

Analytical Data Package Prepared For

Fluor Hanford

Radiochemical Analysis By

TestAmerica TARL

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

Data Package Contains 100 Pages

Report Nbr: 38743

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W05345	I08-023	B1T370	J8B190276-1	KHA7T1AA	9KHA7T10	8057326
		B1T386	J8B190276-10	KHA751AA	9KHA7510	8057326
		B1T3M2	J8B190276-11	KHA761AA	9KHA7610	8057326
		B1T3M2	J8B190276-11	KHA761AC	9KHA7610	8057362
		B1T394	J8B190276-2	KHA7V1AA	9KHA7V10	8057326
		B1T381	J8B190276-3	KHA7W1AA	9KHA7W10	8057326
		B1T3C4	J8B190276-4	KHA7X1AA	9KHA7X10	8057326
		B1T3C5	J8B190276-5	KHA701AA	9KHA7010	8057326
		B1T378	J8B190276-6	KHA711AA	9KHA7110	8057326
		B1T399	J8B190276-7	KHA721AA	9KHA7210	8057326
G08-002		B1T374	J8B190276-8	KHA731AA	9KHA7310	8057326
		B1T3B0	J8B190276-9	KHA741AA	9KHA7410	8057326
		B1T237	J8B200327-1	KHEER1AA	9KHEER10	8057324
		B1T241	J8B200327-2	KHEEW1AA	9KHEEW10	8057324
		B1T243	J8B200327-3	KHEEX1AA	9KHEEX10	8057324

Comments:

Report Nbr: 38743

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W05345	I08-020	B1T2J3	J8B210307-1	KHGEF1AA	9KHGEF10	8056402
	S08-012	B1RCR7	J8B210310-1	KHGFG1AA	9KHGFG10	8057323
		B1RCR7	J8B210310-1	KHGFG1AC	9KHGFG10	8057324
		B1RCR7	J8B210310-1	KHGFG1AD	9KHGFG10	8057365
		B1RCR7	J8B210310-1	KHGFG1AE	9KHGFG10	8057364
		B1RCR6	J8B210310-2	KHGG81AA	9KHGG810	8057323
		B1RCR6	J8B210310-2	KHGG81AC	9KHGG810	8057324
		B1RCR6	J8B210310-2	KHGG81AD	9KHGG810	8057365
		B1RCR6	J8B210310-2	KHGG81AE	9KHGG810	8057364
		B1RCR3	J8B210310-3	KHGH1AA	9KHGH1A10	8057323
		B1RCR3	J8B210310-3	KHGH1AC	9KHGH1A10	8057324
	S08-001	B1RTM0	J8B250152-1	KHLDA1AA	9KHLDA10	8057323
		B1RTM0	J8B250152-1	KHLDA1AC	9KHLDA10	8057324
		B1RTM0	J8B250152-1	KHLDA1AD	9KHLDA10	8057326
		B1RTM0	J8B250152-1	KHLDA1AE	9KHLDA10	8057362

Comments:

Certificate of Analysis

Fluor Hanford
 1200 Jadwin Ave.
 Richland, WA 99352

April 11, 2008

Attention: Steve Trent

SAF Number	:	I08-023, G08-002, I08-020, S08-012, S08-001
Date SDG Closed	:	February 25, 2008
Number of Samples	:	Twenty (20)
Sample Type	:	Water
SDG Number	:	W05345
Data Deliverable	:	45-Day / Summary

CASE NARRATIVE

I. Introduction

Between February 19, 2007 and February 25, 2008 twenty water samples were received at TestAmerica Richland (TALR) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Fluor Hanford specific IDs:

<u>PGW ID#</u>	<u>TALR ID#</u>	<u>DATE OF RECEIPT</u>	<u>MATRIX</u>
B1T370	KHA7T	2/19/08	WATER
B1T394	KHA7V	2/19/08	WATER
B1T381	KHA7W	2/19/08	WATER
B1T3C4	KHA7X	2/19/08	WATER
B1T3C5	KHA70	2/19/08	WATER
B1T378	KHA71	2/19/08	WATER
B1T399	KHA72	2/19/08	WATER
B1T374	KHA73	2/19/08	WATER
B1T3B0	KHA74	2/19/08	WATER
B1T386	KHA75	2/19/08	WATER
B1T3M2	KHA76	2/19/08	WATER
B1T237	KHEER	2/20/08	WATER
B1T241	KHEEW	2/20/08	WATER

Fluor Hanford
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B1T243	KHEEX	2/20/08	WATER
B1T2J3	KHGEF	2/21/08	WATER
B1RCR7	KHGFG	2/21/08	WATER
B1RCR6	KHGG8	2/21/08	WATER
B1RCR3	KHGHA	2/21/08	WATER
B1RDT7	KHGLW	2/21/08	WATER
B1RTM0	KHLDA	2/25/08	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

Uranium 234, 235 and 238 by method RICH-RC-5039

Gas Proportional Counting

Gross Alpha by method RICH-RC-5014

Gross Beta by method RICH-RC-5014

Strontium-90 by method RICH-RC-5006

Gamma Spectroscopy

Iodine-129 (LL) by method RICH-RC-5025

Liquid Scintillation Counting

Enriched Tritium by method RICH-RC-5024

Technetium-99 by TEVA method RICH-RC-5065

Chemical Analysis

Hexavalent Chromium by EPA method 7196A

IV. Quality Control

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

QC and sample results are reported in the same units.

V. Comments

Alpha Spectroscopy

Uranium 234, 235 and 238 by method RICH-RC-5039:

The LCS, batch blank, sample and sample duplicate (B1RCR7) results are within contractual requirements.

Gas Proportional Counting

Gross Alpha by method RICH-RC-5014:

Samples B1RCR6, B1RCR3, B1RTM0 and B1RCR6 DUP were analyzed with reduced aliquots based on weight screens. Sample B1RCR6 and B1RCR6 DUP have an RPD of 20.85 which is just above the contractual limit of 20%. The samples results have a difference of less than the CRDL therefore the data is acceptable. Except as noted, the LCS, batch blank, samples and sample duplicate (B1RCR6) results are within contractual requirements.

Gross Beta by method RICH-RC-5014:

Sample B1T243 was analyzed with a reduced aliquot based on screening results. The CRDL was not met however the result exceeds the achieved MDA. Except as noted, the LCS, batch blank, samples and sample duplicate (B1RCR3) results are within contractual requirements.

Strontium-90 by method RICH-RC-5006

The LCS, batch blank, samples and sample duplicate (B1T3M2) results are within contractual requirements.

Gamma Spectroscopy

Iodine-129 (LL) by method RICH-RC-5025:

The LCS, batch blank, samples and sample duplicate (B1T370) results are within contractual requirements.

Liquid Scintillation Counting

Technetium-99 by TEVA method RICH-RC-5065:

The LCS, batch blank, samples, sample duplicate (B1RCR7), and sample matrix spike (B1RCR6) results are within contractual requirements.

Enriched Tritium by method RICH-RC-5024

TestAmerica Richland proposed to report W05345 without the enriched tritium results. The client accepted the proposed resolution (Tracking Number: 08-012) on April 8, 2008.

Chemical Analysis

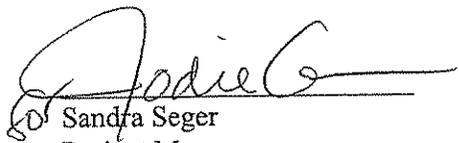
Hexavalent Chromium by EPA method 7196A

The LCS, batch blank, samples, sample duplicate (B1T2J3), sample matrix spike (B1T2J3), and matrix spike duplicate (B1T2J3) results are within contractual requirements.

Fluor Hanford
April 11, 2008

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

Reviewed and approved:



Sandra Seger
Project Manager

**TAL RICHLAND ISSUE RESOLUTION FORM
FOR CONTRACT 615 WITH BHI/FH/PNNL**

Tracking Number: 08-033	
SAF No.: S08-012	
Date: April 7, 2008	
SDG: W05345	
Sample No.(s) B1RDT7	
Submitted By: <u>Sandra Seger</u>	Submitted To: <u>Steve Trent (FH)</u>
Phone No. <u>509-375-3131 x158</u>	Phone No. <u>509-373-5869</u>
Fax No. <u>509-375-5590</u>	Fax No. <u>866-252-5816</u>

<u>ISSUE</u>	<u>PROPOSED RESOLUTION</u>
The enriched tritium's batch blanks have been above the CRDL. TA Richland is investigating.	Report W05345 without the enriched tritium results. The enriched tritium results will be reported as W05345I when analysis is complete.

<p><u>BHI/FH/PNNL COMMENTS -</u> Accept proposed resolution.</p> <p style="text-align: right;"><u>Heidi Hampt 4/8/08</u> Signature and date</p>

Drinking Water Method Cross References

DRINKING WATER ASTM METHOD CROSS REFERENCES		
Referenced Method	Isotope(s)	TestAmerica Richland's SOP No.
EPA 901.1	Cs-134, I-131	RICH-RC-5017
EPA 900.0	Alpha & Beta	RICH-RC-5014
EPA 00-02	Gross Alpha (Coprecipitation)	RICH-RC-5021
EPA 903.0	Total Alpha Radium (Ra-226)	RICH-RC-5027
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr-89/90	RICH-RC-5006
ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007

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

Uncertainty Estimation

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

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

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

Report Definitions

Action Lev	An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.
Batch	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
Bias	Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.
COC No	Chain of Custody Number assigned by the Client or TestAmerica.
Count Error (#s)	Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.
Total Uncert (#s) <i>u_c - Combined Uncertainty.</i>	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, <i>u_c the combined uncertainty</i> . 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%. $Lc = (1.645 * \sqrt{2 * (BkgndCnt / BkgndCntMin) / SCntMin}) * (ConvFct / (Eff * Yld * Abn * Vol)) * IngrFct$. 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%. $MDC = (4.65 * \sqrt{(BkgndCnt / BkgndCntMin) / SCntMin} + 2.71 / SCntMin) * (ConvFct / (Eff * Yld * Abn * Vol)) * IngrFct$. 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.

TestAmerica Report

Lab Code: TARL

4/11/2008 1:28:50 PM

File Name: h:\Reportdb\edd\Feed\VRad\W05345.Edd, h:\Reportdb\edd\Feed\VRad\38743.Edd

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 38743

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:		
9KHA7010	B1T3C5		MW6-SBB-A1	108-023	W05345				02/17/2008 09:11			
Batch 8057326	Analyte I-129L	15046-84-1	Result -2.74E-02	Unit pCi/L	CntU 2S 1.1E-01	TotU 2S 1.1E-01	MDA 2.00E-01	TrcYield 100.8	Method I129LL_SEP_LEPS	Alq Size 3.7707E+00	Unit L	Analy Date/Time Act 04/08/2008 11:53
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:		
9KHA7110	B1T378		MW6-SBB-A1	108-023	W05345				02/17/2008 12:03			
Batch 8057326	Analyte I-129L	15046-84-1	Result 1.92E+00	Unit pCi/L	CntU 2S 3.7E-01	TotU 2S 3.7E-01	MDA 6.75E-01	TrcYield 98.1	Method I129LL_SEP_LEPS	Alq Size 3.8465E+00	Unit L	Analy Date/Time Act 04/08/2008 13:39
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:		
9KHA7210	B1T399		MW6-SBB-A1	108-023	W05345				02/17/2008 10:19			
Batch 8057326	Analyte I-129L	15046-84-1	Result 1.31E-02	Unit pCi/L	CntU 2S 1.4E-01	TotU 2S 1.4E-01	MDA 2.55E-01	TrcYield 99.7	Method I129LL_SEP_LEPS	Alq Size 3.859E+00	Unit L	Analy Date/Time Act 04/08/2008 13:40
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:		
9KHA7310	B1T374		MW6-SBB-A1	108-023	W05345				02/17/2008 13:38			
Batch 8057326	Analyte I-129L	15046-84-1	Result 1.09E+00	Unit pCi/L	CntU 2S 3.6E-01	TotU 2S 3.6E-01	MDA 4.75E-01	TrcYield 104.6	Method I129LL_SEP_LEPS	Alq Size 3.8078E+00	Unit L	Analy Date/Time Act 04/08/2008 13:41
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:		
9KHA7410	B1T380		MW6-SBB-A1	108-023	W05345				02/17/2008 08:15			
Batch 8057326	Analyte I-129L	15046-84-1	Result 9.73E-02	Unit pCi/L	CntU 2S 1.3E-01	TotU 2S 1.3E-01	MDA 2.65E-01	TrcYield 97.3	Method I129LL_SEP_LEPS	Alq Size 3.7318E+00	Unit L	Analy Date/Time Act 04/08/2008 15:31
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:		
9KHA7510	B1T386		MW6-SBB-A1	108-023	W05345				02/17/2008 09:31			
Batch 8057326	Analyte I-129L	15046-84-1	Result 1.26E+00	Unit pCi/L	CntU 2S 3.7E-01	TotU 2S 3.7E-01	MDA 5.71E-01	TrcYield 100.8	Method I129LL_SEP_LEPS	Alq Size 3.87E+00	Unit L	Analy Date/Time Act 04/08/2008 15:32
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:		
9KHA7610	B1T3M2		MW6-SBB-A1	108-023	W05345				02/17/2008 14:16			
Batch 8057326	Analyte I-129L	15046-84-1	Result 6.20E-02	Unit pCi/L	CntU 2S 1.3E-01	TotU 2S 1.3E-01	MDA 2.49E-01	TrcYield 100.5	Method I129LL_SEP_LEPS	Alq Size 3.8446E+00	Unit L	Analy Date/Time Act 04/08/2008 15:32

