

RECEIVED OCTOBER 28, 2008

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.: 40066

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.
<u>W05521</u>	F08-083	B1TR49	J8I230268-1	KXFT11AD	9KXFT110	8267556
		B1TR49	J8I230268-1	KXFT11AA	9KXFT110	8267557
		B1TR49	J8I230268-1	KXFT11AE	9KXFT110	8267558
		B1TR49	J8I230268-1	KXFT11AC	9KXFT110	8267578

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EDMC

Certificate of Analysis

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

October 28, 2008

Attention: Mike Neely

SAF Number	:	F08-083
Date SDG Closed	:	September 23, 2008
Number of Samples	:	One (1)
Sample Type	:	Water
SDG Number	:	W05521
Data Deliverable	:	45/45 Day

CASE NARRATIVE

I. Introduction

On September 23, 2008 one sample was received at TestAmerica for radiochemical analysis. Upon receipt, the sample was assigned to lot J8I230268 and assigned the following laboratory ID number to correspond with the Fluor Hanford (FH) specific ID:

<u>FH ID#</u>	<u>TARL ID#</u>	<u>MATRIX</u>	<u>DATE OF RECEIPT</u>
B1TR49	KXFT1	WATER	9/23/08

II. Sample Receipt

The sample was 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:

Gas Proportional Counting

Gross Alpha by method RL-GPC-001 (RICH-RC-5014)*

Gross Beta by method RL-GPC-001 (RICH-RC-5014)*

Strontium-90 by method RL-GPC-003 (RICH-RC-5006)*

Chemical Analysis

Hexavalent Chromium by EPA method 7196A

*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

Gas Proportional Counting

Gross Alpha by method RL-GPC-001 (RICH-RC-5014):

Sample B1TR49 and B1TR49 DUP were analyzed with reduced aliquots due to weight screens.

The precipitate weights on both samples were over the procedure limit of 57 mg. The precipitate weight for sample B1TR49 was 67.2mg. The precipitate weight for sample B1TR49 DUP was 68.9 mg. The MDAs were achieved and the weights were within the calibration curve upper weight.

Except as noted, the LCS, batch blank, sample and sample duplicate (B1TR49) results are within contractual requirements.

Gross Beta by method RL-GPC-001 (RICH-RC-5014):

The LCS, batch blank, sample and sample duplicate (B1TR49) results are within contractual requirements.

Strontium-90 by method RL-GPC-003 (RICH-RC-5006):

The LCS, batch blank, sample and sample duplicate (B1TR49) results are within contractual requirements.

CH2M Hill Plateau Remediation Company
October 28, 2008

Chemical Analysis

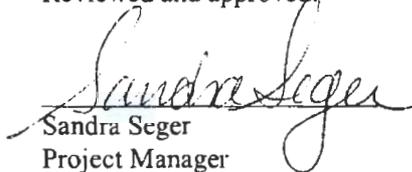
Hexavalent Chromium by EPA method 7196A

Sample B1TR49 was received out of the hold time. TestAmerica sent an Issue Resolution September 23, 2008. The client accepted the proposed resolution (Tracking Number: 08-193) on October 26, 2008.

The LCS, batch blank, sample, sample duplicate (B1TR49), sample matrix spike (B1TR49), and matrix spike duplicate results (B1TR49) 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**

CHPRC Tracking Number: 08-193
SAF No.: F08-083
Date: September 23, 2008
SDG: W05521
Sample No.(s) B1TR49

Submitted By: Rhonda Wagar

Submitted To: Steve Trent (FH)

Phone No. 509-375-3131 x173

Phone No. 509-373-5869

Fax No. 509-375-5590

Fax No. 866-252-5816

ISSUE

The Cr+6 sample was out of hold time when the sample was received.

PROPOSED RESOLUTION

The sample was analyzed. TestAmerica will report the sample result unless instructed otherwise by the client.

CHPRC COMMENTS -

Accept proposed resolution. Also, note in case narrative and include a copy of the IRF in the data package.

Heidi Hampt 10/26/08

Signature and date

Seger, Sandra

From: Hampt, Heidi [Heidi_Hampt@RL.gov]
Sent: Sunday, October 26, 2008 5:19 PM
To: Seger, Sandra; ^CPP Sample Management
Cc: Wagar, Rhonda; Neely, Michael; Widrig, Dana L; Anastos, Heather L; Fies, Gregory A
Subject: RE: W05521 IRF (Cr+6 Water Sample Received out of Hold Time)
Attachments: 08-193.DOC

Sandra,

Our response is attached.

Thanks,
Heidi

From: Seger, Sandra [mailto:Sandra.Seger@testamericainc.com]
Sent: Friday, October 24, 2008 7:35 AM
To: ^CPP Sample Management
Cc: Hampt, Heidi; Wagar, Rhonda
Subject: FW: W05521 IRF (Cr+6 Water Sample Received out of Hold Time)

SDG W05521 is complete and ready to report. We just need the attached IRF approved.

Thanks,
Sandra

From: Wagar, Rhonda
Sent: Tuesday, September 23, 2008 2:03 PM
To: '^CPP Sample Management'
Cc: 'Hampt, Heidi'; Seger, Sandra
Subject: W05521 IRF (Cr+6 Water Sample Received out of Hold Time)

RHONDA WAGAR
Quality Assurance Specialist

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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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, $R = \text{constants} * f(x,y,z,...)$. 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/\sqrt{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) <i>u_c</i>, 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, <i>u_c</i> 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%. $Lc = (1.645 * \text{Sqrt}(2 * (\text{BkgndCnt} / \text{BkgndCntMin}) / \text{SCntMin})) * (\text{ConvFct} / (\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol})) * \text{IngrFct}$. 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%. $MDC = (4.65 * \text{Sqrt}((\text{BkgndCnt} / \text{BkgndCntMin}) / \text{SCntMin}) + 2.71 / \text{SCntMin}) * (\text{ConvFct} / (\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol})) * \text{IngrFct}$. 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.
REF	The equation Replicate Error Ratio = $(S-D) / [\text{sqrt}(TPUs^2 + TPUD^2)]$ 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 COPRECIPIATION
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 Mod Fe55/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
Gamm	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	R4-73-014/EPA ASTM D2334 (Discontinued)	DETERMINATION OF IODINE-131 AND 129 IN WATER BY SOLVENT EXTRACTION METHOD
I131	RL-GAM-002	RICH-RC-5025	R4-73-014/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 Sechiel

