / EPA 600	STRONTIUM SEPARATION IN ENVIROMENTAL MATRICES
Sr - Yt	RL-GPC-004	RICH-RC-5071	Mod Sr02 / HASL300 Mod 905.0 / EPA 600	YTTRIUM-90 SEPARATION FOR STRONTIUM-90 DETERMINATION IN ALL MATRICES
Tc	RL-LSC-014	RICH-RC-5065	EXT Chromatography Mod RF550 / DOE0089T	DETERMINATION OF TECHNETIUM-99 BY EXTRACTION CHROMATOGRAPHY
Tc	RL-LSC-015	RICH-RC-5078	Tc01 / HASL 300	SEPARATION OF TECHNETIUM-99 IN ALL MATRICES
Th	RL-ALP-008	RICH-RB-5006	Mod Th01 / HASL 300	SEPARATION OF THORIUM FROM URINE AND FECAL SAMPLES
Th	RL-ALP-005	RICH-RC-5084	Mod Th01 / HASL 300 Anal Chim Acta 1982	DETERMINATION OF THORIUM ISOTOPIC IN ENVIRONMENTAL MATRICES
U	RL-ALP-012	RICH-RC-5012	Po-01 / HASL 300 Mod U01 / HASL 300	SEPARATION OF ISOTOPIC URANIUM AND POLONIUM-210 IN WATER, SOIL AND FILTERS
U	RL-KPA-002	RICH-RC-5031	Mod U01 / HASL 300	SEPARATION OF TOTAL URANIUM IN WATER AND URINE
U	RL-KPA-005	RICH-RC-5058	DS174 / ASTM	DETERMINATION OF URANIUM BY PHOSPHORESCENCE ANALYSIS
U	RL-ALP-004	RICH-RC-5067	EXT Chromatography Mod RF725 / DOE0089T	SEPARATION OF URANIUM BY EXTRACTION CHROMATOGRAPHY
U	RL-ALP-003	RICH-RC-5072	EXT Chrom Mod RF725 & 800 / DOE0089T	SEPARATION OF AMERICIUM, CURIUM, AND URANIUM BY EXTRACTION CHROMATOGRAPHY
U	RL-ALP-009	RICH-RC-5079	EXT Chromatography Mod RF725 / DOE0089T	DETERMINATION OF ISOTOPIC URANIUM IN ALL MATRICES

Sample Results Summary

Date: 24-Nov-10

TestAmerica TARL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 45229

SDG No: J00920

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
0314336	7196_CR6								
J1B4T7									
	L9T3E1AA	HEXCHROME	1.54E-01 +- 0.0E+00	U	mg/kg	N/A	1.54E-01	1.55E-01	
	L9T3E1AD	HEXCHROME	1.44E-01 +- 0.0E+00	U	mg/kg	N/A	1.44E-01	3.50E-01	6.7
J1B4T8									
	L9T3K1AA	HEXCHROME	1.53E-01 +- 0.0E+00	U	mg/kg	N/A	1.53E-01	1.55E-01	
J1B4T9									
	L9T3N1AA	HEXCHROME	1.53E-01 +- 0.0E+00	U	mg/kg	N/A	1.53E-01	1.55E-01	

No. of Results: 4

RPD - Relative Percent Difference.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda, Total Uncert,CRDL, or not identified by gamma scan software.

QC Results Summary

Date: 24-Nov-10

TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 45229

SDG No.: J00920

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC|MDA
7196_CR6								
0314336 BLANK QC,								
L9T4J1AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A			1.55E-01
0314336 LCS,								
L9T4J1AC	HEXCHROME	1.90E+01 +- 0.0E+00		mg/kg	N/A	95%	0.0	1.55E-01
0314336 MATRIX SPIKE, J1B4T7								
L9T3E1AC	HEXCHROME	3.22E+00 +- 0.0E+00		mg/kg	N/A	30%	-0.7	1.54E-01

No. of Results: 3

FORM I

SAMPLE RESULTS

Date: 24-Nov-10

TestAmerica

Lab Name:	TestAmerica	**SDG:**	J00920	**Collection Date:**	11/10/2010 9:55:00 AM
Lot-Sample No.:	J0K100559-1	**Report No. :**	45229	**Received Date:**	11/10/2010 12:10:00 PM
Client Sample ID:	J1B4T7	**COC No. :**	RC-176-001	**Matrix:**	OTHER OTHERSOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 0314336	7196_CR6			**Work Order:** L9T3E1AA			**Report DB ID:** 9L9T3E10					
HEXCHROME	***1.54E-01***	U		0.0E+00	1.54E-01	mg/kg	N/A 1.55E-01	*(1.)* *N/A*	11/10/10 02:15 p		2.5078 g	

No. of Results: 1 **Comments:**

TestAmerica
rptSTLRchSample
V5.2.9 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda, Total Uncert,CRDL, or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 24-Nov-10

TestAmerica

Lab Name:	TestAmerica	SDG:	J00920	Collection Date:	11/10/2010 10:05:00 AM
Lot-Sample No.:	J0K100559-2	Report No. :	45229	Received Date:	11/10/2010 12:10:00 PM
Client Sample ID:	J1B4T8	COC No. :	RC-176-001	Matrix:	OTHER OTHERSOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 0314336	7196_CR6			Work Order: L9T3K1AA			Report DB ID: 9L9T3K10					
HEXCHROME	***1.53E-01***	U		0.0E+00	1.53E-01	mg/kg	N/A	*(1.)*	11/10/10 02:15 p		2.5254	
							1.55E-01	*N/A*			g	

No. of Results: 1 Comments:

TestAmerica
rptSTLRchSample
V5.2.9 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda, Total Uncert,CRDL, or not identified by gamma scan software.

TestAmerica

FORM I

SAMPLE RESULTS

Date: 24-Nov-10

Lab Name:	TestAmerica	SDG:	J00920	Collection Date:	11/10/2010 10:05:00 AM
Lot-Sample No.:	J0K100559-3	Report No. :	45229	Received Date:	11/10/2010 12:10:00 PM
Client Sample ID:	J1B4T9	COC No. :	RC-176-001	Matrix:	OTHER OTHERSOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 0314336	7196_CR6			Work Order: L9T3N1AA			Report DB ID: 9L9T3N10					
HEXCHROME	*1.53E-01*	U		0.0E+00	1.53E-01	mg/kg	N/A	*(1.)*	11/10/10 02:15 p		2.5237	
							1.55E-01	*N/A*			g	

No. of Results: 1 Comments:

TestAmerica
rptSTLRchSample
V5.2.9 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda, Total Uncert,CRDL, or not identified by gamma scan software.

FORM II

Date: 24-Nov-10

DUPLICATE RESULTS

TestAmerica

Lab Name:	TestAmerica	SDG:	J00920	Collection Date:	11/10/2010 9:55:00 AM
Lot-Sample No.:	J0K100559-1	Report No. :	45229	Received Date:	11/10/2010 12:10:00 PM
Client Sample ID:	J1B4T7	COC No. :	RC-176-001	Matrix:	OTHER OTHERSOLID

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 0314336	7196_CR6			Work Order: L9T3E1AD		Report DB ID: L9T3E1AD			Orig Sa DB ID: 9L9T3E10			
HEXCHROME	1.44E-01	U		0.0E+00	1.44E-01	mg/kg	N/A	(1.)	11/10/10 02:15 p		2.6913	
	1.54E-01	U	RPD 6.7			3.50E-01		N/A			g	

No. of Results: 1 Comments:

TestAmerica
rptSTLRchDupV5.2.9 A2002

RPD - Relative Percent Difference.
MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda, Total Uncert,CRDL, or not identified by gamma scan software.