TestAmerica
 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 Report

Lab Code: TARL

4/11/2008 1:28:51 PM

File Name: n:\Report\bledd\Fead\Rad\W05345.Edd, h:\Report\bledd\Fead\Rad\38743.Edd

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 38743

8057362 SR-90 10098-97-2 6.17E-01 pCi/L 3.4E-01 3.5E-01 U 6.57E-01 72.5 SRISO_SEP_PRE 1.00E+00 L 04/11/2008 08:10 I

Lab Sample Id:	Client Id:	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%*:	Distilled Volume	Sample On Date:	Collection Date:
9KHA7T10 B1T370		MW6-SBB-A1 108-023		W05345				02/17/2008 13:05	
Batch Analyte	CAS#	Result Unit	Unit	TotU 2S	Qual	MDA	TrcYield	Method	Analy Date/Time
8057326 I-129L	15046-84-1	8.14E-02 pCi/L	1.3E-01	1.3E-01	U	2.57E-01	105.7	1129LL_SEP_LEPS 3.8684E+00	04/08/2008 09:53 I

Lab Sample Id:	Client Id:	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%*:	Distilled Volume	Sample On Date:	Collection Date:
9KHA7V10 B1T394		MW6-SBB-A1 108-023		W05345				02/17/2008 09:27	
Batch Analyte	CAS#	Result Unit	Unit	TotU 2S	Qual	MDA	TrcYield	Method	Analy Date/Time
8057326 I-129L	15046-84-1	2.95E-01 pCi/L	1.6E-01	1.6E-01	U	3.36E-01	100.3	1129LL_SEP_LEPS 3.8669E+00	04/08/2008 09:55 I

Lab Sample Id:	Client Id:	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%*:	Distilled Volume	Sample On Date:	Collection Date:
9KHA7W10 B1T381		MW6-SBB-A1 108-023		W05345				02/17/2008 08:24	
Batch Analyte	CAS#	Result Unit	Unit	TotU 2S	Qual	MDA	TrcYield	Method	Analy Date/Time
8057326 I-129L	15046-84-1	3.99E-01 pCi/L	1.8E-01	1.8E-01	U	3.31E-01	102.2	1129LL_SEP_LEPS 3.8837E+00	04/08/2008 11:51 I

Lab Sample Id:	Client Id:	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%*:	Distilled Volume	Sample On Date:	Collection Date:
9KHA7X10 B1T3C4		MW6-SBB-A1 108-023		W05345				02/17/2008 09:11	
Batch Analyte	CAS#	Result Unit	Unit	TotU 2S	Qual	MDA	TrcYield	Method	Analy Date/Time
8057326 I-129L	15046-84-1	1.90E-02 pCi/L	1.6E-01	1.6E-01	U	2.86E-01	98.6	1129LL_SEP_LEPS 3.857E+00	04/08/2008 11:52 I

Lab Sample Id:	Client Id:	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%*:	Distilled Volume	Sample On Date:	Collection Date:
9KHEER10 B1T237		MW6-SBB-A1 G08-002		W05345				02/20/2008 08:50	
Batch Analyte	CAS#	Result Unit	Unit	TotU 2S	Qual	MDA	TrcYield	Method	Analy Date/Time
8057324 BETA	12587-47-2	1.11E+03 pCi/L	1.6E+01	1.8E+02	U	2.82E+00	100.0	9310_ALPHABETA 2.001E-01	03/18/2008 17:58 I

Lab Sample Id:	Client Id:	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%*:	Distilled Volume	Sample On Date:	Collection Date:
9KHEEW10 B1T241		MW6-SBB-A1 G08-002		W05345				02/20/2008 10:24	
Batch Analyte	CAS#	Result Unit	Unit	TotU 2S	Qual	MDA	TrcYield	Method	Analy Date/Time
8057324 BETA	12587-47-2	6.82E+02 pCi/L	1.2E+01	8.5E+01	U	2.92E+00	100.0	9310_ALPHABETA 2.001E-01	03/18/2008 17:58 I

Lab Sample Id:	Client Id:	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%*:	Distilled Volume	Sample On Date:	Collection Date:
9KHEEX10 B1T243		MW6-SBB-A1 G08-002		W05345				02/20/2008 10:04	
Batch Analyte	CAS#	Result Unit	Unit	TotU 2S	Qual	MDA	TrcYield	Method	Analy Date/Time
8057324 BETA	12587-47-2	6.82E+02 pCi/L	1.2E+01	8.5E+01	U	2.92E+00	100.0	9310_ALPHABETA 2.001E-01	03/18/2008 17:58 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.

4/11/2008 1:28:51 PM

TestAmerica Report

Lab Code: TARL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 38743

File Name: h:\Reportdb\edd\Fead\IVRad\W05345.Edd, h:\Reportdb\edd\Fead\IVRad\38743.Edd

Batch	CAS#	Test User	Contract Nbr	Unit	CntU 2S	Sdg Nbr	QC Type	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
8057324	12587-47-2	BETA	3.97E+03	pCi/L	5.6E+01	W05345	5.0E+02	9.82E+00	100.0	9310_ALPHABETA	5.29E-02	L	03/18/2008 17:58	I
Lab Sample Id:	Client Id:	Test User	Contract Nbr	Unit	CntU 2S	Sdg Nbr	QC Type	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
9KHGFG10	B1RCR7		MW6-SBB-A1	S08-012	W05345								02/21/2008 07:42	
Batch	Analyte	CAS#	Result	Unit	CntU 2S	Sdg Nbr	QC Type	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
8057323	ALPHA	12587-46-1	6.09E-01	pCi/L	5.5E-01	W05345	5.6E-01	1.02E+00	100.0	9310_ALPHABETA	2.00E-01	L	03/18/2008 19:34	I
8057324	BETA	12587-47-2	5.24E-01	pCi/L	1.3E+00	W05345	1.3E+00	2.70E+00	100.0	9310_ALPHABETA	2.001E-01	L	03/18/2008 19:40	I
8057365	TC-99	14133-76-7	-1.88E+00	pCi/L	4.0E+00	W05345	5.7E+00	9.92E+00	100.0	TC99_ETVDSK_LS	1.249E-01	L	03/14/2008 09:07	I
8057364	U-234	13966-29-5	1.34E-02	pCi/L	7.1E-02	W05345	7.1E-02	2.12E-01	86.5	UIISO_PLATE_AEA	2.00E-01	L	03/21/2008 16:51	I
8057364	U-235	15117-96-1	0.00E+00	pCi/L	6.8E-02	W05345	6.8E-02	1.61E-01	86.5	UIISO_PLATE_AEA	2.00E-01	L	03/21/2008 16:51	I
8057364	U-238	U-238	6.04E-02	pCi/L	9.6E-02	W05345	9.6E-02	1.61E-01	86.5	UIISO_PLATE_AEA	2.00E-01	L	03/21/2008 16:51	I

Lab Sample Id:	Client Id:	Test User	Contract Nbr	Unit	CntU 2S	Sdg Nbr	QC Type	Moisture/Solids%	Distilled Volume	Sample On Date:	Collection Date:			
9KHGG810	B1RCR6		MW6-SBB-A1	S08-012	W05345						02/21/2008 10:30			
Batch	Analyte	CAS#	Result	Unit	CntU 2S	Sdg Nbr	QC Type	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
8057323	ALPHA	12587-46-1	5.19E+00	pCi/L	1.7E+00	W05345	2.0E+00	1.78E+00	100.0	9310_ALPHABETA	1.563E-01	L	03/18/2008 19:34	I
8057324	BETA	12587-47-2	1.57E+01	pCi/L	2.2E+00	W05345	3.0E+00	2.83E+00	100.0	9310_ALPHABETA	2.00E-01	L	03/18/2008 19:40	I
8057365	TC-99	14133-76-7	2.23E+01	pCi/L	4.8E+00	W05345	7.1E+00	9.89E+00	100.0	TC99_ETVDSK_LS	1.251E-01	L	03/14/2008 09:07	I
8057364	U-234	13966-29-5	2.72E+00	pCi/L	6.1E-01	W05345	7.6E-01	1.65E-01	90.5	UIISO_PLATE_AEA	2.00E-01	L	03/21/2008 16:51	I
8057364	U-235	15117-96-1	9.67E-02	pCi/L	1.2E-01	W05345	1.2E-01	1.65E-01	90.5	UIISO_PLATE_AEA	2.00E-01	L	03/21/2008 16:51	I
8057364	U-238	U-238	2.62E+00	pCi/L	6.0E-01	W05345	7.4E-01	1.65E-01	90.5	UIISO_PLATE_AEA	2.00E-01	L	03/21/2008 16:51	I

Lab Sample Id:	Client Id:	Test User	Contract Nbr	Unit	CntU 2S	Sdg Nbr	QC Type	Moisture/Solids%	Distilled Volume	Sample On Date:	Collection Date:			
9KHGHA10	B1RCR3		MW6-SBB-A1	S08-012	W05345						02/21/2008 12:46			
Batch	Analyte	CAS#	Result	Unit	CntU 2S	Sdg Nbr	QC Type	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
8057323	ALPHA	12587-46-1	5.73E+00	pCi/L	1.7E+00	W05345	2.0E+00	1.33E+00	100.0	9310_ALPHABETA	1.561E-01	L	03/18/2008 19:34	I
8057324	BETA	12587-47-2	1.37E+01	pCi/L	2.1E+00	W05345	2.8E+00	2.80E+00	100.0	9310_ALPHABETA	1.999E-01	L	03/18/2008 19:40	I
Lab Sample Id:	Client Id:	Test User	Contract Nbr	Unit	CntU 2S	Sdg Nbr	QC Type	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
9KHLDA10	B1RTM0		MW6-SBB-A1	S08-001	W05345								02/22/2008 10:24	
Batch	Analyte	CAS#	Result	Unit	CntU 2S	Sdg Nbr	QC Type	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
8057323	ALPHA	12587-46-1	2.34E+00	pCi/L	1.3E+00	W05345	1.4E+00	2.06E+00	100.0	9310_ALPHABETA	1.388E-01	L	03/18/2008 19:34	I
8057324	BETA	12587-47-2	2.08E+01	pCi/L	2.5E+00	W05345	4.4E+00	2.86E+00	100.0	9310_ALPHABETA	2.001E-01	L	03/18/2008 19:40	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.

TestAmerica Report

Lab Code: TARL

4/11/2008 1:28:51 PM

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 38743 File Name: h:\Reportdb\edd\Fead\W05345.Edd, h:\Reportdb\edd\Fead\W05345.Edd

8057326	I-129L	15046-84-1	6.16E+00	pCi/L	9.7E-01	9.7E-01	3.31E-01	102.2	1129LL_SEP_LEPS	3.9131E+00	L	04/08/2008	17:17	I
8057362	SR-90	10098-97-2	4.41E-01	pCi/L	3.0E-01	3.0E-01	5.46E-01	71.5	SRISO_SEP_PRE	1.0002E+00	L	04/11/2008	08:10	I

TestAmerica

rptFeadRadSummaryEdd v3.48

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.

Friday, April 11, 2008

TestAmerica QC Blank Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\Rad\W05345.Edd, h:\Reportdb\edd\Fead\Rad\38743.Edd

Lab Sample Id: KHM021AB Sdg/Rept Nbr: W05345 38743 Collection Date: 02/21/2008 07:42

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

Moisture/Solids%*: QC Type: BLK Received Date: 02/21/2008

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	FSuffix	RType	
8057364	U-234	0.00E+00	pCi/L	6.2E-02	U	1.46E-01	90.7		UIISO_PLATE_	2.004E-01	03/21/2008 16:51				D			
BLK	13966-29-5	-6.08E-03	pCi/L	6.2E-02	U	1.46E-01	90.7		UIISO_PLATE_	2.004E-01	03/21/2008 16:51				D			
8057364	U-235	1.82E-02	pCi/L	6.2E-02	U	1.72E-01	90.7		UIISO_PLATE_	2.004E-01	03/21/2008 16:51				D			
BLK	15117-96-1																	
8057364	U-238			6.3E-02	U				UIISO_PLATE_	2.004E-01	03/21/2008 16:51				D			
BLK	U-238			6.3E-02														

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.

