0079008

SAF-RC-030
Remaining Sites Confirmation Sampling - Other Solid
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 10/27/08
INITIAL/DATE

RECEIVED
NOV 03 2008
EDMC

COMMENTS:

SDG J00208 **SAF-RC-030**

Rad only X Chem only Rad & Chem

X Complete Partial

Waste Site: 100-H-28:2

Analytical Data Package Prepared For

Washington Closure Hanford

RECEIVED
OCT 2008

Radiochemical Analysis By

TestAmerica

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

Assigned Laboratory Code: TARL

Data Package Contains 26 Pages

Report No.: 40051

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.
J00208	RC-030	J17HL3	J8J150349-1	K0X411AA	9K0X4110	8290170
		J17KK7	J8J150349-2	K0X431AA	9K0X4310	8290170

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

Washington Hanford Closure
2620 Fermi Avenue
Richland, WA 99354

October 24, 2008

Attention: Joan Kessner

SAF Number	:	RC-030
Date SDG Closed	:	October 15, 2008
Number of Samples	:	Two (2)
Sample Type	:	Other Solid
SDG Number	:	J00208
Data Deliverable	:	15-Day / Summary

CASE NARRATIVE

I. Introduction

On October 15, 2008 two other solid 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
J17HL3	K0X41	OTHER SOLID	10/15/08
J17KK7	K0X43	OTHER SOLID	10/15/08

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:

The matrix spike recovered low at 56.9%, possibly due to some reducing capacity in the sample. The post digested spike recovered at 97.56%. The insoluble spike recovered at 100.85%. Except as noted, the LCS, batch blank, sample, sample duplicate (J17KK7) and sample matrix spike (J17KK7) 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	RICH-RC-5017
EPA 900.0	Alpha & Beta	RICH-RC-5014
EPA 00-02	Gross Alpha (Coprecipitation)	RICH-RC-5021
EPA 903.0	Total Alpha Radium (Ra-226)	RICH-RC-5027
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr-89/90	RICH-RC-5006
ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007

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 Microsopy 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	Am03/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-5023	R4-73-014 / EPA HASL 300	DETERMINATION OF IRON-55 AND IRON-59 IN WATER
Fe59	RL-LSC-016	RICH-RC-5023	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 D3649	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	H3 / 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	R4-73-014I/EPA ASTM D2334 (Discontinued)	DETERMINATION OF IODINE-131 AND 129 IN WATER BY SOLVENT EXTRACTION METHOD
I131	RL-GAM-002	RICH-RC-5025	R4-73-014I/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

Isotope	Richland SOP #	Old Richland SOP #	Method Reference	Title
Metals	RL-MT-001	RICH-MT-0001	6010B	ICP-AES for TRACE ELEMENT ANALYSIS, METHOD 6010B
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-5039	G-03 / HASL 300 Anal Chem 1972	ELECTRODEPOSITION OF ACTINIDES
Prep - Count	RL-ALP-014	RICH-RC-5085	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 / DOE00089T	URINE AND WATER SAMPLE PREPARATION BY CALCIUM PHOSPHATE PRECIPITATION
Prep - Water	RL-PRP-010	RICH-RC-5086	AnalyticaChemActa1992 RP800 / DOE00089T	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 / DOE00089T	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

Isotope	Richland SOP #	Old Richland SOP #	Method Reference	Title
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
S35	ARCHIVED	RICH-RB-5020	Hillebrand, Lundeell, 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	Kalfwardt&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 RP550 / DOE0089T	DETERMINATION OF TECHNETIUM-99 BY EXTRACTION CHROMATOGRAPHY
Tc	RL-LSC-013	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-5064	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-003	RICH-RC-5058	D5174 / ASTM	DETERMINATION OF URANIUM BY PHOSPHORESCENCE ANALYSIS
U	RL-ALP-004	RICH-RC-5067	EXT Chromatography Mod RP725 / DOE0089T	SEPARATION OF URANIUM BY EXTRACTION CHROMATOGRAPHY
U	RL-ALP-003	RICH-RC-5072	EXT Chrom Mod RP725 & 800 / DOE0089T	SEPARATION OF AMERICIUM, CURIUM, AND URANIUM BY EXTRACTION CHROMATOGRAPHY
U	RL-ALP-009	RICH-RC-5079	EXT Chromatography Mod RP725 / DOE0089T	DETERMINATION OF ISOTOPIC URANIUM IN ALL MATRICES