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 Mod Fe55/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 PERFORMANCE 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	C-03 / HASL 300	COPRECIPIATION OF SOME ACTINIDES ON NEODYMIUM FLUORIDE FOR ALPHA-PARTICLE SPECTROMETRY
Prep - Count	RL-ALP-015	RICH-RC-5039	C-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, 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-CPC-003	RICH-RC-5006	Mod Sr02 / HASL300 Mod 905.0 / EPA 600	STRONTIUM SEPARATION IN ENVIRONMENTAL 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

Date: 28-Oct-08

TestAmerica TARL

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

Report No. : 40066

SDG No: W05521

Batch	Client Id Work Order	Parameter	Result +/- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
8267558	SRTOT_SEP_PRECIP_GPC								
	B1TR49								
	KXFT11AE	STRONTIUM	3.79E+00 +/- 1.26E+00		pCi/L	100%	1.04E+00		
	B1TR49 DUP								
	KXFT11AH	STRONTIUM	4.17E+00 +/- 1.36E+00		pCi/L	100%	1.08E+00		9.7
8267556	9310_ALPHABETA_GPC								
	B1TR49								
	KXFT11AD	ALPHA	1.66E+00 +/- 1.17E+00		pCi/L	100%	1.22E+00	3.00E+00	
	B1TR49 DUP								
	KXFT11AF	ALPHA	4.99E+00 +/- 2.16E+00		pCi/L	100%	1.46E+00	3.00E+00	100.0
8267557	BETA_GPC								
	B1TR49								
	KXFT11AA	BETA	1.63E+01 +/- 3.48E+00		pCi/L	100%	2.88E+00	4.00E+00	
	B1TR49 DUP								
	KXFT11AG	BETA	1.66E+01 +/- 3.17E+00		pCi/L	100%	2.94E+00	4.00E+00	2.1
8267578	7196_CR6								
	B1TR49								
	KXFT11AC	HEXCHROME	4.00E-03 +/- 0.00E+00		mg/L	N/A	2.00E-03	3.50E-01	
	KXFT11AL	HEXCHROME	6.00E-03 +/- 0.00E+00		mg/L	N/A	2.00E-03	3.50E-01	40.0
No. of Results: 8									

TestAmerica RPD - Relative Percent Difference.

rptSTLRchSaSum
mary2 V5.1.8
A2002

QC Results Summary
TestAmerica TARL
 Ordered by Method, Batch No, QC Type,.

Date: 28-Oct-08

Report No. : 40066

SDG No.: W05521

Batch	Work Order	Parameter	Result +/- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC MDA
SRTOT_SEP_PRECIP_GPC									
8267558	BLANK QC,								
	KXF391AA	STRONTIUM	-5.17E-02 +- 4.71E-01	U	pCi/L	97%			1.07E+00
8267558	LCS,								
	KXF391AC	STRONTIUM	2.72E+01 +- 7.35E+00		pCi/L	94%	97%	0.0	1.13E+00
9310_ALPHABETA_GPC									
8267556	BLANK QC,								
	KXF361AA	ALPHA	1.30E-01 +- 2.81E-01	U	pCi/L	100%			6.22E-01
8267556	LCS,								
	KXF361AC	ALPHA	1.66E+01 +- 3.88E+00		pCi/L	100%	72%	-0.3	6.39E-01
BETA_GPC									
8267557	BLANK QC,								
	KXF381AA	BETA	1.47E+00 +- 1.35E+00	U	pCi/L	100%			2.72E+00
8267557	LCS,								
	KXF381AC	BETA	2.53E+01 +- 4.07E+00		pCi/L	100%	112%	0.1	2.39E+00
7196_CR6									
8267578	MATRIX SPIKE, B1TR49								
	KXFT11AJ	HEXCHROME	5.37E-01 +- 0.00E+00		mg/L	N/A	204%	1.0	2.00E-03
	KXFT11AK	HEXCHROME	5.45E-01 +- 0.00E+00		mg/L	N/A	207%	1.1	2.00E-03
8267578	LCS,								
	KXF7G1AC	HEXCHROME	5.06E-01 +- 0.00E+00		mg/L	N/A	101%	0.0	2.00E-03
8267578	BLANK QC,								
	KXF7G1AA	HEXCHROME	2.00E-03 +- 0.00E+00	U	mg/L	N/A			2.00E-03
No. of Results: 10									

TestAmerica Bias - (Result/Expected)-1 as defined by ANSI N13.30.
 rptSTLRchQcSummary V5.1.3 A2002 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

Date: 28-Oct-08

SAMPLE RESULTS

Lab Name: TestAmerica

SDG: W05521

Collection Date: 9/22/2008 11:00:00 AM

Lot-Sample No.: J8I230268-1

Report No.: 40066

Received Date: 9/23/2008 12:50:00 PM

Client Sample ID: B1TR49

COC No.: F08-083-016

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: 8267556	9310_ALPHABETA_GPC				Work Order: KXFT11AD		Report DB ID: 9KXFT110					
ALPHA	1.66E+00		1.1E+00	1.2E+00	1.22E+00	pCi/L	100%	(1.4)	10/20/08 07:10 p		0.1515	GPC10F
							3.87E-01	3.00E+00			L	
								(2.9)				
Batch: 8267557	BETA_GPC				Work Order: KXFT11AA		Report DB ID: 9KXFT110					
BETA	1.63E+01		2.3E+00	3.5E+00	2.88E+00	pCi/L	100%	(5.6)	10/20/08 06:51 p		0.2	GPC28B
							1.37E+00	4.00E+00			L	
								(9.4)				
Batch: 8267558	SRTOT_SEP_PRECIP_GPC				Work Order: KXFT11AE		Report DB ID: 9KXFT110					
STRONTIUM	3.79E+00		7.3E-01	1.3E+00	1.04E+00	pCi/L	100%	(3.6)	10/20/08 06:43 p		0.5	GPC27A
							4.95E-01				L	
								(6.)				
Batch: 8267578	7196_CR6				Work Order: KXFT11AC		Report DB ID: 9KXFT110					
HEXCHROME	4.00E-03			0.0E+00	2.00E-03	mg/L	N/A	(2.)	9/23/08		100.0	
							3.50E-01	N/A			ML	
No. of Results:	4	Comments:										