Friday, April 11, 2008

TestAmerica QC Blank Report

Lab Code: TARL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W05345.Edd, h:\Reportdb\edd\Fead\Rad\138743.Edd

Lab Sample Id: KHM071AB **Sdg/Rept Nbr:** W05345 **Collection Date:** 02/21/2008 10:30
Client Id: NA **Matrix:** WATER **Sample On Date:**
Moisture/Solids%*: **QC Type:** BLK **Received Date:** 02/21/2008

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RType
	MW6-SBB-A19981								BB	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 LCU/ UCL	R Typ
8057365	TC-99	8.66E-01	pCi/L	5.9E+00	4.1E+00	U	9.92E+00	100.0		TC99_ETVDSK	1.251E-01	03/14/2008 09:07				D
BLK	14133-76-7										L					

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.

Friday, April 11, 2008

TestAmerica QC Blank Report

Lab Code: TARL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\W05345.Edd, h:\Reportdb\edd\Fead\W05345.Edd, h:\Reportdb\edd\Fead\W05345.Edd

Collection Date: 02/17/2008 14:16

38743

W05345

Sdg/Rept Nbr:

KHMOV1AB

Sample On Date:

WATER

WATER

Matrix:

NA

Received Date: 02/19/2008

BLK

Moisture/Solids%*:

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

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- at	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
8057362 BLK	SR-90 10098-97-2	3.41E-01	pCi/L	2.9E-01 2.9E-01	U	5.73E-01	76.4		SRISO_SEP_P	L	04/11/2008 08:10				D

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.

Friday, April 11, 2008

TestAmerica QC Blank Report

Lab Code: TARL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\W05345.Edd, h:\Reportdb\edd\Fead\W05345.Edd, h:\Reportdb\edd\Fead\W05345.Edd

Lab Sample Id: KHMV51AB **Sdg/Rept Nbr:** W05345 **Collection Date:** 02/17/2008 13:05
Client Id: NA **Matrix:** WATER **Sample On Date:**
Moisture/Solids%*: **QC Type:** BLK **Received Date:** 02/19/2008

SAF Nbr	Analyt/ CAS#	Result/ Orig Rst	Unit	Total/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analyt Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	RTyp
8057326	I-129L	-4.63E-02	pCi/L	1.5E-01	U	2.54E-01	101.9		I129LL_SEP_L	3.9624E+00	04/08/2008 17:17				D
BLK	15046-84-1			1.5E-01						L					

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.

Friday, April 11, 2008

TestAmerica QC Blank Report

Lab Code: TARL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Report\b\edd\Fead\W05345.Edd, h:\Report\b\edd\Fead\W05345.Edd, h:\Report\b\edd\Fead\W05345.Edd

Lab Sample Id: KHMVQ1AB **Sdg/Rept Nbr:** W05345 **38743** **Collection Date:** 02/21/2008 10:30
Client Id: NA **Matrix:** WATER **WATER** **Sample On Date:**
Moisture/Solids%*: **QC Type:** BLK **Received Date:** 02/21/2008

SAF Nbr	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RType
8057323	ALPHA	1.50E-01	pCi/L	3.9E-01	U	8.79E-01	100.0	9310_ALPHA	2.005E-01	03/18/2008	L	D
BLK	12587-46-1			3.9E-01						19:34		BH H

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.

Friday, April 11, 2008

TestAmerica QC Blank Report

Lab Code: TARL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Report\b\edd\Fead\IVRad\W05345.Edd, h:\Report\b\edd\Fead\IVRad\38743.Edd

Lab Sample Id: KHMVX1AB

Sdg/Rept Nbr: W05345

38743

Collection Date: 02/21/2008 12:46

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BLK

Received Date: 02/21/2008

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

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- ai	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
8057324	BETA	7.42E-01	pCi/L	1.2E+00	U	2.62E+00	100.0		9310__ALPHAB	2.005E-01	03/18/2008 19:40				D
BLK	12587-47-2			1.2E+00						L					

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.

Friday, April 11, 2008

TestAmerica QC Control Sample Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Report\bled\Fead\Rad\W05345.Edd, h:\Report\bled\Fead\Rad\38743.Edd

Lab Sample Id: KHM021CS **Sdg/Rept Nbr:** W05345 **38743** **Collection Date:** 02/21/2008 07:42
Client Id: NA **Matrix:** WATER **WATER**
Moisture/Solids%*: **QC Type:** BS **Received Date:** 02/21/2008

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
8057364	U-234	8.30E+00	pCi/L	1.8E+00	1.76E-01	79.9	8.73E+00	UISO_PLATE_	2.00E-01	L	03/21/2008	16:51	70	130	D
BS	13966-29-5			1.1E+00			95.1								
8057364	U-238	9.84E+00	pCi/L	2.0E+00	1.76E-01	79.9	9.14E+00	UISO_PLATE_	2.00E-01	L	03/21/2008	16:51	70	130	D
BS	U-238			1.2E+00			107.7								

TestAmerica
 rptFeadRadEdd v3.68

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.

Friday, April 11, 2008

TestAmerica QC Control Sample Report

Lab Code: TARL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Report\b\edd\Fead\VRad\W05345.Edd, h:\Report\b\edd\Fead\VRad\38743.Edd

Lab Sample Id: KHM071CS Sdg/Rept Nbr: W05345 38743 Collection Date: 02/21/2008 10:30

Client Id: NA Matrix: WATER WATER Sample On Date: 02/21/2008

Moisture/Solids%*: BS QC Type: BS Received Date: 02/21/2008

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RType
	MW6-SBB-A19981								BC	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
8057365	TC-99	5.04E+02	pCi/L	3.5E+01	9.90E+00	100.0		5.37E+02	TC99_ETVDSK	1.25E-01	03/14/2008			70	D
BS	14133-76-7			1.3E+01				93.8		L	09:07			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.

Friday, April 11, 2008

TestAmerica QC Control Sample Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\Rad\W05345.Edd, h:\Reportdb\edd\Fead\Rad\38743.Edd

Lab Sample Id: KHM0V1CS **Sdg/Rept Nbr:** W05345 **Collection Date:** 02/17/2008 14:16
Client Id: NA **Matrix:** WATER **Sample On Date:**
Moisture/Solids%*: **QC Type:** BS **Received Date:** 02/19/2008

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		
8057362	SR-90	1.67E+01	pCi/L	2.5E+00	6.06E-01	74.7	1.36E+01	SRISO_SEP_P	1.0001E+00	04/11/2008	08:11	70	130	70	D		
BS	10098-97-2			8.3E-01			122.6			L							
SAF Nbr	Contract Nbr	Distilled Volume		Decant	Suffix	SAS Nbr	Case Nbr	Test User	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
	MW6-SBB-A19981															BE	H

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.

Friday, April 11, 2008

TestAmerica QC Control Sample Report

Lab Code: TARL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\VRad\W05345.Edd, h:\Reportdb\edd\Fead\VRad\38743.Edd

Lab Sample Id: KHMV51CS

Sdg/Rept Nbr: W05345

38743

Collection Date: 02/17/2008 13:05

Client Id: NA

Matrix: WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BS

Received Date: 02/19/2008

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
8057326	I-129L	8.57E+00	pCi/L	1.1E+00	ai	4.14E-01	97.4	9.75E+00	I129LL_SEP_L	3.9463E+00	04/08/2008			70	D
BS	15046-84-1			1.1E+00				87.8		L	17:18			130	

Test User: Case Nbr: SAS Nbr: Suffix: Decant: Distilled Volume: File Id: FSuffix: RType: BG H

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.

Friday, April 11, 2008

TestAmerica QC Control Sample Report

Lab Code: TARL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\W05345.Edd; h:\Reportdb\edd\Fead\W05345.Edd; h:\Reportdb\edd\Fead\W05345.Edd

Lab Sample Id: KHMVQ1CS

Collection Date: 02/21/2008 10:30

Client Id: NA

Sdg/Rept Nbr: W05345 38743

Sample On Date: 02/21/2008

Moisture/Solids%*: BS

Received Date: 02/21/2008

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Concl/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
8057323	ALPHA	2.03E+01	pCi/L	4.7E+00	6.49E-01	100.0	2.27E+01	9310_ALPHA	2.001E-01	03/18/2008	19:34	70	130	70	D
BS	12587-46-1			2.1E+00			89.3			L					

Distilled Volume

Decant

Suffix

SAS Nbr

Case Nbr

Test User

Contract Nbr

MW6-SBB-A19981

File Id

FSuffix

BI

H

TestAmerica

TpfFeadRadEdd v3.68

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.

Friday, April 11, 2008

TestAmerica QC Duplicate Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\VRad\W05345.Edd, h:\Reportdb\edd\Fead\VRad\38743.Edd

Lab Sample Id: KHA761DR **Sdg/Rept Nbr:** W05345 **38743** **Collection Date:** 02/17/2008 14:16
Client Id: B1T3M2 **Matrix:** WATER **WATER**
Moisture/Solids%*: **QC Type:** DUP

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
108-023	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
8057362	SR-90	2.43E-01	pCi/L	3.2E-01	U	6.46E-01	76.7		SRISO_SEP_P	1.0004E+00	04/11/2008 08:10	86.9	1.7		D
DUP	10098-97-2	6.17E-01		3.1E-01						L		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.

Friday, April 11, 2008

TestAmerica QC Duplicate Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\Rad\W05345.Edd, h:\Reportdb\edd\Fead\Rad\38743.Edd

Lab Sample Id: KHA7T1CR **Sdg/Rept Nbr:** W05345 **Collection Date:** 02/17/2008 13:05
Client Id: B1T370 **Matrix:** WATER **Decant:** 38743 **Sample On Date:**
Moisture/Solids%*: **QC Type:** DUP **Received Date:** 02/19/2008

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Distilled Volume	File Id	FSuffix	RType						
								AT	H						
108-023	MW6-SBB-A19981														
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
8057326	I-129L	-7.28E-03	pCi/L	1.5E-01	U	2.71E-01	100.8		1129LL_SEP_L	3.8839E+00	04/08/2008	239.3	0.8		D
DUP	15046-84-1	8.14E-02		1.5E-01						L	09:54	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.

Friday, April 11, 2008

TestAmerica QC Duplicate Report

Lab Code: TARL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Report\b\edd\Fead\Rad\W05345.Edd, h:\Report\b\edd\Fead\Rad\38743.Edd

Collection Date: 02/21/2008 07:42

38743

Sdg/Rept Nbr: W05345

Lab Sample Id: KHGFG1FR

Sample On Date:

WATER

Matrix: WATER

Client Id: B1RCR7

Received Date: 02/21/2008

QC Type: DUP

Moisture/Solids%*:

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
8057364	U-234	0.00E+00	pCi/L	6.7E-02	U	1.57E-01	90.8		UIISO_PLATE_	2.001E-01	03/21/2008 16:51	200.0	0.3		D
DUP	13966-29-5	1.34E-02		6.7E-02						L		20.0	3		
8057364	U-235	-6.55E-03	pCi/L	6.7E-02	U	1.57E-01	90.8		UIISO_PLATE_	2.001E-01	03/21/2008 16:51	0.0	0.1		D
DUP	15117-96-1	0.00E+00		6.7E-02						L		20.0	3		
8057364	U-238	2.62E-02	pCi/L	6.7E-02	U	1.57E-01	90.8		UIISO_PLATE_	2.001E-01	03/21/2008 16:51	78.9	0.7		D
DUP	U-238	6.04E-02		6.7E-02						L		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.

Friday, April 11, 2008

TestAmerica QC Duplicate Report

Lab Code: TARL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Report\b\edd\Feat\Rad\W05345.Edd, h:\Report\b\edd\Feat\Rad\38743.Edd

Lab Sample Id: KHGG81FR

Collection Date: 02/21/2008 10:30

Client Id: B1RCR6

Sdg/Rept Nbr: W05345

38743

Sample On Date:

Moisture/Solids%*:

QC Type: DUP

Received Date: 02/21/2008

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RType		
									AW	H		
S08-012	MW6-SBB-A1981											
Batch # /	Analyt/	Result/	Qu-	Tracer	Spk Concl/	Analy	Aliq	Date/Time	RPD/	RER/	LCS	R
Gc Type	CAS#	Orig Rst	ai	Yield	%Rec	Method	Size/	Analyzed	UCL	UCL	LCL/UCL	Typ
8057323	ALPHA	4.21E+00	1.98E+00	100.0		9310_ALPHA	1.562E-01	03/18/2008	20.8	0.7		D
DUP	12587-46-1	5.19E+00	1.6E+00				L	19:34	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.