TestAmerica

FORM II

BLANK RESULTS

Date: 24-Nov-10

Lab Name: TestAmerica

Matrix: OTHER

SDG: J00920

Report No. : 45229

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 0314336	7196_CR6			**Work Order:**	L9T4J1AA		**Report DB ID:**	L9T4J1AA				
HEXCHROME	1.55E-01	U		0.0E+00	1.55E-01	mg/kg	N/A	1.	11/10/10 02:15 p		2.5	
						1.55E-01		N/A			g	

No. of Results: 1 **Comments:**

TestAmerica
rptSTLRchBlank
V5.2.9 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda, Total Uncert,CRDL, or not identified by gamma scan software.

FORM II

LCS RESULTS

Date: 24-Nov-10

TestAmerica

Lab Name: TestAmerica

Matrix: OTHER

SDG: J00920

Report No. : 45229

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 0314336	7196_CR6			Work Order:	L9T4J1AC		Report DB ID:	L9T4J1AC					
HEXCHROME	1.90E+01			0.0E+00	1.55E-01	mg/kg	N/A	2.00E+01		95%	11/10/10 02:15 p	2.5	
							Rec Limits:	80	120	0.0		g	

No. of Results: 1 Comments:

TestAmerica Bias - (Result/Expected)-1 as defined by ANSI N13.30.

rptSTLRchLcs
V5.2.9 A2002

FORM II

Date: 24-Nov-10

MATRIX SPIKE RESULTS

TestAmerica

Lab Name: TestAmerica **SDG:** J00920

Lot-Sample No.: J0K100559-1, J1B4T7 **Report No. :** 45229 **Matrix:** OTHER OTHERSOLID

Parameter	SpikeResult, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Rpt Unit, CRDL	Yield	Rec-overy	Expected, Uncert	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 0314336	Work Order: L9T3E1AC			Report DB ID: L9T3E1AC			Orig Sa DB ID: 9L9T3E10					
HEXCHROME	3.22E+00			0.0E+00	1.54E-01	mg/kg	N/A	30.45%	1.06E+01	11/10/10 02:15 p	2.5104	7196_CR6
	1.54E-01										g	

Number of Results: 1

Comments:

TestAmerica
rptSTLRchMs
V5.2.9 A2002

RER - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.
Bias - (Result/Expected)-1 as defined by ANSI N13.30.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Richland Laboratory
Data Review Check List
Hexavalent Chromium

Batch Number(s): 0314336

Lab Sample Numbers or SDG: ~~JP00920~~ JD0920 SKS 11/17/10

Method/Test/Parameter: Cr+6 in SOLID / RL-WC-004

Review Item	Yes (✓)	No (✓)	N/A (✓)	2nd Level Review (✓)
A. Initial Calibration				
1. Performed at required frequency with required number of levels?	✓			✓
2. Correlation coefficient within QC limits?	✓			✓
3. Initial calibration verification (ICV) analyzed immediately after calibration and results within QC limits?	✓			✓
4. Initial calibration blank (ICB) analyzed immediately after ICV and concentrations of all parameters ≤ reporting limit?	✓			✓
B. Continuing Calibration				
1. CCV analyzed at required frequency and all parameters within QC limits?	✓			✓
2. CCB analyzed at required frequency and all results ≤ reporting limit?	✓			✓
C. Sample Analysis				
1. Were any samples with concentrations above the linear range for any parameter diluted and reanalyzed?			✓	✓
2. Were all sample holding times met?	✓			✓
D. QC Samples				
1. All results for the preparation blank below limits?	✓			✓
2. MS or MS/MSD recoveries within QC limits and %RPD (for MSD) acceptable?		✓		✓
3. LCS percent recovery within QC limits and %RPD (for LCSD) acceptable?	✓			✓
4. Analytical spikes within QC limits where applicable?	✓			✓
5. ICP only: One serial dilution performed per SDG?			✓	✓
6. ICP only: CRDL standard (CRI or CRA) analyzed at required frequency?			✓	✓
7. ICP only: Interference check samples (ICSA, ICSAB) and HICAL analyzed at the required frequencies and within QC limits?			✓	✓

Review Item	Yes (✓)	No (✓)	N/A (✓)	2nd Level Review (✓)
E. Other	✓			
1. Are all nonconformances included and noted?				✓
2. Is the correct date and time of analysis shown?	✓			✓
3. Did the analyst sign and date the front page of the analytical run?	✓			✓
4. Correct methodology used?	✓			✓
5. Transcriptions checked?	✓			✓
6. Calculations checked at minimum frequency?	✓			✓
7. Units checked?	✓			✓

Comments on any "No" response: Sample #1 (L9T3E) had yellow rocks (I suspect sulfur) in it- so after it was digested it had an odor. Also it was very turbid after being digested. The color blank absorbance for it was high but still within the calibration curve. What was peculiar was the duplicate's results did not match the original samples' results. This may be due to a non-homogenous sample being taken when the duplicate was aliquoted. The MS % recovery was not within range so a PDMS was performed using the original sample. See the NCM report for more information.

Analyst: _____ Date: 11/11/2010

Second-Level Review: _____ Date: 11/17/10

Clouseau
Nonconformance Memo

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

NCM #: 10-16937
NCM Initiated By: Dawn Lucas
Date Opened: 11/12/2010
Date Closed:

Classification: **Anomaly**
Status: **PMREVIEW**
Production Area: Classical Chemistry
Tests: 7196A
Lot #'s (Sample #'s): J0K100000 (336), J0K100559 (1,2,3),
QC Batches: 0314336,

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

Problem Description / Root Cause

Name	Date	Description
Dawn Lucas	11/12/2010	The raw sample (L9T3E) had yellow rocks in it (I suspect Sulfur). After it was digested it turned very turbid and had an odor. The color blank absorbance was high but still within limits of the calibration curve. What was peculiar was the duplicate's restults did not match the original sample's results. This may be due to a non-homogenous sample being aliquoted. The MS % recovery was not within range so a PDMS was performed using the original sample. The end result was -95.891%.

Corrective Action

Name	Date	Corrective Action
Dawn Lucas	11/12/2010	N/A

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

TestAmerica

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-176-001	Page 1 of 1

Collector: WT Smith	Company Contact: Joan Kessner	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 9GC TRE 11/10/10	Data Turnaround: 15 Days		
Project Designation: ARRA Remaining Sites Confirmation Sampling - Other	Sampling Location: 100-K-88 Surface Samples		SAF No.: RC-176
Ice Chest No.: NA	Field Logbook No.:	COA: S10K88A000	Method of Shipment: Hand Deliver
Shipped To: TestAmerica Incorporated, Richland	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA

POSSIBLE SAMPLE HAZARDS/REMARKS

None JTD 11/10/10

Special Handling and/or Storage

Cool 4° TRE 11/10/10

J0K100559

Preservation	None	Cool 4C	Cool 4C	Cool 4C	None
Type of Container	aG	aG	aG	aG	P
No. of Container(s)	1	1	1	1	1
Volume	60mL	60mL	60mL	60mL	500mL
SAMPLE ANALYSIS	See item (1) in Special Instructions	Chromium Hex - 7196	VOA - 8260A (TCL)	PCBs - 8082	See item (2) in Special Instructions

Sample No.	Matrix *	Sample Date	Sample Time									
J1B4T7	OTHER	11/10/10	0955	✓	✓		✓	L9T3E				SS-A
J1B4T8	OTHER	11/10/10	1005	✓	✓		✓	L9T3K				SS-B
J1B4T9	OTHER	11/10/10	1005	✓	✓		✓	L9T3N				D

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Whitney Smith	1040 11/10/10	JTDeBruin	1040 11/10/10
JTDeBruin	1100 11/10/10	TRElsmundson	1100 11/10/10
TRElsmundson	1210 11/10/10	TRLR	1210 11/10/10

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)
(2) Gamma Spec (Client List) {Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gross Alpha & Gross Beta

DUL- 11/25/10
J0K100559
SDG100920

REVIEWED BY JEB DATE 11-10-10

Matrix *
S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
Ti=Tissue
Wi=Wipe
Li=Liquid
Ve=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 11.10.10@1210 GM Screen Result (out) .3 (in) .4 Initials [✓]

Client: WCH SDG #: J00920 NA [ ] SAF #: RC-176-001 NA [ ]

Work Order Number: JOK100559 Chain of Custody # RC-176-001

Shipping Container ID: _____ NA [✓] Air Bill # _____ NA [✓]

Item 1 through 5 for shipping container only. Initial appropriate response.

