Analytical Data Package Prepared For

CH2M Hill Plateau Remediation

Radiochemical Analysis By

TestAmerica TARL

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

Data Package Contains _____ Pages

Report Nbr: 45426

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W06060	X11-004	B27T56	J0K110619-1	L9XKH1AA	9L9XKH10	0336416
		B27T56	J0K110619-1	L9XKH1AC	9L9XKH10	0336417
		B27T56	J0K110619-1	L9XKH1AD	9L9XKH10	0336413
		B27T56	J0K110619-1	L9XKH1AE	9L9XKH10	0336410
		B27T71	J0K110619-2	L9XKL1AA	9L9XKL10	0336416
		B27T71	J0K110619-2	L9XKL1AC	9L9XKL10	0336417
		B27T71	J0K110619-2	L9XKL1AD	9L9XKL10	0336413
		B27T71	J0K110619-2	L9XKL1AE	9L9XKL10	0336410
		B28MP0	J0K110619-3	L9XKM1AA	9L9XKM10	0336416
		B28MP0	J0K110619-3	L9XKM1AC	9L9XKM10	0336417
		B28MP0	J0K110619-3	L9XKM1AD	9L9XKM10	0336413
		B28MP0	J0K110619-3	L9XKM1AE	9L9XKM10	0336410
		B27T22	J0K160528-1	L95MV1AA	9L95MV10	0336416
		B27T22	J0K160528-1	L95MV1AC	9L95MV10	0336417
		B27T22	J0K160528-1	L95MV1AD	9L95MV10	0336413

Comments:

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RECEIVED DECEMBER 30, 2010

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SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W06060	X11-004	B27T22	J0K160528-1	L95MV1AE	9L95MV10	0336410
		B27T42	J0K160528-2	L95NW1AA	9L95NW10	0336416
		B27T42	J0K160528-2	L95NW1AC	9L95NW10	0336417
		B27T42	J0K160528-2	L95NW1AD	9L95NW10	0336413
		B27T42	J0K160528-2	L95NW1AE	9L95NW10	0336410
		B27T32	J0K160528-3	L95N31AA	9L95N310	0336416
		B27T32	J0K160528-3	L95N31AC	9L95N310	0336417
		B27T32	J0K160528-3	L95N31AD	9L95N310	0336413
		B27T32	J0K160528-3	L95N31AE	9L95N310	0336410
		B27T76	J0K220446-1	MAEGH1AA	9MAEGH10	0336416
		B27T76	J0K220446-1	MAEGH1AC	9MAEGH10	0336417
		B27T76	J0K220446-1	MAEGH1AD	9MAEGH10	0336413
		B27T76	J0K220446-1	MAEGH1AE	9MAEGH10	0336410
	X11-005	B27X05	J0K220453-1	MAEHP1AA	9MAEHP10	0336417
		B27X05	J0K220453-1	MAEHP1AC	9MAEHP10	0336413
		B27X05	J0K220453-1	MAEHP1AE	9MAEHP10	0336410
	X11-003	B27TY9	J0K230574-1	MAHG91AA	9MAHG910	0336417
		B27V02	J0K230574-2	MAHHA1AA	9MAHHA10	0336417
		B27V03	J0K230574-3	MAHHC1AA	9MAHHC10	0336417

Comments:

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

TestAmerica Laboratories, Inc.

CH2M Hill Plateau Remediation Company
P.O. Box 1600
Mail Stop – R3-60
Richland, WA 99352

December 29, 2010

Attention: Mike Neely

SAF Number	:	X11-004, X11-003, X11-005
Date SDG Closed	:	November 29, 2010
Number of Samples	:	Eleven (11)
Sample Type	:	Water
SDG Number	:	W06060
Data Deliverable	:	30-Day / Summary

CASE NARRATIVE

I. Introduction

Between November 11, 2010 and November 22, 2010 eleven water samples were received at TestAmerica (TARL). Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the CH2M specific IDs:

CH2M ID#	TARL ID#	DATE OF RECEIPT	MATRIX
B27T56	L9XKH	11/11/10	WATER
B27T71	L9XKL	11/11/10	WATER
B28MP0	L9XKM	11/11/10	WATER
B27T22	L95MV	11/12/10	WATER
B27T42	L95NW	11/12/10	WATER
B27T32	L95N3	11/12/10	WATER
B27X05	MAEHP	11/15/10	WATER
B27T76	MAEGH	11/15/10	WATER
B27TY9	MAHG9	11/22/10	WATER
B27V02	MAHHA	11/22/10	WATER
B27V03	MAHHC	11/22/10	WATER

II. Sample Receipt

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

III. Analytical Results/Methodology

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

The requested analyses were:

Alpha Spectroscopy
Thorium-228,230,232 by method RL-ALP-005 (RICH-RC-5084)*
Gamma Spectroscopy
Gamma Spec (LL) by method RL-GAM-001 (RICH-RC-5017)*
Iodine-129 (LL) by method RL-GAM-002 (RICH-RC-5025)*
Liquid Scintillation Counting
Carbon-14 by method RL-LSC-008 (RICH-RC-5022)*

*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
Thorium-228,230,232 by method RL-ALP-005 (RICH-RC-5084):
The LCS, batch blank, sample and sample duplicate (B27T76) results are within contractual requirements.

Gamma Spectroscopy
Gamma Spec (LL) by method RL-GAM-001 (RICH-RC-5017):
There was insufficient volume for a duplicate. Sample B27T22 was recounted on a different detector for the duplicate (B27T22 DUP). Except as noted, the LCS, batch blank, samples and sample duplicate (B27T22) results are within contractual requirements.

Iodine-129 (LL) by method RL-GAM-002 (RICH-RC-5025):
The LCS, batch blank, samples and sample duplicate (B27T56) results are within contractual requirements.

Liquid Scintillation Counting

Carbon-14 by method RL-LSC-008 (RICH-RC-5022):

The LCS, batch blank, samples and sample duplicate (B27TY9) results are within contractual requirements.

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

Reviewed and approved:

Sandra Seger
Project Manager

Drinking Water Method Cross References

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

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

Uncertainty Estimation

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

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

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

Report Definitions

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

Isotope	Richland SOP #	Old Richland SOP #	Method Reference	Title
Asbestos	RL-ASB-001	N/A	NIOSH 7400	Fiber Counting by Phase Contrast Microscopy based on NIOSH 7400
Asbestos	RL-ASB-002	N/A	NIOSH 9002	Sample Prep and Analysis for Asbestos (bulk) by Polarized Light Microscopy based on NIOSH 9002
Alpha - Gross	ARCHIVED	RICH-RB-5035	Liquid Scintillation Anal/ Packard	DETERMINATION OF GROSS ALPHA IN NASAL SMEARS BY LIQUID SCINTILLATION COUNTING
Alpha - Gross	RL-GPC-001	RICH-RC-5014	9310 / EPA SW846 900.0 / EPA 600	DETERMINATION OF GROSS ALPHA AND GROSS BETA IN WATER BY METHOD 9310
Alpha - Gross	RL-GPC-007	RICH-RC-5020	SM 7110B EPA 680	DETERMINATION OF GROSS ALPHA AND GROSS BETA IN SOIL, SHORELINE SOIL, FOOD AND VEGETATION
Alpha - Gross	RL-GPC-002	RICH-RC-5021	00-02 EPA 520	DETERMINATION OF GROSS ALPHA ACTIVITY IN WATER BY COPRECIPITATION
Alpha - Gross	RL-GPC-008	RICH-RC-5036	ER100 / LANL	PREPARATION OF AIR FILTERS FOR GROSS ALPHA/BETA AND COMPOSITING AIR FILTERS
Am	RL-ALP-003	RICH-RC-5072	Mod RP 725 / DOE0089T EXT Chromatography	SEPARATION OF AMERICIUM, CURIUM, AND URANIUM BY EXTRACTION CHROMATOGRAPHY
Am	RL-ALP-010	RICH-RC-5080	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	R4-73-0141/EPA ASTM D2334 (Discontinued)	DETERMINATION OF IODINE-131 AND 129 IN WATER BY SOLVENT EXTRACTION METHOD
I131	RL-GAM-002	RICH-RC-5025	R4-73-0141/EPA ASTM D2334 (Discontinued)	DETERMINATION OF IODINE-131 AND 129 IN WATER BY SOLVENT EXTRACTION METHOD
I131	ARCHIVED	RICH-RC-5049	HASL 300 (1983)	DETERMINATION OF IODINE-131 IN MILK BY BATCH ION-EXCHANGE
Metals	ARCHIVED	BHI-MT-0001	6010	ICP-AE SPECTROSCOPY, SPECTROMETRIC METHOD FOR TRACE ELEMENT ANALYSIS, METHOD 6010A FOR Bechtel
Metals	RL-MT-001	RICH-MT-0001	6010B	ICP-AES for TRACE ELEMENT ANALYSIS, METHOD 6010B

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

Isotope	Richland SOP #	Old Richland SOP #	Method Reference	Title
S35	ARCHIVED	RICH-RB-5020	Hillebrand, Lundell, Bright, Hoffman 1953	DETERMINATION OF SULFUR-35 IN URINE
Se79	RL-LSC-012	RICH-RC-5043	Selenium / NAS-NS-3030	RADIOCHEMICAL DETERMINATION OF SELENIUM-79
Solubility	ARCHIVED	RICH-RC-5035	Kalfward&Thomas PNL3716	DETERMINATION OF SOLUBILITY OF RADIOACTIVE PARTICLE CONSTITUENTS
Sr	RL-GPC-005	RICH-RB-5007	Mod Sr02 / HASL 300 Mod 905.0 / EPA 600	DETERMINATION OF TOTAL STRONTIUM IN URINE
Sr	RL-GPC-006	RICH-RB-5021	Mod Sr02 / HASL300 Mod 905.0 / EPA 600	DETERMINATION OF STRONTIUM IN FECES
Sr	ARCHIVED	RICH-RB-5022	Mod Sr02 / HASL300 Mod 905.0 / EPA 600	DETERMINATION OF TOTAL STRONTIUM IN URINE FOR RAPID ANALYSIS
Sr	ARCHIVED	RICH-RB-5031	Mod Sr02 / HASL300 Mod 905.0 / EPA 600	RAPID DETERMINATION OF TOTAL STRONTIUM IN FECES
Sr	RL-GPC-003	RICH-RC-5006	Mod Sr02 / HASL300 Mod 905.0 / EPA 600	STRONTIUM SEPARATION IN ENVIROMENTAL MATRICES
Sr - Yt	RL-GPC-004	RICH-RC-5071	Mod Sr02 / HASL300 Mod 905.0 / EPA 600	YTTRIUM-90 SEPARATION FOR STRONTIUM-90 DETERMINATION IN ALL MATRICES
Tc	RL-LSC-014	RICH-RC-5065	EXT Chromatography Mod 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-006	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-005	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

12/30/2010 9:05:23 AM

TestAmerica Report

Lab Code: TARL

FormNbr: R **FormatType:** FEAD **Version:** 05 **Rpt Nbr:** 45426 **File Name:** h:\Reportdb\edd\FeadIV\Rad\W06060.Edd, h:\Reportdb\edd\FeadIV\Rad\45426.Edd

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:
9L95MV10	B27T22		MW6-SBB-A1	X11-004	W06060					11/11/2010 11:29

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
0336417	C-14	14762-75-5	-2.68E+00	pCi/L	3.3E+00	3.8E+00	U	8.27E+00	100.0	C14_LSC	2.00E-01	L	12/08/2010 20:47	I
0336413	BE-7	13966-02-4	3.92E+00	pCi/L	1.9E+01	1.9E+01	U	3.27E+01		GAMMALL_GS	2.0054E+00	L	12/21/2010 07:38	I
0336413	CO-60	10198-40-0	-1.66E+00	pCi/L	1.8E+00	1.8E+00	U	2.82E+00		GAMMALL_GS	2.0054E+00	L	12/21/2010 07:38	I
0336413	CS-134	13967-70-9	7.52E-01	pCi/L	1.6E+00	1.6E+00	U	3.00E+00		GAMMALL_GS	2.0054E+00	L	12/21/2010 07:38	I
0336413	CS-137	10045-97-3	-1.17E+00	pCi/L	1.4E+00	1.4E+00	U	2.25E+00		GAMMALL_GS	2.0054E+00	L	12/21/2010 07:38	I
0336413	EU-152	14683-23-9	1.79E+00	pCi/L	3.8E+00	3.8E+00	U	6.64E+00		GAMMALL_GS	2.0054E+00	L	12/21/2010 07:38	I
0336413	EU-154	15585-10-1	-7.51E-01	pCi/L	4.7E+00	4.7E+00	U	8.38E+00		GAMMALL_GS	2.0054E+00	L	12/21/2010 07:38	I
0336413	EU-155	14391-16-3	-2.26E+00	pCi/L	3.9E+00	3.9E+00	U	6.42E+00		GAMMALL_GS	2.0054E+00	L	12/21/2010 07:38	I
0336413	K-40	13966-00-2	3.88E+02	pCi/L	6.8E+01	6.8E+01		2.55E+01		GAMMALL_GS	2.0054E+00	L	12/21/2010 07:38	I
0336413	RU-106	13967-48-1	-3.19E-01	pCi/L	1.3E+01	1.3E+01	U	2.31E+01		GAMMALL_GS	2.0054E+00	L	12/21/2010 07:38	I
0336413	SB-125	14234-35-6	-2.65E-01	pCi/L	3.5E+00	3.5E+00	U	6.10E+00		GAMMALL_GS	2.0054E+00	L	12/21/2010 07:38	I
0336410	I-129	15046-84-1	4.94E-02	pCi/L	1.2E-01	1.2E-01	U	2.21E-01	91.1	I129LL_SEP_LEPS	3.7416E+00	L	12/15/2010 17:09	I
0336416	TH-228	14274-82-9	0.00E+00	pCi/L	1.6E-01	1.6E-01	U	3.83E-01	95.0	THISO_IE_PRECIP	1.999E-01	L	12/07/2010 17:04	I
0336416	TH-230	14269-63-7	0.00E+00	pCi/L	1.6E-01	1.6E-01	U	3.73E-01	95.0	THISO_IE_PRECIP	1.999E-01	L	12/07/2010 17:04	I
0336416	TH-232	Th-232	-1.56E-02	pCi/L	1.6E-01	1.6E-01	U	3.73E-01	95.0	THISO_IE_PRECIP	1.999E-01	L	12/07/2010 17:04	I

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:
9L95N310	B27T32		MW6-SBB-A1	X11-004	W06060					11/11/2010 10:25