Friday, April 11, 2008

TestAmerica QC Duplicate Report

Lab Code: TARL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Report\bledd\Fead\W05345.Edd, h:\Report\bledd\Fead\W05345.Edd, h:\Report\bledd\Fead\W05345.Edd

Lab Sample Id: KHGG81GR **Sdg/Rept Nbr:** W05345 **38743** **Collection Date:** 02/21/2008 10:30
Client Id: B1RCR6 **Matrix:** WATER **WATER** **Sample On Date:**
Moisture/Solids%*: **QC Type:** DUP **Received Date:** 02/21/2008

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
									AX	H					
S08-012	MW6-SBB-A19981														
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
8057365	TC-99	2.22E+01	pCi/L	7.1E+00		9.91E+00	100.0		TC99_ETVDSK	1.25E-01	03/14/2008	.7	0.		D
DUP	14133-76-7	2.23E+01		4.8E+00						L	09:07	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.

Friday, April 11, 2008

TestAmerica QC Duplicate Report

Lab Code: TARL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\W05345.Edd, h:\Reportdb\edd\Fead\W05345.Edd, h:\Reportdb\edd\Fead\W05345.Edd

Collection Date: 02/21/2008 12:46
Sample On Date:
Received Date: 02/21/2008

Sdg/Rept Nbr: W05345
Matrix: WATER
QC Type: DUP

Lab Sample Id: KHGHA1DR
Client Id: B1RCR3

Moisture/Solids%*:

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RType					
									AY	H					
S08-012	MW6-SBB-A19981														
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tof/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
8057324 BETA		1.52E+01	pCi/L	2.9E+00		2.84E+00	100.0		9310_ALPHA	2.003E-01	03/18/2008	10.3	0.7		D
DUP	12587-47-2	1.37E+01		2.2E+00						L	19:40	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.

Friday, April 11, 2008

TestAmerica Qc Matrix Spike Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05

File Name: h:\Reportdb\ledd\Fead\Rad\W05345.Edd, h:\Reportdb\ledd\Fead\Rad\38743.Edd

Lab Sample Id: KHGFG1GW **Sdg/Rept Nbr:** W05345 **Collection Date:** 02/21/2008 07:42
Client Id: B1RCR7 **Matrix:** WATER **Sample On Date:**
Moisture/Solids%*: **QC Type:** MS **Received Date:** 02/21/2008

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RType				
									AV	H				
S08-012	MW6-SBB-A19981													
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Tracer Yield	MDC	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
8057365 TC-99	14133-76-7	3.29E+03	pCi/L	2.0E+02 3.1E+01	100.0	9.90E+00	3.58E+03 91.9	TC99_ETVDSK	1.25E-01 L	03/14/2008 09:07			60 140	D

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.

Analyst:	S. Wheland	BATCH #	8056402
Start Date:	2/21/2008	SDG #	W05345
Start Time:		Matrix	Water
End Date:	2/21/2008	SOP Information	
End Time:		RICH-WC-5003 Revision 7	
Analyst Signature:	<i>[Signature]</i>	Instrument Information	
Date:	02/25/08	Instrument: Hach DR2010 Wavelength: 540 R Squared: 0.99967 Slope: 1.81078 Intercept: 0.00998	

Calibration Information:	ICV Information:	LCS Information:	Matrix Spike Information:
Cr-08-00041	Cr-08-00042	Cr-08-00041	Cr-08-00041
02/21/08	02/21/08	02/21/08	02/21/08
50	50	50	50
02/22/08	02/22/08	02/22/08	02/22/08
70,190	190	190	190
	1.000	1.00	0.50000
			0.50
			0.26316

Sample ID	Client ID	Type	Sample Volume (mL)	Sample ABS.	Blank ABS.	Corrected ABS.	Dilution Factor	Curve Conc. (mg/L)	Final Conc. (mg/L)	% Rec.
n/a	n/a	ICV	100.000	0.922	0.000	0.922	1	0.5037	0.504	100.73%
n/a	n/a	ICB	100.000	0.001	0.000	0.001	1	-0.0050	<MDL	
khlen1aa	n/a	Prep Blank	100.000	0.005	0.005	0.005	1	-0.0027	<MDL	
khlen1ac	n/a	LCS	100.000	0.941	0.941	0.941	1	0.5142	0.514	102.83%
khgef1aa	BIT2J3	Sample	100.000	0.252	0.252	0.252	1	0.1337	0.134	515.3% 103.25%
khgef1aC-S	BIT2J3-MS	MS	100.000	0.744	0.744	0.744	1	0.4054	0.4054	101.57%
khgef1aD-D	BIT2J3-MSD	MSD	100.000	0.736	0.736	0.736	1	0.4009	0.401	
khgef1aE-X	BIT2J3-DUP	Duplicate	100.000	0.249	0.249	0.249	1	0.1320	0.132	
			100.000				1			
			100.000				1			
			100.000				1			
n/a	n/a	CCV	100.000	0.921	0.921	0.921	1	0.5031	0.503	100.62%
n/a	n/a	CCB	100.000	0.003	0.003	0.003	1	-0.0039	<MDL	
			100.000				1			
			100.000				1			
			100.000				1			
			100.000				1			
			100.000				1			

Expected values are only amounts added in mg and not final concentrations

Lot No., Due Date: J8B210310; 04/10/2008
 Client, Site: 384868; PGW 615HANFORD HANFORD
 QC Batch No., Method Test: 8057364; RUIISO Uiso by ALP
 SDG, Matrix: W05345; WATER

	Yes	No	N/A
8.0 Correction Calculation Protocol Used. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.01 The Appropriate Methods Were Used To Analyze the Samples OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.02 Final Results Are in the Appropriate Activity Units OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.03 Batch Contains the Required QC Appropriate for the Method OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.04 The Correct Tracer and QC Vials Where Used in the Samples OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.05 Sample was Appropriately Traced Before or After Fractionating the Sample OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.06 At Least the Minimum Sample Volume Was Used OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.07 The Correct Count Geometry was Used. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.08 The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.09 Method Blank is within Control Limits. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.1 Comments:			
8.11 Matrix Blank is within Control Limits. No Matrix Blanks (MBIks) found in Batch!	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.12 Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.13 QAS Specified Duplicate Equation Value within Control Limits. RPD > UCL : 20.0=> KHGFG1AF U-234 200.0 KHGFG1AF U-238 79.0 (RPD)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.14 LCS within Control Limits. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.15 MLCS within Control Limits. No Matrix Spikes (MLCS) found in Batch!	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.16 MS within Control Limits. No Matrix Spike Samples (MS) found in Batch!	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.17 Tracer within Control Limits. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.18 Samples are above Minimum Tracer Yield (No Failed Samples) OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.19 Sample Specific MDC <= CRDL. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.2 Comments:			
8.21 Result < Lc, Activity Not Detected, U Flag. No Limit Specified!	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.22 Result < Mdc, Activity Not Detected, U Flag. Batch Positive Result => KHGG81AE U-234 2.7E+00 L:1.7E-01 KHGG81AE U-238 2.6E+00 L:1.7E-01	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.23 Result <= Action Level, when Defined. OK; No Action Level Found => U-234 U-235 U-238 OK; No Callin Level Found => U-234 U-235 U-238	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- | | | | | |
|------|---|---|----|-----|
| 8.24 | Result + 3s >=0, Not Too Negative.
OK | Yes <input checked="" type="checkbox"/> | No | N/A |
| 8.25 | Counting Spectrum are within FWHM Limits.
FWHM > maxFWHM => KHGG81AE U-234 38.9>0
KHM021AC U-234 39.309>0 Q:V1 | Yes <input checked="" type="checkbox"/> | No | N/A |
| 8.26 | Instruments have Current Calibrations. | Yes | No | N/A |
| 8.27 | Correct Count Library Used.
Library Not Specified => KHGFG1AE I:[NUC_LIBR]AR_U. Q:
KHGFG1AF I:[NUC_LIBR]AR_U. Q:
KHGG81AE I:[NUC_LIBR]AR_U. Q:
KHM021AA I:[NUC_LIBR]AR_U. Q:
KHM021AC I:[NUC_LIBR]AR_U. Q: | Yes | No | N/A |
| 8.28 | Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later versions) | Yes | No | N/A |
| 8.29 | Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later versions) | Yes | No | N/A |
| 8.3 | Comments: | | | |
| 8.31 | Results Blank Subtracted as Appropriate.
OK | Yes <input checked="" type="checkbox"/> | No | N/A |

First Level Review

Lee Antonson

Date

3/26/08

Data Review Checklist

RADIOCHEMISTRY

Second Level Review

Batch Number: 8057364

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: Eirhe Jodo Date: 3/25/8

Lot No., Due Date: J8B210310, J8B250152; 04/10/2008
 Client, Site: 384868; PGW 615HANFORD HANFORD
 QC Batch No., Method Test: 8057323; RALPHA-A Alpha by GPC-Am
 SDG, Matrix: W05345; WATER

	Yes	No	N/A
8.0 Correction Calculation Protocol Used. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.01 The Appropriate Methods Were Used To Analyze the Samples OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.02 Final Results Are in the Appropriate Activity Units OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.03 Batch Contains the Required QC Appropriate for the Method OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.04 The Correct Tracer and QC Vials Where Used in the Samples OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.05 Sample was Appropriately Traced Before or After Fractionating the Sample OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.06 At Least the Minimum Sample Volume Was Used Analysis Volume => KHGG81AA 156.30<200.00 KHGHA1AA 156.10<200.00 KHLDA1AA 138.80<200.00 Q:VB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.07 The Correct Count Geometry was Used. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.08 The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.09 Method Blank is within Control Limits. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.1 Comments:			
8.11 Matrix Blank is within Control Limits. No Matrix Blanks (MBIks) found in Batch!	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.12 Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.13 QAS Specified Duplicate Equation Value within Control Limits. RPD > UCL : 20.0=> KHGG81AF ALPHA 21.0 (RPD)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.14 LCS within Control Limits. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.15 MLCS within Control Limits. No Matrix Spikes (MLCS) found in Batch!	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.16 MS within Control Limits. No Matrix Spike Samples (MS) found in Batch!	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.17 Tracer within Control Limits. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.18 Samples are above Minimum Tracer Yield (No Failed Samples) OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.19 Sample Specific MDC <= CRDL. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.2 Comments:			
8.21 Result < Lc, Activity Not Detected, U Flag. No Limit Specified!	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.22 Result < Mdc, Activity Not Detected, U Flag. Batch Positive Result => KHGG81AA ALPHA 5.2E+00 L:1.8E+00 KHGHA1AA ALPHA 5.7E+00 L:1.3E+00 KHLDA1AA ALPHA 2.3E+00 L:2.1E+00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.23 Result <= Action Level, when Defined. OK; No Action Level Found => ALPHA OK; No Callin Level Found => ALPHA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.24 Result + 3s >=0, Not Too Negative. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- 8.25 Counting Spectrum are within FWHM Limits. Yes No N/A
 No FWHM found in Batch Data!
- 8.26 Instruments have Current Calibrations. Yes No N/A
- 8.27 Correct Count Library Used. Yes No N/A
 No Count Library found in Batch Data!
- 8.28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later versions) Yes No N/A
- 8.29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later versions) Yes No N/A
- 8.3 Comments:
- 8.31 Results Blank Subtracted as Appropriate. Yes No N/A
 OK

NCM-10-12011

First Level Review Loa Anderson

Date 3/25/08

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 8057323

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

Comments on any "No" response: See above

Second Level Review: Erika Jorda Date: 3/26/18

Clouseau Nonconformance Memo

NCM #: 10-12011 NCM Initiated By: Lisa Antonson Date Opened: 03/25/2008 Date Closed:	Classification: Anomaly Status: QAREVIEW Production Area: Environmental - Sep Tests: Alpha by GPC-Am Lot #'s (Sample #'s): J8B210310 (1,2,3), J8B250152 (1), J8B260000 (323), QC Batches: 8057323,
Nonconformance: Dups not within acceptance limits Subcategory: Other (explanation required)	

Problem Description / Root Cause

<u>Name</u>	<u>Date</u>	<u>Description</u>
Lisa Antonson	03/25/2008	In this Alpha batch, the sample and dup have an RPD of 20.85, just above the 20% limit. The samples results have a difference of less than the CRDL, data accepted.