1. Custody Seals on shipping container intact? Yes [✓] No [ ] No Custody Seal [ ]
2. Custody Seals dated and signed? Yes [✓] No [ ] No Custody Seal [ ]
3. Chain of Custody record present? Yes [✓] No [ ]
4. Cooler temperature: 0.0 °C NA [ ] 5.Vermiculite/packing materials is NA [ ] Wet [ ] Dry [✓]

Item 6 through 10 for samples. Initial appropriate response.

6. Number of samples in shipping container (Each sample may contain multiple bottles): 3
7. Sample holding times exceeded? NA [ ] Yes [ ] No [✓]
8. Samples have:
   ✓ tape
   ✓ custody seals
   ✓ hazard labels
   ✓ appropriate sample labels
   JOK100559
9. Samples:
   ✓ are in good condition (Other Hex-Tag)
   ____ are broken
   ____ are leaking
   ____ have air bubbles (Only for samples requiring no head space)
10. Sample pH appropriate for analysis requested Yes [ ] No [ ] N/A [✓] (Note discrepancies in #13)
    (If acidification necessary, then document sample ID, initial pH, amount of HNO_3 added and pH after addition)

    RPL ID # of preservative used : _____
11. Sample Location, Sample Collector Listed? * Yes [✓] No [ ]
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [✓]
13. Description of anomalies (include sample numbers): NA [✓]

See other side for additional comments

Sample Custodian: [signature] Date: 11.10.10@1210 TAL

Client Informed on _____ by _____ Person contacted _____

[✓] No action necessary; process as is

Project Manager [signature] Date 11/11/10

11/10/2010 3:40:33 PM

Sample Preparation/Analysis

127642, Washington Closure Hanford LLC
Bechtel Hanford, Inc.

DW Alkaline Digestion by method 3060A
EA Chromium, Hexavalent (7196A)
5I CLIENT: HANFORD

AnalyDueDate: 11/25/2010

Balance Id:
Pipet #:
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech:

Batch: 0314336 OTHER mg/kg PM, Quote: SS , 27038
SEQ Batch, Test: None

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 L9T3E-1-AA J0K100559-1-SAMP 11/10/2010 09:55		AmtRec: 1XJAR60MLG	#Containers: 1					Scr:	Alpha:	Beta:
2 L9T3E-1-AC-S J0K100559-1-MS 11/10/2010 09:55		AmtRec: 1XJAR60MLG	#Containers: 1					Scr:	Alpha:	Beta:
3 L9T3E-1-AD-X J0K100559-1-DUP 11/10/2010 09:55		AmtRec: 1XJAR60MLG	#Containers: 1					Scr:	Alpha:	Beta:
4 L9T3K-1-AA J0K100559-2-SAMP 11/10/2010 10:05		AmtRec: 1XJAR60MLG	#Containers: 1					Scr:	Alpha:	Beta:
5 L9T3N-1-AA J0K100559-3-SAMP 11/10/2010 10:05		AmtRec: 1XJAR60MLG	#Containers: 1					Scr:	Alpha:	Beta:
6 L9T4J-1-AA-B J0K100000-336-BLK 11/10/2010 15:40 pd		AmtRec:	#Containers: 1					Scr:	Alpha:	Beta:
7 L9T4J-1-AC-C J0K100000-336-LCS 11/10/2010 15:40 pd		AmtRec:	#Containers: 1					Scr:	Alpha:	Beta:

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11/10/2010 3:40:34 PM

Sample Preparation/Analysis

DW Alkaline Digestion by method 3060A
EA Chromium, Hexavalent (7196A)
5I CLIENT: HANFORD

Balance Id:

Pipet #: _____

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech:

AnalyDueDate: 11/25/2010

Batch: 0314336 mg/kg

SubBatch, Test: None

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:

Comments:

All Clients for Batch:
127642, Washington Closure Hanford LLC Bechtel Hanford, Inc. , SS , 27038

L9T3E1AA-SAMP Constituent List:

L9T3E1AC-MS Constituent List:

L9T4J1AA-BLK:

L9T4J1AC-LCS:

L9T3E1AA-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
L9T3E1AC-MS Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
L9T4J1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
L9T4J1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

RECEIVED NOV 2010

Job Number: 280-9727-1

SDG Number: J00920

Job Description: SAF# RC-176

For:
Washington Closure Hanford
2620 Fermi Avenue
Richland, WA 99354

Attention: Joan H Kessner

Approved for release.
Kae E Yoder
Project Manager II
11/29/2010 2:40 PM

Kae E Yoder
Project Manager II
kae.yoder@testamericainc.com

11/29/2010

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is E87667.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

TestAmerica Laboratories, Inc.
TestAmerica Denver 4955 Yarrow Street, Arvada, CO 80002
Tel (303) 736-0100 Fax (303) 431-7171 www.testamericainc.com

ACCREDITED IN ACCORDANCE WITH nela

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CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-9727-1

SDG #: J00920
SAF#: RC-176

Date SDG Closed: November 12, 2010
Data Deliverable: 15 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1B4T7	280-9727-1	6010/7471/8082	6010B/7471A/8082
J1B4T8	280-9727-2	6010/7471/8082	6010B/7471A/8082
J1B4T9	280-9727-3	6010/7471/8082	6010B/7471A/8082

I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed in this Case Narrative. 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 signature on the Report Cover.

With exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. All laboratory quality control samples analyzed in conjunction with the samples in this project were within established control limits, with any exceptions noted. Calculations are performed before rounding to avoid round-off errors in calculated results.

This report includes reporting limits (RLs) less than TestAmerica Denver's practical quantitation limits. These reporting limits are being used specifically at the client's request to meet the needs of this project. Please note that data are not normally reported to these levels without qualification, since they are inherently less reliable and potentially less defensible than required by the current NELAC standards.

The results, RLs and MDLs included in this report have been adjusted for dry weight, as appropriate.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 11/12/2010; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 1.6 C, 1.8 C and 2.0 C.

GC SEMIVOLATILES - SW846 8082 - PCBs
No anomalies were encountered.

TOTAL METALS - SW846 6010B/7471A
Serial dilution of a digestate in batch 280-41030 indicates that physical and chemical interferences are present for Calcium and Zinc. Results have been flagged with an "L".

Low levels of Aluminum, Barium, Calcium and Magnesium are present in the method blank associated with batch 280-41030. Because the concentrations in the method blank are not present at levels greater than the reporting limits, corrective action is deemed unnecessary. Associated sample results present above the MDL and/or RL have been flagged with a "J".

It can be noted that the sample amount was greater than four times the spike amount for Aluminum, Calcium, Iron, and Manganese in the Matrix Spike performed on sample J1B4T9; therefore, control limits are not applicable.