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
0336417	C-14	14762-75-5	-1.88E+00	pCi/L	3.3E+00	3.8E+00	U	8.27E+00	100.0	C14_LSC	2.00E-01	L	12/08/2010 22:12	I
0336413	BE-7	13966-02-4	6.30E+00	pCi/L	1.2E+01	1.2E+01	U	2.17E+01		GAMMALL_GS	2.0053E+00	L	12/21/2010 11:02	I
0336413	CO-60	10198-40-0	-5.80E-01	pCi/L	1.3E+00	1.3E+00	U	2.15E+00		GAMMALL_GS	2.0053E+00	L	12/21/2010 11:02	I
0336413	CS-134	13967-70-9	-3.96E-01	pCi/L	1.2E+00	1.2E+00	U	2.07E+00		GAMMALL_GS	2.0053E+00	L	12/21/2010 11:02	I
0336413	CS-137	10045-97-3	4.89E-01	pCi/L	1.1E+00	1.1E+00	U	2.02E+00		GAMMALL_GS	2.0053E+00	L	12/21/2010 11:02	I
0336413	EU-152	14683-23-9	-1.57E+00	pCi/L	2.5E+00	2.5E+00	U	4.18E+00		GAMMALL_GS	2.0053E+00	L	12/21/2010 11:02	I
0336413	EU-154	15585-10-1	-2.81E+00	pCi/L	3.3E+00	3.3E+00	U	5.26E+00		GAMMALL_GS	2.0053E+00	L	12/21/2010 11:02	I
0336413	EU-155	14391-16-3	-4.16E-01	pCi/L	2.0E+00	2.0E+00	U	3.46E+00		GAMMALL_GS	2.0053E+00	L	12/21/2010 11:02	I
0336413	K-40	13966-00-2	1.37E+00	pCi/L	2.3E+01	2.3E+01	U	4.69E+01		GAMMALL_GS	2.0053E+00	L	12/21/2010 11:02	I
0336413	RU-106	13967-48-1	-6.61E+00	pCi/L	9.2E+00	9.2E+00	U	1.51E+01		GAMMALL_GS	2.0053E+00	L	12/21/2010 11:02	I
0336413	SB-125	14234-35-6	-1.43E+00	pCi/L	2.3E+00	2.3E+00	U	3.89E+00		GAMMALL_GS	2.0053E+00	L	12/21/2010 11:02	I

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).
B Qual- Analyte was found in the associated laboratory blank above the MDC.

12/30/2010 9:05:23 AM

TestAmerica Report

Lab Code: TARL

FormNbr: R **FormatType:** FEAD **Version:** 05 **Rpt Nbr:** 45426 **File Name:** h:\Reportdb\edd\FeadIV\Rad\W06060.Edd, h:\Reportdb\edd\FeadIV\Rad\45426.Edd

0336410	I-129	15046-84-1	6.71E-02	pCi/L	1.2E-01	1.2E-01	U	2.22E-01	91.1	I129LL_SEP_LEPS	3.7673E+00	L	12/15/2010	21:05	I
0336416	TH-228	14274-82-9	1.67E-01	pCi/L	2.1E-01	2.1E-01	U	2.86E-01	93.1	THISO_IE_PRECIP	2.001E-01	L	12/07/2010	17:04	I
0336416	TH-230	14269-63-7	5.82E-02	pCi/L	1.2E-01	1.2E-01	U	2.79E-01	93.1	THISO_IE_PRECIP	2.001E-01	L	12/07/2010	17:04	I
0336416	TH-232	Th-232	0.00E+00	pCi/L	1.2E-01	1.2E-01	U	2.79E-01	93.1	THISO_IE_PRECIP	2.001E-01	L	12/07/2010	17:04	I

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:
9L95NW10	B27T42		MW6-SBB-A1	X11-004	W06060					11/11/2010 09:01

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
0336417	C-14	14762-75-5	6.49E+00	pCi/L	3.6E+00	4.1E+00	U	8.26E+00	100.0	C14_LSC	2.00E-01	L	12/08/2010 21:29	I
0336413	BE-7	13966-02-4	-1.49E+01	pCi/L	2.0E+01	2.0E+01	U	3.33E+01		GAMMALL_GS	1.9948E+00	L	12/21/2010 11:02	I
0336413	CO-60	10198-40-0	-7.92E-01	pCi/L	1.6E+00	1.6E+00	U	2.78E+00		GAMMALL_GS	1.9948E+00	L	12/21/2010 11:02	I
0336413	CS-134	13967-70-9	-5.28E-01	pCi/L	1.8E+00	1.8E+00	U	3.12E+00		GAMMALL_GS	1.9948E+00	L	12/21/2010 11:02	I
0336413	CS-137	10045-97-3	-6.86E-01	pCi/L	1.6E+00	1.6E+00	U	2.69E+00		GAMMALL_GS	1.9948E+00	L	12/21/2010 11:02	I
0336413	EU-152	14683-23-9	-1.32E+00	pCi/L	3.6E+00	3.6E+00	U	6.33E+00		GAMMALL_GS	1.9948E+00	L	12/21/2010 11:02	I
0336413	EU-154	15585-10-1	-2.74E+00	pCi/L	5.0E+00	5.0E+00	U	8.49E+00		GAMMALL_GS	1.9948E+00	L	12/21/2010 11:02	I
0336413	EU-155	14391-16-3	-1.61E+00	pCi/L	2.6E+00	2.6E+00	U	4.32E+00		GAMMALL_GS	1.9948E+00	L	12/21/2010 11:02	I
0336413	K-40	13966-00-2	-1.16E+01	pCi/L	3.8E+01	3.8E+01	U	7.97E+01		GAMMALL_GS	1.9948E+00	L	12/21/2010 11:02	I
0336413	RU-106	13967-48-1	5.17E+00	pCi/L	1.6E+01	1.6E+01	U	2.89E+01		GAMMALL_GS	1.9948E+00	L	12/21/2010 11:02	I
0336413	SB-125	14234-35-6	-1.19E+00	pCi/L	4.1E+00	4.1E+00	U	7.11E+00		GAMMALL_GS	1.9948E+00	L	12/21/2010 11:02	I
0336410	I-129	15046-84-1	6.53E-02	pCi/L	6.3E-02	6.3E-02	U	1.59E-01	91.4	I129LL_SEP_LEPS	3.8697E+00	L	12/15/2010 17:10	I
0336416	TH-228	14274-82-9	1.56E-01	pCi/L	2.1E-01	2.1E-01	U	3.39E-01	91.2	THISO_IE_PRECIP	2.00E-01	L	12/07/2010 17:04	I
0336416	TH-230	14269-63-7	-2.34E-02	pCi/L	1.2E-01	1.2E-01	U	3.31E-01	91.2	THISO_IE_PRECIP	2.00E-01	L	12/07/2010 17:04	I
0336416	TH-232	Th-232	0.00E+00	pCi/L	1.2E-01	1.2E-01	U	2.80E-01	91.2	THISO_IE_PRECIP	2.00E-01	L	12/07/2010 17:04	I

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:
9L9XKH10	B27T56		MW6-SBB-A1	X11-004	W06060					11/10/2010 12:50

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
0336417	C-14	14762-75-5	-1.45E+00	pCi/L	3.4E+00	3.8E+00	U	8.27E+00	100.0	C14_LSC	2.00E-01	L	12/08/2010 18:38	I
0336413	BE-7	13966-02-4	1.37E+01	pCi/L	1.9E+01	1.9E+01	U	3.51E+01		GAMMALL_GS	2.0059E+00	L	12/21/2010 07:36	I
0336413	CO-60	10198-40-0	-1.15E+00	pCi/L	2.1E+00	2.1E+00	U	3.45E+00		GAMMALL_GS	2.0059E+00	L	12/21/2010 07:36	I
0336413	CS-134	13967-70-9	2.81E-01	pCi/L	1.6E+00	1.6E+00	U	3.07E+00		GAMMALL_GS	2.0059E+00	L	12/21/2010 07:36	I
0336413	CS-137	10045-97-3	-9.11E-01	pCi/L	1.7E+00	1.7E+00	U	2.82E+00		GAMMALL_GS	2.0059E+00	L	12/21/2010 07:36	I
0336413	EU-152	14683-23-9	3.20E+00	pCi/L	4.1E+00	4.1E+00	U	7.58E+00		GAMMALL_GS	2.0059E+00	L	12/21/2010 07:36	I

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).
B Qual- Analyte was found in the associated laboratory blank above the MDC.

12/30/2010 9:05:23 AM

TestAmerica Report

Lab Code: TARL

FormNbr: R **FormatType:** FEAD **Version:** 05 **Rpt Nbr:** 45426 **File Name:** h:\Reportdb\edd\FeadIV\Rad\W06060.Edd, h:\Reportdb\edd\FeadIV\Rad\45426.Edd

0336413	EU-154	15585-10-1	-5.78E+00	pCi/L	4.7E+00	4.7E+00	U	6.83E+00		GAMMALL_GS	2.0059E+00	L	12/21/2010	07:36	I
0336413	EU-155	14391-16-3	-1.22E+00	pCi/L	2.6E+00	2.6E+00	U	4.48E+00		GAMMALL_GS	2.0059E+00	L	12/21/2010	07:36	I
0336413	K-40	13966-00-2	-9.78E+00	pCi/L	3.7E+01	3.7E+01	U	7.83E+01		GAMMALL_GS	2.0059E+00	L	12/21/2010	07:36	I
0336413	RU-106	13967-48-1	7.21E-03	pCi/L	1.4E+01	1.4E+01	U	2.51E+01		GAMMALL_GS	2.0059E+00	L	12/21/2010	07:36	I
0336413	SB-125	14234-35-6	-1.34E+00	pCi/L	4.3E+00	4.3E+00	U	7.28E+00		GAMMALL_GS	2.0059E+00	L	12/21/2010	07:36	I
0336410	I-129	15046-84-1	1.55E-01	pCi/L	1.2E-01	1.2E-01	U	2.25E-01	93.8	I129LL_SEP_LEPS	3.8502E+00	L	12/15/2010	10:18	I
0336416	TH-228	14274-82-9	1.67E-01	pCi/L	2.3E-01	2.3E-01	U	3.63E-01	84.8	THISO_IE_PRECIP	2.002E-01	L	12/07/2010	17:04	I
0336416	TH-230	14269-63-7	2.50E-02	pCi/L	1.3E-01	1.3E-01	U	3.95E-01	84.8	THISO_IE_PRECIP	2.002E-01	L	12/07/2010	17:04	I
0336416	TH-232	Th-232	-1.25E-02	pCi/L	1.3E-01	1.3E-01	U	3.00E-01	84.8	THISO_IE_PRECIP	2.002E-01	L	12/07/2010	17:04	I

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:
9L9XKL10	B27T71		MW6-SBB-A1	X11-004	W06060					11/10/2010 14:16

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
0336417	C-14	14762-75-5	-1.89E+00	pCi/L	3.3E+00	3.8E+00	U	8.27E+00	100.0	C14_LSC	2.00E-01	L	12/08/2010 19:21	I
0336413	BE-7	13966-02-4	-8.59E+00	pCi/L	2.7E+01	2.7E+01	U	4.61E+01		GAMMALL_GS	1.9976E+00	L	12/21/2010 07:37	I
0336413	CO-60	10198-40-0	-2.94E-01	pCi/L	2.2E+00	2.2E+00	U	3.95E+00		GAMMALL_GS	1.9976E+00	L	12/21/2010 07:37	I
0336413	CS-134	13967-70-9	-2.05E+00	pCi/L	2.4E+00	2.4E+00	U	3.91E+00		GAMMALL_GS	1.9976E+00	L	12/21/2010 07:37	I
0336413	CS-137	10045-97-3	-7.95E-01	pCi/L	2.2E+00	2.2E+00	U	3.71E+00		GAMMALL_GS	1.9976E+00	L	12/21/2010 07:37	I
0336413	EU-152	14683-23-9	-1.23E-01	pCi/L	5.4E+00	5.4E+00	U	9.29E+00		GAMMALL_GS	1.9976E+00	L	12/21/2010 07:37	I
0336413	EU-154	15585-10-1	-2.90E+00	pCi/L	5.8E+00	5.8E+00	U	9.76E+00		GAMMALL_GS	1.9976E+00	L	12/21/2010 07:37	I
0336413	EU-155	14391-16-3	9.51E-01	pCi/L	3.8E+00	3.8E+00	U	6.71E+00		GAMMALL_GS	1.9976E+00	L	12/21/2010 07:37	I
0336413	K-40	13966-00-2	-6.80E+01	pCi/L	5.1E+01	5.1E+01	U	1.02E+02		GAMMALL_GS	1.9976E+00	L	12/21/2010 07:37	I
0336413	RU-106	13967-48-1	-9.06E+00	pCi/L	2.0E+01	2.0E+01	U	3.36E+01		GAMMALL_GS	1.9976E+00	L	12/21/2010 07:37	I
0336413	SB-125	14234-35-6	-2.13E+00	pCi/L	5.3E+00	5.3E+00	U	8.85E+00		GAMMALL_GS	1.9976E+00	L	12/21/2010 07:37	I
0336410	I-129	15046-84-1	6.15E-02	pCi/L	1.2E-01	1.2E-01	U	2.25E-01	90.0	I129LL_SEP_LEPS	3.8515E+00	L	12/15/2010 13:43	I
0336416	TH-228	14274-82-9	8.23E-02	pCi/L	1.7E-01	1.7E-01	U	3.94E-01	93.0	THISO_IE_PRECIP	1.992E-01	L	12/07/2010 17:04	I
0336416	TH-230	14269-63-7	0.00E+00	pCi/L	1.6E-01	1.6E-01	U	3.84E-01	93.0	THISO_IE_PRECIP	1.992E-01	L	12/07/2010 17:04	I
0336416	TH-232	Th-232	-1.60E-02	pCi/L	1.6E-01	1.6E-01	U	3.84E-01	93.0	THISO_IE_PRECIP	1.992E-01	L	12/07/2010 17:04	I

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:
9L9XKM10	B28MP0		MW6-SBB-A1	X11-004	W06060					11/10/2010 10:20

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
0336417	C-14	14762-75-5	1.44E-01	pCi/L	3.4E+00	3.9E+00	U	8.28E+00	100.0	C14_LSC	2.00E-01	L	12/08/2010 20:04	I

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).
B Qual- Analyte was found in the associated laboratory blank above the MDC.