Sample Results Summary

TestAmerica TARL

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

Date: 23-Oct-08

Report No. : 40051

SDG No: J00208

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
8290170	7196_CR6								
J17HL3									
	K0X411AA	HEXCHROME	1.97E+00 +- 0.00E+00		mg/kg	N/A	3.50E-01	3.50E-01	
J17KK7									
	K0X431AA	HEXCHROME	2.46E+00 +- 0.00E+00		mg/kg	N/A	3.50E-01	3.50E-01	
	K0X431AE	HEXCHROME	1.77E+00 +- 0.00E+00		mg/kg	N/A	3.50E-01	3.50E-01	32.6

No. of Results: 3

TestAmerica **RPD** - **Relative Percent Difference.**

rptSTLRchSaSum
mary2 V5.1.8
A2002

QC Results Summary

Date: 23-Oct-08

TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 40051 **SDG No.:** J00208

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC|MDA
7196_CR6								
8290170 MATRIX SPIKE, J17KK7								
K0X431AC	HEXCHROME	6.91E+00 +- 0.00E+00		mg/kg	N/A	57%	-0.4	3.50E-01
8290170 LCS,								
K00W01AC	HEXCHROME	1.90E+01 +- 0.00E+00		mg/kg	N/A	95%	-0.1	3.50E-01
8290170 BLANK QC,								
K00W01AA	HEXCHROME	3.50E-01 +- 0.00E+00	U	mg/kg	N/A			3.50E-01

No. of Results: 3

TestAmerica
rptSTLRchQcSummary V5.1.8 A2002

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

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

TESTAMERICA

FORM I

SAMPLE RESULTS

Date: 23-Oct-08

Lab Name:	TestAmerica	**SDG:**	J00208	**Collection Date:**	10/15/2008 7:50:00 AM
Lot-Sample No.:	J8J150349-1	**Report No. :**	40051	**Received Date:**	10/15/2008 2:45:00 PM
Client Sample ID:	J17HL3	**COC No. :**	RC-030-103	**Matrix:**	OTHER SOLI 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: 8290170	7196_CR6			**Work Order:** K0X411AA			**Report DB ID:** 9K0X4110					
HEXCHROME	***1.97E+00***			0.0E+00	3.50E-01	mg/kg	N/A	*(5.6)*	10/15/08		2.5	
							3.50E-01	*N/A*			G	

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

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 or Total Uncert or not identified by gamma scan software.

TESTAMERICA

FORM I

SAMPLE RESULTS

Date: 23-Oct-08

Lab Name:	TestAmerica	**SDG:**	J00208	**Collection Date:**	10/15/2008 10:50:00 AM
Lot-Sample No.:	J8J150349-2	**Report No. :**	40051	**Received Date:**	10/15/2008 2:45:00 PM
Client Sample ID:	J17KK7	**COC No. :**	RC-030-107	**Matrix:**	OTHER SOLI 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: 8290170	7196_CR6			**Work Order:**	K0X431AA		**Report DB ID:**	9K0X4310				
HEXCHROME	***2.46E+00***			0.0E+00	3.50E-01	mg/kg	N/A	*(7.)*	10/15/08		2.5	
							3.50E-01	*N/A*			G	

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

12

TestAmerica
rptSTLRchSample
V5.1.8 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 or Total Uncert or not identified by gamma scan software.

TESTAMERICA

FORM II

Date: 23-Oct-08

DUPLICATE RESULTS

Lab Name:	TestAmerica	**SDG:**	J00208	**Collection Date:**	10/15/2008 10:50:00 AM
Lot-Sample No.:	J8J150349-2	**Report No. :**	40051	**Received Date:**	10/15/2008 2:45:00 PM
Client Sample ID:	J17KK7	**COC No. :**	RC-030-107	**Matrix:**	OTHER SOLI 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: 8290170	7196_CR6			Work Order: K0X431AE		Report DB ID: K0X431ER			Orig Sa DB ID: 9K0X4310			
HEXCHROME	1.77E+00			0.0E+00	3.50E-01	mg/kg	N/A	(5.1)	10/15/08		2.5	
	2.46E+00		RPD 32.6			3.50E-01		N/A			G	

No. of Results: 1 Comments:

13

RPD - Relative Percent Difference.