Corrective Action

<u>Name</u>	<u>Date</u>	<u>Corrective Action</u>
Lisa Antonson	03/25/2008	NA

Client Notification Summary

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

Quality Assurance Verification

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

Approval History

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

Lot No., Due Date: J8B200327,J8B210310,J8B250152; 04/10/2008
 Client, Site: 384868; PGW 615HANFORD HANFORD
 QC Batch No., Method Test: 8057324; RBETA-SR Beta by GPC-Sr/Y
 SDG, Matrix: W05345; WATER

	Yes	No	N/A
8.0 Correction Calculation Protocol Used. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.01 The Appropriate Methods Were Used To Analyze the Samples OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.02 Final Results Are in the Appropriate Activity Units OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.03 Batch Contains the Required QC Appropriate for the Method OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.04 The Correct Tracer and QC Vials Where Used in the Samples OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.05 Sample was Appropriately Traced Before or After Fractionating the Sample OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.06 At Least the Minimum Sample Volume Was Used Analysis Volume => KHEEX1AA 52.90<200.00 Q:VB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.07 The Correct Count Geometry was Used. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.08 The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.09 Method Blank is within Control Limits. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.1 Comments: NCM 10-12012			
8.11 Matrix Blank is within Control Limits. No Matrix Blanks (MBIks) found in Batch!	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.12 Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.13 QAS Specified Duplicate Equation Value within Control Limits. OK (RPD)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.14 LCS within Control Limits. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.15 MLCS within Control Limits. No Matrix Spikes (MLCS) found in Batch!	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.16 MS within Control Limits. No Matrix Spike Samples (MS) found in Batch!	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.17 Tracer within Control Limits. OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.18 Samples are above Minimum Tracer Yield (No Failed Samples) OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.19 Sample Specific MDC <= CRDL. MDC/MDA > CRDL => KHEEX1AA BETA 9.8E+00>4.0E+00 Q:C1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.2 Comments:			
8.21 Result < Lc, Activity Not Detected, U Flag. No Limit Specified!	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.22 Result < Mdc, Activity Not Detected, U Flag. Batch Positive Result => KHEER1AA BETA 1.1E+03 L:2.8E+00 KHEEW1AA BETA 6.8E+02 L:2.9E+00 KHEEX1AA BETA 4.0E+03 L:9.8E+00 KHGG81AC BETA 1.6E+01 L:2.8E+00 KHGHA1AC BETA 1.4E+01 L:2.8E+00 KHLDA1AC BETA 2.1E+01 L:2.9E+00	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.23 Result <= Action Level, when Defined. OK; No Action Level Found => BETA OK; No Callin Level Found => BETA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8.24	Result + 3s ≥ 0 , Not Too Negative. OK	Yes <input checked="" type="checkbox"/>	No	N/A
8.25	Counting Spectrum are within FWHM Limits. No FWHM found in Batch Data!	Yes	No	N/A <input checked="" type="checkbox"/>
8.26	Instruments have Current Calibrations.	Yes	No	N/A
8.27	Correct Count Library Used. No Count Library found in Batch Data!	Yes	No	N/A <input checked="" type="checkbox"/>
8.28	Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later versions)	Yes	No	N/A
8.29	Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later versions)	Yes	No	N/A
8.3	Comments:			
8.31	Results Blank Subtracted as Appropriate. OK	Yes <input checked="" type="checkbox"/>	No	N/A

First Level Review

Sha Anderson

Date

3/25/08

Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 805 7324

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

Comments on any "No" response: See above

Second Level Review: Erike [Signature] Date: 3/26/18

Clouseau Nonconformance Memo

NCM #: 10-12012 NCM Initiated By: Lisa Antonson Date Opened: 03/25/2008 Date Closed:	Classification: Anomaly Status: QAREVIEW Production Area: Environmental - Prep Tests: Beta by GPC-Sr/Y Lot #'s (Sample #'s): J8B200327 (1,2,3), J8B210310 (1,2,3), J8B250152 (1), J8B260000 (324), QC Batches: 8057324,
Nonconformance: MDA not met Subcategory: Data accepted	

Problem Description / Root Cause

<u>Name</u>	<u>Date</u>	<u>Description</u>
Lisa Antonson	03/25/2008	The CRDL was not met on sample KHEEX due to reduced aliquots based on activity screen. The result exceeds the MDA achieved, data accepted.

Corrective Action

<u>Name</u>	<u>Date</u>	<u>Corrective Action</u>
Lisa Antonson	03/25/2008	NA

Client Notification Summary

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

Quality Assurance Verification

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

Approval History

<u>Date Approved</u>	<u>Approved By</u>	<u>Position</u>
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Lot No., Due Date: J8B190276, J8B250152; 04/10/2008
 Client, Site: 384868; PGW 615HANFORD HANFORD
 QC Batch No., Method Test: 8057362; RSR85907 Sr-85/90 by GPC-7
 SDG, Matrix: W05345; WATER

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

First Level Review John Horton

Date 4-11-8

Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 8057362

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: *Joan* Date: 4/11/08

Lot No., Due Date: J8B190276,J8B250152; 04/10/2008
 Client, Site: 384868; PGW 615HANFORD HANFORD
 QC Batch No., Method Test: 8057326; RGAMLEPS Gamma by LEPS
 SDG, Matrix: W05345; WATER

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

First Level Review John W. [Signature]

Date 4-9-8

Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 805 7326

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: Euno Ford Date: 4/9/18

Lot No., Due Date: **J8B210310; 04/10/2008**
 Client, Site: **384868; PGW 615HANFORD HANFORD**
 QC Batch No., Method Test: **8057365; RTC99 Tc-99 by LSC**
 SDG, Matrix: **W05345; WATER**

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

First Level Review *John Voster*

Date 3-27-8

Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 8057365

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: NO NCM

Second Level Review: Don Petty Date: 03-28-08



Richland Laboratory
Data Review Check List
Hexavalent Chromium

45-2/24/08

Batch Number(s): 8050368 8056402				
Lab Sample Numbers or: WCB5345 SKS 3/24/08				
Method/Test/Parameter: Cr+6 in Water / RICH-WC-5003				
Review Item	Yes (✓)	No (✓)	N/A (✓)	2 nd Level Review (✓)
A. Initial Calibration				
1. Performed at required frequency with required number of levels?	✓			✓
2. Correlation coefficient within QC limits?	✓			✓
3. Initial calibration verification (ICV) analyzed immediately after calibration and results within QC limits?	✓			✓
4. Initial calibration blank (ICB) analyzed immediately after ICV and concentrations of all parameters ≤ reporting limit?	✓			✓
B. Continuing Calibration				
1. CCV analyzed at required frequency and all parameters within QC limits?	✓			✓
2. CCB analyzed at required frequency and all results ≤ reporting limit?	✓			✓
C. Sample Analysis				
1. Were any samples with concentrations above the linear range for any parameter diluted and reanalyzed?	✓			✓
2. Were all sample holding times met?	✓			✓
D. QC Samples				
1. All results for the preparation blank below limits?	✓			✓
2. MS or MS/MSD recoveries within QC limits and %RPD (for MSD) acceptable?	✓			✓
3. LCS percent recovery within QC limits and %RPD (for LCSD) acceptable?	✓			✓
4. Analytical spikes within QC limits where applicable?			✓	✓
5. ICP only: One serial dilution performed per SDG?			✓	✓
6. ICP only: CRDL standard (CRI or CRA) analyzed at required frequency?			✓	✓
7. ICP only: Interference check samples (ICSA, ICSAB) and HICAL analyzed at the required frequencies and within QC limits?			✓	✓

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

Comments on any "No" response:

Analyst: Alan E. Mikolant

Date: 2/25/08

Second-Level Review: Eirne Jorde

Date: ~~4/8/08~~ 4/15/08
4/9/08



Sample Check-in List

Date/Time Received: 02-19-08 1430 GM Screen Result 0.2

Client: PBW SDG #: W05345 NA [] SAF #: I08-023 NA []

Work Order Number: J8B190276 Chain of Custody # I08-023-2-22-13-46-47-10.2
5-29-16-140

Shipping Container ID: _____ Air Bill # _____

1. Custody Seals on shipping container intact? NA [] Yes No []
2. Custody Seals dated and signed? NA [] Yes No []
3. Chain of Custody record present? NA [] Yes No []
4. Cooler Temperature: _____ NA [] 5. Vermiculite/packing materials is NA [] Wet [] Dry []
6. Number of samples in shipping container: 11
7. Sample holding times exceeded? NA Yes [] No []
8. Samples have:

_____ Tape	_____ Hazard Labels
_____ Custody Seals	<u>/</u> Appropriate Sample Labels
9. Samples are:

_____ <input checked="" type="checkbox"/> In Good Condition	_____ Leaking
_____ Broken	_____ Have Air Bubbles

 (Only for samples requiring no head space.)
10. Sample pH taken? NA [] pH < 2 pH > 2 pH > 9 [] Amount HNO₃ Added NONE
11. Sample Location, Sample Collector Listed? *
*For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [] No
13. Description of anomalies (include sample numbers): _____

Sample Custodian: A. Smith Date: 02-19-08

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[] No action necessary; process as is.

Project Manager _____ Date _____



Sample Check-in List DUE 4-4-08

Date/Time Received: 2-20-08 1135 GM Screen Result 0.1 K

Client: PAW SDG #: W05345 NA [] SAF #: G08-002 NA []

Work Order Number: J8B200327 Chain of Custody # 408-002-42, -34, -46

Shipping Container ID: J8B Air Bill # _____

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

Sample Custodian: [Signature] Date: 2-20-08

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[] No action necessary; process as is.

Project Manager _____ Date _____



Sample Check-in List

DUE 4-7-08

Date/Time Received: 2-21-08 1400 GM Screen Result 0.31C

Client: PAW SDG #: W05345 NA [] SAF #: I08-020 NA []

Work Order Number: J8B210307 Chain of Custody # I08-020-18

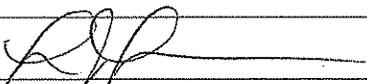
Shipping Container ID: _____ Air Bill # _____

1. Custody Seals on shipping container intact? NA [] Yes No []
2. Custody Seals dated and signed? NA [] Yes No []
3. Chain of Custody record present? NA [] Yes No []
4. Cooler Temperature: _____ NA 5. Vermiculite/packing materials is NA Wet [] Dry []
6. Number of samples in shipping container: 1
7. Sample holding times exceeded? NA Yes [] No []
8. Samples have:

<u> </u> Tape	<u> </u> Hazard Lables
<u> </u> Custody Seals	<u> </u> Appropriate Sample Lables
9. Samples are:

<u> </u> In Good Condition	<u> </u> Leaking
<u> </u> Broken	<u> </u> Have Air Bubbles

 (Only for samples requiring no head space.)
10. Sample pH taken? NA [] pH<2 [] pH>2 pH>9 [] Amount HNO₃ Added _____
11. Sample Location, Sample Collector Listed? *
*For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [] No
13. Description of anomalies (include sample numbers): _____

Sample Custodian:  Date: 2-21-08

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[] No action necessary, process as is.

Project Manager _____ Date _____



Sample Check-in List DUE 4-7-08

Date/Time Received: 2-21-08 1400 GM Screen Result 0.3 K

Client: PGW SDG #: ⁸¹⁸5 W05345 NA [] SAF #: 508-012 NA []

Work Order Number: J8BZ10310 Chain of Custody # 508-012-566, 565, 559

Shipping Container ID: _____ Air Bill # _____

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

Sample Custodian:  Date: 2-21-08

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[] No action necessary; process as is.

Project Manager _____ Date _____



Sample Check-in List

DUE 4-7-08

Date/Time Received: 2-21-08 1445 GM Screen Result 0.2K

Client: PAW SDG #: W05345 NA [] SAF #: 508-012 NA []

Work Order Number: J8B210333 Chain of Custody # 508-012-503

Shipping Container ID: _____ Air Bill # _____

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

Sample Custodian: Date: 2-21-08

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[] No action necessary; process as is.

Project Manager _____ Date _____



Sample Check-in List

DUE 4-10-08

Date/Time Received: 2-25-08 1355 GM Screen Result 0.3K

Client: PAW SDG #: W05345 NA [] SAF #: 508-001 NA []

Work Order Number: J8B250152 Chain of Custody # 508-001-112

Shipping Container ID: _____ Air Bill # _____

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

Sample Custodian: [Signature] Date: 2-25-08

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[] No action necessary; process as is.