12/30/2010 9:05:23 AM

TestAmerica Report

Lab Code: TARL

FormNbr: R **FormatType:** FEAD **Version:** 05 **Rpt Nbr:** 45426 **File Name:** h:\Reportdb\edd\FeadIV\Rad\W06060.Edd, h:\Reportdb\edd\FeadIV\Rad\45426.Edd

0336413	BE-7	13966-02-4	1.21E+01	pCi/L	1.5E+01	1.5E+01	U	2.82E+01		GAMMALL_GS	2.005E+00	L	12/21/2010	07:37	I
0336413	CO-60	10198-40-0	-1.29E-01	pCi/L	1.5E+00	1.5E+00	U	2.68E+00		GAMMALL_GS	2.005E+00	L	12/21/2010	07:37	I
0336413	CS-134	13967-70-9	3.56E-01	pCi/L	1.4E+00	1.4E+00	U	2.56E+00		GAMMALL_GS	2.005E+00	L	12/21/2010	07:37	I
0336413	CS-137	10045-97-3	8.87E-02	pCi/L	1.4E+00	1.4E+00	U	2.41E+00		GAMMALL_GS	2.005E+00	L	12/21/2010	07:37	I
0336413	EU-152	14683-23-9	-1.05E-01	pCi/L	3.4E+00	3.4E+00	U	5.78E+00		GAMMALL_GS	2.005E+00	L	12/21/2010	07:37	I
0336413	EU-154	15585-10-1	-7.85E-01	pCi/L	3.4E+00	3.4E+00	U	6.03E+00		GAMMALL_GS	2.005E+00	L	12/21/2010	07:37	I
0336413	EU-155	14391-16-3	-3.51E-01	pCi/L	3.0E+00	3.0E+00	U	5.11E+00		GAMMALL_GS	2.005E+00	L	12/21/2010	07:37	I
0336413	K-40	13966-00-2	2.55E+01	pCi/L	2.5E+01	2.5E+01		1.95E+01		GAMMALL_GS	2.005E+00	L	12/21/2010	07:37	I
0336413	RU-106	13967-48-1	-4.02E+00	pCi/L	1.3E+01	1.3E+01	U	2.16E+01		GAMMALL_GS	2.005E+00	L	12/21/2010	07:37	I
0336413	SB-125	14234-35-6	2.91E+00	pCi/L	3.2E+00	3.2E+00	U	6.03E+00		GAMMALL_GS	2.005E+00	L	12/21/2010	07:37	I
0336410	I-129	15046-84-1	-8.36E-03	pCi/L	9.1E-02	9.1E-02	U	1.64E-01	91.1	I129LL_SEP_LEPS	3.8799E+00	L	12/15/2010	13:44	I
0336416	TH-228	14274-82-9	4.64E-02	pCi/L	1.6E-01	1.6E-01	U	4.37E-01	99.7	THISO_IE_PRECIP	2.006E-01	L	12/07/2010	17:04	I
0336416	TH-230	14269-63-7	7.53E-02	pCi/L	1.5E-01	1.5E-01	U	3.61E-01	99.7	THISO_IE_PRECIP	2.006E-01	L	12/07/2010	17:04	I
0336416	TH-232	Th-232	-3.01E-02	pCi/L	1.6E-01	1.6E-01	U	4.26E-01	99.7	THISO_IE_PRECIP	2.006E-01	L	12/07/2010	17:04	I

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:
9MAEGH10	B27T76		MW6-SBB-A1	X11-004	W06060					11/14/2010 11:37

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time		Act
0336417	C-14	14762-75-5	2.93E+00	pCi/L	3.5E+00	4.0E+00	U	8.25E+00	100.0	C14_LSC	2.00E-01	L	12/08/2010	22:55	I
0336413	BE-7	13966-02-4	8.00E+00	pCi/L	2.6E+01	2.6E+01	U	4.61E+01		GAMMALL_GS	2.0028E+00	L	12/21/2010	11:03	I
0336413	CO-60	10198-40-0	-1.28E+00	pCi/L	2.0E+00	2.0E+00	U	3.37E+00		GAMMALL_GS	2.0028E+00	L	12/21/2010	11:03	I
0336413	CS-134	13967-70-9	-4.37E-01	pCi/L	2.4E+00	2.4E+00	U	4.10E+00		GAMMALL_GS	2.0028E+00	L	12/21/2010	11:03	I
0336413	CS-137	10045-97-3	2.25E+00	pCi/L	2.1E+00	2.1E+00	U	4.05E+00		GAMMALL_GS	2.0028E+00	L	12/21/2010	11:03	I
0336413	EU-152	14683-23-9	1.08E+00	pCi/L	5.2E+00	5.2E+00	U	9.14E+00		GAMMALL_GS	2.0028E+00	L	12/21/2010	11:03	I
0336413	EU-154	15585-10-1	-1.46E+00	pCi/L	7.1E+00	7.1E+00	U	1.23E+01		GAMMALL_GS	2.0028E+00	L	12/21/2010	11:03	I
0336413	EU-155	14391-16-3	-2.56E+00	pCi/L	3.8E+00	3.8E+00	U	6.41E+00		GAMMALL_GS	2.0028E+00	L	12/21/2010	11:03	I
0336413	K-40	13966-00-2	-4.70E+01	pCi/L	5.0E+01	5.0E+01	U	1.03E+02		GAMMALL_GS	2.0028E+00	L	12/21/2010	11:03	I
0336413	RU-106	13967-48-1	6.00E+00	pCi/L	2.0E+01	2.0E+01	U	3.52E+01		GAMMALL_GS	2.0028E+00	L	12/21/2010	11:03	I
0336413	SB-125	14234-35-6	-2.52E+00	pCi/L	5.3E+00	5.3E+00	U	8.85E+00		GAMMALL_GS	2.0028E+00	L	12/21/2010	11:03	I
0336410	I-129	15046-84-1	-1.87E-02	pCi/L	8.8E-02	8.8E-02	U	1.56E-01	96.5	I129LL_SEP_LEPS	3.8679E+00	L	12/15/2010	21:07	I
0336416	TH-228	14274-82-9	4.59E-02	pCi/L	9.4E-02	9.4E-02	U	2.20E-01	92.1	THISO_IE_PRECIP	1.998E-01	L	12/07/2010	17:04	I
0336416	TH-230	14269-63-7	-8.96E-03	pCi/L	9.1E-02	9.1E-02	U	2.15E-01	92.1	THISO_IE_PRECIP	1.998E-01	L	12/07/2010	17:04	I
0336416	TH-232	Th-232	-8.96E-03	pCi/L	9.1E-02	9.1E-02	U	2.15E-01	92.1	THISO_IE_PRECIP	1.998E-01	L	12/07/2010	17:04	I

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).
B Qual- Analyte was found in the associated laboratory blank above the MDC.

12/30/2010 9:05:23 AM

TestAmerica Report

Lab Code: TARL

FormNbr: R **FormatType:** FEAD **Version:** 05 **Rpt Nbr:** 45426 **File Name:** h:\Reportdb\edd\FeadIV\Rad\W06060.Edd, h:\Reportdb\edd\FeadIV\Rad\45426.Edd

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:
9MAEHP10	B27X05		MW6-SBB-A1	X11-005	W06060					11/14/2010 09:58

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
0336417	C-14	14762-75-5	7.80E+00	pCi/L	3.7E+00	4.2E+00	U	8.27E+00	100.0	C14_LSC	2.00E-01	L	12/08/2010 23:38	I
0336413	BE-7	13966-02-4	-4.31E+00	pCi/L	1.8E+01	1.8E+01	U	3.07E+01		GAMMALL_GS	1.9984E+00	L	12/21/2010 11:03	I
0336413	CO-60	10198-40-0	-1.83E-01	pCi/L	1.6E+00	1.6E+00	U	2.87E+00		GAMMALL_GS	1.9984E+00	L	12/21/2010 11:03	I
0336413	CS-134	13967-70-9	9.29E-01	pCi/L	1.8E+00	1.8E+00	U	3.23E+00		GAMMALL_GS	1.9984E+00	L	12/21/2010 11:03	I
0336413	CS-137	10045-97-3	4.05E-01	pCi/L	1.6E+00	1.6E+00	U	2.60E+00		GAMMALL_GS	1.9984E+00	L	12/21/2010 11:03	I
0336413	EU-152	14683-23-9	-2.83E+00	pCi/L	4.0E+00	4.0E+00	U	6.47E+00		GAMMALL_GS	1.9984E+00	L	12/21/2010 11:03	I
0336413	EU-154	15585-10-1	2.68E+00	pCi/L	4.8E+00	4.8E+00	U	9.18E+00		GAMMALL_GS	1.9984E+00	L	12/21/2010 11:03	I
0336413	EU-155	14391-16-3	-4.38E+00	pCi/L	4.0E+00	4.0E+00	U	6.38E+00		GAMMALL_GS	1.9984E+00	L	12/21/2010 11:03	I
0336413	K-40	13966-00-2	-4.19E+01	pCi/L	4.6E+01	4.6E+01	U	9.62E+01		GAMMALL_GS	1.9984E+00	L	12/21/2010 11:03	I
0336413	RU-106	13967-48-1	7.73E-01	pCi/L	1.4E+01	1.4E+01	U	2.37E+01		GAMMALL_GS	1.9984E+00	L	12/21/2010 11:03	I
0336413	SB-125	14234-35-6	-1.65E+00	pCi/L	3.8E+00	3.8E+00	U	6.36E+00		GAMMALL_GS	1.9984E+00	L	12/21/2010 11:03	I
0336410	I-129	15046-84-1	2.06E+00	pCi/L	4.0E-01	4.0E-01		2.35E-01	90.3	I129LL_SEP_LEPS	3.7486E+00	L	12/16/2010 08:13	I

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:
9MAHG910	B27TY9		MW6-SBB-A1	X11-003	W06060					11/22/2010 10:54

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
0336417	C-14	14762-75-5	-1.33E+00	pCi/L	3.4E+00	3.8E+00	U	8.28E+00	100.0	C14_LSC	2.00E-01	L	12/09/2010 00:21	I

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:
9MAHHA10	B27V02		MW6-SBB-A1	X11-003	W06060					11/22/2010 11:34

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
0336417	C-14	14762-75-5	2.33E+01	pCi/L	4.2E+00	4.8E+00		8.28E+00	100.0	C14_LSC	2.00E-01	L	12/09/2010 01:47	I

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:
9MAHHC10	B27V03		MW6-SBB-A1	X11-003	W06060					11/22/2010 11:34

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
0336417	C-14	14762-75-5	2.75E+01	pCi/L	4.3E+00	5.0E+00		8.28E+00	100.0	C14_LSC	2.00E-01	L	12/09/2010 03:12	I

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).
B Qual- Analyte was found in the associated laboratory blank above the MDC.

Thursday, December 30, 2010

TestAmerica QC Blank Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W06060.Edd, h:\Reportdb\edd\FeadIV\Rad\45426.Edd

Lab Sample Id:	MARW11AB	**Sdg/Rept Nbr:**	W06060	45426	**Collection Date:** 11/22/2010 10:54
Client Id:	NA	**Matrix:**	WATER	WATER	**Sample On Date:**
Moisture/Solids%*:		**QC Type:**	BLK		**Received Date:** 11/22/2010

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
	MW6-SBB-A19981								AP	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu-al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
0336417	C-14	-1.60E+00	pCi/L	3.8E+00	U	8.28E+00	100.0		C14_LSC	2.00E-01	12/09/2010				D
BLK	14762-75-5			3.4E+00						L	03:55				

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).
B Qual- Analyte was found in the associated laboratory blank above the MDC.

Thursday, December 30, 2010

TestAmerica QC Blank Report

Lab Code: TARL

FormNbr: R **FormatType:** FEAD **VersionNbr:** 05 **File Name:** h:\Reportdb\edd\FeadIV\Rad\W06060.Edd, h:\Reportdb\edd\FeadIV\Rad\45426.Edd

Lab Sample Id:	MARWH1AB	**Sdg/Rept Nbr:**	W06060 45426	**Collection Date:**	11/10/2010 12:50
Client Id:	NA	**Matrix:**	WATER WATER	**Sample On Date:**	
Moisture/Solids%*:		**QC Type:**	BLK	**Received Date:**	11/11/2010

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
	MW6-SBB-A19981								AR	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu-al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
0336410	I-129	9.42E-03	pCi/L	8.6E-02	U	1.59E-01	89.2		I129LL_SEP_L	3.8861E+00	12/16/2010				D
BLK	15046-84-1			8.6E-02						L	08:14				

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).
B Qual- Analyte was found in the associated laboratory blank above the MDC.

Thursday, December 30, 2010

TestAmerica QC Blank Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W06060.Edd, h:\Reportdb\edd\FeadIV\Rad\45426.Edd

Lab Sample Id:	MARWM1AB	**Sdg/Rept Nbr:**	W06060	45426	**Collection Date:** 11/11/2010 11:29
Client Id:	NA	**Matrix:**	WATER	WATER	**Sample On Date:**
Moisture/Solids%*:		**QC Type:**	BLK		**Received Date:** 11/12/2010

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
	MW6-SBB-A19981								AT	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu-al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
0336413	BE-7	-9.08E+00	pCi/L	8.7E+00	U	1.36E+01			GAMMALL_GS	2.0054E+00	12/21/2010				D
BLK	13966-02-4			8.7E+00						L	14:34				
0336413	CO-60	1.94E-01	pCi/L	1.2E+00	U	2.19E+00			GAMMALL_GS	2.0054E+00	12/21/2010				D
BLK	10198-40-0			1.2E+00						L	14:34				
0336413	CS-134	-3.17E-01	pCi/L	1.1E+00	U	1.91E+00			GAMMALL_GS	2.0054E+00	12/21/2010				D
BLK	13967-70-9			1.1E+00						L	14:34				
0336413	CS-137	1.21E+00	pCi/L	1.1E+00	U	2.07E+00			GAMMALL_GS	2.0054E+00	12/21/2010				D
BLK	10045-97-3			1.1E+00						L	14:34				
0336413	EU-152	-1.20E+00	pCi/L	2.3E+00	U	3.80E+00			GAMMALL_GS	2.0054E+00	12/21/2010				D
BLK	14683-23-9			2.3E+00						L	14:34				
0336413	EU-154	-5.60E-01	pCi/L	3.4E+00	U	6.05E+00			GAMMALL_GS	2.0054E+00	12/21/2010				D
BLK	15585-10-1			3.4E+00						L	14:34				
0336413	EU-155	1.20E+00	pCi/L	1.9E+00	U	3.57E+00			GAMMALL_GS	2.0054E+00	12/21/2010				D
BLK	14391-16-3			1.9E+00						L	14:34				
0336413	K-40	-2.22E+01	pCi/L	2.2E+01	U	4.13E+01			GAMMALL_GS	2.0054E+00	12/21/2010				D
BLK	13966-00-2			2.2E+01						L	14:34				
0336413	RU-106	-2.23E+00	pCi/L	9.4E+00	U	1.64E+01			GAMMALL_GS	2.0054E+00	12/21/2010				D
BLK	13967-48-1			9.4E+00						L	14:34				
0336413	SB-125	5.57E-01	pCi/L	2.1E+00	U	3.96E+00			GAMMALL_GS	2.0054E+00	12/21/2010				D
BLK	14234-35-6			2.1E+00						L	14:34				

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).
B Qual- Analyte was found in the associated laboratory blank above the MDC.