15

FORM II

Date: 28-Oct-08

DUPLICATE RESULTS

Lab Name: TestAmerica

SDG: W05521

Collection Date: 9/22/2008 11:00:00 AM

Lot-Sample No.: J8I230268-1

Report No. : 40066

Received Date: 9/23/2008 12:50:00 PM

Client Sample ID: B1TR49

COC No. : F08-083-016

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: 8267578	7196_CR6				Work Order: KXFT11AL				Report DB ID: KXFT11ER			
HEXCHROME	6.00E-03			0.0E+00	2.00E-03	mg/L	N/A	(3.)	9/23/08		100.0	
	4.00E-03			RPD 40.0			3.50E-01	N/A			ML	
									Orig Sa DB ID: 9KXFT110			

No. of Results: 1 Comments:

TestAmerica RPD - Relative Percent Difference.

rptSTLRchDupV5.1 MDC|MDA,Le - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
.8 A2002

FORM II

Date: 28-Oct-08

DUPLICATE RESULTS

Lab Name: TestAmerica

SDG: W05521

Collection Date: 9/22/2008 11:00:00 AM

Lot-Sample No.: J81230268-1

Report No.: 40066

Received Date: 9/23/2008 12:50:00 PM

Client Sample ID: B1TR49 DUP

COC No.: F08-083-016

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: 8267556	9310_ALPHABETA_GPC				Work Order: KXFT11AF			Report DB ID: KXFT11FR	Orig Sa DB ID: 9KXFT110			
ALPHA	4.99E+00		1.9E+00	2.2E+00	1.46E+00	pCi/L	100%	(3.4)	10/20/08 09:06 p		0.1515	GPC10B
	1.66E+00		RPD 100.0			3.00E+00		(4.6)			L	
Batch: 8267557	BETA_GPC				Work Order: KXFT11AG			Report DB ID: KXFT11GR	Orig Sa DB ID: 9KXFT110			
BETA	1.66E+01		2.4E+00	3.2E+00	2.94E+00	pCi/L	100%	(5.7)	10/20/08 06:51 p		0.2	GPC28D
	1.63E+01		RPD 2.1			4.00E+00		(10.5)			L	
17 Batch: 8267558	SRTOT_SEP_PRECIP_GPC				Work Order: KXFT11AH			Report DB ID: KXFT11HR	Orig Sa DB ID: 9KXFT110			
STRONTIUM	4.17E+00		7.6E-01	1.4E+00	1.08E+00	pCi/L	100%	(3.8)	10/20/08 06:48 p		0.5	GPC31A
	3.79E+00		RPD 9.7					(6.1)			L	

No. of Results: 3 Comments:

TestAmerica RPD - Relative Percent Difference.

rptSTLRchDupV5.1 MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
.8 A2002

FORM II
BLANK RESULTS

Date: 28-Oct-08

Lab Name: TestAmerica
Matrix: WATER

SDG: W05521
Report No. : 40066

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: 8267578	7196_CR6											
HEXCHROME	2.00E-03	U		0.0E+00	2.00E-03	mg/L	N/A	1.	9/23/08		100.0	
						3.50E-01		N/A			ML	
Batch: 8267556	9310_ALPHABETA_GPC											
ALPHA	1.30E-01	U	2.8E-01	2.8E-01	6.22E-01	pCi/L	100%	0.21	10/20/08 09:06 p		0.1999	GPC10C
					2.43E-01	3.00E+00		0.92			L	
Batch: 8267557	BETA_GPC											
BETA	1.47E+00	U	1.3E+00	1.3E+00	2.72E+00	pCi/L	100%	0.54	10/20/08 06:51 p		0.2	GPC28C
					1.29E+00	4.00E+00		(2.2)			L	
Batch: 8267558	SRTOT_SEP_PRECIP_GPC											
STRONTIUM	-5.17E-02	U	4.7E-01	4.7E-01	1.07E+00	pCi/L	97%	-0.05	10/20/08 06:48 p		0.5	GPC31B
					5.05E-01	5.00E+00		-0.22			L	

No. of Results: 4 Comments:

18

FORM II
LCS RESULTS

Date: 28-Oct-08

Lab Name: TestAmerica

SDG: W05521

Matrix: WATER

Report No. : 40066

Parameter	Result	Count Qual 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: 8267578	7196_CR6				Work Order: KXF7G1AC		Report DB ID: KXF7G1AS					
HEXCHROME	5.06E-01		0.0E+00	2.00E-03	mg/L	N/A	5.00E-01		101%	9/23/08	100.0	
						Rec Limits:	70	130	0.0		ML	
Batch: 8267556	9310_ALPHABETA_GPC				Work Order: KXF361AC		Report DB ID: KXF361CS					
ALPHA	1.66E+01	1.9E+00	3.9E+00	6.39E-01	pCi/L	100%	2.31E+01	7.56E-01	72%	10/20/08 09:06 p	0.2	GPC10D
						Rec Limits:	70	130	-0.3		L	
Batch: 8267557	BETA_GPC				Work Order: KXF381AC		Report DB ID: KXF381CS					
BETA	2.53E+01	2.4E+00	4.1E+00	2.39E+00	pCi/L	100%	2.25E+01	2.95E-01	112%	10/20/08 08:30 p	0.2001	GPC26C
						Rec Limits:	70	130	0.1		L	
Batch: 8267558	SRTOT_SEP_PRECIP_GPC				Work Order: KXF391AC		Report DB ID: KXF391CS					
STRONTIUM	2.72E+01	1.6E+00	7.3E+00	1.13E+00	pCi/L	94%	2.80E+01	5.43E-01	97%	10/20/08 06:48 p	0.5	GPC31D
						Rec Limits:	75	125	0.0		L	