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

TESTAMERICA

FORM II

BLANK RESULTS

Date: 23-Oct-08

Lab Name: TestAmerica

Matrix: OTHER SOLID

SDG: J00208

Report No. : 40051

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: 8290170	7196_CR6			Work Order:	K00W01AA		Report DB ID:	K00W01AB				
HEXCHROME	3.50E-01	U		0.0E+00	3.50E-01	mg/kg	N/A	(1.)	10/15/08		2.5	
						3.50E-01		N/A			G	

No. of Results: 1 Comments:

TestAmerica
rptSTLRchBlank
V5.1.8 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 or Total Uncert or not identified by gamma scan software.

TESTAMERICA

FORM II

LCS RESULTS

Date: 23-Oct-08

Lab Name: TestAmerica

Matrix: OTHER SOLID

SDG: J00208

Report No. : 40051

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: 8290170	7196_CR6			Work Order:	K00W01AC		Report DB ID:	K00W01AS					
HEXCHROME	1.90E+01			0.0E+00	3.50E-01	mg/kg	N/A	2.00E+01		95%	10/15/08	2.5	
							Rec Limits:	80	120	-0.1		G	

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

15

TESTAMERICA

FORM II

MATRIX SPIKE RESULTS

Date: 23-Oct-08

Lab Name: TestAmerica SDG: J00208

Lot-Sample No.: J8J150349-2, J17KK7 Report No. : 40051 Matrix: OTHER SOLI 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: 8290170	Work Order:	K0X431AC		Report DB ID:	K0X431CW		Orig Sa DB ID:	9K0X4310				
HEXCHROME	6.91E+00			0.0E+00	3.50E-01	mg/kg	N/A	56.87%	1.22E+01	10/15/08	2.5	7196_CR6
	2.46E+00										G	

Number of Results: 1

Comments:

TestAmerica RER - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.
rptSTLRchMs Bias - (Result/Expected)-1 as defined by ANSI N13.30.
V5.1.8 A2002

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Richland Laboratory
Data Review Check List
Hexavalent Chromium

Batch Number(s): **8290170**

Lab Sample Numbers or SDG: **J00208** Due 10/30/08

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:

The matrix spike recovered low at 56.90%. A PDMS was then performed which recovered at 97.56%, and the insoluble matrix spike recovered 100.85%. This implies a possible small amount of reducing capacity in the sample, but not enough to exhaust the more copious insoluble MS.

Analyst: _____ Date: 10/20/08

Second-Level Review: Sandra Seyer Date: 10/21/08

Clouseau
Nonconformance Memo

TestAmerica

NCM #:	10-13150		
NCM Initiated By:	LIEM DINH	Classification:	**Anomaly**
Date Opened:	10/20/2008	Status:	**GLREVIEW**
Date Closed:		Production Area:	Classical Chemistry
		Tests:	7196A
		Lot #'s (Sample #'s):	J8J150349 (1,2), J8J160000 (170),
		QC Batches:	8290170,
Nonconformance:	Other (describe in detail)		
Subcategory:	Other (explanation required)		

Problem Description / Root Cause

Name	Date	Description
LIEM DINH	10/20/2008	The matrix spike recovered low at 56.90%. A PDMS was then performed which recovered at 97.56%, and the insoluble matrix spike recovered 100.85%. This implies a possible small amount of reducing capacity in the sample, but not enough to exhaust the more copious insoluble MS.
Liem Dinhl	10/20/2008	The matrix spike recovered low at 56.90%. A PDMS was then performed which recovered at 97.56%, and the insoluble matrix spike recovered 100.85%. This implies a possible small amount of reducing capacity in the sample, but not enough to exhaust the more copious insoluble MS.

Corrective Action

Name	Date	Corrective Action
LIEM DINH	10/20/2008	Report Data
Liem Dinhl	10/20/2008	Report Data

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-030-103	Page 1 of 1
Collector: Welch-Koelling	Company Contact: Matt Perrott	Telephone No.: 372-9088	Project Coordinator: KESSNER, JH	Price Code: 9C — Data Turnaround: 15 Days
Project Designation: Remaining Sites Confirmation Sampling - Other Solid	Sampling Location: 100-H-28:7		SAF No.: RC-030	
Ice Chest No.	Field Logbook No.: EL-1601-2	COA: C00H28A000	Method of Shipment	
Shipped To: TestAmerica Incorporated, Richland	Offsite Property No.		Bill of Lading/Air Bill No.	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	Cool 4C										
Type of Container	G/P										
No. of Container(s)	1										
Volume	60mL										
SAMPLE ANALYSIS	Chromium Hex - 7196										
Sample No.	Matrix *	Sample Date	Sample Time								
~~J17HL1~~ BHrd 10/15/08	OTHER SOLID										
~~J17HL2~~	OTHER SOLID										
J17HL3 KOX41	OTHER SOLID	10/15/08	0750	X							
~~J17HL4~~	OTHER SOLID										
~~J17HL5~~ Dup 10/15/08	OTHER SOLID										