Thursday, December 30, 2010

TestAmerica QC Blank Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W06060.Edd, h:\Reportdb\edd\FeadIV\Rad\45426.Edd

Lab Sample Id:	MARWT1AB	**Sdg/Rept Nbr:**	W06060	45426	**Collection Date:** 11/14/2010 11:37
Client Id:	NA	**Matrix:**	WATER	WATER	**Sample On Date:**
Moisture/Solids%*:		**QC Type:**	BLK		**Received Date:** 11/15/2010

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
	MW6-SBB-A19981								AV	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu-al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
0336416	TH-228	-1.27E-02	pCi/L	1.3E-01	U	3.03E-01	88.0		THISO_IE_PR	1.993E-01	12/07/2010				D
BLK	14274-82-9			1.3E-01						L	20:49				
0336416	TH-230	6.18E-02	pCi/L	1.3E-01	U	2.96E-01	88.0		THISO_IE_PR	1.993E-01	12/07/2010				D
BLK	14269-63-7			1.3E-01						L	20:49				
0336416	TH-232	0.00E+00	pCi/L	1.3E-01	U	2.96E-01	88.0		THISO_IE_PR	1.993E-01	12/07/2010				D
BLK	Th-232			1.3E-01						L	20:49				

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).
B Qual- Analyte was found in the associated laboratory blank above the MDC.

Thursday, December 30, 2010

TestAmerica QC Control Sample Report

Lab Code: TARL

FormNbr: R **FormatType:** FEAD **VersionNbr:** 05 **File Name:** h:\Reportdb\edd\FeadIV\Rad\W06060.Edd, h:\Reportdb\edd\FeadIV\Rad\45426.Edd

Lab Sample Id: MARW11CS **Sdg/Rept Nbr:** W06060 45426 **Collection Date:** 11/22/2010 10:54

Client Id: NA **Matrix:** WATER WATER **Sample On Date:**

Moisture/Solids%*: **QC Type:** BS **Received Date:** 11/22/2010

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
	MW6-SBB-A19981								AQ	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu-al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
0336417	C-14	6.98E+03	pCi/L	4.2E+02		3.32E+02	100.0	7.19E+03	C14_LSC	5.00E-03	12/09/2010			70	D
BS	14762-75-5			3.0E+02				97.1		L	04:38			130	

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).
B Qual- Analyte was found in the associated laboratory blank above the MDC.

Thursday, December 30, 2010

TestAmerica QC Control Sample Report

Lab Code: TARL

FormNbr: R **FormatType:** FEAD **VersionNbr:** 05 **File Name:** h:\Reportdb\edd\FeadIV\Rad\W06060.Edd, h:\Reportdb\edd\FeadIV\Rad\45426.Edd

Lab Sample Id:	MARWH1CS	**Sdg/Rept Nbr:**	W06060 45426	**Collection Date:**	11/10/2010 12:50
Client Id:	NA	**Matrix:**	WATER WATER	**Sample On Date:**	
Moisture/Solids%*:		**QC Type:**	BS	**Received Date:**	11/11/2010

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
	MW6-SBB-A19981								AS	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu-al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
0336410	I-129	1.15E+01	pCi/L	1.3E+00		3.04E-01	90.5	9.98E+00	I129LL_SEP_L	3.9109E+00	12/16/2010			70	D
BS	15046-84-1			1.3E+00				115.0		L	11:44			130	

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).
B Qual- Analyte was found in the associated laboratory blank above the MDC.

Thursday, December 30, 2010

TestAmerica QC Control Sample Report

Lab Code: TARL

FormNbr: R **FormatType:** FEAD **VersionNbr:** 05 **File Name:** h:\Reportdb\edd\FeadIV\Rad\W06060.Edd, h:\Reportdb\edd\FeadIV\Rad\45426.Edd

Lab Sample Id: MARWM1CS **Sdg/Rept Nbr:** W06060 45426 **Collection Date:** 11/11/2010 11:29

Client Id: NA **Matrix:** WATER WATER **Sample On Date:**

Moisture/Solids%*: **QC Type:** BS **Received Date:** 11/12/2010

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
	MW6-SBB-A19981								AU	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu-al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
0336413	CO-60	3.54E+01	pCi/L	6.2E+00		3.09E+00		3.74E+01	GAMMALL_GS	2.0034E+00	12/21/2010			70	D
BS	10198-40-0			6.2E+00				94.7		L	14:35			130	
0336413	CS-137	4.89E+01	pCi/L	8.1E+00		3.07E+00		4.94E+01	GAMMALL_GS	2.0034E+00	12/21/2010			70	D
BS	10045-97-3			8.1E+00				98.9		L	14:35			130	
0336413	EU-152	6.75E+01	pCi/L	1.3E+01		9.31E+00		7.61E+01	GAMMALL_GS	2.0034E+00	12/21/2010			70	D
BS	14683-23-9			1.3E+01				88.7		L	14:35			130	

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).
B Qual- Analyte was found in the associated laboratory blank above the MDC.

Thursday, December 30, 2010

TestAmerica QC Control Sample Report

Lab Code: TARL

FormNbr: R **FormatType:** FEAD **VersionNbr:** 05 **File Name:** h:\Reportdb\edd\FeadIV\Rad\W06060.Edd, h:\Reportdb\edd\FeadIV\Rad\45426.Edd

Lab Sample Id: MARWT1CS **Sdg/Rept Nbr:** W06060 45426 **Collection Date:** 11/14/2010 11:37

Client Id: NA **Matrix:** WATER WATER **Sample On Date:**

Moisture/Solids%*: **QC Type:** BS **Received Date:** 11/15/2010

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
	MW6-SBB-A19981								AW	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu-al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
0336416	TH-228	9.05E-02	pCi/L	1.3E-01	U	2.17E-01	93.2	1.16E+01	THISO_IE_PR	1.999E-01	12/07/2010			70	D
BS	14274-82-9			1.3E-01				0.8		L	20:49			130	
0336416	TH-230	1.08E+01	pCi/L	2.1E+00		2.50E-01	93.2	1.14E+01	THISO_IE_PR	1.999E-01	12/07/2010			70	D
BS	14269-63-7			1.4E+00				95.1		L	20:49			130	
0336416	TH-232	1.24E-01	pCi/L	1.6E-01	U	2.12E-01	93.2	1.14E+01	THISO_IE_PR	1.999E-01	12/07/2010			70	D
BS	Th-232			1.5E-01				1.1		L	20:49			130	

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).
B Qual- Analyte was found in the associated laboratory blank above the MDC.

Thursday, December 30, 2010

TestAmerica QC Duplicate Report

Lab Code: TARL

FormNbr: R **FormatType:** FEAD **VersionNbr:** 05 **File Name:** h:\Reportdb\edd\FeadIV\Rad\W06060.Edd, h:\Reportdb\edd\FeadIV\Rad\45426.Edd

Lab Sample Id: L95MV1FR **Sdg/Rept Nbr:** W06060 45426 **Collection Date:** 11/11/2010 11:29
Client Id: B27T22 **Matrix:** WATER WATER **Sample On Date:**
Moisture/Solids%*: **QC Type:** DUP **Received Date:** 11/12/2010

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
X11-004	MW6-SBB-A19981								AL	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu-al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
0336413	BE-7	1.70E+01	pCi/L	1.6E+01	U	3.03E+01			GAMMALL_GS	2.0054E+00	12/21/2010	125.1	1.1		D
DUP	13966-02-4	3.92E+00		1.6E+01						L	11:01	20.0	3		
0336413	CO-60	2.11E-01	pCi/L	1.4E+00	U	2.54E+00			GAMMALL_GS	2.0054E+00	12/21/2010	0.0	1.9		D
DUP	10198-40-0	-1.66E+00		1.4E+00						L	11:01	20.0	3		
0336413	CS-134	-1.53E-01	pCi/L	1.4E+00	U	2.50E+00			GAMMALL_GS	2.0054E+00	12/21/2010	302.1	0.9		D
DUP	13967-70-9	7.52E-01		1.4E+00						L	11:01	20.0	3		
0336413	CS-137	6.48E-01	pCi/L	1.2E+00	U	2.30E+00			GAMMALL_GS	2.0054E+00	12/21/2010	0.0	2.1		D
DUP	10045-97-3	-1.17E+00		1.2E+00						L	11:01	20.0	3		
0336413	EU-152	-8.52E-01	pCi/L	3.1E+00	U	5.35E+00			GAMMALL_GS	2.0054E+00	12/21/2010	562.8	1.2		D
DUP	14683-23-9	1.79E+00		3.1E+00						L	11:01	20.0	3		
0336413	EU-154	-3.54E+00	pCi/L	3.6E+00	U	5.64E+00			GAMMALL_GS	2.0054E+00	12/21/2010	0.0	1.1		D
DUP	15585-10-1	-7.51E-01		3.6E+00						L	11:01	20.0	3		
0336413	EU-155	-1.03E+00	pCi/L	2.9E+00	U	4.86E+00			GAMMALL_GS	2.0054E+00	12/21/2010	0.0	0.6		D
DUP	14391-16-3	-2.26E+00		2.9E+00						L	11:01	20.0	3		
0336413	K-40	-1.47E+01	pCi/L	1.9E+01	U	3.56E+01			GAMMALL_GS	2.0054E+00	12/21/2010	215.8	29.2		D
DUP	13966-00-2	3.88E+02		1.9E+01						L	11:01	20.0	3		
0336413	RU-106	-7.15E+00	pCi/L	1.2E+01	U	1.98E+01			GAMMALL_GS	2.0054E+00	12/21/2010	0.0	0.8		D
DUP	13967-48-1	-3.19E-01		1.2E+01						L	11:01	20.0	3		
0336413	SB-125	-6.10E-01	pCi/L	3.3E+00	U	5.78E+00			GAMMALL_GS	2.0054E+00	12/21/2010	0.0	0.1		D
DUP	14234-35-6	-2.65E-01		3.3E+00						L	11:01	20.0	3		

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).
B Qual- Analyte was found in the associated laboratory blank above the MDC.

Thursday, December 30, 2010

TestAmerica QC Duplicate Report

Lab Code: TARL

FormNbr: R **FormatType:** FEAD **VersionNbr:** 05 **File Name:** h:\Reportdb\edd\FeadIV\Rad\W06060.Edd, h:\Reportdb\edd\FeadIV\Rad\45426.Edd

Lab Sample Id:	L9XKH1FR	**Sdg/Rept Nbr:**	W06060	45426	**Collection Date:** 11/10/2010 12:50
Client Id:	B27T56	**Matrix:**	WATER	WATER	**Sample On Date:**
Moisture/Solids%*:		**QC Type:**	DUP		**Received Date:** 11/11/2010

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
X11-004	MW6-SBB-A19981								AM	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu-al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
0336410	I-129	-2.00E-03	pCi/L	8.9E-02	U	1.61E-01	92.4		I129LL_SEP_L	3.8448E+00	12/15/2010	205.2	2.5		D
DUP	15046-84-1	1.55E-01		8.9E-02						L	10:19	20.0	3		

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).
B Qual- Analyte was found in the associated laboratory blank above the MDC.

Thursday, December 30, 2010

TestAmerica QC Duplicate Report

Lab Code: TARL

FormNbr: R **FormatType:** FEAD **VersionNbr:** 05 **File Name:** h:\Reportdb\edd\FeadIV\Rad\W06060.Edd, h:\Reportdb\edd\FeadIV\Rad\45426.Edd

Lab Sample Id: MAEGH1FR **Sdg/Rept Nbr:** W06060 45426 **Collection Date:** 11/14/2010 11:37

Client Id: B27T76 **Matrix:** WATER WATER **Sample On Date:**

Moisture/Solids%*: **QC Type:** DUP **Received Date:** 11/15/2010

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
X11-004	MW6-SBB-A19981								AN	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu-al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
0336416	TH-228	3.44E-02	pCi/L	1.2E-01	U	3.24E-01	95.2		THISO_IE_PR	2.00E-01	12/07/2010	28.4	0.1		D
DUP	14274-82-9	4.59E-02		1.2E-01						L	20:49	20.0	3		
0336416	TH-230	-2.24E-02	pCi/L	1.2E-01	U	3.17E-01	95.2		THISO_IE_PR	2.00E-01	12/07/2010	0.0	0.2		D
DUP	14269-63-7	-8.96E-03		1.2E-01						L	20:49	20.0	3		
0336416	TH-232	0.00E+00	pCi/L	1.1E-01	U	2.69E-01	95.2		THISO_IE_PR	2.00E-01	12/07/2010	0.0	0.1		D
DUP	Th-232	-8.96E-03		1.1E-01						L	20:49	20.0	3		

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).
B Qual- Analyte was found in the associated laboratory blank above the MDC.