The duplicate analysis of sample J1B4T9 exhibited RPD data outside the control limits for Arsenic, Barium, Chromium, Molybdenum and Silicon, and the associated sample results have been flagged "M". There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

DATA REPORTING QUALIFIERS

Client: Washington Closure Hanford

Job Number: 280-9727-1
Sdg Number: J00920

Lab Section	Qualifier	Description
GC Semi VOA		
	U	Analyzed for but not detected.
Metals		
	U	Analyzed for but not detected.
	B	Estimated result. Result is less than the RL, but greater than MDL
	J	Method blank contamination. The assoicated method blank contains the target analyte at a reportable level.
	4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
	M	Sample duplicate precision not met.
	L	Serial dilution in the analytical batch indicates that physical and chemical interferences are present.

METHOD SUMMARY

Client: Washington Closure Hanford

Job Number: 280-9727-1
Sdg Number: J00920

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Polychlorinated Biphenyls (PCBs) by Gas Chromatography	TAL DEN	SW846 8082	
Ultrasonic Extraction	TAL DEN		SW846 3550C
Metals (ICP)	TAL DEN	SW846 6010B	
Preparation, Metals	TAL DEN		SW846 3050B
Mercury (CVAA)	TAL DEN	SW846 7471A	
Preparation, Mercury	TAL DEN		SW846 7471A
ASTM D-2216	TAL DEN	ASTM D-2216	

Lab References:

TAL DEN = TestAmerica Denver

Method References:

ASTM = ASTM International

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Washington Closure Hanford

Job Number: 280-9727-1
Sdg Number: J00920

Method	Analyst	Analyst ID
SW846 8082	Pavlakovich, Adam M	AMP
SW846 6010B	Bowen, Heidi E	HEB
SW846 7471A	Stoltz, Katie	KS
ASTM D-2216	Berry III, Paul B	PBB

SAMPLE SUMMARY

Client: Washington Closure Hanford

Job Number: 280-9727-1
Sdg Number: J00920

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-9727-1	J1B4T7	Solid	11/10/2010 0955	11/12/2010 0900
280-9727-2	J1B4T8	Solid	11/10/2010 1005	11/12/2010 0900
280-9727-3	J1B4T9	Solid	11/10/2010 1005	11/12/2010 0900

SAMPLE RESULTS

Client: Washington Closure Hanford

Job Number: 280-9727-1
Sdg Number: J00920

Client Sample ID: **J1B4T7**

Lab Sample ID: 280-9727-1
Client Matrix: Solid
% Moisture: 3.9

Date Sampled: 11/10/2010 0955
Date Received: 11/12/2010 0900

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 280-42165		Instrument ID:	GCS_W
Preparation:	3550C	Prep Batch: 280-41001		Initial Weight/Volume:	31.1 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Date Analyzed:	11/18/2010 1609			Injection Volume:	1 uL
Date Prepared:	11/15/2010 2307			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		2.8	U	2.8	10
Aroclor 1221		8.0	U	8.0	17
Aroclor 1232		2.0	U	2.0	10
Aroclor 1242		4.7	U	4.7	10
Aroclor 1248		4.7	U	4.7	10
Aroclor 1254		2.6	U	2.6	10
Aroclor 1260		2.6	U	2.6	10

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	65		59 - 130
Tetrachloro-m-xylene	56		53 - 128

Client: Washington Closure Hanford

Job Number: 280-9727-1
Sdg Number: J00920

Client Sample ID: **J1B4T8**

Lab Sample ID: 280-9727-2
Client Matrix: Solid
% Moisture: 17.2

Date Sampled: 11/10/2010 1005
Date Received: 11/12/2010 0900

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 280-42165		Instrument ID:	GCS_W
Preparation:	3550C	Prep Batch: 280-41001		Initial Weight/Volume:	30.5 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Date Analyzed:	11/18/2010 0103			Injection Volume:	1 uL
Date Prepared:	11/15/2010 2307			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		3.3	U	3.3	12
Aroclor 1221		9.5	U	9.5	20
Aroclor 1232		2.4	U	2.4	12
Aroclor 1242		5.5	U	5.5	12
Aroclor 1248		5.5	U	5.5	12
Aroclor 1254		3.1	U	3.1	12
Aroclor 1260		3.1	U	3.1	12

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	71		59 - 130
Tetrachloro-m-xylene	82		53 - 128

Client: Washington Closure Hanford

Job Number: 280-9727-1
Sdg Number: J00920

Client Sample ID: **J1B4T9**

Lab Sample ID: 280-9727-3
Client Matrix: Solid
% Moisture: 20.2

Date Sampled: 11/10/2010 1005
Date Received: 11/12/2010 0900

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 280-42165		Instrument ID:	GCS_W
Preparation:	3550C	Prep Batch: 280-41001		Initial Weight/Volume:	30.5 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Date Analyzed:	11/18/2010 0310			Injection Volume:	1 uL
Date Prepared:	11/15/2010 2307			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		3.4	U	3.4	12
Aroclor 1221		9.9	U	9.9	20
Aroclor 1232		2.5	U	2.5	12
Aroclor 1242		5.7	U	5.7	12
Aroclor 1248		5.7	U	5.7	12
Aroclor 1254		3.2	U	3.2	12
Aroclor 1260		3.2	U	3.2	12

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	64		59 - 130
Tetrachloro-m-xylene	82		53 - 128

Client: Washington Closure Hanford

Job Number: 280-9727-1
Sdg Number: J00920

Client Sample ID: **J1B4T7**

Lab Sample ID: 280-9727-1
Client Matrix: Solid
% Moisture: 3.9

Date Sampled: 11/10/2010 0955
Date Received: 11/12/2010 0900

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 11/19/2010 1917
Date Prepared: 11/19/2010 0800

Analysis Batch: 280-42187
Prep Batch: 280-41030

Instrument ID: MT_026
Lab File ID: 26a111910.asc
Initial Weight/Volume: 1.08 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		2190	J	1.5	4.8
Antimony		0.37	U	0.37	0.58
Arsenic		1.0		0.64	0.96
Barium		42.7	J	0.073	0.48
Beryllium		0.037	B	0.032	0.19
Boron		1.6	B	0.94	1.9
Cadmium		0.039	U	0.039	0.19
Calcium		1010	J L	13.6	48.2
Chromium		3.6		0.056	0.19
Cobalt		1.7		0.096	0.96
Copper		7.7		0.21	0.96
Iron		12400		3.7	4.8
Lead		11.1		0.26	0.48
Magnesium		742	J	3.6	19.3
Manganese		59.4		0.096	0.96
Molybdenum		0.46	B	0.25	1.9
Nickel		2.5	B	0.12	3.9
Potassium		1080		39.5	289
Selenium		1.2		0.83	0.96
Silver		0.15	U	0.15	0.19
Sodium		159		56.8	116
Vanadium		24.1		0.091	1.9
Zinc		14.8	L	0.38	0.96

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 11/22/2010 1423
Date Prepared: 11/19/2010 0800

Analysis Batch: 280-42390
Prep Batch: 280-41030

Instrument ID: MT_026
Lab File ID: 26a112210.asc
Initial Weight/Volume: 1.08 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Silicon		205		2.0	9.6

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 11/18/2010 1402
Date Prepared: 11/18/2010 0900

Analysis Batch: 280-41892
Prep Batch: 280-40981

Instrument ID: MT_033
Lab File ID: 101118AA.txt
Initial Weight/Volume: 0.66 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0052	U	0.0052	0.016

Client: Washington Closure Hanford

Job Number: 280-9727-1
Sdg Number: J00920

Client Sample ID: **J1B4T8**

Lab Sample ID: 280-9727-2
Client Matrix: Solid
% Moisture: 17.2

Date Sampled: 11/10/2010 1005
Date Received: 11/12/2010 0900

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 11/19/2010 1919
Date Prepared: 11/19/2010 0800