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: TWELCH Kowalle	1120 10/15/08	Received By/Stored In: BHudson BHudson	1120 10/15/08
Relinquished By/Removed From: BHudson BHudson	10/15/08 1300	Received By/Stored In: J. E. Bernhard	1300 10-15-08
Relinquished By/Removed From: J. E. Bernhard	1445 10-15-08	Received By/Stored In: DAVID HANBINSON	10-15-08 14 45
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

SPECIAL INSTRUCTIONS

J00208
due 10/15/08 10/15/08
30
J8J150349

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
V=Vegetation
X=Other

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

WCH-EE-011

TESTAMERICA

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Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-030-107	Page 1 of 1

Collector Welch-Koelling	Company Contact Matt Perrott	Telephone No. 372-9088	Project Coordinator KESSNER, JH
Price Code 9C	Data Turnaround 15 Days		
Project Designation Remaining Sites Confirmation Sampling - Other Solid	Sampling Location 100-H-28:2		SAF No. RC-030
Ice Chest No.	Field Logbook No. EL-1601-2	COA C00H28A000	Method of Shipment
Shipped To TestAmerica Incorporated, Richland	Offsite Property No.		Bill of Lading/Air Bill No.

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	Cool 4C										
Type of Container	G/P										
No. of Container(s)	1										
Volume	60mL										
SAMPLE ANALYSIS	Chromium Hex - 7196										

Sample No.	Matrix *	Sample Date	Sample Time										
J17KK7 KOX43	OTHER SOLID	10/15/08	1050	X									
~~J17KK8~~	OTHER SOLID												
~~J17KK9~~	OTHER SOLID												
~~J17KL0~~	OTHER SOLID												
~~J17KL1~~ BH 10/15/08	OTHER SOLID												

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From JWELCH KOELLING	Date/Time 1120 10/15/08	Received By/Stored In BHUDSON BHudson	Date/Time 1120 10/15/08
Relinquished By/Removed From BHUDSON BHudson	Date/Time 1300 10/15/08	Received By/Stored In J. E. Bernhard	Date/Time 1300 10-15-08
Relinquished By/Removed From J. E. Bernhard	Date/Time 1445 10-15-08	Received By/Stored In DAVID HARBINSON	Date/Time 10-15-08 14:45
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

SPECIAL INSTRUCTIONS

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
Va=Vegetation
X=Other

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

WCH-EE-011

Radiological Counting Facility

Analysis Report for RCF20918

100H-08-0188-1 100H-H-28-7 I/S PIPE

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF20918
Sample Description	: 100H-08-0188-1 100H-H-28-7 I/S PIPE
Sample Type	: 50 gram pill box
Unit	:
Sample Point	
Sample Size	: 2.600E+01 grams
Facility	: Default
Sample Taken On	: 10/13/2008 11:00:00PM
Acquisition Started	: 10/13/2008 1:22:10PM
Procedure	: 50 gram pill box
Operator	: RCT
Detector Name	: PGTWHITE
Geometry	: 50 ml Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3600.7 seconds
Dead Time	: 0.02 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 80 - 4096
Peak Area Range (in channels)	: 80 - 4096
Identification Energy Tolerance	: 1.300 keV
Energy Calibration Used Done On	: 1/31/2008
Efficiency Calibration Used Done On	: 2/4/2008
Efficiency Calibration Description	: 50ml Pill Box (1234-95-2) 2/4/2008
Sample Number	: 23268

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
CS-137	0.999	1.75E+01	1.30E+00	
~~U-235~~	~~0.538~~	~~4.91E-01~~	~~3.77E-01~~	RLV 10/17/08