Project Manager _____ Date _____

Balance Id:1120482733

Sample Preparation/Analysis

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

3/13/2008 2:28:16 PM
384868, Pacific Northwest National Laboratory
Pacific Northwest National Lab

AnalyteDueDate: 04/07/2008
Batch: 8057364
SEQ Batch, Test: None

PIM, Quote: SS, 57671

WATER
pCi/L

Prep Tech: ,HarrisD

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:
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1 KHGFG-1-AE	200.00g,in	200.00g	UITC19584	02/18/08,pd 06/15/01,r	200	UITC19584	Alpha: -6.45E-04 uCi/Sa	Beta: 5.88E-04 uCi/Sa		
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2 KHGFG-1-AF-X	200.10g,in	200.10g	UITC19585	02/18/08,pd 06/15/01,r		UITC19585	Alpha: -6.45E-04 uCi/Sa	Beta: 5.86E-04 uCi/Sa		
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3 KHGG8-1-AE	200.00g,in	200.00g	UITC19586	02/18/08,pd 06/15/01,r		UITC19586	Alpha: 4.15E-05 uCi/Sa	Beta: 1.77E-04 uCi/Sa		
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4 KHM02-1-AA-B	200.40g,in	200.40g	UITC19587	02/18/08,pd 06/15/01,r		UITC19587	Alpha: 4.15E-05 uCi/Sa	Beta: 1.77E-04 uCi/Sa		
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5 KHM02-1-AC-C	200.00g,in	200.00g	UISG1575	12/11/07,pd 05/05/87,r		UISG1575	Alpha: 4.15E-05 uCi/Sa	Beta: 1.77E-04 uCi/Sa		
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8057364
 Comments: *pkc20 out 3/13/08*

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

KHGFG1AE-SAMP Constituent List:
 U-232 RDL: pCi/L LCL:20 UCL:1.05 RPD:20 U-234 RDL:1.00E+00 pCi/L LCL: UCL: RPD: WO Cnt: 5
 Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2
 ISV - Insufficient Volume for Analysis
 Prep_SamplePrep v4.8.32

3/13/2008 2:28:17 PM

Sample Preparation/Analysis

Balance Id:1120482733

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

Pipet #:
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:

AnalytDueDate: 04/07/2008

pCi/L

Batch: 8057364

SEQ Batch, Test: None

Prep Tech: ,HarrisD

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	LCL:	UCL:	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:
U-235	RDL:1.00E+00	pCi/L	LCL:			RPD:	U-238	RDL:1.00E+00	pCi/L	LCL:	UCL:	RPD:
KHM021AA-BLK:												
U-232	RDL:	pCi/L	LCL:20	UCL:105	RPD:20		U-234	RDL:1.00E+00	pCi/L	LCL:	UCL:	RPD:
U-235	RDL:1.00E+00	pCi/L	LCL:	UCL:	RPD:		U-238	RDL:1.00E+00	pCi/L	LCL:	UCL:	RPD:
KHM021AC-LCS:												
U-232	RDL:	pCi/L	LCL:20	UCL:105	RPD:20		Uranium	RDL:	pCi/L	LCL:70	UCL:130	RPD:20
KHGFG1AE-SAMP Calc Info:												
Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B												
KHM021AA-BLK:												
Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B												
KHM021AC-LCS:												
Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B												

Approved By _____ Date: _____

3/24/2008 5:31:15 PM

ICOC Fraction Transfer/Status Report

ByDate: 3/25/2007, 3/29/2008, Batch: '8057364', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
8057364				
AC	Rev1C	HarrisD	3/13/2008 2:24:04 PM	
SC		wagarr	IsBatched 2/26/2008 3:37:21 PM	ICOC_RADCALC v4.8.32
SC		HarrisD	InPrep 3/13/2008 2:24:04 PM	RICH-RC-5016 Revision 7
SC		HarrisD	Prep1C 3/13/2008 2:28:21 PM	RICH-RC-5016 REVISION 7
SC		AshworthA	Prep2C 3/19/2008 7:32:37 PM	RICH-RC-5086 REV3
SC		AshworthA	Sep1C 3/20/2008 12:46:00 PM	RICH-RC-5067 REV8
SC		AshworthA	Sep2C 3/21/2008 2:30:57 PM	RICH-RC-5039 REV5
SC		BlackCL	InCnt1 3/21/2008 2:33:18 PM	RICH-RD-0008 REVISION 4
SC		DAWKINSO	CalcC 3/23/2008 1:03:46 PM	RICH-RD-0008 REVISION 4
SC		antonsonI	Rev1C 3/24/2008 5:31:09 PM	RICH-RC-0002 REV 8
AC		HarrisD	3/13/2008 2:28:21 PM	
AC		AshworthA	3/19/2008 7:32:37 PM	
AC		AshworthA	3/20/2008 12:46:00	REV8
AC		AshworthA	3/21/2008 2:30:57 PM	
AC		BlackCL	3/21/2008 2:33:18 PM	
AC		DAWKINSO	3/23/2008 1:03:46 PM	REVISION 4
AC		antonsonI	3/24/2008 5:31:09 PM	

AC: Accepting Entry; SC: Status Change

3/14/2008 9:31:50 AM

384868, Pacific Northwest National Laboratory
Pacific Northwest National Lab

Sample Preparation/Analysis

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

Balance Id: 120482733

Pipet #: 245

Analyte Due Date: 04/07/2008 W05345
Batch: 8057323 WATER pCi/L
SEQ Batch, Test: None

Sep1 DT/Tm Tech: _____
Sep2 DT/Tm Tech: _____

PM, Quote: SS, 57671

Prep Tech: Harris D Box

Work Order, Lot, Sample Date Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 KHGG-1-AA J8B210310-1-SAMP 02/21/2008 07:42	200.00g, in	1.5		1.5	1.0	50	12A 3/18/08	2025	3/18/08	Beta: 5.86E-04 uCi/Sa
2 KHGG8-1-AA J8B210310-2-SAMP 02/21/2008 10:30	156.30g, in				30.6	100	11B			Beta: 1.77E-04 uCi/Sa
3 KHGG8-1-AF-X J8B210310-2-DUP 02/21/2008 10:30	156.20g, in				37.2		11C			Beta: 1.77E-04 uCi/Sa
4 KHGHA-1-AA J8B210310-3-SAMP 02/21/2008 12:46	156.10g, in				39.0		12A 3/18/08			Beta: 1.77E-04 uCi/Sa
5 KHLDA-1-AA J8B250152-1-SAMP 02/22/2008 10:24	138.80g, in				31.3		12C			Beta: 2.56E-04 uCi/Sa
6 KHMVQ-1-AA-B J8B260000-323-BLK 02/21/2008 10:30	200.50g, in				0.7		12B			Beta: 1.37E-03 uCi/Sa
7 KHMVQ-1-AC-C J8B260000-323-LCS 02/21/2008 10:30	200.10g, in		ASD4418 02/18/08, pd 06/03/01		1.7		11D 12A 3/18/08			Beta: _____

3/14/2008 9:31:52 AM Balance Id: 1120482733

Sample Preparation/Analysis

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

AnalyDueDate: 04/07/2008

Batch: 8057323 Pipet #: _____

SEQ Batch, Test: None Sep1 DT/Tm Tech: _____

pCi/L Sep2 DT/Tm Tech: _____

Prep Tech: ,Harris D

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

Comments: *pk20. Aliquots reduced due to weight screens. Dnt 3/14/08*

KHGF1AA was counted for 100 minutes to fill the detectors 3/18/08

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

KHGF1AA-SAMP Constituent List:										
ALPHA	RDL:3	pCi/L	LCL:	UCL:	RPD:					
KHMVQ1AA-BLK:	ALPHA	RDL:3	LCL:	UCL:	RPD:					
KHMVQ1AC-LCS:	Am-241	RDL:	LCL:70	UCL:130	RPD:20					
KHGF1AA-SAMP Calc Info:										
Uncert Level (#s):	2	Decay to Sadt:	Y	Blk Subt.:	N	Sci. Not.:	Y	ODRs:	B	
Uncert Level (#s):	2	Decay to Sadt:	Y	Blk Subt.:	N	Sci. Not.:	Y	ODRs:	B	
Uncert Level (#s):	2	Decay to Sadt:	Y	Blk Subt.:	N	Sci. Not.:	Y	ODRs:	B	

Approved By: _____ Date: _____

ICOC Fraction Transfer/Status Report

ByDate: 3/26/2007, 3/30/2008, Batch: '8057323', User: *ALL Order By DateTimeAccepting

Q	Batch	Work Ord	CurStatus	Accepting	Comments
	8057323				
AC		Rev1C	HarrisD	3/14/2008 9:27:18	
SC			wagarr	IsBatched 2/26/2008 3:37:21 PM	ICOC_RADCALC v4.8.32
SC			HarrisD	InPrep 3/14/2008 9:27:18 AM	RICH-RC-5017 Revision 6
SC			HarrisD	Prep1C 3/14/2008 9:31:54 AM	RICH-RC-5014 REVISION 7
SC			BockJ	InPrep2 3/17/2008 12:15:29 PM	RICH-RC-5014 REVISION 7
SC			BockJ	Prep2C 3/18/2008 3:54:09 PM	RICH-RC-5014 REVISION 7
SC			DAWKINSO	InCnt1 3/18/2008 4:36:04 PM	RICH-RD-0003 REVISION 5
SC			DAWKINSO	CalcC 3/18/2008 9:04:35 PM	RICH-RD-0003 REVISION 5
SC			antonsonl	Rev1C 3/25/2008 5:38:47 PM	RICH-RC-0002 REV 8
AC			HarrisD	3/14/2008 9:31:54	
AC			BockJ	3/17/2008 12:15:29	
AC			BockJ	3/18/2008 3:54:09 PM	
AC			DAWKINSO	3/18/2008 4:36:04 PM	
AC			DAWKINSO	3/18/2008 9:04:35 PM	
AC			antonsonl	3/25/2008 5:38:47 PM	

AC: Accepting Entry; SC: Status Change

TAL Richland

Richland Wa.

3/14/2008 9:23:01 AM

Sample Preparation/Analysis

Balance Id: 1120482733

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

Pacific Northwest National Laboratory
Pacific Northwest National Lab

Pipet #: 245

AnalyteDate: 04/04/2008
Batch: 8057324
SEQ Batch, Test: None

Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:

PM, Quote: SS, 57671

WATER
pCi/L

Prep Tech: HarrisD

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments
1 KHEER-1AA J8B200327-1-SAMP 02/20/2008 08:50		200.10g,in		1.5	75.9	100	28B	1848		Beta: 3.44E-04 uCi/Sa 3/18/0800
2 KHEEW-1AA J8B200327-2-SAMP 02/20/2008 10:24		200.10g,in			43.8		28C			Beta: 2.45E-04 uCi/Sa
3 KHEEX-1AA J8B200327-3-SAMP 02/20/2008 10:04		52.90g,in			9.3		28D			Beta: 1.70E-03 uCi/Sa 5.3E-02L
4 KHGFG-1-AC J8B210310-1-SAMP 02/21/2008 07:42		200.10g,in			0.2		32A	2030		Beta: 5.86E-04 uCi/Sa
5 KHGG8-1-AC J8B210310-2-SAMP 02/21/2008 10:30		200.00g,in			88.2		32B			Beta: 1.77E-04 uCi/Sa
6 KHGHA-1-AC J8B210310-3-SAMP 02/21/2008 12:46		199.90g,in			103.8		32C			Beta: 2.56E-04 uCi/Sa
7 KHGHA-1-AD-X J8B210310-3-DUP 02/21/2008 12:46		200.30g,in			101.9		31A			Beta: 2.56E-04 uCi/Sa

3/14/2008 9:23:02 AM Balance Id:1120482733
 384868, Pacific Northwest National Laboratory BC Gross Beta PrpRC5014
 Pacific Northwest National Lab S8 Gross Beta by GPC using Sr/Y-90 curve
 51 CLIENT: HANFORD
 Analyze Date: 04/04/2008
 Batch: 8057324 WATER PM, Quote: SS, 57671
 SEQ Batch, Test: None

Pipet #: _____
 Sep1 DT/Tm Tech: _____
 Sep2 DT/Tm Tech: _____
 Prep Tech: ,HarrisD

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 KHLDA-1-AC	200.10g,in	200.10g,in		1.5	83.4	100	31B	2030	3/18/08	Beta: 1.37E-03 uCi/Sa
J8B250152-1-SAMP 02/22/2008 10:24										Alpha: 1.32E-03 uCi/Sa
9 KHMVX-1-AA-B	200.50g,in	200.50g,in			0.3					Beta:
J8B260000-324-BLK 02/21/2008 12:46										Alpha:
10 KHMVX-1-AC-C	200.30g,in	200.30g,in			0.5					Beta:
J8B260000-324-LCS 02/21/2008 12:46										Alpha:

Comments: *PH20. KHEEX reduced due to screening. Out 3/14/08*

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

Client	RDL	UCL	RPD	Decay to SaDt	Blk Subst.	Sci. Not.	ODRs
KHEER1AA-SAMP BETA	4.00E+00			Y	N	Y	B
KHMVX1AA-BLK BETA	4			Y	N	Y	B
KHMVX1AC-LCS SP-90		130	20	Y	N	Y	B

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

Richland Wa. Page 2

WO Cnt: 10
 Prep_SamplePrep v4.8.32

3/14/2008 9:23:03 AM

Sample Preparation/Analysis

Balance Id:1120482733

BC Gross Beta PpRC5014
S8 Gross Beta by GPC using Sr/Y-90 curve
51 CLIENT: HANFORD

Pipet #:

AnalysDueDate: 04/04/2008

Sep1 DT/Tm Tech:

pCi/L

Sep2 DT/Tm Tech:

Batch: 8057324
SEQ Batch, Test: None

Prep Tech: ,HarrisD



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

Approved By

Date:

ISV - Insufficient Volume for Analysis

WO Cnt: 10
Prep_SamplePrep v4.8.32

Page 3

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2

TAL Richland
Richland Wa.

pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

3/25/2008 5:41:31 PM

ICOC Fraction Transfer/Status Report

ByDate: 3/26/2007, 3/30/2008, Batch: '8057324', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
8057324				
AC	Rev1C	HarrisD	3/14/2008 9:10:56	
SC		wagarr	IsBatched 2/26/2008 3:37:21 PM	ICOC_RADCALC v4.8.32
SC		HarrisD	InPrep 3/14/2008 9:10:56 AM	RICH-RC-5017 Revision 6
SC		BockJ	InPrep2 3/17/2008 12:15:21 PM	RICH-RC-5014 REVISION 7
SC		BockJ	Prep2C 3/18/2008 3:54:27 PM	RICH-RC-5014 REVISION 7
SC		DAWKINSO	InCnt1 3/18/2008 4:29:36 PM	RICH-RD-0003 REVISION 5
SC		DAWKINSO	CalcC 3/18/2008 10:05:16 PM	RICH-RD-0003 REVISION 5
SC		antonsonl	Rev1C 3/25/2008 5:41:20 PM	RICH-RC-0002 REV 8
AC		BockJ	3/17/2008 12:15:21	
AC		BockJ	3/18/2008 3:54:27 PM	
AC		DAWKINSO	3/18/2008 4:29:36 PM	REVISION 5
AC		DAWKINSO	3/18/2008 10:05:16	
AC		antonsonl	3/25/2008 5:41:20 PM	

AC: Accepting Entry; SC: Status Change

TAL Richland
Richland Wa.

4/9/2008 3:19:41 PM Balance Id:1120482733,E32905
 Sample Preparation/Analysis
 CL Sr-90 Prp/SepRCS006(5071) Pipet #: _____
 Pacific Northwest National Laboratory TL Sr-85 by NaI and Sr-90 by GPC 7 day ingrowth
 Pacific Northwest National Lab 51 CLIENT: HANFORD
 AnalyzeDate: 04/04/2008
 Batch: 8057362 WATER PM, Quote: SS, 57671
 SEQ Batch, Test: None

Prep Tech: ManisD
 Sep1 DT/Tm Tech: 04/01/2008 10:13,ManisD
 Sep2 DT/Tm Tech: 04/09/2008 09:05,ManisD

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 KHA76-1-AC	1000.00g,in		SRTB15997	1.5701	1.5	23.2	100	SA	0915	4/1/08	
J8B190276-11-SAMP			03/25/08,pd	1.9675				SA	0901	4/1/08	
			05/22/07								
04/01/2008-10-13-st; 04/09/2008											
02/17/2008 14:16			AmtRec: 20ML,3XLP,2X4LP	#Containers: 6					Alpha: -1.23E-04 uCi/Sa		Beta: 3.00E-04 uCi/Sa
2 KHA76-1-AD-X	1000.40g,in		SRTB15998	1.904	1.5	22.5	100	SB	0915	4/1/08	
J8B190276-11-DUP			03/25/08,pd	1.9675				SB	0901	4/1/08	
			05/22/07								
04/01/2008-10-13-st; 04/09/2008											
02/17/2008 14:16			AmtRec: 20ML,3XLP,2X4LP	#Containers: 6					Alpha: -1.23E-04 uCi/Sa		Beta: 3.00E-04 uCi/Sa
3 KHLDA-1-AE	1000.20g,in		SRTB15999	1.586	1.5	22.7	100	SC	0915	4/1/08	
J8B250152-1-SAMP			03/25/08,pd	1.9824				SC	0901	4/1/08	
			05/22/07								
04/01/2008-10-13-st; 04/09/2008											
02/22/2008 10:24			AmtRec: VIAL20,4XLP,2X4LP	#Containers: 7					Alpha: 1.32E-03 uCi/Sa		Beta: 1.37E-03 uCi/Sa
4 KHM0V-1-AA-B	1000.10g,in		SRTB16000	1.701	1.5	22.6	100	SD	0915	4/1/08	
J8B260000-362-BLK			03/25/08,pd	1.9824				SD	0901	4/1/08	
			05/22/07								
04/01/2008-10-13-st; 04/09/2008											
02/17/2008 14:16			AmtRec:	#Containers: 1					Alpha:		Beta:

4/9/2008 3:19:42 PM Balance Id:120482733,1120482733,1120
 Sample Preparation/Analysis
 CL Sr-90 Prp/SepRC5006(5071)
 TL Sr-85 by Nal and Sr-90 by GPC 7 day ingrowth
 51 CLIENT: HANFORD
 Sep1 DT/Tm Tech: 04/01/2008 10:13,ManisD
 Sep2 DT/Tm Tech: 04/09/2008 09:05,ManisD

AnalyDueDate: 04/04/2008
 Batch: 8057362
 SEQ Batch, Test: None
 Prep Tech: ,ManisD

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
5 KHM0V-1-AC-C	1000.10g.in	1000.10g.in	SRS01456	1.681	1.5	22.4	100	6A	0915	4/10/08	
J8B260000-362-LCS			0226/08.pd	1.9928				6A	0901	4/10/08	

02/17/2008 14:16
 AmfRec: #Containers: 1
 Scr: Alpha: Beta:

Comments:

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

Client	RDL	pCi/L	LCL:20	UCL:105	RPD:20	Sr-90	RDL:2	pCi/L	LCL:70	UCL:130	RPD:20
KHA761AC-SAMP											
Sr-85											
KHM0V1AA-BLK											
Sr-85											
KHM0V1AC-LCS											
Sr-85											

KHA761AC-SAMP Calc Info:
 Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
 KHM0V1AA-BLK:
 Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
 KHM0V1AC-LCS:
 Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

ICOC Fraction Transfer/Status Report

ByDate: 4/12/2007, 4/16/2008, Batch: '8057362', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
8057362				
AC	Rev1C	HarrisD	3/27/2008 1:23:39 PM	
SC		wagarr	IsBatched 2/26/2008 3:37:21 PM	ICOC_RADCALC v4.8.32
SC		HarrisD	InPrep 3/27/2008 1:23:39 PM	RICH-RC-5016 Revision 7
SC		HarrisD	Prep1C 3/27/2008 1:31:58 PM	RICH-RC-5016 REVISION 7
SC		ManisD	Sep1C 4/1/2008 1:38:41 PM	RICH-RC-5006 REV 7
SC		ClarkR	InCnt1 4/1/2008 1:42:21 PM	RICH-RD-0007 REVISION 6
SC		DAWKINSO	Cnt1C 4/1/2008 10:02:49 PM	RICH-RD-0007 REVISION 6
SC		ManisD	InSep2 4/2/2008 7:35:21 AM	RICH-RC-5071 REV 5
SC		ManisD	Sep2C 4/9/2008 3:22:38 PM	RICH-RC-5071 REV 5
SC		DAWKINSO	InCnt2 4/9/2008 3:53:27 PM	RICH-RD-0003 REVISION 5
SC		ClarkR	CalcC 4/11/2008 11:23:37 AM	RICH-RD-0003 REVISION 5
SC		nortonj	Rev1C 4/11/2008 12:20:52 PM	RICH-RC-0002 REV 8
AC		HarrisD	3/27/2008 1:31:58 PM	
AC		ManisD	4/1/2008 1:38:41 PM	
AC		ClarkR	4/1/2008 1:42:21 PM	
AC		DAWKINSO	4/1/2008 10:02:49 PM	
AC		ManisD	4/2/2008 7:35:21 AM	
AC		ManisD	4/9/2008 3:22:38 PM	
AC		DAWKINSO	4/9/2008 3:53:27 PM	
AC		ClarkR	4/11/2008 11:23:37	
AC		nortonj	4/11/2008 12:20:52	

AC: Accepting Entry; SC: Status Change

4/4/2008 11:21:56 AM Balance Id:1120482733
 Sample Preparation/Analysis Pipet #:
 BN I-129 Prp/SepRC5025
 TB Gamma by LEPD
 51 CLIENT: HANFORD
 PM, Quote: SS, 57671
 Analyze Date: 04/04/2008
 Batch: 8057326 WATER
 SEQ Batch, Test: None

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 KHA7T-1-AA J8B190276-1-SAMP 02/17/2008 13:05	3868.40g.in	ITA7049 03/26/08 AmitRec: 20ML, 2X4LP #Containers: 3	03/26/08	39.1	100	L2	1133	Alpha: -1.36E-03 uCi/Sa Beta: -1.31E-04 uCi/Sa	Harris	4/8/08
2 KHA7T-1-AC-X J8B190276-1-DUP 02/17/2008 13:05	3883.90g.in	ITA7050 03/26/08 AmitRec: 20ML, 2X4LP #Containers: 3	03/26/08	37.3		L4	1134	Alpha: -1.36E-03 uCi/Sa Beta: -1.31E-04 uCi/Sa		
3 KHA7V-1-AA J8B190276-2-SAMP 02/17/2008 09:27	3866.90g.in	ITA7051 03/26/08 AmitRec: 20ML, 2X4LP #Containers: 3	03/26/08	37.1		L5	1135	Alpha: -1.36E-03 uCi/Sa Beta: -1.31E-04 uCi/Sa		
4 KHA7W-1-AA J8B190276-3-SAMP 02/17/2008 08:24	3883.70g.in	ITA7052 03/26/08 AmitRec: 20ML, 2X4LP #Containers: 3	03/26/08	37.8		L2	1131	Alpha: 3.65E-05 uCi/Sa Beta: -1.31E-04 uCi/Sa		4/8/08
5 KHA7X-1-AA J8B190276-4-SAMP 02/17/2008 09:11	3857.00g.in	ITA7053 03/26/08 AmitRec: 20ML, 2X4LP #Containers: 3	03/26/08	36.5		L4	1132	Alpha: 4.32E-04 uCi/Sa Beta: 1.79E-03 uCi/Sa		
6 KHA70-1-AA J8B190276-5-SAMP 02/17/2008 09:11	3770.70g.in	ITA7054 03/26/08 AmitRec: 20ML, 2X4LP #Containers: 3	03/26/08	37.3		L5	1133	Alpha: -9.67E-04 uCi/Sa Beta: 6.54E-04 uCi/Sa		
7 KHA71-1-AA J8B190276-6-SAMP 02/17/2008 12:03	3846.50g.in	ITA7055 03/26/08 AmitRec: 20ML, 2X4LP #Containers: 3	03/26/08	36.3		L2	1119	Alpha: -1.16E-05 uCi/Sa Beta: -4.79E-04 uCi/Sa		4/8/08

4/4/2008 11:21:58 AM Balance Id:1120482733
 384868, Pacific Northwest National Laboratory, BN I-129 Prp/SepRC5025 Pipet #:
 Pacific Northwest National Lab TB Gamma by LEPD
 AnalytDueDate: 04/04/2008 51 CLIENT: HANFORD
 Batch: 8057326 WATER PM, Quote: SS, 57671
 SEQ Batch, Test: None

