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Analytical Data Package Prepared For

CH2M Hill Plateau Remediation

Radiochemical Analysis By

TestAmerica

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

Assigned Laboratory Code: TARL

Data Package Contains _____ Pages

Report No.: 40213

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.
W05462A	F06-027	B1WLC7	J8K050211-1	K19W71AA	9K19W710	8310518

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THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

CH2M Hill Plateau Remediation Company
P.O. Box 1600
Mail Stop - B6-06
Richland, WA 99352

November 20, 2008

Attention: Mike Neely

SAF Number	:	F06-027
Date SDG Closed	:	July 25, 2008
Number of Samples	:	One (1)
Sample Type	:	Water
SDG Number	:	W05462A
Data Deliverable	:	15 Day / Summary

CASE NARRATIVE

On November 5, 2008 a request for additional analysis (Order Number: 081105TARL-R5253) of one water sample was received at TestAmerica for Isotopic Uranium. Upon receipt, the sample was assigned the following laboratory ID numbers to correspond with the Fluor Hanford specific IDs:

FH ID#	TARL ID#	MATRIX	DATE OF RECEIPT
B1WLC7	K19W7 (KR65C)	WATER	7/25/08

II. Sample Receipt

The sample was received in good condition. The sample pH was greater than 2 at the time of receipt. TestAmerica emailed an IRF on July 25, 2008. The client accepted the proposed resolution (Tracking Number: 08-112) on July 29, 2008.

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:

Alpha Spectroscopy
Uranium 234, 235 and 238 by method RL-ALP-015 (RICH-RC-5039)*

*SOP ID's changed effective 7-01-2008. Attached is a cross reference until SOP ID's are changed in all systems.

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

Alpha Spectroscopy
Uranium 234, 235 and 238 by method RL-ALP-015 (RICH-RC-5039):
The LCS, batch blank, sample and sample duplicate (B1WLC7) 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

TAL RICHLAND ISSUE RESOLUTION FORM
FOR CONTRACT 615

Tracking Number: 08-112
SAF No.: F06-027
Date: July 25, 2008
SDG: W05462
Sample No.(s) B1WLB5, B1WLB6, B1WLB7, B1WLB8, B1WLB9, B1WLC0, B1WLC1, B1WLC2, B1WLC3, B1WLC4, B1WLC5, B1WLC6, B1WLC7

Submitted By: Sandra Seger

Phone No. 509-375-3131 x158
Fax No. 509-375-5590

Submitted To: **Steve Trent (FH)**

Phone No. **509-373-5869**
Fax No. 866-252-5816

ISSUE	PROPOSED RESOLUTION
The sample bottle labels indicate the samples were acidified, however the pH was greater than 2. The requested analytes were gross alpha and gross beta.	The client has instructed TestAmerica to acidify the samples and proceed with analysis. The 24 hour waiting period after acidification has been waived by the client.

FLH COMMENTS -
Accept proposed resolution.

Heidi Hampt 7/29/08

Signature and date

Seger, Sandra

From: Hampt, Heidi [Heidi_Hampt@RL.gov]
Sent: Tuesday, July 29, 2008 10:48 AM
To: Seger, Sandra
Cc: Trent, Stephen J; ^CPP Sample Management; Anastos, Heather L; Widrig, Dana L; Fies, Gregory A
Subject: RE: W05462 IRF
Attachments: 08-112.DOC

Sandra,

Our response is attached.

Thanks,
Heidi

From: Seger, Sandra [mailto:Sandra.Seger@testamericainc.com]
Sent: Friday, July 25, 2008 2:55 PM
To: Hampt, Heidi
Subject: W05462 IRF

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	DICESTION 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-RE-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-RE-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-RE-0001		PREPARATION FOR RAPID BIOASSAY ANALYSES
Prep - Bioassay	RL-PRP-001	RICH-RE-5002	Mod Pu06 / HASL 300	PREPARATION OF URINE AND BLOOD SAMPLES
Prep - Bioassay	ARCHIVED	RICH-RE-5004	ASTM D1429-95	DETERMINATION OF SPECIFIC GRAVITY OF URINE
Prep - Bioassay	RL-RPL-002	RICH-RE-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	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 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-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-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: 20-Nov-08