No. of Results: 4

Comments:

TestAmerica Bias - (Result/Expected)-1 as defined by ANSIN13.30.

rptSTLRchLcs
V5.1.8 A2002

FORM II

Date: 28-Oct-08

MATRIX SPIKE RESULTS

Lab Name: TestAmerica

SDG: W05521

Lot-Sample No.: J8I230268-1, B1TR49

Report No.: 40066

Matrix: WATER

Parameter	SpikeResult, Orig Rst	Count Qual 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: 8267578	Work Order: KXFT11AJ		Report DB ID: KXFT11CW		Orig Sa DB ID: 9KXFT110						
HEXCHROME	5.37E-01 4.00E-03		0.0E+00	2.00E-03	mg/L	N/A	204.18%	2.63E-01	9/23/08	100.0 ML	7196_CR6
Batch: 8267578	Work Order: KXFT11AK		Report DB ID: KXFT11DW		Orig Sa DB ID: KXFT11CW						
HEXCHROME	5.45E-01 5.37E-01		0.0E+00	2.00E-03	mg/L	N/A	207.22%	2.63E-01	9/23/08	100.0 ML	7196_CR6

Number of Results: 2

Comments:

FORM II

Date: 28-Oct-08

MATRIX SPIKE DUPLICATE RESULTS

Lab Name: TestAmerica

SDG: W05521

Lot-Sample No.: J8I230268-1, B1TR49

Report No. : 40066

Matrix: WATER

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	Primary Detector
Batch: 8267578	7196_CR6			Work Order: KXFT11AJ		Report DB ID: KXFT11CW		Orig Sa DB ID: KXFT11DW				
HEXCHROME	5.37E-01			0.0E+00	2.00E-03	mg/L	N/A	204.18%	2.63E-01	9/23/08	100.0	
	5.45E-01	RPD	1.5								ML	
Batch: 8267578	7196_CR6			Work Order: KXFT11AK		Report DB ID: KXFT11DW		Orig Sa DB ID: KXFT11CW				
HEXCHROME	5.45E-01			0.0E+00	2.00E-03	mg/L	N/A	207.22%	2.63E-01	9/23/08	100.0	
	5.37E-01	RPD	1.5								ML	

No. of Results: 2 Comments:

Lot No., Due Date: J8I230268; 11/07/2008
Client, Site: 108302; FLH HANFORD
QC Batch No., Method Test: 8267556; RALPHA-A Alpha by GPC-Am
SDG, Matrix: W05521; WATER

1.0 COC

1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions? Yes No N/A
✓

2.0 QC Batch

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet? Yes No N/A
✓

2.2 Are the QC appropriate for the analysis included in the batch? Yes No N/A
✓

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc? Yes No N/A
✓

2.4 Does the Worksheets include a Tracer Vial label for each sample? Yes No N/A
✓

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits? Yes No N/A
✓

3.2 Is the LCS result, yield, and MDA within contract limits? Yes No N/A
✓

3.3 Are the MS/MSD results, yields, and MDA within contract limits? Yes No N/A
✓

3.4 Are the duplicate result, yields, and MDAs within contract limits? Yes No N/A
✓

3.5 Are the sample yields and MDAs within contract limits? Yes No N/A
✓

4.0 Raw Data

4.1 Were results calculated in the correct units? Yes No N/A
✓

4.2 Were analysis volumes entered correctly? Yes No N/A
✓

4.3 Were Yields entered correctly? Yes No N/A
✓

4.4 Were spectra reviewed/meet contractual requirements? Yes No N/A
✓

4.5 Were raw counts reviewed for anomalies? Yes No N/A
✓

5.0 Other

5.1 Are all nonconformances included and noted? Yes No N/A
✓

5.2 Are all required forms filled out? Yes No N/A
✓

5.3 Was the correct methodology used? Yes No N/A
✓

5.4 Was transcription checked? Yes No N/A
✓

5.5 Were all calculations checked at a minimum frequency? Yes No N/A
✓

5.6 Are worksheet entries complete and correct? Yes No N/A
✓

6.0 Comments on any No response:
 See NCM # 10-13171 for response to Item 5.1.

First Level Review

Matt Lander

Date

10-21-08

Data Review Checklist RADIOCHEMISTRY Second Level Review

Batch Number: 8267556

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: See Num

Second Level Review: Erike Jod Date: 10-22-8

Clouseau Nonconformance Memo

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

NCM #: **10-13171**
 NCM Initiated By: **Matt Lardy**
 Date Opened: **10/21/2008**
 Date Closed:

Classification: **Anomaly**
 Status: **GLREVIEW**
 Production Area: **Environmental - Prep**
 Tests: **Alpha by GPC-Am**
 Lot #'s (Sample #'s): **J8I230268 (1),**
 QC Batches: **8267556,**

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

Problem Description / Root Cause

<u>Name</u>	<u>Date</u>	<u>Description</u>
Matt Lardy	10/21/2008	The precipitate weight on samples KXFT1-1AD and KXFT1-1AF-X were over the procedure limit of 57 mg at 67.2 ad 68.9 mg respectively. The MDAs were achieved and the weights were within the calibration curve upper weight.

Corrective Action

<u>Name</u>	<u>Date</u>	<u>Corrective Action</u>
Matt Lardy	10/21/2008	Report the data.

Client Notification Summary

<u>Client</u>	<u>Project Manager</u>	<u>Notified</u>	<u>Response</u>	<u>How Notified</u>	<u>Note</u>
			<u>Response</u>		<u>Response Note</u>

Quality Assurance Verification

<u>Verified By</u>	<u>Due Date</u>	<u>Status</u>	<u>Notes</u>
		This section not yet completed by QA.	