Analysis Batch: 280-42187
Prep Batch: 280-41030

Instrument ID: MT_026
Lab File ID: 26a111910.asc
Initial Weight/Volume: 1.07 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		7880	J	1.8	5.6
Antimony		0.77		0.43	0.68
Arsenic		6.0		0.75	1.1
Barium		80.7	J	0.086	0.56
Beryllium		0.21	B	0.037	0.23
Boron		7.4		1.1	2.3
Cadmium		0.046	U	0.046	0.23
Calcium		103000	J L	15.9	56.5
Chromium		11.3		0.065	0.23
Cobalt		4.4		0.11	1.1
Copper		15.4		0.25	1.1
Iron		13400		4.3	5.6
Lead		8.1		0.30	0.56
Magnesium		25200	J	4.2	22.6
Manganese		258		0.11	1.1
Molybdenum		0.44	B	0.29	2.3
Nickel		10.3		0.14	4.5
Potassium		1400		46.3	339
Selenium		0.97	U	0.97	1.1
Silver		0.18	U	0.18	0.23
Sodium		285		66.6	136
Vanadium		33.6		0.11	2.3
Zinc		47.6	L	0.45	1.1

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 11/22/2010 1425
Date Prepared: 11/19/2010 0800

Analysis Batch: 280-42390
Prep Batch: 280-41030

Instrument ID: MT_026
Lab File ID: 26a112210.asc
Initial Weight/Volume: 1.07 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Silicon		476		2.4	11.3

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 11/18/2010 1404
Date Prepared: 11/18/2010 0900

Analysis Batch: 280-41892
Prep Batch: 280-40981

Instrument ID: MT_033
Lab File ID: 101118AA.txt
Initial Weight/Volume: 0.63 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0064	U	0.0064	0.020

Client: Washington Closure Hanford

Job Number: 280-9727-1
Sdg Number: J00920

Client Sample ID: **J1B4T9**

Lab Sample ID: 280-9727-3
Client Matrix: Solid
% Moisture: 20.2

Date Sampled: 11/10/2010 1005
Date Received: 11/12/2010 0900

6010B Metals (ICP)

Method:	6010B	Analysis Batch: 280-42187		Instrument ID:	MT_026
Preparation:	3050B	Prep Batch: 280-41030		Lab File ID:	26a111910.asc
Dilution:	1.0			Initial Weight/Volume:	1.19 g
Date Analyzed:	11/19/2010 1922			Final Weight/Volume:	100 mL
Date Prepared:	11/19/2010 0800				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		8350	J	1.6	5.3
Antimony		0.89		0.40	0.63
Arsenic		9.1	M	0.69	1.1
Barium		103	J M	0.080	0.53
Beryllium		0.20	B	0.035	0.21
Boron		9.5		1.0	2.1
Cadmium		0.043	U	0.043	0.21
Calcium		166000	J L	14.8	52.6
Chromium		15.4	M	0.061	0.21
Cobalt		3.6		0.11	1.1
Copper		19.0		0.23	1.1
Iron		11900		4.0	5.3
Lead		6.9		0.28	0.53
Magnesium		26100	J	3.9	21.0
Manganese		213		0.11	1.1
Molybdenum		0.98	B M	0.27	2.1
Nickel		11.1		0.13	4.2
Potassium		1240		43.1	316
Selenium		0.91	U	0.91	1.1
Silver		0.17	U	0.17	0.21
Sodium		351		62.1	126
Vanadium		31.7		0.099	2.1
Zinc		52.1	L	0.42	1.1

Method:	6010B	Analysis Batch: 280-42390		Instrument ID:	MT_026
Preparation:	3050B	Prep Batch: 280-41030		Lab File ID:	26a112210.asc
Dilution:	1.0			Initial Weight/Volume:	1.19 g
Date Analyzed:	11/22/2010 1428			Final Weight/Volume:	100 mL
Date Prepared:	11/19/2010 0800				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Silicon		227	M	2.2	10.5

7471A Mercury (CVAA)

Method:	7471A	Analysis Batch: 280-41892		Instrument ID:	MT_033
Preparation:	7471A	Prep Batch: 280-40981		Lab File ID:	101118AA.txt
Dilution:	1.0			Initial Weight/Volume:	0.60 g
Date Analyzed:	11/18/2010 1406			Final Weight/Volume:	50 mL
Date Prepared:	11/18/2010 0900				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0072	B	0.0069	0.021

Client: Washington Closure Hanford

Job Number: 280-9727-1
Sdg Number: J00920

General Chemistry

Client Sample ID: **J1B4T7**

Lab Sample ID: 280-9727-1
Client Matrix: Solid

Date Sampled: 11/10/2010 0955
Date Received: 11/12/2010 0900

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	3.9		%	0.10	0.10	1.0	D-2216

Analysis Batch: 280-40940 Date Analyzed: 11/15/2010 1013 DryWt Corrected: N

Client: Washington Closure Hanford

Job Number: 280-9727-1
Sdg Number: J00920

General Chemistry

Client Sample ID: **J1B4T8**

Lab Sample ID: 280-9727-2
Client Matrix: Solid

Date Sampled: 11/10/2010 1005
Date Received: 11/12/2010 0900

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	17.2		%	0.10	0.10	1.0	D-2216

Analysis Batch: 280-40940 Date Analyzed: 11/15/2010 1013 DryWt Corrected: N

Client: Washington Closure Hanford

Job Number: 280-9727-1
Sdg Number: J00920

General Chemistry

Client Sample ID: **J1B4T9**

Lab Sample ID: 280-9727-3
Client Matrix: Solid

Date Sampled: 11/10/2010 1005
Date Received: 11/12/2010 0900

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	20.2		%	0.10	0.10	1.0	D-2216

Analysis Batch: 280-40940 Date Analyzed: 11/15/2010 1013 DryWt Corrected: N

QUALITY CONTROL RESULTS

Client: Washington Closure Hanford

Job Number: 280-9727-1
Sdg Number: J00920

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Prep Batch: 280-41001					
LCS 280-41001/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-41001/1-A	Method Blank	T	Solid	3550C	
280-9727-1	J1B4T7	T	Solid	3550C	
280-9727-2	J1B4T8	T	Solid	3550C	
280-9727-2MS	Matrix Spike	T	Solid	3550C	
280-9727-2MSD	Matrix Spike Duplicate	T	Solid	3550C	
280-9727-3	J1B4T9	T	Solid	3550C	
Analysis Batch:280-42165					
LCS 280-41001/2-A	Lab Control Sample	T	Solid	8082	280-41001
MB 280-41001/1-A	Method Blank	T	Solid	8082	280-41001
280-9727-1	J1B4T7	T	Solid	8082	280-41001
280-9727-2	J1B4T8	T	Solid	8082	280-41001
280-9727-2MS	Matrix Spike	T	Solid	8082	280-41001
280-9727-2MSD	Matrix Spike Duplicate	T	Solid	8082	280-41001
280-9727-3	J1B4T9	T	Solid	8082	280-41001