Report No. : 40213

SDG No: W05462A

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
8310518 UISO_PLATE_AEA									
B1WLC7									
	K19W71AA	U-234	1.13E+01 +- 2.19E+00		pCi/L	94%	1.68E-01	1.00E+00	
		U-235	3.56E-01 +- 2.14E-01		pCi/L	94%	1.42E-01	1.00E+00	
		U-238	1.10E+01 +- 2.13E+00		pCi/L	94%	2.18E-01	1.00E+00	
B1WLC7 DUP									
	K19W71AC	U-234	1.31E+01 +- 2.50E+00		pCi/L	110%	1.77E-01	1.00E+00	14.9
		U-235	5.26E-01 +- 2.72E-01		pCi/L	110%	1.50E-01	1.00E+00	38.5
		U-238	9.92E+00 +- 1.96E+00		pCi/L	110%	1.50E-01	1.00E+00	10.1

No. of Results: 6

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

rptSTLRchSaSum mary2 V5.2 A2002

QC Results Summary

Date: 20-Nov-08

TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 40213

SDG No.: W05462A

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC|MDA
UISO_PLATE_AEA								
8310518 BLANK QC,								
K2AC71AA	U-234	2.79E-02 +- 5.71E-02	U	pCi/L	108%			1.34E-01
	U-235	0.00E+00 +- 5.70E-02	U	pCi/L	108%			1.34E-01
	U-238	1.68E-02 +- 5.81E-02	U	pCi/L	108%			1.58E-01
8310518 LCS,								
K2AC71AC	U-234	8.42E+00 +- 1.70E+00		pCi/L	104%	95%	0.0	1.43E-01
	U-238	9.31E+00 +- 1.85E+00		pCi/L	104%	100%	0.0	1.43E-01

No. of Results: 5

TestAmerica

rptSTLRchQcSummary V5.2 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.

FORM I

SAMPLE RESULTS

Date: 20-Nov-08

Lab Name:	TestAmerica	**SDG:**	W05462A	**Collection Date:**	7/25/2008 8:25:00 AM
Lot-Sample No.:	J8K050211-1	**Report No. :**	40213	**Received Date:**	11/5/2008 8:50:00 AM
Client Sample ID:	B1WLC7	**COC No. :**	F06-027-251	**Matrix:**	WATER

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: 8310518	UISO_PLATE_AEA			**Work Order:** K19W71AA		**Report DB ID:** 9K19W710						
U-234	***1.13E+01***		1.2E+00	2.2E+00	1.68E-01	pCi/L	94%	*(67.5)*	11/13/08 09:02 p		0.2001	ALP9
						4.37E-02	1.00E+00	*(10.4)*			L	
U-235	***3.56E-01***		2.1E-01	2.1E-01	1.42E-01	pCi/L	94%	*(2.5)*	11/13/08 09:02 p		0.2001	ALP9
						3.09E-02	1.00E+00	*(3.3)*			L	
U-238	***1.10E+01***		1.1E+00	2.1E+00	2.18E-01	pCi/L	94%	*(50.3)*	11/13/08 09:02 p		0.2001	ALP9
						6.90E-02	1.00E+00	*(10.3)*			L	

Ratio U-234/238 = 1.0

No. of Results: 3 **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.

FORM II

Date: 20-Nov-08

DUPLICATE RESULTS

Lab Name:	**TestAmerica**	**SDG:**	W05462A	**Collection Date:**	7/25/2008 8:25:00 AM
Lot-Sample No.:	**J8K050211-1**	**Report No. :**	40213	**Received Date:**	11/5/2008 8:50:00 AM
Client Sample ID:	**B1WLC7 DUP**	**COC No. :**	F06-027-251	**Matrix:**	WATER

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: 8310518	UISO_PLATE_AEA			**Work Order:** K19W71AC		**Report DB ID:** K19W71CR			**Orig Sa DB ID:** 9K19W710			
U-234	1.31E+01		1.3E+00	2.5E+00	1.77E-01	pCi/L	110%	(74.3)	11/13/08 09:03 p		0.2	ALP10
	1.13E+01		**RPD**	**14.9**		1.00E+00		(10.5)			L	
U-235	5.26E-01		2.6E-01	2.7E-01	1.50E-01	pCi/L	110%	(3.5)	11/13/08 09:03 p		0.2	ALP10
	3.56E-01		**RPD**	**38.5**		1.00E+00		(3.9)			L	
U-238	9.92E+00		1.1E+00	2.0E+00	1.50E-01	pCi/L	110%	(66.1)	11/13/08 09:03 p		0.2	ALP10
	1.10E+01		**RPD**	**10.1**		1.00E+00		(10.1)			L	