Thursday, December 30, 2010

TestAmerica QC Duplicate Report

Lab Code: TARL

FormNbr: R **FormatType:** FEAD **VersionNbr:** 05 **File Name:** h:\Reportdb\edd\FeadIV\Rad\W06060.Edd, h:\Reportdb\edd\FeadIV\Rad\45426.Edd

Lab Sample Id: MAHG91CR **Sdg/Rept Nbr:** W06060 45426 **Collection Date:** 11/22/2010 10:54

Client Id: B27TY9 **Matrix:** WATER WATER **Sample On Date:**

Moisture/Solids%*: **QC Type:** DUP **Received Date:** 11/22/2010

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
X11-003	MW6-SBB-A19981								AO	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu-al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
0336417	C-14	-5.52E-01	pCi/L	3.9E+00	U	8.27E+00	100.0		C14_LSC	2.00E-01	12/09/2010	0.0	0.3		D
DUP	14762-75-5	-1.33E+00		3.4E+00						L	01:04	20.0	3		

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).
B Qual- Analyte was found in the associated laboratory blank above the MDC.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

12/28/2010 3:51:09 PM

Lot No., Due Date: J0K160528,J0K110619,J0K220446; 12/29/2010
Client, Site: 384868; PGW 615HANFORD HANFORD
QC Batch No., Method Test: 0336416; RTHISO Thiso by ALP
SDG, Matrix: W06060; 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:

First Level [signature] **Date** 12/28/10

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 0336416

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: 12/29/10

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

12/22/2010 1:12:40 PM

Lot No., Due Date: J0K160528,J0K110619,J0K220446,J0K220453; 12/29/2010
Client, Site: 384868; PGW 615HANFORD HANFORD
QC Batch No., Method Test: 0336413; RGAMMA Gamma by GER
SDG, Matrix: W06060; 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 [signature] **Date** 12/22/10

TestAmerica Richland
QAS_RADCALCv4.8.44

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 0336413

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: 12/23/10

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

12/22/2010 1:00:21 PM

Lot No., Due Date: J0K160528,J0K110619,J0K220446,J0K220453; 12/29/2010
Client, Site: 384868; PGW 615HANFORD HANFORD
QC Batch No., Method Test: 0336410; RGAMLEPS Gamma by LEPS
SDG, Matrix: W06060; 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:

First Level [signature] **Date** 12/22/10

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 0336410

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: 12/23/10

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

12/29/2010 10:02:52 AM

Lot No., Due Date: J0K160528,J0K110619,J0K220446,J0K220453,J0K230574; 12/29/2010
Client, Site: 384868; PGW 615HANFORD HANFORD
QC Batch No., Method Test: 0336417; RC14 C-14 by LSC
SDG, Matrix: W06060; WATER

1.0 COC

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

2.0 QC Batch

	Yes	No	N/A
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

	Yes	No	N/A
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

	Yes	No	N/A
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

	Yes	No	N/A
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 [signature] **Date** 12/29/10

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 0336417

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 G Date: 12/29/10

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

CHPRC	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X11-004-42
		Page 1 of 1

Collector: AR McIntyre CHPRC	Contact/Requester: Karen Waters-Husted	Telephone No.: 376-4650
SAF No.: X11-004	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300118ES20
Project Title: EDURA, OCTOBER 2010	Logbook No: HNF-N-506 33 / 66	Ice Chest No.: N/A
Shipped To (Lab): TestAmerica Incorporated, Richland	Method of Shipment: Government Vehicle	Bill of Lading/Air Bill No.: N/A
Protocol: CERCLA	Priority: 30 Days PRIORITY	Offsite Property No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Do not combine samples from this SAF with other data sets. Need SDG to be stand alone.
100 Area Generator Knowledge Information Form applies.
The CACN for all analytical work at WSCF is 401922.
Please report all TICs.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis L9XKH	Holding Time	Preservative
B27T56	N	W	11/10/10	1250	1x20-mL P	Activity Scan	6 Months	None
B27T56	N	W			2x1000-mL G/P	C14_LSC: C-14 (1)	6 Months	None
B27T56	N	W			1x4000-mL G/P	GAMMALL_GS: List-1 (9)	6 Months	HNO3 to pH <2
B27T56	N	W			2x4000-mL G/P	I129LL_SEP_LEPS_GS_LL: I-129 (1)	6 Months	None
B27T56	N	W	11/10/10	1250	1x1000-mL G/P	Isotopic Thorium	6 Months	HNO3 to pH <2

Quote: 57671
SDG: ~~W06052~~ W06060
LOT: J0K110619 SKS 12/2/10
Report: 12/27/10
PGW

J0K110619

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
AR McIntyre CHPRC			NOV 10 2010 1530	SSU-1			NOV 10 2010 1530
SSU-1			NOV 11 2010 0657	L.D. Wall CHPRC		L.D. Wall	NOV 11 2010 0657
L.D. Wall CHPRC		L.D. Wall	NOV 11 2010 0950	TAN ANGEL Garcia Angel			NOV 11 2010 0950
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liquid	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

A-6004-842 (05/10)

CHPRC	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X11-004-66
		Page 1 of 1

Collector: AR McIntyre, CHPRC	Contact/Requester: Karen Waters-Husted	Telephone No.: 376-4650
SAF No.: X11-004	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300118ES20
Project Title: FDURA, OCTOBER 2010	Logbook No: HNF-N-506 33 / 66	Ice Chest No.: N/A
Shipped To (Lab): TestAmerica Incorporated, Richland	Method of Shipment: Government Vehicle	Bill of Lading/Air Bill No.: N/A
Protocol: CERCLA	Priority: 30 Days **PRIORITY**	Offsite Property No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
Do not combine samples from this SAF with other data sets. Need SDG to be stand alone.
100 Area Generator Knowledge Information Form applies.
The CACN for all analytical work at WSCF is 401922.
Please report all TICs.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis L9XKL	Holding Time	Preservative
B27T71	N	W	11/10/10	1416	1x20-mL P	Activity Scan	6 Months	None
B27T71	N	W			2x1000-mL G/P	C14_LSC: C-14 (1)	6 Months	None
B27T71	N	W			1x4000-mL G/P	GAMMALL_GS: List-1 (9)	6 Months	HNO3 to pH <2
B27T71	N	W			2x4000-mL G/P	I129LL_SEP_LEPS_GS_LL: I-129 (1)	6 Months	None
B27T71	N	W	11/10/10	1416	1x1000-mL G/P	Isotopic Thorium	6 Months	HNO3 to pH <2

SDG ~~W06052~~ W06060 SKS 12/2/10
LOT: JOK110619

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
AR McIntyre, CHPRC			NOV 10 2010 1530	SSU-1			NOV 10 2010 1530
SSU-1			NOV 11 2010 0657	L.D. Wall, CHPRC		L.D. Wall	NOV 11 2010 0657
L.D. Wall, CHPRC		L.D. Wall	NOV 11 2010 0950			Angel Garcia	NOV 11 2010 0950
Relinquished By			Date/Time	Received By			Date/Time

Matrix *
S = Soil, SE = Sediment, SO = Solid, SL = Sludge, W = Water, O = Oil, A = Air, DS = Drum Solid, DL = Drum Liquid, T = Tissue, WI = Wipe, L = Liquid, V = Vegetation, X = Other

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

A-6004-842 (05/10)

CHPRC	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X11-004-151
		Page 1 of 1

Collector: AR McIntyre, CHPRC	Contact/Requester: Karen Waters-Husted	Telephone No.: 376-4650
SAF No.: X11-004	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300118ES20
Project Title: FDURA OCTOBER 2010	Logbook No: HNF-N-506 33 / 66	Ice Chest No.: N/A
Shipped To (Lab): TestAmerica Incorporated, Richland	Method of Shipment: Government Vehicle	Bill of Lading/Air Bill No.: N/A
Protocol: CERCLA	Priority: 30 Days **PRIORITY**	Offsite Property No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
Do not combine samples from this SAF with other data sets. Need SDG to be stand alone.
100 Area Generator Knowledge Information Form applies.
The CACN for all analytical work at WSCF is 401922.
Please report all TICs.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis L9XKM	Holding Time	Preservative
B28MP0	N	W	11/16/10	1020	1x20-mL P	Activity Scan	6 Months	None
B28MP0	N	W			2x1000-mL G/P	C14_LSC: C-14 (1)	6 Months	None
B28MP0	N	W			1x4000-mL G/P	GAMMALL_GS: List-1 (9)	6 Months	HNO3 to pH <2
B28MP0	N	W			2x4000-mL G/P	I129LL_SEP_LEPS_GS_LL: I-129 (1)	6 Months	None
B28MP0	N	W	11/16/10	1020	1x1000-mL G/P	Isotopic Thorium	6 Months	HNO3 to pH <2

SDG# ~~W06052~~ W06060 SKS 12/2/10
LOT # JOK110619

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
AR McIntyre, CHPRC			NOV 10 2010 1530	SSU-1			NOV 10 2010 1530
SSU-1			NOV 11 2010 0657	L.D. Wall, CHPRC	L.D. Wall		NOV 11 2010 0657
L.D. Wall, CHPRC	L.D. Wall		NOV 11 2010 0950	ANGEL Garcia Ingal			NOV 11 2010 0950
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liquid	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wine	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

A-6004-842 (05/10)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 11/11/10@0450 GM Screen Result (out) .3 (in) .4 Initials LV

Client: PGW SDG #: ~~WD0052~~ WQ6060 SKS NA [ ] SAF #: X11-004 NA [ ]

Work Order Number: JOK110619 12/2/10 Chain of Custody # X11-004-42;66;151

Shipping Container ID: Hand Delivery NA [ ] Air Bill # NA LV

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

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

Item 6 through 10 for samples. Initial appropriate response.

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

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

See other side for additional comments

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

Client Informed on N/A by N/A Person contacted N/A

[ ] No action necessary; process as is

Project Manager [signature] Date 11/12/10

LS-023, Rev. 12, 10/10

CHPRC J0K160528

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # X11-004-14

Page 1 of 1

Collector: CA Snyder, CHPRC	Contact/Requester: Karen Waters-Husted	Telephone No.: 376-4650
SAF No.: X11-004	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300118ES20
Project Title: EDURA OCTOBER 2010	Logbook No: HNF-N-506 31 / 89	Ice Chest No.: N/A
Shipped To (Lab): TestAmerica Incorporated, Richland	Method of Shipment: Government Vehicle	Bill of Lading/Air Bill No.: N/A
Protocol: CERCLA	Priority: 30 Days PRIORITY	Offsite Property No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS Hold Time — Total Activity Exemption: Yes ☑ No ☐
Do not combine samples from this SAF with other data sets. Need SDG to be stand alone.
100 Area Generator Knowledge Information Form applies.
The CACN for all analytical work at WSCF is 401922.
Please report all TICs.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B27T22	N	W	11/11/10	1129	1x20-mL P	Activity Scan L95MV	6 Months	None
B27T22	N	W	↓	↓	2x1000-mL G/P	C14_LSC: C-14 (1)	6 Months	None
B27T22	N	W			1x4000-mL G/P	GAMMALL_GS: List-1 (9)	6 Months	HNO3 to pH <2
B27T22	N	W			2x4000-mL G/P	I129LL_SEP_LEPS_GS_LL: I-129 (1)	6 Months	None
B27T22	N	W			1x1000-mL G/P	Isotopic Thorium	6 Months	HNO3 to pH <2

Quote# 57671
SDG# ~~W06052~~ W06060
LOT# J0K160528 SKS 12/2/10
Report: 12/31/10
DGW

Relinquished By	Date/Time	Received By	Date/Time
CA Snyder, CHPRC (Print / Sign)	1300 NOV 11 2010	SSU-1 (Print / Sign)	1300 NOV 11 2010
SSU-1	0905 NOV 12 2010	KE Hamilton, CHPRC	0905 NOV 12 2010
KE Hamilton, CHPRC	1005 NOV 12 2010	Angel Garcia	1005 11.12.10

Matrix *
S = Soil, SR = Sediment, SO = Solid, SL = Sludge, W = Water, O = Oil, A = Air, DS = Drum Solid, DL = Drum Liquid, T = Tissue, WI = Wipe, L = Liquid, V = Vegetation, X = Other

FINAL SAMPLE DISPOSITION — Disposal Method (e.g., Return to customer, per lab procedure, used in process) — Disposed By — Date/Time

A-6004-842 (05/10)

CHPRC	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X11-004-30 Page 1 of 1

Collector: CA Snyder CHPRC	Contact/Requester: Karen Waters-Husted	Telephone No.: 376-4650
SAF No.: X11-004	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300118ES20
Project Title: FDURA, OCTOBER 2010	Logbook No: HNF-N-506 31 / 189	Ice Chest No.: N/A
Shipped To (Lab): TestAmerica Incorporated, Richland	Method of Shipment: Government Vehicle	Bill of Lading/Air Bill No.: N/A
Protocol: CERCLA	Priority: 30 Days PRIORITY	Offsite Property No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS Hold Time — Total Activity Exemption: Yes ☑ No ☐
Do not combine samples from this SAF with other data sets. Need SDG to be stand alone.
100 Area Generator Knowledge Information Form applies.
The CACN for all analytical work at WSCF is 401922.
Please report all TICs.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B27T42	N	W	11/11/10	0901	1x20-mL P	Activity Scan L95NW	6 Months	None
B27T42	N	W	↓	↓	2x1000-mL G/P	C14_LSC: C-14 (1)	6 Months	None
B27T42	N	W	↓	↓	1x4000-mL G/P	GAMMALL_GS: List-1 (9)	6 Months	HNO3 to pH <2
B27T42	N	W	↓	↓	2x4000-mL G/P	I129LL_SEP_LEPS_GS_LL: I-129 (1)	6 Months	None
B27T42	N	W	↓	↓	1x1000-mL G/P	Isotopic Thorium	6 Months	HNO3 to pH <2

SDG: ~~W06052~~ W06060
LOT: JOK160536 SKS 12/2/10

Relinquished By	Date/Time	Received By	Date/Time
CA Snyder CHPRC (Print / Sign)	NOV 11 2010 1300	SSU-1 (Print / Sign)	NOV 11 2010 1300
SSU-1	NOV 12 2010 0905	KE Hamilton CHPRC	NOV 12 2010 0905
KE Hamilton CHPRC	NOV 12 2010 1005	Angel Garcia	NOV 12 2010 1005

Matrix *: S = Soil; SE = Sediment; SO = Solid; SL = Sludge; W = Water; O = Oil; A = Air; DS = Drum Solid; DL = Drum Liquid; T = Tissue; WI = Wipe; L = Liquid; V = Vegetation; X = Other

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

A-6004-842 (05/10)

CHPRC	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X11-004-22
		Page 1 of 1

Collector: CA Snyder CHPRC	Contact/Requester: Karen Waters-Husted	Telephone No.: 376-4650
SAF No.: X11-004	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300118ES20
Project Title: FDURA, OCTOBER 2010	Logbook No: HNF-N-506 31 / 89	Ice Chest No.: N/A
Shipped To (Lab): TestAmerica Incorporated, Richland	Method of Shipment: Government Vehicle	Bill of Lading/Air Bill No.: N/A
Protocol: CERCLA	Priority: 30 Days **PRIORITY**	Offsite Property No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
Do not combine samples from this SAF with other data sets. Need SDG to be stand alone.
100 Area Generator Knowledge Information Form applies.
The CACN for all analytical work at WSCF is 401922.
Please report all TICs.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B27T32	N	W	11/11/10	1025	1x20-mL P	Activity Scan L95N3	6 Months	None
B27T32	N	W			2x1000-mL G/P	C14_LSC: C-14 (1)	6 Months	None
B27T32	N	W			1x4000-mL G/P	GAMMALL_GS: List-1 (9)	6 Months	HNO3 to pH <2
B27T32	N	W			2x4000-mL G/P	I129LL_SEP_LEPS_GS_LL: I-129 (1)	6 Months	None
B27T32	N	W			1x1000-mL G/P	Isotopic Thorium	6 Months	HNO3 to pH <2

SDG# ~~W06052~~ W06060
LOT # JOK160508 SKS 12/2/10

Relinquished By	Print / Sign	Date/Time	Received By	Print / Sign	Date/Time
CA Snyder CHPRC		NOV 11 2010 1700	SSU- 1		NOV 11 2010 1700
SSU- 1		NOV 12 2010 0905	KE Hamilton CHPRC		NOV 12 2010 0905
KE Hamilton CHPRC		NOV 12 2010 1005	Angel Garcia		NOV 12 2010 1005

Matrix *

S = Soil	DS = Drum Solid		
SE = Sediment	DL = Drum Liqui		
SO = Solid	T = Tissue		
SL = Sludge	WI = Wine		
W = Water	L = Liquid		
O = Oil	V = Vegetation		
A = Air	X = Other		

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

A-6004-842 (05/10)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 11/12/10 @ 1005 GM Screen Result (out) .3 (in) .4 Initials [LV]

Client: PGW SDG #: ~~W0605~~ W060060 SKS 12/2/10 NA [ ] SAF #: X11-004 NA [ ]

Work Order Number: J0K160526 Chain of Custody # X11-004-14;22;30

Shipping Container ID: Hand Delivery NA [ ] Air Bill # NA [LV]

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

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

Item 6 through 10 for samples. Initial appropriate response.