Approval History

<u>Date Approved</u>	<u>Approved By</u>	<u>Position</u>
----------------------	--------------------	-----------------

Lot No., Due Date: **J8I230268; 11/07/2008**
 Client, Site: **108302; FLH HANFORD**
 QC Batch No., Method Test: **8267557; RBETA-SR Beta by GPC-Sr/Y**
 SDG, Matrix: **W05521; WATER**

1.0 COC

1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions? Yes No N/A

Yes No N/A

2.0 QC Batch

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet? Yes No N/A

Yes No N/A

2.2 Are the QC appropriate for the analysis included in the batch? Yes No N/A

Yes No N/A

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc? Yes No N/A

Yes No N/A

2.4 Does the Worksheets include a Tracer Vial label for each sample? Yes No N/A

Yes No N/A

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits? Yes No N/A

Yes No N/A

3.2 Is the LCS result, yield, and MDA within contract limits? Yes No N/A

Yes No N/A

3.3 Are the MS/MSD results, yields, and MDA within contract limits? Yes No N/A

Yes No N/A

3.4 Are the duplicate result, yields, and MDAs within contract limits? Yes No N/A

Yes No N/A

3.5 Are the sample yields and MDAs within contract limits? Yes No N/A

Yes No N/A

4.0 Raw Data

4.1 Were results calculated in the correct units? Yes No N/A

Yes No N/A

4.2 Were analysis volumes entered correctly? Yes No N/A

Yes No N/A

4.3 Were Yields entered correctly? Yes No N/A

Yes No N/A

4.4 Were spectra reviewed/meet contractual requirements? Yes No N/A

Yes No N/A

4.5 Were raw counts reviewed for anomalies? Yes No N/A

Yes No N/A

5.0 Other

5.1 Are all nonconformances included and noted? Yes No N/A

Yes No N/A

5.2 Are all required forms filled out? Yes No N/A

Yes No N/A

5.3 Was the correct methodology used? Yes No N/A

Yes No N/A

5.4 Was transcription checked? Yes No N/A

Yes No N/A

5.5 Were all calculations checked at a minimum frequency? Yes No N/A

Yes No N/A

5.6 Are worksheet entries complete and correct? Yes No N/A

Yes No N/A

6.0 Comments on any No response:

First Level Review *John Hart*

Date 10-23-8

Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 8267557

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 Co Date: 10/23/08

Lot No., Due Date: J81230268; 11/07/2008
Client, Site: 108302; FLH HANFORD
QC Batch No., Method Test: 8267558; RSRTOT SrTot by GPC
SDG, Matrix: W05521; WATER

1.0 COC

1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions? Yes No N/A

Yes No N/A

2.0 QC Batch

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet? Yes No N/A

Yes No N/A

2.2 Are the QC appropriate for the analysis included in the batch? Yes No N/A

Yes No N/A

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc? Yes No N/A

Yes No N/A

2.4 Does the Worksheets include a Tracer Vial label for each sample? Yes No N/A

Yes No N/A

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits? Yes No N/A

Yes No N/A

3.2 Is the LCS result, yield, and MDA within contract limits? Yes No N/A

Yes No N/A

3.3 Are the MS/MSD results, yields, and MDA within contract limits? Yes No N/A

Yes No N/A

3.4 Are the duplicate result, yields, and MDAs within contract limits? Yes No N/A

Yes No N/A

3.5 Are the sample yields and MDAs within contract limits? Yes No N/A

Yes No N/A

4.0 Raw Data

4.1 Were results calculated in the correct units? Yes No N/A

Yes No N/A

4.2 Were analysis volumes entered correctly? Yes No N/A

Yes No N/A

4.3 Were Yields entered correctly? Yes No N/A

Yes No N/A

4.4 Were spectra reviewed/meet contractual requirements? Yes No N/A

Yes No N/A

4.5 Were raw counts reviewed for anomalies? Yes No N/A

Yes No N/A

5.0 Other

5.1 Are all nonconformances included and noted? Yes No N/A

Yes No N/A

5.2 Are all required forms filled out? Yes No N/A

Yes No N/A

5.3 Was the correct methodology used? Yes No N/A

Yes No N/A

5.4 Was transcription checked? Yes No N/A

Yes No N/A

5.5 Were all calculations checked at a minimum frequency? Yes No N/A

Yes No N/A

5.6 Are worksheet entries complete and correct? Yes No N/A

Yes No N/A

6.0 Comments on any No response:

First Level Review

[Handwritten Signature]

Date

10-22-8

Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 8267558

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: Erich Ford Date: 10/22/18

**Richland Laboratory
 Data Review Check List
 Hexavalent Chromium**

Batch Number(s): 8267578				
Lab Sample Numbers or: J8 I230208 / W05521				
Method/Test/Parameter: Cr+6 in Water / RL-WC-003				
Review Item	Yes (✓)	No (✓)	N/A (✓)	2 nd 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?			✓	N/A
6. ICP only: CRDL standard (CRI or CRA) analyzed at required frequency?			✓	N/A
7. ICP only: Interference check samples (ICSA, ICSAB) and HICAL analyzed at the required frequencies and within QC limits?			✓	N/A

Review Item	Yes (✓)	No (✓)	N/A (✓)	2 nd Level Review (✓)
E. Other	✓			NO NCM ✓
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:

Analyst: *David D. [Signature]*
 Second-Level Review: *[Signature]*

Date: 9/23/08
 Date: 9/24/08

TESTAMERICA

Fluor Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F08-083-016

PAGE 1 OF 1

COLLECTOR
NCO Sampler *CROW/White/BATES*

SAMPLING LOCATION
B-C6322-D

ICE CHEST NO.

COMPANY CONTACT
Trent, SJ

TELEPHONE NO.
373-5869

PROJECT DESIGNATION
Aquifer Tube Installation Sampling and Analysis in the 100-NR-2 OU

FIELD LOGBOOK NO.
HNF-N-451-3

ACTUAL SAMPLE DEPTH

OFFSITE PROPERTY NO.
N/A

PROJECT COORDINATOR
TRENT, SJ

SAF NO.
F08-083

COA
123566ES10

BILL OF LADING/AIR BILL NO.
N/A

PRICE CODE 7N

AIR QUALITY

METHOD OF SHIPMENT
GOVERNMENT VEHICLE

DATA TURNAROUND
45 Days / 45 Days

SHIPPED TO
TestAmerica Incorporated, Richland

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	HNO3 to pH <2	HNO3 to pH <2	None	None
A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	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)	TYPE OF CONTAINER	G/P	G/P	P	IG
		NO. OF CONTAINER(S)	1	1	1	1
		VOLUME	100mL	1L	20mL	250mL
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	Gross Alpha; Gross Beta;	Strontium-89,90 - Total Sr;	Activity Scan;	Chromium Hex - 7196;