Ratio U-234/238 = 1.3 ***Alpha Spec Result Sum = 2.4E+01***

No. of Results: 3 **Comments:**

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

FORM II

BLANK RESULTS

Date: 20-Nov-08

Lab Name: TestAmerica

Matrix: WATER

SDG: W05462A

Report No. : 40213

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: 8310518	UISO_PLATE_AEA			**Work Order:** K2AC71AA			**Report DB ID:** K2AC71AB					
U-234	2.79E-02	U	5.7E-02	5.7E-02	1.34E-01	pCi/L	108%	0.21	11/13/08 09:03 p		0.1999	ALP11
					2.91E-02	1.00E+00		0.98			L	
U-235	0.00E+00	U	0.0E+00	5.7E-02	1.34E-01	pCi/L	108%	0.	11/13/08 09:03 p		0.1999	ALP11
					2.91E-02	1.00E+00		0.			L	
U-238	1.68E-02	U	5.8E-02	5.8E-02	1.58E-01	pCi/L	108%	0.11	11/13/08 09:03 p		0.1999	ALP11
					4.11E-02	1.00E+00		0.58			L	

Ratio U-234/238 = 1.7

No. of Results: 3 **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.

FORM II

LCS RESULTS

Date: 20-Nov-08

Lab Name: TestAmerica

Matrix: WATER

SDG: W05462A

Report No. : 40213

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: 8310518	UISO_PLATE_AEA			**Work Order:** K2AC71AC			**Report DB ID:** K2AC71CS						
U-234	8.42E+00		1.0E+00	1.7E+00	1.43E-01	pCi/L	104%	8.85E+00	4.98E-02	95%	11/13/08 09:03 p	0.2	ALP12
							Rec Limits:	70	130	0.0		L	
U-238	9.31E+00		1.1E+00	1.8E+00	1.43E-01	pCi/L	104%	9.27E+00	5.22E-02	100%	11/13/08 09:03 p	0.2	ALP12
							Rec Limits:	70	130	0.0		L	

No. of Results: 2 **Comments:**

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

rptSTLRchLcs
V5.2 A2002

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

11/17/2008 2:28:12 PM

Lot No., Due Date: J8K050211; 11/20/2008

Client, Site: 108302; FLH HANFORD

QC Batch No., Method Test: 8310518; RUISO Uiso by ALP

SDG, Matrix: W05462A; WATER

	Yes	No	N/A
1.0 COC			
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	✓		
2.0 QC Batch			
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2.2 Are the QC appropriate for the analysis included in the batch?	✓		
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	✓		
2.4 Does the Worksheets include a Tracer Vial label for each sample?	✓		
3.0 QC & Samples			
3.1 Is the blank results, yield, and MDA within contract limits?	✓		
3.2 Is the LCS result, yield, and MDA within contract limits?	✓		
3.3 Are the MS/MSD results, yields, and MDA within contract limits?			✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?	✓		
3.5 Are the sample yields and MDAs within contract limits?	✓		
4.0 Raw Data			
4.1 Were results calculated in the correct units?	✓		
4.2 Were analysis volumes entered correctly?	✓		
4.3 Were Yields entered correctly?			✓
4.4 Were spectra reviewed/meet contractual requirements?	✓		
4.5 Were raw counts reviewed for anomalies?	✓		
5.0 Other			
5.1 Are all nonconformances included and noted?			✓
5.2 Are all required forms filled out?	✓		
5.3 Was the correct methodology used?	✓		
5.4 Was transcription checked?	✓		
5.5 Were all calculations checked at a minimum frequency?	✓		
5.6 Are worksheet entries complete and correct?	✓		

6.0 Comments on any No response:

First Level Review Trai Anderson **Date** 11/17/08

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist

RADIOCHEMISTRY

Second Level Review

Batch Number: 83105 18

Review Item	Yes (√)	No (√)	NA (√)
A. Sample Analysis 1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples 1. Is the Minimum Detectable Activity for the blank result ≤the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery within contract acceptance criteria?	✓		
6. Is the LCS Minimum Detectable Activity ≤the Contract Detection Limit?	✓		
7. Do the MS/MSD results and yields meet acceptance criteria?			✓
8. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other 1. Are all Non-conformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: _____

Second Level Review: Jodie C Date: 11/18/08

LS-038B, Rev. 10, 9/07

11/05/2008
RECHECK, RECOUNT, OR REANALYSIS ORDER
CONTRACT NO MW6-SBB-A19981

TestAmerica Incorporated,
2800 George Washington Way
Richland, WA 99354

J8K050211
W05462A
Rcv'd 11/5/08
Due 11/20/08

Battelle PNNL Order Number: 081105TARL-R5253

Sample Delivery Group: W05462

Special Instructions Please analyze for isotopic Uranium, not gross alpha.

Samples(s)

Lab Sample ID	PNNL Sample	Action	TAT	METHOD_NAME:
9KR65C10	B1WLC7	Reanalysis	15/15	ALPHA_GPC

K1907

Deliver Report Results to: CH2M Hill Plateau Remediation Company
P.O. Box 1600
Mail Stop - B6-06
Richland, WA 99352
C/O Mr. Mike Neely

Seger, Sandra

From: Hampt, Heidi [Heidi_Hampt@RL.gov]
Sent: Wednesday, November 05, 2008 8:48 AM
To: Seger, Sandra
Cc: Trent, Stephen J; Ayres, Doris E; Sumner, Laine C
Subject: Request for Recheck, Recount, or Reanalysis Order

Attachments: 081105TARLR5253.rtf

081105TARLR5253.rtf (3 KB)

Sandra,

More Uranium.

Heidi

Fluor Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F06-027-251

COLLECTOR
D. Wood

COMPANY CONTACT
FABRE, RJ

TELEPHONE NO.
373-2774

PROJECT COORDINATOR
TRENT, SJ

PRICE CODE 7A

DATA TURNAROUND
3 Days / 15 Days

SAMPLING LOCATION
100NR2 Syn.Apatite Inj. #5-Post-Inj.Smpls-Day0

PROJECT DESIGNATION
100-N Apatite Barrier Performance Monitoring

SAF NO.
F06-027

AIR QUALITY

ICE CHEST NO.

FIELD LOGBOOK NO.
HNF-N-585-11

ACTUAL SAMPLE DEPTH

COA
122561ES20

METHOD OF SHIPMENT
GOVERNMENT VEHICLE

SHIPPED TO
TestAmerica Incorporated, Richland

OFFSITE PROPERTY NO.

BILL OF LADING/AIR BILL NO.
J8G 250 238 WO 5462 Due 07-28-08 30 SLS 7/30/08

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	HNO3 to pH <2
TYPE OF CONTAINER	P
NO. OF CONTAINER(S)	1
VOLUME	1000mL
SAMPLE ANALYSIS	Gross Alpha (Gross alpha) Gross Beta (Gross beta)

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B1WLC5 ✓	WATER	7-25-8	0850	X	KR648
B1WLC6 ✓	WATER		0835	X	KR649
B1WLC7 ✓	WATER		0825	X	KR65C
				X	
				X	

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES** / **SPECIAL INSTRUCTIONS**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
D. Wood/D. Wood	7-25-8 / 11:30	S. Smith S. Smith	7-25-8 / 11:30
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

LABORATORY SECTION RECEIVED BY TITLE DATE/TIME

FINAL SAMPLE DISPOSITION DISPOSAL METHOD DISPOSED BY DATE/TIME

A-6003-618(01/06)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 07.25.08 11:30 GM Screen Result .01 - .02

Client: PGW SDG #: W05462 NA[ ] SAF #: F06-027 NA [ ]

Work Order Number: J8G250238 Chain of Custody # F06-027-251

Shipping Container ID: _____ Air Bill # _____

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: _____ NA [✓] 5. Vermiculite/packing materials is NA [✓] Wet [ ] Dry [ ]
6. Number of samples in shipping container: 13
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 see attached
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: L. Smith Date: 07.25.08

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____

Test America Laboratories, Inc

11/10/2008 8:23:18 AM

Sample Preparation/Analysis

Balance Id:1120482733

108302, CH2M Hill Plateau Remediation DOE RL
, Waste Management Federal Servi

7Y Ulso PrpRC5016/5086, SepRC5067(5039)
SR Uranium-234,235,238 by Alpha Spec
5I CLIENT: HANFORD

PRIORITY

Pipet #:

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: ,LaneL

AnalyDueDate: 11/17/2008 W0546ZA

Batch: 8310518 **WATER** **pCi/L** **PM, Quote: SS , 29754**

SEQ Batch, Test: None

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 K19W7-1-AA J8K050211-1-SAMP 07/25/2008 08:25		AmtRec: LP	200.10g,in	200.10g #Containers: 1	UITC20432 10/29/08,pd 01/20/04,r	200		Scr:	Alpha:	Beta:
2 K19W7-1-AC-X J8K050211-1-DUP 07/25/2008 08:25		AmtRec: LP	200.00g,in	200.00g #Containers: 1	UITC20433 10/29/08,pd 01/20/04,r			Scr:	Alpha:	Beta:
3 K2AC7-1-AA-B J8K050000-518-BLK 07/25/2008 08:25		AmtRec:	199.90g,in	199.90g #Containers: 1	UITC20434 10/29/08,pd 01/20/04,r			Scr:	Alpha:	Beta:
4 K2AC7-1-AC-C J8K050000-518-LCS 07/25/2008 08:25		AmtRec:	200.00g,in	200.00g #Containers: 1	UISG1707 10/08/08,pd 01/20/04,r			Scr:	Alpha:	Beta:

Comments: PH < 2.0. LJK 11 10 08

All Clients for Batch:
108302, CH2M Hill Plateau Remediation DOE RL Waste Management Federal Servi, SS , 29754

K19W71AA-SAMP Constituent List:

U-232	RDL:	pCi/L	LCL:20	UCL:105	RPD:20	U-234	RDL:1	pCi/L	LCL:	UCL:	RPD:
U-235	RDL:1	pCi/L	LCL:	UCL:	RPD:	U-238	RDL:1	pCi/L	LCL:	UCL:	RPD:

K2AC71AA-BLK:

U-232	RDL:	pCi/L	LCL:20	UCL:105	RPD:20	U-234	RDL:1	pCi/L	LCL:	UCL:	RPD:
U-235	RDL:1	pCi/L	LCL:	UCL:	RPD:	U-238	RDL:1	pCi/L	LCL:	UCL:	RPD:

11/10/2008 8:23:19 AM

Sample Preparation/Analysis

7Y Ulso PrpRC5016/5086, SepRC5067(5039)
SR Uranium-234,235,238 by Alpha Spec
5I CLIENT: HANFORD

Balance Id:1120482733

Pipet #:

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: ,LaneL

AnalyDueDate: 11/17/2008

Batch: 8310518 pCi/L
SEQ Batch, Test: None

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:

K2AC71AC-LCS:
U-232 RDL: pCi/L LCL:20 UCL:105 RPD:20 Uranium RDL: pCi/L LCL:70 UCL:130 RPD:20

K19W71AA-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
K2AC71AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
K2AC71AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

TestAmerica Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2 ISV - Insufficient Volume for Analysis WO Cnt: 4
Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Prep. SamplePrep v4.8.34

11/17/2008 2:27:25 PM

ICOC Fraction Transfer/Status Report

ByDate: 11/18/2007, 11/22/2008, Batch: '8310518', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
8310518						
AC		**Rev1C**	**LaneL**	11/10/2008 8:17:28		
SC			wagarr	IsBatched	11/6/2008 8:28:29 AM	ICOC_RADCALC v4.8 35
SC			LaneL	InPrep	11/10/2008 8:17:28 AM	RL-PRP-004 REVISION 0
SC			LaneL	Prep1C	11/10/2008 8:23:30 AM	RL-PRP-004 REVISION 0
SC			AshworthA	Prep2C	11/11/2008 6:33:32 PM	PRP-010 REVISION 0
SC			AshworthA	Sep1C	11/12/2008 2:44:50 PM	ALP-004 REVISION 0
SC			AshworthA	Sep2C	11/13/2008 6:39:16 PM	ALP-015 REVISION 0
SC			DAWKINSO	InCnt1	11/13/2008 7:57:25 PM	RL-CI-008 REVISION 0
SC			BlackCL	CalcC	11/14/2008 5:59:02 AM	RL-CI-008 REVISION 0
SC			antonsonl	Rev1C	11/17/2008 2:27:06 PM	RL-DR-001 REV 0
AC			**LaneL**	11/10/2008 8:23:30		
AC			**AshworthA**	11/11/2008 6:33:32		
AC			**AshworthA**	11/12/2008 2:44:50		
AC			**AshworthA**	11/13/2008 6:39:16		
AC			**DAWKINSO**	11/13/2008 7:57:25		
AC			**BlackCL**	11/14/2008 5:59:02		
AC			**antonsonl**	11/17/2008 2:27:06		

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

Grp Rec Cnt: 8

ICOCFractions v4.8.35