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

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

See other side for additional comments

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

Client Informed on N/A by N/A Person contacted N/A

[✓] No action necessary; process as is

Project Manager [signature] Date 11/17/10

LS-023, Rev. 12, 10/10

CHPRC J0K220453

HAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # X11-005-99

Collector: SE Hamaker CHPRC	Contact/Requester: Karen Waters-Husted	Telephone No.: 376-4650
SAF No.: X11-005	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300118ES20
Project Title: IU2 IU6DURA OCTOBER 2010	Logbook No: HNF-N-506 331 68	Ice Chest No.: N/A
Shipped To (Lab): TestAmerica Incorporated Richland	Method of Shipment: Government Vehicle	Bill of Lading/Air Bill No.: N/A
Protocol: CERCLA	Priority: 30 Days PRIORITY	Offsite Property No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS Hold Time — Total Activity Exemption: Yes ☑ No ☐
Site Wide Area Generator Knowledge Information Form applies.
The CACN for all analytical work at WSCF is 401922.
Please report all TICs.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B27X05	N	W	11/14/10	0958	1x20-mL P	Activity Scan MAEHP	6 Months	None
B27X05	N	W	↓	↓	2x1000-mL G/P	C14_LSC: C-14 (1)	6 Months	None
B27X05	N	W	↓	↓	1x4000-mL G/P	GAMMALL_GS: List-1 (9)	6 Months	HNO3 to pH <2
B27X05	N	W	↓	↓	2x4000-mL G/P	I129LL_SEP_LEPS_GS_LL: I-129 (1)	6 Months	None

Quote #57671
SDG#~~W06052~~ W06060 SKS 12/2/10
LOT#J0K220453
Report: ~~11/30/1~~ 12/30/10 LV 11/22/10
PGW

Relinquished By	Print / Sign	Date/Time	Received By	Print / Sign	Date/Time
SE Hamaker CHPRC	Scott Hamaker	NOV 14 2010 1500	SSU #1		NOV 14 2010 1500
SSU #1		0900 NOV 15 2010	SE Hamaker CHPRC	Scott Hamaker	0900 NOV 15 2010
SE Hamaker CHPRC	Scott Hamaker	1140 NOV 15 2010		TAR Angel Garcia Angel Garcia	1140 NOV 15 2010
Relinquished By		Date/Time	Received By		Date/Time

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liquid	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wine	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

A-6004-842 (REV 2)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 11/15/10 @ 1140 GM Screen Result (out) .3 (in) .4 Initials [LV]

Client: PGW SDG #: ~~WO60052~~ WO60060 SS 12/2/10 NA [ ] SAF #: X11-005 NA [ ]

Work Order Number: JOK220453 Chain of Custody # X11-005-99

Shipping Container ID: Hand Delivery NA [ ] Air Bill # NA [✓]

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

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

Item 6 through 10 for samples. Initial appropriate response.

6. Number of samples in shipping container (Each sample may contain multiple bottles): 1@ 1 vial 3-4LP 3-1LP
7. Sample holding times exceeded? NA [ ] Yes [ ] No [LV]
8. Samples have:
   - ____ tape
   - LV custody seals
   - ____ hazard labels
   - LV appropriate sample labels
9. Samples:
   - LV are in good condition
   - ____ are broken
   - ____ are leaking
   - ____ have air bubbles (Only for samples requiring no head space)
10. Sample pH appropriate for analysis requested Yes [LV] No [ ] N/A [ ] (Note discrepancies in #13)
    (If acidification necessary, then document sample ID, initial pH, amount of HNO_3 added and pH after addition)

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

See other side for additional comments

Sample Custodian: [signature] Date: 11/15/10

Client Informed on N/A by N/A Person contacted N/A

[✓] No action necessary, process as is

Project Manager [signature] Date 11/23/10

LS-023, Rev. 12, 10/10

CHPRC J0K220446

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # X11-004-74

Page 1 of 1

Collector: SE Hamaker CHPRC	Contact/Requester: Karen Waters-Husted	Telephone No.: 376-4650
SAF No.: X11-004	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300118ES20
Project Title: EDURA OCTOBER 2010	Logbook No: HNF-N-506 33/68	Ice Chest No.: N/A
Shipped To (Lab): TestAmerica Incorporated Richland	Method of Shipment: Government Vehicle	Bill of Lading/Air Bill No.: N/A
Protocol: CERCLA	Priority: 30 Days PRIORITY	Offsite Property No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
Do not combine samples from this SAF with other data sets. Need SDG to be stand alone.
100 Area Generator Knowledge Information Form applies.
The CACN for all analytical work at WSCF is 401922.
Please report all TICs.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B27T76	N	W	11/14/10	1137	1x20-mL P	Activity Scan MAEGH	6 Months	None
B27T76	N	W	↓	↓	2x1000-mL G/P	C14_LSC: C-14 (1)	6 Months	None
B27T76	N	W	↓	↓	1x4000-mL G/P	GAMMALL_GS: List-1 (9)	6 Months	HNO3 to pH <2
B27T76	N	W	↓	↓	2x4000-mL G/P	I129LL_SEP_LEPS_GS_LL: I-129 (1)	6 Months	None
B27T76	N	W	↓	↓	1x1000-mL G/P	Isotopic Thorium	6 Months	HNO3 to pH <2

Quote #57671
SDG # ~~W06052~~ W06060 SKS 12/2/10 W 11/22/10
LOT # ~~J0K220446~~ J0K220446
Report: 12/30/10
PGW

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
SE Hamaker CHPRC			NOV 14 2010 1500	SSU #1			NOV 14 2010 1500
SSU #1			0900 NOV 15 2010	11/15/10 SSU #1	SE Hamaker CHPRC		0900 NOV 15 2010
SE Hamaker CHPRC			NOV 15 2010 1140	MAEGH			NOV 15 2010 1140
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S = Soil	DS = Drum Solid		
SE = Sediment	DL = Drum Liqui		
SO = Solid	T = Tissue		
SL = Sludge	WI = Wine		
W = Water	L = Liquid		
O = Oil	V = Vegetation		
A = Air	X = Other		

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

A-6004-842 (05/10)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 11/15/10@1140 GM Screen Result (out) .2 (in) .3 Initials LV]

Client: PGW SDG #: W06060 ~~W06057~~ 5551012/10 NA [ ] SAF #: X11-004 NA [ ]

Work Order Number: JOK22044 Chain of Custody # X11-004-74

Shipping Container ID: Hand Delivery NA [ ] Air Bill # NA LV

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

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

Item 6 through 10 for samples. Initial appropriate response.

6. Number of samples in shipping container (Each sample may contain multiple bottles): 1@ 1-vial 3-4LP 3-1LP
7. Sample holding times exceeded? NA [ ] Yes [ ] No [LV]
8. Samples have:
   - ____ tape
   - LV custody seals
   - ____ hazard labels
   - LV appropriate sample labels
9. Samples:
   - LV are in good condition
   - ____ are broken
   - ____ are leaking
   - ____ have air bubbles (Only for samples requiring no head space)
10. Sample pH appropriate for analysis requested Yes [LV] No [ ] N/A [ ] (Note discrepancies in #13)
    (If acidification necessary, then document sample ID, initial pH, amount of HNO_3 added and pH after addition)

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

See other side for additional comments

Sample Custodian: [signature] Date: 11/15/10

Client Informed on N/A by N/A Person contacted N/A

[✓] No action necessary; process as is

Project Manager [signature] Date 11/23/10

LS-023, Rev. 12, 10/10

CHPRC J0K230574

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # X11-003-518

Collector: Garcia	Contact/Requester: Karen Waters-Husted	Telephone No.: 376-4650
SAF No.: X11-003	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300071ES20
Project Title: Aquifer Tubes, October 2010	Logbook No: HNF-N-506 29190	Ice Chest No.: N/A
Shipped To (Lab): TestAmerica Incorporated, Richland	Method of Shipment: Government Vehicle	Bill of Lading/Air Bill No.: N/A
Protocol: CERCLA	Priority: 30 Days PRIORITY	Offsite Property No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
Do not combine samples from this SAF with other data sets. Need SDG to be stand alone.
Site Wide Generator Knowledge Information Form applies.
The CACN for all analytical work at WSCF is 401647.
No preservation added to 8260 VOA samples.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B27TY9	N	W	11-22-10	1054	1x20-mL P	Activity Scan ~~MAG~~ MAHG9	6 Months	None
B27TY9	N	W	11-22-10	1054	2x1000-mL G/P	C14_LSC: C-14 (1)	6 Months	None

Quote # 57671
SDG # W06060
LOT # J0K230574
Report 01/06/11
PGW

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
J. Garcia	11/22/10 1245	MAWhite	11-22-10 1245
MAWhite	11-22-10 1425	Angel Garcia / Angel	11-22-10 1425

Matrix *
S = Soil, SE = Sediment, SO = Solid, SL = Sludge, W = Water, O = Oil, A = Air, DS = Drum Solid, DL = Drum Liquid, T = Tissue, WI = Wipe, L = Liquid, V = Vegetation, X = Other

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

A-6004-842 (05/10)

CHPRC	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X11-003-524
		Page 1 of 1

Collector Garcia	Contact/Requester Karen Waters-Husted	Telephone No. 376-4650
SAF No. X11-003	Sampling Origin Hanford Site	Purchase Order/Charge Code 300071ES20
Project Title Aquifer Tubes, October 2010	Logbook No: HNF-N-506 29190	Ice Chest No. N/A
Shipped To (Lab) TestAmerica Incorporated, Richland	Method of Shipment Government Vehicle	Bill of Lading/Air Bill No. N/A
Protocol CERCLA	Priority: 30 Days PRIORITY	Offsite Property No. N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Do not combine samples from this SAF with other data sets. Need SDG to be stand alone.
Site Wide Generator Knowledge Information Form applies.
The CACN for all analytical work at WSCF is 401647.
No preservation added to 8260 VOA samples.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B27V02	N	W	11.22.10	1134	1x20-mL P	Activity Scan MAHHA	6 Months	None
B27V02	N	W	11.22.10	1134	2x1000-mL G/P	C14_LSC: C-14 (1)	6 Months	None

SDG: W06060
LOT: J0K230574

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
J. Garcia			11/22/10 1245	MAWhitmarsh			11-22-10 1245
MAWhitmarsh			11-22-10 1425	ANGEL Garcia			11-22-10 1425

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liqui	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

A-6004-842 (05/10)

CHPRC	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X11-003-525
		Page 1 of 1

Collector GARCIA	Contact/Requester Karen Waters-Husted	Telephone No. 376-4650
SAF No. X11-003	Sampling Origin Hanford Site	Purchase Order/Charge Code 300071ES20
Project Title Aquifer Tubes, October 2010	Logbook No: HNF-N-506 29190	Ice Chest No. N/A
Shipped To (Lab) TestAmerica Incorporated, Richland	Method of Shipment Government Vehicle	Bill of Lading/Air Bill No. N/A
Protocol CERCLA	Priority: 30 Days PRIORITY	Offsite Property No. N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Do not combine samples from this SAF with other data sets. Need SDG to be stand alone.
Site Wide Generator Knowledge Information Form applies.
The CACN for all analytical work at WSCF is 401647.
No preservation added to 8260 VOA samples.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B27V03	N	W	11-22-10	1134	1x20-mL P	Activity Scan MAHHC	6 Months	None
B27V03	N	W	11-22-10	1134	2x1000-mL G/P	C14_LSC: C-14 (1)	6 Months	None

SDG: W06060
LOT: JOK230574

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
J. Garcia	11/22/10 / 1245	Mawlitz Mawlitz	11-22-10 1245
Mawlitz Mawlitz	11-22-10 1425	Angel Garcia	11-22-10 1425

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liquid	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

A-6004-842 (05/10)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 11/22/10@1425 GM Screen Result (out) .3 (in) .4 Initials [LV]

Client: PGW SDG #: W060100 NA [ ] SAF #: X11-003 NA [ ]

Work Order Number: JOK230574 Chain of Custody # X11-003518; 524; 525

Shipping Container ID: Hand Delivery NA [ ] Air Bill # NA [LV]

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

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

Item 6 through 10 for samples. Initial appropriate response.