31

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	HNO3 to pH <2	HNO3 to pH <2	None	None
B1TR49	WATER	9-22-08	1100	✓	✓	✓	✓
	Lot #			030008	030008	N/A	3160030

KXFTI

CHAIN OF POSSESSION

SIGN/ PRINT NAMES

SPECIAL INSTRUCTIONS

RELINQUISHED BY/REMOVED FROM <i>M White</i>	DATE/TIME 9-22-08 1400	RECEIVED BY/STORED IN <i>MO 413 Frig 2</i>	DATE/TIME 9-22-08 1400
RELINQUISHED BY/REMOVED FROM <i>M White</i>	DATE/TIME 9/23/08 1100	RECEIVED BY/STORED IN <i>X Patricia</i>	DATE/TIME 9/23/08 1100
RELINQUISHED BY/REMOVED FROM <i>[Signature]</i>	DATE/TIME 9/22/08 1250	RECEIVED BY/STORED IN <i>S. Smith</i>	DATE/TIME 092308 1250
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

JSI 230268
W05521
Due 11-07-08

LABORATORY SECTION

FINAL SAMPLE DISPOSITION

RECEIVED BY

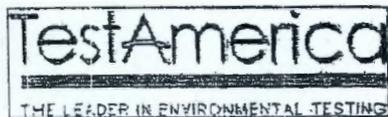
DISPOSAL METHOD

TITLE

DISPOSED BY

DATE/TIME

DATE/TIME



Sample Check-in List

Date/Time Received: 092308 1250 GM Screen Result 1.01

Client: FL14 SDG #: W05531 NA [] SAF #: F08-083 NA []

Work Order Number: J8I230268 Chain of Custody # F08-083-016

Shipping Container ID: NIA Air Bill # NIA

1. Custody Seals on shipping container intact? NA [] Yes [X] No []
2. Custody Seals dated and signed? NA [] Yes [X] No []
3. Chain of Custody record present? NA [] Yes [X] No []
4. Cooler Temperature: on ice NA []
5. Vermiculite/packing materials is NA [X] Wet [] Dry []
6. Number of samples in shipping container: 1
7. Sample holding times exceeded? NA [X] Yes [] No []
8. Samples have:
 - Tape
 - Custody Seals
9. Samples are:
 - / In Good Condition
 - Broken
10. Sample pH taken? NA [] pH<2 [X] pH>2 [] pH>9 [] Amount HNO₃ Added
11. Sample Location, Sample Collector Listed? *
*For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [X] No [AS]
13. Description of anomalies (include sample numbers): Cr6 received out of hold time

Sample Custodian: J. Sm. Vh Date: 092308

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[] No action necessary; process as is.

Project Manager _____ Date _____

TESTAMERICA

10/16/2008 12:50:45 PM

Sample Preparation/Analysis

Balance Id:1120482733

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

AZ Gross Alpha PrpRC5014
S7 Gross Alpha by GPC using Am-241 curve
SI CLIENT: HANFORD

Pipet #: 245

AnalyDueDate: 11/03/2008 **W05521**

Sep1 DT/Tm Tech:

Batch: 8267556 WATER pCi/L

PM, Quote: SS , 29754

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,Lanel Back 9



Work Order, I of, 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 KXFT1-1-AD J8I230268-1-SAMP 09/22/2008 11:00	151.50g,in			1.5		100	10F	2000	10/20/0808	
AmtRec: 20ML,250G,2XLP		#Containers: 4		Scr:		Alpha: -2.33E-04 uCi/Sa		Beta: 4.16E-04 uCi/Sa		
2 KXFT1-1-AF-X J8I230268-1-DUP 09/22/2008 11:00	151.50g,in			68.9			10B	2154		
AmtRec: 20ML,250G,2XLP		#Containers: 4		Scr:		Alpha: -2.33E-04 uCi/Sa		Beta: 4.16E-04 uCi/Sa		
3 KXF36-1-AA-B J8I230000-556-BLK 09/22/2008 11:00	199.90g,in			0.5			10C			
AmtRec:		#Containers: 1		Scr:		Alpha:		Beta:		
4 KXF36-1-AC-C J8I230000-556-LCS 09/22/2008 11:00	200.00g,in		ASD4612	0.3			10D			
AmtRec:		#Containers: 1		Scr:		Alpha:		Beta:		

Comments: PH < 2.0, REDUCED VOL D/T WT SCREENS. **FFR 101608**

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

KXFT11AD-SAMP Constituent List:
ALPHA RDL:3 pCi/L LCL: UCL: RPD:
KXF361AA-BLK:
ALPHA RDL:3 pCi/L LCL: UCL: RPD:
KXF361AC-LCS:
Am-241 RDL: pCi/L LCL:70 UCL:130 RPD:20
KXFT11AD-SAMP Calc Info:

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ICOC Fraction Transfer/Status Report

ByDate: 10/22/2007, 10/26/2008, Batch: '8267556', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
8267556				
AC		CalcC	10/16/2008 12:47:12	
SC		wagarr	IsBatched	9/24/2008 10:53:31 AM ICOC_RADCALC v4.8.34
SC		LaneL	InPrep	10/16/2008 12:47:12 PM RL-PRP-004 REV SION 0
SC		LaneL	Prep1C	10/16/2008 12:53:02 PM RL-PRP-004 REV SION 0
SC		BockJ	InPrep2	10/17/2008 12:01:00 PM RL-GPC-001 REV SION 0
SC		BockJ	Prep2C	10/20/2008 5:43:08 PM RL-GPC-001 REV SION 0
SC		DAWKINSO	InCnt1	10/20/2008 6:14:38 PM RL-CI-006 REV SION 0
SC		BlackCL	CalcC	10/21/2008 9:08:36 AM RL-CI-006 REVISION 0
AC		LaneL	10/16/2008 12:53:02	
AC		BockJ	10/17/2008 12:01:00	
AC		BockJ	10/20/2008 5:43:08	
AC		DAWKINSO	10/20/2008 6:14:38	
AC		BlackCL	10/21/2008 9:08:36	

AC: Accepting Entry; SC: Status Change

TESTAMERICA

10/16/2008 1:10:27 PM

Sample Preparation/Analysis

Balance Id:1120482733

108302, CH2M Hill Plateau Remediation DOE RL
Waste Management Federal ServiBC Gross Beta PrpRC5014
S8 Gross Beta by GPC using Sr/Y-90 curve
5I CLIENT: HANFORD

Pipet #: 245

AnalyDueDate: 11/03/2008 W05521

Sep1 DT/Tm Tech:

Batch: 8267557 WATER pCi/L

PM, Quote: SS , 29754

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,Lanel Back 9.