Work Order, Lot, Sample Date Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 KHA72-1-AA	3859.00g,in	ITA7056	03/26/08	36.9	100	L4	1520	4/8/08		
J8B190276-7-SAMP 02/17/2008 10:19		AmiRec: 20ML,2X4LP	#Containers: 3					Alpha: -2.31E-04 uCi/Sa		Beta: 3.06E-04 uCi/Sa
9 KHA73-1-AA	3807.80g,in	ITA7057	03/26/08	38.7		L5	1521			
J8B190276-8-SAMP 02/17/2008 13:38		AmiRec: 20ML,2X4LP	#Containers: 3					Alpha: 5.27E-04 uCi/Sa		Beta: -2.19E-04 uCi/Sa
10 KHA74-1-AA	3731.80g,in	ITA7058	03/26/08	36.0		L2	1711	4/8/08		
J8B190276-9-SAMP 02/17/2008 09:15		AmiRec: 20ML,2X4LP	#Containers: 3					Alpha: 1.13E-04 uCi/Sa		Beta: 7.41E-04 uCi/Sa
11 KHA75-1-AA	3870.00g,in	ITA7059	03/26/08	37.3		L4	1712			
J8B190276-10-SAMP 02/17/2008 09:31		AmiRec: 20ML,2X4LP	#Containers: 3					Alpha: 1.56E-03 uCi/Sa		Beta: 1.09E-03 uCi/Sa
12 KHA76-1-AA	3844.60g,in	ITA7060	03/26/08	37.2		L5				
J8B190276-11-SAMP 02/17/2008 14:16		AmiRec: 20ML,3XLP,2X4LP	#Containers: 6					Alpha: -1.23E-04 uCi/Sa		Beta: 3.00E-04 uCi/Sa
13 KHLDA-1-AD	3913.10g,in	ITA7061	03/26/08	37.8		L2	1857			
J8B250152-1-SAMP 02/22/2008 10:24		AmiRec: VIAL20,4XLP,2X4LP	#Containers: 7					Alpha: 1.32E-03 uCi/Sa		Beta: 1.37E-03 uCi/Sa
14 KHMV5-1-AA-B	3962.40g,in	ITA7062	03/26/08	37.7		L4	1857			
J8B260000-326-BLK 02/17/2008 13:05		AmiRec:	#Containers: 1					Alpha:		Beta:

4/4/2008 11:21:59 AM Balance Id:1120482733
 Sample Preparation/Analysis
 BN I-129 Prp/SepRC5025
 TB Gamma by LEPD
 51 CLIENT: HANFORD
 Analyte: I-129
 Batch: 8057326
 SEQ Batch, Test: None
 Total Amt/Unit: 3946.30g.in
 Initial Aliquot Amt/Unit: 100
 QC Tracer Prep Date: 03/03/08
 Dish Size: 36.9
 Ppt or Geometry: 15
 Detector Id: 1858
 Count On | Off (24hr) Circle
 CR Analyst, Init/Date: HarrisD 4/8/08

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
15 KHMV5-1-AC-C	3946.30g.in		03/03/08	36.9	15	100	1858		HarrisD 4/8/08	

J8B260000-326-LCS
 02/17/2008 13:05
 #Containers: 1
 Amt/Rec: 3946.30g.in
 Beta:
 Alpha:
 Scr:

Comments: OWA 4/4/08

All Clients for Batch: Pacific Northwest National Laboratory SS, 57671
 384868, Pacific Northwest National Laboratory
 KHA7T1AA-SAMP Constituent List:
 I-129 RDL:1.00E+00 pCi/L LCL: UCL: RPD:
 KHMV51AA-BLK:
 I-129 RDL:1.00E+00 pCi/L LCL: UCL: RPD:
 KHMV51AC-LCS:
 I-129 RDL:5 pCi/L LCL:70 UCL:130 RPD:20
 KHA7T1AA-SAMP Calc Info:
 Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
 KHMV51AA-BLK:
 Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
 KHMV51AC-LCS:
 Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By: _____ Date: _____

4/9/2008 11:34:03 AM

ICOC Fraction Transfer/Status Report

ByDate: 4/10/2007, 4/14/2008, Batch: '8057326', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
8057326				
AC	Rev1C	HarrisD	4/4/2008 10:54:17	
SC		wagarr	IsBatched	2/26/2008 3:37:21 PM
SC		HarrisD	InPrep	4/4/2008 10:54:17 AM
SC		HarrisD	Prep1C	4/4/2008 11:22:01 AM
SC		BostedD	InPrep2	4/4/2008 12:55:35 PM
SC		BostedD	Prep2C	4/8/2008 6:56:54 AM
SC		ClarkR	InCnt1	4/8/2008 8:49:06 AM
SC		DAWKINSO	CalcC	4/8/2008 8:17:26 PM
SC		nortonj	Rev1C	4/9/2008 11:33:51 AM
AC		HarrisD	4/4/2008 11:22:01	ICOC_RADCALC v4.8.32
AC		BostedD	4/4/2008 12:55:35 PM	RICH-RC-5021 Revision 5
AC		BostedD	4/8/2008 6:56:54 AM	RICH-RC-5017 REVISION 6
AC		ClarkR	4/8/2008 8:49:06 AM	RICHRC5025 REVISION 4
AC		DAWKINSO	4/8/2008 8:17:26 PM	RICH-RD-0007 REVISION 6
AC		norlorj	4/9/2008 11:33:51	RICH-RD-0007 REVISION 6
				RICH-RC-0002 REV 8

AC: Accepting Entry; SC: Status Change

3/12/2008 10:46:52 AM Balance Id: 1120482733
 384868, Pacific Northwest National Laboratory FP Tc-99 Prp/SepRC5065
 Pacific Northwest National Lab S5 Technetium-99 by Liquid Scint
 51 CLIENT: HANFORD
 Analyte: WATER
 Batch: 8057365 PM, Quote: SS, 57671
 SEQ Batch, Test: None
 Pipet #: _____
 Sep1 DT/Tm Tech: _____
 Sep2 DT/Tm Tech: _____
 Prep Tech: ,HarrisD

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 KHGFG-1-AD	124.90g.in		124.90g.in	124.90g						
J8B210310-1-SAMP 02/21/2008 07:42					TCSG1994 02/18/08.pd 01/10/06.f					Beta: 5.86E-04 uCi/Sa
2 KHGFG-1-AG-S	125.00g.in		125.00g.in	125.00g						Beta: 5.86E-04 uCi/Sa
J8B210310-1-MS 02/21/2008 07:42										Beta: 5.86E-04 uCi/Sa
3 KHGG8-1-AD	125.10g.in		125.10g.in	125.10g						
J8B210310-2-SAMP 02/21/2008 10:30										Beta: 1.77E-04 uCi/Sa
4 KHGG8-1-AG-X	125.00g.in		125.00g.in	125.00g						
J8B210310-2-DUP 02/21/2008 10:30										Beta: 1.77E-04 uCi/Sa
5 KHM07-1-AA-B	125.10g.in		125.10g.in	125.10g						
J8B260000-365-BLK 02/21/2008 10:30										Beta:
6 KHM07-1-AC-C	125.00g.in		125.00g.in	125.00g	TCSE2208 02/18/08.pd 01/10/06.f					Beta:
J8B260000-365-LCS 02/21/2008 10:30										Beta:
7 KHM07-1-AD-BN										
J8B260000-365-IBLK 02/21/2008 10:30										Beta:

3/12/2008 10:46:53 AM

Sample Preparation/Analysis

Balance Id:

FP Tc-99 Prip/SepRC5065
S5 Technetium-99 by Liquid Scint
SI CLIENT: HANFORD

Pipet #:

Analyte Due Date: 04/07/2008

Sep1 DT/Tm Tech:

Batch: 8057365

pCi/L

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech:



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:
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Comments:

OK. OVA 3/2/08

All Clients for Batch:

384868, Pacific Northwest National Laboratory Pacific Northwest National Lab, SS, 57671

KHGFGLAD-SAMP Constituent List:

Tc-99 RDL:15 pCi/L LCL:70 UCL:130 RPD:20

KHGFGLAG-MS Constituent List:

KHM071AA-BLK:

Tc-99 RDL:15 pCi/L LCL: UCL: RPD:

KHM071AC-LCS:

Tc-99 RDL:15 pCi/L LCL:70 UCL:130 RPD:20

KHM071AD-IBLK:

Tc-99 RDL:15 pCi/L LCL: UCL: RPD:

KHGFGLAD-SAMP Calc Info:

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

KHGFGLAG-MS Calc Info:

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

KHM071AA-BLK:

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

KHM071AC-LCS:

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

KHM071AD-IBLK:

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

Approved BY

Date:

3/27/2008 1:54:21 PM

ICOC Fraction Transfer/Status Report

ByDate: 3/28/2007, 4/1/2008, Batch: '8057365', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
8057365				
AC	Rev1C	HarrisD	3/12/2008 10:39:23	
SC		wagarr	IsBatched 2/26/2008 3:37:21 PM	ICOC_RADCALC v4.8.32
SC		HarrisD	InPrep 3/12/2008 10:39:23 AM	RICH-RC-5017 Revision 6
SC		ManisD	Sep1C 3/13/2008 3:48:14 PM	RICH-RC-5065 REV 6
SC		DAWKINSO	InCnt1 3/13/2008 4:03:52 PM	RICH-RD-0001 REVISION 4
SC		ClarkR	CalcC 3/14/2008 2:26:16 PM	RICH-RD-0001 REVISION 4
SC		nortonj	Rev1C 3/27/2008 1:53:10 PM	RICH-RC-0002 REV 8
AC		ManisD	3/13/2008 3:48:14 PM	
AC		DAWKINSO	3/13/2008 4:03:52 PM	
AC		ClarkR	3/14/2008 2:26:16 PM	
AC		nortonj	3/27/2008 1:53:10 PM	

AC: Accepting Entry; SC: Status Change

2/25/2008 4:15:54 PM **Sample Preparation/Analysis** Balance Id: _____ Pipet #: _____
 384868, Pacific Northwest National Laboratory 88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION
 Pacific Northwest National Lab EA Chromium, Hexavalent (7196A)
 AnalyDueDate: 04/07/2008 5I CLIENT: HANFORD Sep1 DT/Tm Tech: _____
 Batch: 8056402 WATER mg/L PM, Quote: SS, 57671 Sep2 DT/Tm Tech: _____
 SEQ Batch, Test: None All Tests: 8056402 88EA, Prep Tech: _____

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
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1 KHGEF-1-AA
 J8B210307-1-SAMP
 02/21/2008 08:34
 AmtRec: VIAL20,500G #Containers: 2
 Scr: Alpha: Beta:

2 KHGEF-1-AC-S
 J8B210307-1-MS
 02/21/2008 08:34
 AmtRec: VIAL20,500G #Containers: 2
 Scr: Alpha: Beta:

3 KHGEF-1-AD-D
 J8B210307-1-MSD
 02/21/2008 08:34
 AmtRec: VIAL20,500G #Containers: 2
 Scr: Alpha: Beta:

4 KHGEF-1-AE-X
 J8B210307-1-DUP
 02/21/2008 08:34
 AmtRec: VIAL20,500G #Containers: 2
 Scr: Alpha: Beta:

5 KHLEN-1-AA-B
 J8B250000-402-BLK
 02/21/2008 08:34
 AmtRec: #Containers: 1
 Scr: Alpha: Beta:

6 KHLEN-1-AC-C
 J8B250000-402-LCS
 02/21/2008 08:34
 AmtRec: #Containers: 1
 Scr: Alpha: Beta:

2/25/2008 4:15:55 PM Balance Id:
Sample Preparation/Analysis
 88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION
 EA Chromium, Hexavalent (7196A)
 5I CLIENT: HANFORD

Analyte Due Date: 04/07/2008 Pipet #:
 Batch: 8056402 Sep1 DT/Tm Tech:
 SEQ Batch, Test: None Sep2 DT/Tm Tech:
 mg/L Prep Tech:

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

Comments:

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

KHGEFLAA-SAMP Constituent List:

Constituent	Uncert Level (#s):	Decay to SaDt:	Blk Subt.:	Sci. Not.:	ODRs:
KHGEFLAA-SAMP Calc Info:					
Uncert Level (#s):	2	Decay to SaDt: Y	Blk Subt.: N	Sci. Not.: Y	ODRs: B
KHGEFLAC-MS Calc Info:					
Uncert Level (#s):	2	Decay to SaDt: Y	Blk Subt.: N	Sci. Not.: Y	ODRs: B
KHGEFLAD-MSD:					
Uncert Level (#s):	2	Decay to SaDt: Y	Blk Subt.: N	Sci. Not.: Y	ODRs: B
KHLEN1AA-BLK:					
Uncert Level (#s):	2	Decay to SaDt: Y	Blk Subt.: N	Sci. Not.: Y	ODRs: B
KHLEN1AC-LCS:					
Uncert Level (#s):	2	Decay to SaDt: Y	Blk Subt.: N	Sci. Not.: Y	ODRs: B

Approved By: _____ Date: _____