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-9727-1
Sdg Number: J00920

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 280-40981					
LCS 280-40981/2-A	Lab Control Sample	T	Solid	7471A	
MB 280-40981/1-A	Method Blank	T	Solid	7471A	
280-9727-1	J1B4T7	T	Solid	7471A	
280-9727-2	J1B4T8	T	Solid	7471A	
280-9727-3	J1B4T9	T	Solid	7471A	
280-9727-3DU	Duplicate	T	Solid	7471A	
280-9727-3MS	Matrix Spike	T	Solid	7471A	
Prep Batch: 280-41030					
LCS 280-41030/2-A	Lab Control Sample	T	Solid	3050B	
MB 280-41030/1-A	Method Blank	T	Solid	3050B	
280-9727-1	J1B4T7	T	Solid	3050B	
280-9727-2	J1B4T8	T	Solid	3050B	
280-9727-3	J1B4T9	T	Solid	3050B	
280-9727-3DU	Duplicate	T	Solid	3050B	
280-9727-3MS	Matrix Spike	T	Solid	3050B	
Analysis Batch:280-41892					
LCS 280-40981/2-A	Lab Control Sample	T	Solid	7471A	280-40981
MB 280-40981/1-A	Method Blank	T	Solid	7471A	280-40981
280-9727-1	J1B4T7	T	Solid	7471A	280-40981
280-9727-2	J1B4T8	T	Solid	7471A	280-40981
280-9727-3	J1B4T9	T	Solid	7471A	280-40981
280-9727-3DU	Duplicate	T	Solid	7471A	280-40981
280-9727-3MS	Matrix Spike	T	Solid	7471A	280-40981
Analysis Batch:280-42187					
LCS 280-41030/2-A	Lab Control Sample	T	Solid	6010B	280-41030
MB 280-41030/1-A	Method Blank	T	Solid	6010B	280-41030
280-9727-1	J1B4T7	T	Solid	6010B	280-41030
280-9727-2	J1B4T8	T	Solid	6010B	280-41030
280-9727-3	J1B4T9	T	Solid	6010B	280-41030
280-9727-3DU	Duplicate	T	Solid	6010B	280-41030
280-9727-3MS	Matrix Spike	T	Solid	6010B	280-41030
Analysis Batch:280-42390					
LCS 280-41030/2-A	Lab Control Sample	T	Solid	6010B	280-41030
MB 280-41030/1-A	Method Blank	T	Solid	6010B	280-41030
280-9727-1	J1B4T7	T	Solid	6010B	280-41030
280-9727-2	J1B4T8	T	Solid	6010B	280-41030
280-9727-3	J1B4T9	T	Solid	6010B	280-41030
280-9727-3DU	Duplicate	T	Solid	6010B	280-41030
280-9727-3MS	Matrix Spike	T	Solid	6010B	280-41030

Client: Washington Closure Hanford

Job Number: 280-9727-1
Sdg Number: J00920

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Report Basis					
T = Total					
General Chemistry					
Analysis Batch:280-40940					
280-9727-1	J1B4T7	T	Solid	D-2216	
280-9727-1DU	Duplicate	T	Solid	D-2216	
280-9727-2	J1B4T8	T	Solid	D-2216	
280-9727-3	J1B4T9	T	Solid	D-2216	

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-9727-1
Sdg Number: J00920

Method Blank - Batch: 280-41001

Method: 8082
Preparation: 3550C

Lab Sample ID:	MB 280-41001/1-A	Analysis Batch:	280-42165	Instrument ID:	GCS_W
Client Matrix:	Solid	Prep Batch:	280-41001	Lab File ID:	048F4801.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	30.8 g
Date Analyzed:	11/18/2010 1505			Final Weight/Volume:	5000 uL
Date Prepared:	11/15/2010 2307			Injection Volume:	1 uL
				Column ID:	PRIMARY

Analyte	Result	Qual	MDL	RL
Aroclor 1016	2.7	U	2.7	9.7
Aroclor 1221	7.8	U	7.8	16
Aroclor 1232	1.9	U	1.9	9.7
Aroclor 1242	4.5	U	4.5	9.7
Aroclor 1248	4.5	U	4.5	9.7
Aroclor 1254	2.5	U	2.5	9.7
Aroclor 1260	2.5	U	2.5	9.7

Surrogate	% Rec	Acceptance Limits
Decachlorobiphenyl	81	59 - 130
Tetrachloro-m-xylene	77	53 - 128

Lab Control Sample - Batch: 280-41001

Method: 8082
Preparation: 3550C

Lab Sample ID:	LCS 280-41001/2-A	Analysis Batch:	280-42165	Instrument ID:	GCS_W
Client Matrix:	Solid	Prep Batch:	280-41001	Lab File ID:	049F4901.D
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	31.7 g
Date Analyzed:	11/18/2010 1537			Final Weight/Volume:	5000 uL
Date Prepared:	11/15/2010 2307			Injection Volume:	1 uL
				Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aroclor 1016	31.5	26.9	85	54 - 132	
Aroclor 1260	31.5	28.1	89	62 - 129	

Surrogate	% Rec	Acceptance Limits
Decachlorobiphenyl	82	59 - 130
Tetrachloro-m-xylene	83	53 - 128

Client: Washington Closure Hanford

Job Number: 280-9727-1
Sdg Number: J00920

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-41001

Method: 8082
Preparation: 3550C

MS Lab Sample ID:	280-9727-2	Analysis Batch: 280-42165	Instrument ID: GCS_W
Client Matrix:	Solid	Prep Batch: 280-41001	Lab File ID: 024F2401.D
Dilution:	1.0		Initial Weight/Volume: 30.5 g
Date Analyzed:	11/18/2010 0135		Final Weight/Volume: 5000 uL
Date Prepared:	11/15/2010 2307		Injection Volume: 1 uL
			Column ID: PRIMARY

MSD Lab Sample ID:	280-9727-2	Analysis Batch: 280-42165	Instrument ID: GCS_W
Client Matrix:	Solid	Prep Batch: 280-41001	Lab File ID: 026F2601.D
Dilution:	1.0		Initial Weight/Volume: 30.4 g
Date Analyzed:	11/18/2010 0238		Final Weight/Volume: 5000 uL
Date Prepared:	11/15/2010 2307		Injection Volume: 1 uL
			Column ID: PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Aroclor 1016	87	76	54 - 132	14	26		
Aroclor 1260	91	74	62 - 129	20	26		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Decachlorobiphenyl	64	62	59 - 130
Tetrachloro-m-xylene	74	73	53 - 128

Client: Washington Closure Hanford

Job Number: 280-9727-1
Sdg Number: J00920

Method Blank - Batch: 280-41030

Method: 6010B
Preparation: 3050B

Lab Sample ID: MB 280-41030/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/19/2010 1912
Date Prepared: 11/19/2010 0800

Analysis Batch: 280-42187
Prep Batch: 280-41030
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: 26a111910.asc
Initial Weight/Volume: 1.00 g
Final Weight/Volume: 100 mL

Analyte	Result	Qual	MDL	RL
Aluminum	2.14	B	1.6	5.0
Antimony	0.38	U	0.38	0.60
Arsenic	0.66	U	0.66	1.0
Barium	0.123	B	0.076	0.50
Beryllium	0.033	U	0.033	0.20
Boron	0.98	U	0.98	2.0
Cadmium	0.041	U	0.041	0.20
Calcium	22.17	B	14.1	50.0
Chromium	0.058	U	0.058	0.20
Cobalt	0.10	U	0.10	1.0
Copper	0.22	U	0.22	1.0
Iron	3.8	U	3.8	5.0
Lead	0.27	U	0.27	0.50
Magnesium	6.00	B	3.7	20.0
Manganese	0.10	U	0.10	1.0
Molybdenum	0.26	U	0.26	2.0
Nickel	0.12	U	0.12	4.0
Potassium	41.0	U	41.0	300
Selenium	0.86	U	0.86	1.0
Silver	0.16	U	0.16	0.20
Sodium	59.0	U	59.0	120
Vanadium	0.094	U	0.094	2.0
Zinc	0.40	U	0.40	1.0

Method Blank - Batch: 280-41030

Method: 6010B
Preparation: 3050B

Lab Sample ID: MB 280-41030/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/22/2010 1420
Date Prepared: 11/19/2010 0800

Analysis Batch: 280-42390
Prep Batch: 280-41030
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: 26a112210.asc
Initial Weight/Volume: 1.00 g
Final Weight/Volume: 100 mL

Analyte	Result	Qual	MDL	RL
Silicon	2.1	U	2.1	10.0

Client: Washington Closure Hanford

Job Number: 280-9727-1
Sdg Number: J00920

Lab Control Sample - Batch: 280-41030

Method: 6010B
Preparation: 3050B

Lab Sample ID: LCS 280-41030/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/19/2010 1915
Date Prepared: 11/19/2010 0800

Analysis Batch: 280-42187
Prep Batch: 280-41030
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: 26a111910.asc
Initial Weight/Volume: 1.00 g
Final Weight/Volume: 100 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	200	187.8	94	82 - 116	
Antimony	50.0	46.23	92	82 - 110	
Arsenic	100	96.37	96	85 - 110	
Barium	200	185.4	93	87 - 112	
Beryllium	5.00	4.48	90	84 - 114	
Boron	100	93.86	94	81 - 110	
Cadmium	10.0	9.72	97	87 - 110	
Calcium	5000	4626	93	82 - 114	
Chromium	20.0	19.09	95	84 - 114	
Cobalt	50.0	47.44	95	87 - 110	
Copper	25.0	23.32	93	88 - 110	
Iron	100	92.02	92	87 - 120	
Lead	50.0	47.17	94	86 - 110	
Magnesium	5000	4643	93	90 - 110	
Manganese	50.0	46.60	93	88 - 110	
Molybdenum	100	93.61	94	86 - 110	
Nickel	50.0	45.64	91	87 - 110	
Potassium	5000	4739	95	89 - 110	
Selenium	200	196.8	98	83 - 110	
Silver	5.00	4.99	100	87 - 114	
Sodium	5000	4686	94	90 - 112	
Vanadium	50.0	45.97	92	88 - 110	
Zinc	50.0	48.89	98	76 - 114	

Lab Control Sample - Batch: 280-41030

Method: 6010B
Preparation: 3050B

Lab Sample ID: LCS 280-41030/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/22/2010 1407
Date Prepared: 11/19/2010 0800

Analysis Batch: 280-42390
Prep Batch: 280-41030
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: 26a112210.asc
Initial Weight/Volume: 1.00 g
Final Weight/Volume: 100 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Silicon	1000	101.5	10	10 - 70	

Client: Washington Closure Hanford

Job Number: 280-9727-1
Sdg Number: J00920

Matrix Spike - Batch: 280-41030

Method: 6010B
Preparation: 3050B

Lab Sample ID: 280-9727-3
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/19/2010 1930
Date Prepared: 11/19/2010 0800

Analysis Batch: 280-42187
Prep Batch: 280-41030
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: 26a111910.asc
Initial Weight/Volume: 1.02 g
Final Weight/Volume: 100 mL

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	8350		246	9837	606	50 - 200	4
Antimony	0.89		61.4	39.82	63	20 - 200	
Arsenic	9.1		123	130.5	99	76 - 111	
Barium	103		246	320.5	89	52 - 159	
Beryllium	0.20	B	6.14	5.65	89	72 - 105	
Boron	9.5		123	121.0	91	75 - 107	
Cadmium	0.043	U	12.3	12.24	100	40 - 130	
Calcium	166000		6140	138400	-444	43 - 165	4
Chromium	15.4		24.6	37.41	90	70 - 200	
Cobalt	3.6		61.4	59.68	91	72 - 106	
Copper	19.0		30.7	46.49	89	37 - 187	
Iron	11900		123	12550	509	70 - 200	4
Lead	6.9		61.4	64.36	94	70 - 200	
Magnesium	26100		6140	33790	125	64 - 145	4
Manganese	213		61.4	309.6	157	40 - 200	
Molybdenum	0.98	B	123	114.0	92	75 - 103	
Nickel	11.1		61.4	64.02	86	61 - 126	
Potassium	1240		6140	7611	104	56 - 172	
Selenium	0.91	U	246	241.9	99	76 - 104	
Silver	0.17	U	6.14	6.53	106	75 - 141	
Sodium	351		6140	6620	102	78 - 111	
Vanadium	31.7		61.4	91.88	98	50 - 169	
Zinc	52.1		61.4	115.0	102	70 - 200	

Matrix Spike - Batch: 280-41030

Method: 6010B
Preparation: 3050B

Lab Sample ID: 280-9727-3
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/22/2010 1436
Date Prepared: 11/19/2010 0800

Analysis Batch: 280-42390
Prep Batch: 280-41030
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: 26a112210.asc
Initial Weight/Volume: 1.02 g
Final Weight/Volume: 100 mL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Silicon	227	1230	600.3	30	20 - 200	

Client: Washington Closure Hanford

Job Number: 280-9727-1
Sdg Number: J00920

Duplicate - Batch: 280-41030

Method: 6010B
Preparation: 3050B

Lab Sample ID: 280-9727-3
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/19/2010 1927
Date Prepared: 11/19/2010 0800

Analysis Batch: 280-42187
Prep Batch: 280-41030
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: 26a111910.asc
Initial Weight/Volume: 1.04 g
Final Weight/Volume: 100 mL

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Aluminum	8350		6331	28	40	
Antimony	0.89		0.721	21	40	
Arsenic	9.1		5.33	52	30	M
Barium	103		70.58	37	30	M
Beryllium	0.20	B	0.157	24	30	B
Boron	9.5		8.18	15	30	
Cadmium	0.043	U	0.049	NC	30	U
Calcium	166000		124600	28	30	
Chromium	15.4		10.02	42	40	M
Cobalt	3.6		3.55	2	30	
Copper	19.0		14.50	27	30	
Iron	11900		10060	17	40	
Lead	6.9		7.00	0.8	40	
Magnesium	26100		29390	12	30	
Manganese	213		212.6	0.3	40	
Molybdenum	0.98	B	0.319	102	30	B M
Nickel	11.1		9.82	13	30	
Potassium	1240		1106	12	40	
Selenium	0.91	U	1.0	NC	30	U
Silver	0.17	U	0.19	NC	30	U
Sodium	351		316.8	10	30	
Vanadium	31.7		28.12	12	30	
Zinc	52.1		41.10	24	40	

Duplicate - Batch: 280-41030

Method: 6010B
Preparation: 3050B

Lab Sample ID: 280-9727-3
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/22/2010 1433
Date Prepared: 11/19/2010 0800

Analysis Batch: 280-42390
Prep Batch: 280-41030
Units: mg/Kg

Instrument ID: MT_026
Lab File ID: 26a112210.asc
Initial Weight/Volume: 1.04 g
Final Weight/Volume: 100 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Silicon	227	449.4	66	40	M

Client: Washington Closure Hanford

Job Number: 280-9727-1
Sdg Number: J00920

Method Blank - Batch: 280-40981

Method: 7471A
Preparation: 7471A

Lab Sample ID: MB 280-40981/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/18/2010 1357
Date Prepared: 11/18/2010 0900

Analysis Batch: 280-41892
Prep Batch: 280-40981
Units: mg/Kg

Instrument ID: MT_033
Lab File ID: 101118AA.txt
Initial Weight/Volume: 0.60 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	MDL	RL
Mercury	0.0055	U	0.0055	0.017

Lab Control Sample - Batch: 280-40981

Method: 7471A
Preparation: 7471A

Lab Sample ID: LCS 280-40981/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/18/2010 1359
Date Prepared: 11/18/2010 0900

Analysis Batch: 280-41892
Prep Batch: 280-40981
Units: mg/Kg

Instrument ID: MT_033
Lab File ID: 101118AA.txt
Initial Weight/Volume: 0.60 g
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.417	0.420	101	87 - 111	

Matrix Spike - Batch: 280-40981

Method: 7471A
Preparation: 7471A

Lab Sample ID: 280-9727-3
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 11/18/2010 1411
Date Prepared: 11/18/2010 0900

Analysis Batch: 280-41892
Prep Batch: 280-40981
Units: mg/Kg

Instrument ID: MT_033
Lab File ID: 101118AA.txt
Initial Weight/Volume: 0.63 g
Final Weight/Volume: 50 mL

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.0072	B	0.497	0.497	99	87 - 111	

Client: Washington Closure Hanford

Job Number: 280-9727-1
Sdg Number: J00920

Duplicate - Batch: 280-40981

Method: 7471A
Preparation: 7471A

Lab Sample ID:	280-9727-3	Analysis Batch:	280-41892	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-40981	Lab File ID:	101118AA.txt
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	0.64 g
Date Analyzed:	11/18/2010 1409			Final Weight/Volume:	50 mL
Date Prepared:	11/18/2010 0900				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Mercury	0.0072	B	0.00665	8	20	B

Client: Washington Closure Hanford

Job Number: 280-9727-1
Sdg Number: J00920

Duplicate - Batch: 280-40940

Method: D-2216
Preparation: N/A

Lab Sample ID:	280-9727-1	Analysis Batch:	280-40940	Instrument ID:	No Equipment Assigned
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Units:	%	Initial Weight/Volume:	
Date Analyzed:	11/15/2010 1013			Final Weight/Volume:	
Date Prepared:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Moisture	3.9	3.5	11	20	

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-176-001	Page 1 of 1

Collector: WT Sexsmith	Company Contact: Joan Kessner	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 9GC TRE 11/10/10	Data Turnaround: 15 Days		
Project Designation: ARRA Remaining Sites Confirmation Sampling - Other	Sampling Location: 100-K-88 Surface Samples		SAF No.: RC-176
Ice Chest No.: NA	Field Logbook No.:	COA: S10K88A000	Method of Shipment: Hand Deliver
Shipped To: TestAmerica Incorporated, Richland	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA

POSSIBLE SAMPLE HAZARDS/REMARKS

None JBD 11/10/10

Special Handling and/or Storage

Cool 4° TRE 11/10/10

Preservation	None	Cool 4C	Cool 4C	Cool 4C	None							
Type of Container	aG	aG	aG	aG	P							
No. of Container(s)	1	1	1	1	1							
Volume	60mL	60mL	60mL	60mL	500mL							
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	VOA - 8260A (TCL)	PCBs - 8082	See item (2) in Special Instructions.							
Sample No.	Matrix *	Sample Date	Sample Time									
J1B4T7	OTHER	11/10/10	0955	✓	✓		✓					SS-A
J1B4T8	OTHER	11/10/10	1005	✓	✓		✓					SS-B
J1B4T9	OTHER	11/10/10	1005	✓	✓		✓					D

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Whitney Sexsmith	1040 11/10/10	Received By/Stored In: JT Dezwiga	1040 11/10/10
Relinquished By/Removed From: JT Dezwiga	1100 11/10/10	Received By/Stored In: TR Edmundson	1100 11/10/10
Relinquished By/Removed From: TR Edmundson	1210 11/10/10	Received By/Stored In: TMR Angel Flores	1210 11/10/10
Relinquished By/Removed From: TMR Angel Flores	1400 11/10/10	Received By/Stored In:	
Relinquished By/Removed From:		Received By/Stored In:	
Relinquished By/Removed From:		Received By/Stored In:	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)
(2) Gamma Spec (Client List) {Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gross Alpha & Gross Beta

SDG # 000120

REVIEWED BY JEB DATE 11-10-10

Matrix *: S=Soil; SE=Sediment; SO=Solid; Sl=Sludge; W = Water; O=Oil; A=Air; DS=Drum Solids; DL=Drum Liquids; T=Tissue; Wi=Wipe; L=Liquid; Ve=Vegetation; X=Other

LABORATORY SECTION	Received By: Sharon Birdell	Title	Date/Time: 11/12/10 0900
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Project 28002142 -60 10 PG -Solid

Analytical Due:

Report Due: 11/29/10

Sample Check-in List

Date/Time Received: 11/12/10 900 GM Screen Result 60 microR/hr

Client: Washington Closure Hanford SDG #: 000520 NA[ ] SAF #: RC-176 NA [ ]

Job Number: 9727 Chain of Custody # RC-176-001

Shipping Container ID: _____ Air Bill # 7941885232 4 7964409001 94 7941080395 33

1. Custody Seals on shipping container intact? NA [ ] Yes [✓] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [✓] No [ ]
3. Chain of Custody record present? NA [ ] Yes [✓] No [ ]
4. Cooler Temperature °C: 1.6, 1.8, 2.0 NA [ ] 5. Vermiculite/packing materials is NA [✓] Wet [ ] Dry [ ]
6. Number of samples in shipping container: 21
7. Sample holding times exceeded? NA [ ] Yes [ ] No [✓]
8. Samples have:
   - ✓ Tape
   - ✓ Custody Seals
   - ✓ Hazard Lables
   - ✓ Appropriate Sample Lables
9. Samples are:
   - ✓ In Good Condition
   - ✓ Broken
   - _____ Leaking
   - _____ Have Air Bubbles (Only for samples requiring no head space.)
10. Sample pH taken? NA [✓] pH<2 [ ] pH>2 [ ] pH>9 [ ] Amount HNO_3 Added _____
11. Sample Location, Sample Collector Listed? *
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [✓]
13. Description of anomalies (include sample numbers): _____

Sample Custodian: [signature] Date: 11/12/10

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[ ] No action necessary; process as is.

Project Manager [signature] Date 11/15/10

LS-023, Rev. 7, 1/08

From: Origin ID: PSCA (509) 375-3131
Shipping Dept.
TESTAMERICA LABORATORIES
2800 GEORGE WASHINGTON WAY

RICHLAND, WA 99354

FedEx. Express

Ship Date: 11NOV10
ActWgt: 24.0 LB
CAD: 1033413/INET3090

Delivery Address Bar Code

Ref # WCH/RC-119-041
Invoice #
PO #
Dept #

SHIP TO: (303) 736-0100 BILL SENDER

SAMPLE RECEIVING DENVER_WCH
TESTAMERICA DENVER (WCH)
4955 YARROW ST

ARVADA, CO 80002

TRK# 0201 7941 0805 2324

FRI - 12 NOV A1
PRIORITY OVERNIGHT

80002
CO-US
DEN

XH WHHA

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From: Origin ID: PSCA (509) 375-3131
Shipping Dept.
TESTAMERICA LABORATORIES
2800 GEORGE WASHINGTON WAY

RICHLAND, WA 99354

FedEx Express

Ship Date: 11NOV10
ActWgt: 25.0 LB
CAD: 1033413/INET3090

Delivery Address Bar Code

Ref # WCH/RC-119-041
Invoice #
PO #
Dept #

SHIP TO: (303) 736-0100 BILL SENDER

SAMPLE RECEIVING DENVER_WCH
TESTAMERICA DENVER (WCH)
4955 YARROW ST

ARVADA, CO 80002

TRK# 0201 7964 4090 0494

FRI - 12 NOV A1
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From: Origin ID: PSCA (509) 375-3131
Shipping Dept.
TESTAMERICA LABORATORIES
2800 GEORGE WASHINGTON WAY

RICHLAND, WA 99354

FedEx Express

Ship Date: 11NOV10
ActWgt: 43.0 LB
CAD: 1033413/INET3090

Delivery Address Bar Code

Ref # WCH/RC-119-041
Invoice #
PO #
Dept #

SHIP TO: (303) 736-0100 BILL SENDER

SAMPLE RECEIVING DENVER_WCH
TESTAMERICA DENVER (WCH)
4955 YARROW ST

ARVADA, CO 80002

TRK# 0201 7941 0803 9533

FRI - 12 NOV A1
PRIORITY OVERNIGHT

80002
CO-US
DEN

XH WHHA

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3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic valueof the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.