Work Order, Lot, Sample Date/Time	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 KXFT1-1-AA J8I230268-1-SAMP 09/22/2008 11:00	200.00g,in			1.5		100	28B			19/20/0800
AmtRec: 20ML,250G,2XLP		#Containers: 4		Scr:		Alpha: -2.33E-04 uCi/Sa		Beta: 4.16E-04 uCi/Sa		
2 KXFT1-1-AG-X J8I230268-1-DUP 09/22/2008 11:00	200.00g,in			143.6			28D			
AmtRec: 20ML,250G,2XLP		#Containers: 4		Scr:		Alpha: -2.33E-04 uCi/Sa		Beta: 4.16E-04 uCi/Sa		
3 KXF38-1-AA-B J8I230000-557-BLK 09/22/2008 11:00	200.00g,in			0			28C			
AmtRec:		#Containers: 1		Scr:		Alpha:		Beta:		
4 KXF38-1-AC-C J8I230000-557-LCS 09/22/2008 11:00	200.10g,in		BESB3368 07/24/08,pd 07/14/08	0.3			26C			
AmtRec:		#Containers: 1		Scr:		Alpha:		Beta:		

Comments: PH < 2.0. *[Signature]* 101608

All Clients for Batch:

108302, CH2M Hill Plateau Remediation DOE RL Waste Management Federal Servi, SS , 29754

KXFT11AA-SAMP Constituent List:

Constituent	RDL	pCi/L	LCL	UCL	RPD
BETA	4				
KXF381AA-BLK:					
BETA	4				
KXF381AC-LCS:					
Sr-90			70	130	20

KXFT11AA-SAMP Calc Info:

TestAmerica Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1
Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ISV - Insufficient Volume for Analysis

WO Cnt: 4
Prep_SamplePrep v4.8.34

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TESTAMERICA

10/16/2008 1:10:28 PM

Sample Preparation/Analysis

Balance Id:1120482733

BC Gross Beta PrpRC5014
 S8 Gross Beta by GPC using Sr/Y-90 curve
 5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 11/03/2008

Sep1 DT/Tm Tech: _____

Batch: 8267557
 SEQ Batch, Test: None

pCi/L

Sep2 DT/Tm Tech: _____

Prep Tech: ,LaneL



Work Order, Lot, Sample Date/Time	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:
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Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B						
KXF381AA-BLK:										
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B						
KXF381AC-LCS:										
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B						

Approved By _____ Date: _____

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10/23/2008 10:12:57 AM

ICOC Fraction Transfer/Status Report

ByDate: 10/24/2007, 10/28/2008, Batch: '8267557', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
8267557				
AC	Rev1C	LaneL	10/16/2008 12:56:35	
SC		wagarr	IsBatched	9/24/2008 10:53:31 AM ICOC_RADCALC v4.8.34
SC		LaneL	InPrep	10/16/2008 12:56:35 PM RL-PRP-004 REVISION 0
SC		LaneL	Prep1C	10/16/2008 1:13:15 PM RL-PRP-004 REVISION 0
SC		BockJ	InPrep2	10/17/2008 12:01:04 PM RL-GPC-001 REVISION 0
SC		BockJ	Prep2C	10/20/2008 5:43:21 PM RL-GPC-001 REVISION 0
SC		DAWKINSO	InCnt1	10/20/2008 6:15:08 PM RL-CI-006 REVISION 0
SC		DAWKINSO	CalcC	10/20/2008 10:18:19 PM RL-CI-006 REVISION 0
SC		nortonj	Rev1C	10/23/2008 10:11:40 AM RL-DR-001 REV 8
AC		LaneL	10/16/2008 1:13:15	
AC		BockJ	10/17/2008 12:01:04	
AC		BockJ	10/20/2008 5:43:21	
AC		DAWKINSO	10/20/2008 6:15:08	
AC		DAWKINSO	10/20/2008 10:18:19	
AC		nortonj	10/23/2008 10:11:40	

AC: Accepting Entry; SC: Status Change

TestAmerica Richland
Richland Wa.

TESTAMERICA

10/16/2008 1:28:02 PM

Sample Preparation/Analysis

Balance Id: 1120482733

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

CG Sr-Total Prp/SepRC5006
TH Total Strontium by GPC
SI CLIENT: HANFORD

Pipet #:

AnalyDueDate: 11/03/2008 *W05521*

Sep1 DT/Tm Tech: *10-20-08 13:20pm*

Batch: 8267558 WATER pCi/L

PM, Quote: SS , 29754

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,LaneL

Work Ord, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	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 KXFT1-1-AE J8I230268-1-SAMP 09/22/2008 11:00	500.00g,in		500.00g		SRTA17924 09/17/08,pd 05/22/07,r							
						<i>1.5</i>	<i>109.3</i>	<i>100</i>	<i>27A</i>	<i>1933</i>		<i>10/21/08</i>
AmtRec: 20ML,250G,2XLP #Containers: 4								Scr:	Alpha: -2.33E-04 uCi/Sa	Beta: 4.16E-04 uCi/Sa		
2 KXFT1-1-AH-X J8I230268-1-DUP 09/22/2008 11:00	500.00g,in		500.00g		SRTA17925 09/17/08,pd 05/22/07,r							
						<i>106.7</i>			<i>31A</i>			
AmtRec: 20ML,250G,2XLP #Containers: 4								Scr:	Alpha: -2.33E-04 uCi/Sa	Beta: 4.16E-04 uCi/Sa		
3 KXF39-1-AA-B J8I230000-558-BLK 09/22/2008 11:00	500.00g,in		500.00g		SRTA17926 09/17/08,pd 05/22/07,r							
						<i>096.8</i>			<i>31B</i>			
AmtRec: #Containers: 1								Scr:	Alpha:	Beta:		
4 KXF39-1-AC-C J8I230000-558-LCS 09/22/2008 11:00	500.00g,in		500.00g		STSC2041 07/23/08,pd 05/22/07,r							
						<i>093.6</i>			<i>31D</i>			
AmtRec: #Containers: 1								Scr:	Alpha:	Beta:		