Cs-90 = 1.75×10^1 pCi/gm

Radiological Counting Facility

Analysis Report for RCF20919

100H-08-0188-2 100H-H-28-7 SCALE ON ROAD

GAMMA SPECTRUM ANALYSIS

Sample Identification	: RCF20919
Sample Description	: 100H-08-0188-2 100H-H-28-7 SCALE ON ROAD
Sample Type	: 50 gram pill box
Unit	:
Sample Point	
Sample Size	: 2.500E+01 grams
Facility	: Default
Sample Taken On	: 10/13/2008 11:00:00PM
Acquisition Started	: 10/13/2008 1:25:21PM
Procedure	: 50 gram pill box
Operator	: RCT
Detector Name	: REGIE02
Geometry	: 50 ml Pill Box
Live Time	: 3600.0 seconds
Real Time	: 3630.0 seconds
Dead Time	: 0.83 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 80 - 4096
Peak Area Range (in channels)	: 80 - 4096
Identification Energy Tolerance	: 1.300 keV
Energy Calibration Used Done On	: 1/10/2008
Efficiency Calibration Used Done On	: 1/11/2008
Efficiency Calibration Description	: 50g Pill Box 1-10-2008
Sample Number	: 23269

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40	0.989	4.11E+00	3.82E+00	
CS-137	1.000	2.04E+01	1.26E+00	

Sr-90 = 2.04x10¹ pCi/gm

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 10-15-08 14:45 GM Screen Result 0.10 mR/hr

Client: WCH SDG #: J0028 NA[ ] SAF #: RC-030 NA[ ]

Work Order Number: JBJ50349 Chain of Custody # RC-030-103, RC-030-107

Shipping Container ID: N/A Air Bill # N/A

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: 2° NA [ ] 5. Vermiculite/packing materials is NA [✓] Wet [ ] Dry [ ]
6. Number of samples in shipping container: 2
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: 10-15-08

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on ____ by ____ Person Contacted ____

[ ] No action necessary; process as is.

Project Manager ____ Date ____

TESTAMERICA

10/20/2008 10:42:43 AM

Sample Preparation/Analysis

127642, Washington Closure Hanford LLC
Bechtel Hanford, Inc.

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

Balance Id:
Pipet #:

AnalyDueDate: 10/30/2008

Sep1 DT/Tm Tech:

Batch: 8290170 OTHER SOLID mg/kg
SEQ Batch, Test: None All Tests: 8290170 DWEA,

PM, Quote: SS , 27038

Sep2 DT/Tm Tech:

Prep Tech:

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 K0X41-1-AA										
J8J150349-1-SAMP										
10/15/2008 07:50		AmtRec: 60MLJAR	#Containers: 1					Scr:	Alpha:	Beta:
2 K0X43-1-AA										
J8J150349-2-SAMP										
10/15/2008 10:50		AmtRec: 60MLJAR	#Containers: 1					Scr:	Alpha:	Beta:
3 K0X43-1-AC-S										
J8J150349-2-MS										
10/15/2008 10:50		AmtRec: 60MLJAR	#Containers: 1					Scr:	Alpha:	Beta:
4 K0X43-1-AD-D										
J8J150349-2-MSD										
10/15/2008 10:50		AmtRec: 60MLJAR	#Containers: 1					Scr:	Alpha:	Beta:
5 K0X43-1-AE-X										
J8J150349-2-DUP										
10/15/2008 10:50		AmtRec: 60MLJAR	#Containers: 1					Scr:	Alpha:	Beta:
6 K00W0-1-AA-B										
J8J160000-170-BLK										
10/15/2008 10:50		AmtRec:	#Containers: 1					Scr:	Alpha:	Beta:
7 K00W0-1-AC-C										
J8J160000-170-LCS										
10/15/2008 10:50		AmtRec:	#Containers: 1					Scr:	Alpha:	Beta:

TESTAMERICA

10/20/2008 10:42:45 AM

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: 10/30/2008

Batch: 8290170 mg/kg
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:

Comments:

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

K0X411AA-SAMP Constituent List:
HEXCHROME RDL:0.35 mg/kg LCL:80 UCL:120 RPD:20
K0X431AC-MS:
HEXCHROME RDL:0.35 mg/kg LCL:75 UCL:125 RPD:20
K0X431AD-MSD:
HEXCHROME RDL:0.35 mg/kg LCL:75 UCL:125 RPD:20
K00W01AA-BLK:
HEXCHROME RDL:0.35 mg/kg LCL: UCL: RPD:
K00W01AC-LCS:
HEXCHROME RDL:0.35 mg/kg LCL:80 UCL:120 RPD:20

K0X411AA-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
K0X431AC-MS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
K0X431AD-MSD:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
K00W01AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
K00W01AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By Date:

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