6. Number of samples in shipping container (Each sample may contain multiple bottles): 3@ 2-1LP (1-vial) per sample
7. Sample holding times exceeded? NA [ ] Yes [ ] No [LV]
8. Samples have:
   - ___ tape
   - LV custody seals
   - ___ hazard labels
   - LV appropriate sample labels
9. Samples:
   - LV are in good condition
   - ___ are broken
   - ___ are leaking
   - ___ have air bubbles (Only for samples requiring no head space)
10. Sample pH appropriate for analysis requested Yes [LV] No [ ] N/A [ ] (Note discrepancies in #13)
    (If acidification necessary, then document sample ID, initial pH, amount of HNO_3 added and pH after addition)

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

See other side for additional comments

Sample Custodian: [signature] Date: 11/22/10

Client Informed on N/A by N/A Person contacted N/A

[✓] No action necessary, process as is

Project Manager [signature] Date 12/2/10

LS-023, Rev. 12, 10/10

12/3/2010 4:15:14 PM

Sample Preparation/Analysis

Balance Id:1120482733

384868, Pacific Northwest National Laboratory ,
Pacific Northwest National Lab

9N Thiso Prp PRP004, Sep ALP005(ALP016)
S1 Thorium-228,230,232 by Alpha Spec
01 STANDARD TEST SET

Pipet #: _____

AnalyDueDate: 12/29/2010

Sep1 DT/Tm Tech:

Batch: 0336416 WATER pCi/L PM, Quote: SS , 57671

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,CrowtherJ

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 L9XKH-1-AA J0K110619-1-SAMP 11/10/2010 12:50		AmtRec: 1XVIAL;3X1LP;3X4LP #Containers: 7	200.20g,in	200.20g	THTC20436 11/30/10,pd 11/19/10,r	200	Scr:	Alpha: -5.71E-04 uCi/Sa	Beta: 3.06E-03 uCi/Sa	
2 L9XKL-1-AA J0K110619-2-SAMP 11/10/2010 14:16		AmtRec: 1XVIAL;3X1LP;3X4LP #Containers: 7	199.20g,in	199.20g	THTC20437 11/30/10,pd 11/19/10,r		Scr:	Alpha: 2.80E-03 uCi/Sa	Beta: 2.09E-03 uCi/Sa	
3 L9XKM-1-AA J0K110619-3-SAMP 11/10/2010 10:20		AmtRec: 1XVIAL;3X1LP;3X4LP #Containers: 7	200.60g,in	200.60g	THTC20438 11/30/10,pd 11/19/10,r		Scr:	Alpha: -1.23E-03 uCi/Sa	Beta: 6.43E-04 uCi/Sa	
4 L95MV-1-AA J0K160528-1-SAMP 11/11/2010 11:29		AmtRec: 1XVIAL;3X2LP;3X4LP #Containers: 7	199.90g,in	199.90g	THTC20439 11/30/10,pd 11/19/10,r		Scr:	Alpha: 2.62E-03 uCi/Sa	Beta: 1.76E-03 uCi/Sa	
5 L95NW-1-AA J0K160528-2-SAMP 11/11/2010 09:01		AmtRec: 1XVIAL;3X2LP;3X4LP #Containers: 7	200.00g,in	200.00g	THTC20440 11/30/10,pd 11/19/10,r		Scr:	Alpha: 1.63E-03 uCi/Sa	Beta: 2.58E-03 uCi/Sa	
6 L95N3-1-AA J0K160528-3-SAMP 11/11/2010 10:25		AmtRec: 1XVIAL;3X2LP;3X4LP #Containers: 7	200.10g,in	200.10g	THTC20441 11/30/10,pd 11/19/10,r		Scr:	Alpha: -2.83E-04 uCi/Sa	Beta: 1.28E-03 uCi/Sa	
7 MAEGH-1-AA J0K220446-1-SAMP 11/14/2010 11:37		AmtRec: 1XVIAL;3X1LP;3X4LP #Containers: 7	199.80g,in	199.80g	THTC20442 11/30/10,pd 11/19/10,r		Scr:	Alpha: -3.92E-04 uCi/Sa	Beta: 5.45E-04 uCi/Sa	

TestAmerica Richland Wa.

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

ISV - Insufficient Volume for Analysis

WO Cnt: 7
Prep_SamplePrep v4.8.49

12/3/2010 4:15:16 PM

Sample Preparation/Analysis

Balance Id:1120482733

384868, Pacific Northwest National Laboratory ,
Pacific Northwest National Lab

9N Thiso Prp PRP004, Sep ALP005(ALP016)
S1 Thorium-228,230,232 by Alpha Spec
01 STANDARD TEST SET

Pipet #: _____

AnalyDueDate: 12/29/2010

Sep1 DT/Tm Tech:

Batch: 0336416 WATER pCi/L PM, Quote: SS , 57671

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,CrowtherJ

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:
176 8 MAEGH-1-AF-X J0K220446-1-DUP 11/14/2010 11:37		AmtRec: 1XVIAL;3X1LP;3X4LP #Containers: 7	200.00g,in	200.00g	THTC20443 11/30/10,pd 11/19/10,r	200		Scr: Alpha: -3.92E-04 uCi/Sa	Beta: 5.45E-04 uCi/Sa	
177 9 MARWT-1-AA-B J0L020000-416-BLK 12/03/2010 07:33 pd		AmtRec: #Containers: 1	199.30g,in	199.30g	THTC20444 11/30/10,pd 11/19/10,r			Scr: Alpha:	Beta:	
178 10 MARWT-1-AC-C J0L020000-416-LCS 12/03/2010 07:33 pd		AmtRec: #Containers: 1	199.90g,in	199.90g	THSI2646 11/30/10,pd 11/19/10,r			Scr: Alpha:	Beta:	

Comments:

pHC2 JL 12/3/10

All Clients for Batch:
384868, Pacific Northwest National Laboratory Pacific Northwest National Lab, SS , 57671

L9XKH1AA-SAMP Constituent List:

Th-228	RDL:1	pCi/L	LCL:	UCL:	RPD:	Th-230	RDL:1	pCi/L	LCL:70	UCL:130	RPD:20
Th-232	RDL:1	pCi/L	LCL:	UCL:	RPD:	Th-234	RDL:	pCi/L	LCL:20	UCL:115	RPD:20

MARWT1AA-BLK:

Th-228	RDL:1	pCi/L	LCL:	UCL:	RPD:	Th-230	RDL:1	pCi/L	LCL:	UCL:	RPD:
Th-232	RDL:1	pCi/L	LCL:	UCL:	RPD:	Th-234	RDL:	pCi/L	LCL:20	UCL:115	RPD:20

MARWT1AC-LCS:

Th-230	RDL:1	pCi/L	LCL:70	UCL:130	RPD:20	Th-234	RDL:	pCi/L	LCL:20	UCL:115	RPD:20

L9XKH1AA-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
MARWT1AA-BLK:

12/3/2010 4:15:17 PM

Sample Preparation/Analysis

9N Thiso Prp PRP004, Sep ALP005(ALP016)
S1 Thorium-228,230,232 by Alpha Spec
01 STANDARD TEST SET

Balance Id:1120482733

Pipet #: _____

AnalyDueDate: 12/29/2010

Sep1 DT/Tm Tech:

Batch: 0336416 pCi/L

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,CrowtherJ

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:

```
    Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
MARWT1AC-LCS:
    Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```

12/28/2010 3:50:24 PM

ICOC Fraction Transfer/Status Report

ByDate: 12/28/2009, 1/2/2011, Batch: '0336416', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
0336416						
AC		Rev1C	CrowtherJ	12/3/2010 4:15:22 PM		
SC			wagarr	IsBatched	12/3/2010 9:07:46 AM	ICOC_RADCALC v4.8.49
SC			CrowtherJ	Prep1C	12/3/2010 4:15:22 PM	RL-PRP-004 REVISION 1
SC			HoganH	Sep1C	12/6/2010 11:03:53 AM	ALP-001 REVISION 2
SC			CrowtherJ	Sep2C	12/7/2010 11:38:51 AM	RL-ALP-016 REVISION 1
SC			ClarkR	InCnt1	12/7/2010 11:50:21 AM	RL-CI-008 REVISION 1
SC			BlackCL	CalcC	12/8/2010 6:53:25 AM	RL-CI-008 REVISION 1
SC			whelands	Rev1C	12/28/2010 3:50:13 PM	RL-DR-001 Rev 2
AC			HoganH	12/6/2010 11:03:53		
AC			CrowtherJ	12/7/2010 11:38:51		
AC			ClarkR	12/7/2010 11:50:21		
AC			BlackCL	12/8/2010 6:53:25		
AC			whelands	12/28/2010 3:50:13		

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

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Grp Rec Cnt: 6

ICOCFractions v4.8.44

12/14/2010 8:53:20 AM

Sample Preparation/Analysis

Balance Id:1117411003

384868, Pacific Northwest National Laboratory ,
Pacific Northwest National Lab

AW Gamma Prp GAM001
TA Gamma by HPGE
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 12/29/2010

Sep1 DT/Tm Tech:

Batch: 0336413 WATER pCi/L PM, Quote: SS , 57671

Sep2 DT/Tm Tech:

SEQ Batch, Test: None All Tests: 0336410 BNTB, 0336413 AWTA, 0336416 9NS1, 0336417 5SS3,

Prep Tech: ,WagarC

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 L9XKH-1-AD J0K110619-1-SAMP 11/10/2010 12:50			2005.90g,in AmtRec: 1XVIAL;3X1LP;3X4LP #Containers: 7	2005.90g		100mls	200	G15	1056	12/21/10	Scr: Alpha: -5.71E-04 uCi/Sa Beta: 3.06E-03 uCi/Sa
2 L9XKL-1-AD J0K110619-2-SAMP 11/10/2010 14:16			1997.60g,in AmtRec: 1XVIAL;3X1LP;3X4LP #Containers: 7	1997.60g				G14	1057		Scr: Alpha: 2.80E-03 uCi/Sa Beta: 2.09E-03 uCi/Sa
3 L9XKM-1-AD J0K110619-3-SAMP 11/10/2010 10:20			2005.00g,in AmtRec: 1XVIAL;3X1LP;3X4LP #Containers: 7	2005.00g				G14 10 12/21/1000	1057		Scr: Alpha: -1.23E-03 uCi/Sa Beta: 6.43E-04 uCi/Sa
4 L95MV-1-AD J0K160528-1-SAMP 11/11/2010 11:29			2005.40g,in AmtRec: 1XVIAL;3X2LP;3X4LP #Containers: 7	2005.40g				G13 12/21/1000 13	1058		Scr: Alpha: 2.62E-03 uCi/Sa Beta: 1.76E-03 uCi/Sa
5 L95MV-1-AF-X J0K160528-1-DUP 11/11/2010 11:29			ISV AmtRec: 1XVIAL;3X2LP;3X4LP #Containers: 7					G10	1421	12/21/10	Scr: Alpha: 2.62E-03 uCi/Sa Beta: 1.76E-03 uCi/Sa
6 L95NW-1-AD J0K160528-2-SAMP 11/11/2010 09:01			1994.80g,in AmtRec: 1XVIAL;3X2LP;3X4LP #Containers: 7	1994.80g				~~G15~~ G15 12/21/10	1422		Scr: Alpha: 1.63E-03 uCi/Sa Beta: 2.58E-03 uCi/Sa
7 L95N3-1-AD J0K160528-3-SAMP 11/11/2010 10:25			2005.30g,in AmtRec: 1XVIAL;3X2LP;3X4LP #Containers: 7	2005.30g				G11	1422		Scr: Alpha: -2.83E-04 uCi/Sa Beta: 1.28E-03 uCi/Sa

12/14/2010 8:53:21 AM

Sample Preparation/Analysis

Balance Id:1117411003

384868, Pacific Northwest National Laboratory ,
Pacific Northwest National Lab

AW Gamma Prp GAM001
TA Gamma by HPGE
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 12/29/2010

Sep1 DT/Tm Tech:

Batch: 0336413 WATER pCi/L PM, Quote: SS , 57671

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,WagarC

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 MAEGH-1-AD J0K220446-1-SAMP 11/14/2010 11:37			2002.80g,in AmtRec: 1XVIAL;3X1LP;3X4LP	2002.80g #Containers: 7		100mL	200	614 Scr:	1423 Alpha: -3.92E-04 uCi/Sa	12/21/10m Beta: 5.45E-04 uCi/Sa	
9 MAEHP-1-AC J0K220453-1-SAMP 11/14/2010 09:58			1998.40g,in AmtRec: 1XVIAL;2X1LP;3X4LP	1998.40g #Containers: 6				613 Scr:	1423 Alpha: 1.56E-03 uCi/Sa	Beta: -8.95E-05 uCi/Sa	
10 MARWM-1-AA-B J0L020000-413-BLK 12/03/2010 07:33 pd			2005.40g,in AmtRec:	2005.40g #Containers: 1				611 Scr:	1754 Alpha:	12/21/10m Beta:	
11 MARWM-1-AC-C J0L020000-413-LCS 12/03/2010 07:33 pd			2003.40g,in AmtRec:	2003.40g #Containers: 1	QCAG1684 09/16/10,pd 11/07/03,r			615 Scr:	1755 Alpha:	Beta:	

Comments:

PH <2.0, ISV for sample #5 (no duplicate), please recount on different detector.
CW 12-14-10

All Clients for Batch:
384868, Pacific Northwest National Laboratory Pacific Northwest National Lab, SS , 57671

L9XKH1AD-SAMP Constituent List:

Co-60	RDL:0.00E+00	pCi/L	LCL:	UCL:	RPD:	Cs-134	RDL:0.00E+00	pCi/L	LCL:	UCL:	RPD:
Cs-137	RDL:6.00E+00	pCi/L	LCL:70	UCL:130	RPD:20	Cs-137DA	RDL:6.00E+00	pCi/L	LCL:70	UCL:130	RPD:20
Eu-154	RDL:0.00E+00	pCi/L	LCL:	UCL:	RPD:	Eu-155	RDL:.00E+00	pCi/L	LCL:	UCL:	RPD:
K-40	RDL:0.00E+00	pCi/L	LCL:	UCL:	RPD:	Sb-125	RDL:0.00E+00	pCi/L	LCL:	UCL:	RPD:

MARWM1AA-BLK:

Co-60	RDL:0.00E+00	pCi/L	LCL:	UCL:	RPD:	Cs-134	RDL:0.00E+00	pCi/L	LCL:	UCL:	RPD:

12/14/2010 8:53:22 AM

Sample Preparation/Analysis

AW Gamma Prp GAM001
TA Gamma by HPGE
5I CLIENT: HANFORD

Balance Id:1117411003

Pipet #: _____

AnalyDueDate: 12/29/2010

Sep1 DT/Tm Tech:

Batch: 0336413 pCi/L

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,WagarC

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

```
 Cs-137      RDL:6.00E+00   pCi/L   LCL:      UCL:      RPD:      Cs-137DA   RDL:6.00E+00   pCi/L   LCL:      UCL:      RPD:
 Eu-154      RDL:0.00E+00   pCi/L   LCL:      UCL:      RPD:      Eu-155     RDL:.00E+00    pCi/L   LCL:      UCL:      RPD:
 K-40        RDL:0.00E+00   pCi/L   LCL:      UCL:      RPD:      Sb-125     RDL:0.00E+00   pCi/L   LCL:      UCL:      RPD:

MARWM1AC-LCS:
 Cs-137      RDL:15         pCi/L   LCL:70    UCL:130   RPD:20    Cs-137DA   RDL:15         pCi/L   LCL:70    UCL:130   RPD:20
 K-40        RDL:6          pCi/L   LCL:70    UCL:130   RPD:20    Ra-226     RDL:--         pCi/L   LCL:70    UCL:130   RPD:20
 RA-228      RDL:--         pCi/L   LCL:70    UCL:130   RPD:20    RA-228DA   RDL:--         pCi/L   LCL:70    UCL:130   RPD:20
 U-238       RDL:--         pCi/L   LCL:70    UCL:130   RPD:20

L9XKH1AD-SAMP Calc Info:
    Uncert Level (#s).: 2   Decay to SaDt: Y   Blk Subt.: N   Sci.Not.: Y   ODRs: B
MARWM1AA-BLK:
    Uncert Level (#s).: 2   Decay to SaDt: Y   Blk Subt.: N   Sci.Not.: Y   ODRs: B
MARWM1AC-LCS:
    Uncert Level (#s).: 2   Decay to SaDt: Y   Blk Subt.: N   Sci.Not.: Y   ODRs: B
```

12/22/2010 1:12:10 PM

ICOC Fraction Transfer/Status Report

ByDate: 12/22/2009, 12/27/2010, Batch: '0336413', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
0336413						
AC		Rev1C	WagarC	12/14/2010 8:24:29		
SC			wagarr	IsBatched	12/3/2010 9:07:46 AM	ICOC_RADCALC v4.8.49
SC			WagarC	InPrep	12/14/2010 8:24:29 AM	RL-PRP-004 REVISION 1
SC			WagarC	Prep2C	12/21/2010 7:32:21 AM	RL-GAM-001 REVISION 1
SC			BlackCL	InCnt1	12/21/2010 7:33:59 AM	RL-CI-007 REVISION 1
SC			DAWKINSO	CalcC	12/21/2010 9:47:23 PM	RL-CI-007 REVISION 1
SC			whelands	Rev1C	12/22/2010 1:11:56 PM	RL-DR-001 Rev 2
AC			WagarC	12/21/2010 7:32:21		
AC			BlackCL	12/21/2010 7:33:59		
AC			DAWKINSO	12/21/2010 9:47:23		
AC			whelands	12/22/2010 1:11:56		

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

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Grp Rec Cnt: 5

ICOCFractions v4.8.44

12/6/2010 8:38:07 AM

Sample Preparation/Analysis

384868, Pacific Northwest National Laboratory ,
Pacific Northwest National Lab

BN I-129 Prp/Sep GAM002
TB Gamma by LEPD
5I CLIENT: HANFORD

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

AnalyDueDate: 12/29/2010 WO 6060

Batch: 0336410 WATER pCi/L PM, Quote: SS , 57671
SEQ Batch, Test: None All Tests: 0336410 BNTB, 0336413 AWTA, 0336416 9NS1, 0336417 5SS3,

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 L9XKH-1-AE J0K110619-1-SAMP 11/10/2010 12:50		3850.20g,in AmtRec: 1XVIAL;3X1LP;3X4LP	ITA10206 11/03/10 #Containers: 7		34.7	200	L4	1338	12/11/10 WMO Scr: Alpha: -5.71E-04 uCi/Sa	Beta: 3.06E-03 uCi/Sa
2 L9XKH-1-AF-X J0K110619-1-DUP 11/10/2010 12:50		3844.80g,in AmtRec: 1XVIAL;3X1LP;3X4LP	ITA10207 11/03/10 #Containers: 7		34.2		L5	1339	Scr: Alpha: -5.71E-04 uCi/Sa	Beta: 3.06E-03 uCi/Sa
3 L9XKL-1-AE J0K110619-2-SAMP 11/10/2010 14:16		3851.50g,in AmtRec: 1XVIAL;3X1LP;3X4LP	ITA10208 11/03/10 #Containers: 7		33.3		L4	1703	12/15/10 WM Scr: Alpha: 2.80E-03 uCi/Sa	Beta: 2.09E-03 uCi/Sa
4 L9XKM-1-AE J0K110619-3-SAMP 11/10/2010 10:20		3879.90g,in AmtRec: 1XVIAL;3X1LP;3X4LP	ITA10209 11/03/10 #Containers: 7		33.7		L5	1704	Scr: Alpha: -1.23E-03 uCi/Sa	Beta: 6.43E-04 uCi/Sa
5 L95MV-1-AE J0K160528-1-SAMP 11/11/2010 11:29		3741.60g,in AmtRec: 1XVIAL;3X2LP;3X4LP	ITA10210 11/03/10 #Containers: 7		33.7		L4	2029	12/15/10 WM Scr: Alpha: 2.62E-03 uCi/Sa	Beta: 1.76E-03 uCi/Sa
6 L95NW-1-AE J0K160528-2-SAMP 11/11/2010 09:01		3869.70g,in AmtRec: 1XVIAL;3X2LP;3X4LP	ITA10211 11/03/10 #Containers: 7		33.8		L5	2030	Scr: Alpha: 1.63E-03 uCi/Sa	Beta: 2.58E-03 uCi/Sa
7 L95N3-1-AE J0K160528-3-SAMP 11/11/2010 10:25		3767.30g,in AmtRec: 1XVIAL;3X2LP;3X4LP	ITA10212 11/03/10 #Containers: 7		33.7		L4	0025	Scr: Alpha: -2.83E-04 uCi/Sa	Beta: 1.28E-03 uCi/Sa

12/6/2010 8:38:08 AM

Sample Preparation/Analysis

384868, Pacific Northwest National Laboratory ,
Pacific Northwest National Lab

AnalyDueDate: 12/29/2010

BN I-129 Prp/Sep GAM002
TB Gamma by LEPD
5I CLIENT: HANFORD

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

Batch: 0336410 **WATER** **pCi/L** **PM, Quote: SS , 57671**
SEQ Batch, Test: None

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 MAEGH-1-AE J0K220446-1-SAMP 11/14/2010 11:37		3867.90g,in AmtRec: 1XVIAL;3X1LP;3X4LP #Containers: 7	ITA10213 11/03/10		35.7	200	L5 Scr:	0027 Alpha: -3.92E-04 uCi/Sa	12/13/10 AQ Beta: 5.45E-04 uCi/Sa	
9 MAEHP-1-AE J0K220453-1-SAMP 11/14/2010 09:58		3748.60g,in AmtRec: 1XVIAL;2X1LP;3X4LP #Containers: 6	ITA10214 11/03/10		33.4		L4 Scr:	1133 Alpha: 1.56E-03 uCi/Sa	12/11/10 m Beta: -8.95E-05 uCi/Sa	
10 MARWH-1-AA-B J0L020000-410-BLK 12/03/2010 07:33 pd		3886.10g,in AmtRec: #Containers: 1	ITA10215 11/03/10		33.0		L5 Scr:	1134 Alpha:	Beta:	
11 MARWH-1-AC-C J0L020000-410-LCS 12/03/2010 07:33 pd		3910.90g,in AmtRec: #Containers: 1	ISD1162 10/16/10		34.3		L4 Scr:	1504 Alpha:	12/11/10 m Beta:	

Comments:

```
All Clients for Batch:
   384868, Pacific Northwest National Laboratory      Pacific Northwest National Lab,  SS , 57671

L9XKH1AE-SAMP Constituent List:
  I-129        RDL:0.50E+00    pCi/L    LCL:        UCL:        RPD:
MARWH1AA-BLK:
  I-129        RDL:0.50E+00    pCi/L    LCL:        UCL:        RPD:
MARWH1AC-LCS:
  I-129        RDL:5           pCi/L    LCL:70      UCL:130     RPD:20
L9XKH1AE-SAMP Calc Info:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
```

12/3/2010 7:33:27 AM

Sample Preparation/Analysis

BN I-129 Prp/Sep GAM002
TB Gamma by LEPD
5I CLIENT: HANFORD

AnalyDueDate: 12/29/2010

Batch: 0336410 **pCi/L**
SEQ Batch, Test: None

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

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

```
MARWH1AA-BLK:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
MARWH1AC-LCS:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
```

12/22/2010 12:59:44 PM

ICOC Fraction Transfer/Status Report

ByDate: 12/22/2009, 12/27/2010, Batch: '0336410', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus		Accepting		Comments
0336410						
AC		Rev1C	ONeillD	12/6/2010 7:30:29		
SC			wagarr	IsBatched	12/3/2010 9:07:46 AM	ICOC_RADCALC v4.8.49
SC			ONeillD	InPrep	12/6/2010 7:30:29 AM	RL-PRP-004 REVISION 1
SC			ONeillD	InPrep2	12/13/2010 9:28:35 AM	RL-GAM-002 REVISION 1
SC			ONeillD	Prep2C	12/15/2010 10:09:08 AM	RL-GAM-002 REVISION 1
SC			ClarkR	InCnt1	12/15/2010 10:16:50 AM	RL-CI-007 REVISION 1
SC			BlackCL	CalcC	12/17/2010 9:47:07 AM	RL-CI-007 REVISION 1
SC			whelands	Rev1C	12/22/2010 12:59:34 PM	RL-DR-001 Rev 2
AC			ONeillD	12/13/2010 9:28:35		
AC			ONeillD	12/15/2010 10:09:08		
AC			ClarkR	12/15/2010 10:16:50		
AC			BlackCL	12/17/2010 9:47:07		
AC			whelands	12/22/2010 12:59:34		

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

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Grp Rec Cnt: 6

ICOCFractions v4.8.44

12/3/2010 7:33:29 AM

Sample Preparation/Analysis

384868, Pacific Northwest National Laboratory ,
Pacific Northwest National Lab

5S C-14 Prp/Sep LSC008
S3 Carbon-14 by Liquid Scint
5I CLIENT: HANFORD

AnalyDueDate: 12/29/2010

Batch: 0336417 WATER pCi/L
SEQ Batch, Test: None

PM, Quote: SS , 57671

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

Work Order, Lot, Sample DateTime	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:
8 MAEHP-1-AA J0K220453-1-SAMP 11/14/2010 09:58		AmtRec: 1XVIAL;2X1LP;3X4LP	#Containers: 6			Scr:	Alpha: 1.56E-03 uCi/Sa	Beta: -8.95E-05 uCi/Sa
9 MAHG9-1-AA J0K230574-1-SAMP 11/22/2010 10:54		AmtRec: 1XVIAL;2X1LP	#Containers: 3			Scr:	Alpha: -4.32E-05 uCi/Sa	Beta: -5.14E-05 uCi/Sa
10 MAHG9-1-AC-X J0K230574-1-DUP 11/22/2010 10:54		AmtRec: 1XVIAL;2X1LP	#Containers: 3			Scr:	Alpha: -4.32E-05 uCi/Sa	Beta: -5.14E-05 uCi/Sa
11 MAHHA-1-AA J0K230574-2-SAMP 11/22/2010 11:34		AmtRec: 1XVIAL;2X1LP	#Containers: 3			Scr:	Alpha: -4.06E-04 uCi/Sa	Beta: 3.13E-04 uCi/Sa
12 MAHHC-1-AA J0K230574-3-SAMP 11/22/2010 11:34		AmtRec: 1XVIAL;2X1LP	#Containers: 3			Scr:	Alpha: 1.74E-04 uCi/Sa	Beta: -1.59E-04 uCi/Sa
13 MARW1-1-AA-B J0L020000-417-BLK 12/03/2010 07:33 pd		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
14 MARW1-1-AC-C J0L020000-417-LCS 12/03/2010 07:33 pd		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:

12/3/2010 7:33:29 AM

Sample Preparation/Analysis

5S C-14 Prp/Sep LSC008
S3 Carbon-14 by Liquid Scint
5I CLIENT: HANFORD

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

AnalyDueDate: 12/29/2010

Batch: 0336417 pCi/L
SEQ Batch, Test: None

Work Order, Lot, Sample DateTime	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:
15 MARW1-1-AD-BN								
J0L020000-417-IBLK								
12/03/2010 07:33 pd		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
16 MARW1-1-AE-BN								
J0L020000-417-IBLK								
12/03/2010 07:33 pd		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:

Comments:

```
All Clients for Batch:
   384868, Pacific Northwest National Laboratory      Pacific Northwest National Lab,  SS , 57671

L9XKH1AC-SAMP Constituent List:
  C-14        RDL:2.00E+02    pCi/L    LCL:70      UCL:130     RPD:20
MARW11AA-BLK:
  C-14        RDL:2.00E+02    pCi/L    LCL:        UCL:        RPD:
MARW11AC-LCS:
  C-14        RDL:200         pCi/L    LCL:70      UCL:130     RPD:20
MARW11AD-IBLK:
  C-14        RDL:2.00E+02    pCi/L    LCL:        UCL:        RPD:
MARW11AE-IBLK:
  C-14        RDL:2.00E+02    pCi/L    LCL:        UCL:        RPD:
L9XKH1AC-SAMP Calc Info:
     Uncert Level (#s).: 2     Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
MARW11AA-BLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
MARW11AC-LCS:
     Uncert Level (#s).: 2     Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
MARW11AD-IBLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
MARW11AE-IBLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
```

12/3/2010 7:33:29 AM

Sample Preparation/Analysis

5S C-14 Prp/Sep LSC008
S3 Carbon-14 by Liquid Scint
5I CLIENT: HANFORD

Balance Id:

Pipet #: _____

AnalyDueDate: 12/29/2010

Sep1 DT/Tm Tech:

Batch: 0336417 **pCi/L**
SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech:

Work Order, Lot, Sample DateTime	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:

12/29/2010 10:02:25 AM

ICOC Fraction Transfer/Status Report

ByDate: 12/29/2009, 1/3/2011, Batch: '0336417', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
0336417						
AC		**Rev1C**	**WagnerF**	12/8/2010 10:57:10		
SC			wagarr	IsBatched	12/3/2010 9:07:46 AM	ICOC_RADCALC v4.8.49
SC			WagnerF	Sep1C	12/8/2010 10:57:10 AM	RL-LSC-008 REVISION 1
SC			ClarkR	InCnt1	12/8/2010 12:24:29 PM	RL-CI-005 REVISION 1
SC			BlackCL	CalcC	12/9/2010 9:05:58 AM	RL-CI-005 REVISION 1
SC			whelands	Rev1C	12/29/2010 10:02:14 AM	RL-DR-001 Rev 2
AC			**ClarkR**	12/8/2010 12:24:29		
AC			**BlackCL**	12/9/2010 9:05:58		
AC			**whelands**	12/29/2010 10:02:14		

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

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Grp Rec Cnt: 4

ICOCFractions v4.8.44