Comments: *PH < 2.0. R 101608*

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

KXFT11AE-SAMP Constituent List:
Sr-90 RDL:2 pCi/L LCL:70 UCL:130 RPD:20
KXF391AA-BLK:
Sr-90 RDL:2 pCi/L LCL: UCL: RPD:
KXF391AC-LCS:
Sr-90 RDL:2 pCi/L LCL:70 UCL:130 RPD:20
KXFT11AE-SAMP Calc Info:

TESTAMERICA

10/16/2008 1:28:02 PM

Sample Preparation/Analysis

Balance Id:1120482733

CG Sr-Total Prp/SepRC5006

Pipet #:

TH Total Strontium by GPC

Sep1 DT/Tm Tech: *10-20-08 13:20*

AnalyDueDate: 11/03/2008

SI CLIENT: HANFORD

Batch: 8267558

pCi/L

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,LaneL



Work Ord, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
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Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B								
KXF391AA-BLK:												
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B								
KXF391AC-LCS:												
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B								

Approved By _____

Date: _____

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10/22/2008 12:05:22 PM

ICOC Fraction Transfer/Status Report

ByDate: 10/23/2007, 10/27/2008, Batch: '8267558', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
8267558				
AC	Rev1C	LaneL	10/16/2008 1:20:55	
SC		wagarr	IsBatched	9/24/2008 10:53:31 AM
SC		LaneL	InPrep	10/16/2008 1:20:55 PM
SC		LaneL	Prep1C	10/16/2008 1:28:37 PM
SC		ManisD	InSep1	10/16/2008 8:17:06 PM
SC		McDowellID	Sep1C	10/20/2008 2:53:38 PM
SC		DAWKINSO	InCnt1	10/20/2008 6:15:13 PM
SC		DAWKINSO	CalcC	10/20/2008 10:18:51 PM
SC		nortonj	Rev1C	10/22/2008 12:00:53 PM
AC		LaneL	10/16/2008 1:28:37	ICOC_RADCALC v4.8.34
AC		LaneL	10/16/2008 4:30:48	RL-PRP-004 REVISION 0
AC		ManisD	10/16/2008 8:17:06	RL-PRP-004 REVISION 0
AC		McDowellID	10/20/2008 2:53:38	RL-GPC-003 REV 0
AC		DAWKINSO	10/20/2008 6:15:13	RL-GPC-003 REVISION 0
AC		DAWKINSO	10/20/2008 10:18:51	RL-CI-006 REVISION 0
AC		nortonj	10/22/2008 12:00:53	RL-CI-006 REVISION 0
				RL-DR-001 REV 8

AC: Accepting Entry; SC: Status Change

TestAmerica Richland
Richland Wa.

9/23/2008 3:28:20 PM

Sample Preparation/Analysis

Balance Id: _____

108302, Fluor Hanford Inc , Waste
Management Federal Servi

88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION
EA Chromium, Hexavalent (7196A)
01 STANDARD TEST SET

Pipet #: _____

AnalyDueDate: 11/03/2008

Sep1 DT/Tm Tech: _____

Batch: 8267578 WATER ug/L
SEQ Batch, Test: None All Tests: 8267578 88EA,

PM, Quote: SS , 29754

Sep2 DT/Tm Tech: _____

Prep Tech: _____



Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
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1 KXFT1-1-AC								
J8I230268-1-SAMP								
09/22/2008 11:00		AmtRec: 20ML,250G,2XLP		#Containers: 4		Scr:	Alpha:	Beta:

2 KXFT1-1-AJ-S								
J8I230268-1-MS								
09/22/2008 11:00		AmtRec: 20ML,250G,2XLP		#Containers: 4		Scr:	Alpha:	Beta:

3 KXFT1-1-AK-D								
J8I230268-1-MSD								
09/22/2008 11:00		AmtRec: 20ML,250G,2XLP		#Containers: 4		Scr:	Alpha:	Beta:

4 KXFT1-1-AL-X								
J8I230268-1-DUP								
09/22/2008 11:00		AmtRec: 20ML,250G,2XLP		#Containers: 4		Scr:	Alpha:	Beta:

5 KXF7G-1-AA-B								
J8I230000-578-BLK								
09/22/2008 11:00		AmtRec:		#Containers: 1		Scr:	Alpha:	Beta:

6 KXF7G-1-AC-C								
J8I230000-578-LCS								
09/22/2008 11:00		AmtRec:		#Containers: 1		Scr:	Alpha:	Beta:

TESTAMERICA

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TESTAMERICA

9/23/2008 3:28:21 PM

Sample Preparation/Analysis

Balance Id:

88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION
EA Chromium, Hexavalent (/196A)
01 STANDARD TEST SET

Pipet #:

AnalyDueDate: 11/03/2008

Sep1 DT/Tm Tech:

Batch: 8267578
SEQ Batch, Test: None

ug/L

Sep2 DT/Tm Tech:

Prep Tech:



Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	OC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
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Comments:

All Clients for Batch:
108302, Fluor Hanford Inc

Waste Management Federal Servi, SS , 29754

KXFT11AC-SAMP Constituent List:

KXFT11AJ-MS Constituent List:

KXFT11AK-MSD:

KXF7G1AA-BLK:

KXF7G1AC-LCS:

KXFT11AC-SAMP Calc Info:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

KXFT11AJ-MS Calc Info:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

KXFT11AK-MSD:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

KXF7G1AA-BLK:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

KXF7G1AC-LCS:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By

Date: