

Analytical Data Package Prepared For

CH2M Hill Plateau Remediation

Radiochemical Analysis By

TestAmerica Inc TARL

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

Data Package Contains _____ Pages

Report Nbr: 58523

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W06643	S14-012	B2TJ25	J3L170433-1	M2PHH1AA	9M2PHH10	4006018
		B2THX3	J3L180430-1	M2PTV1AA	9M2PTV10	4006018
		B2TKH8	J3L180430-2	M2PTW1AA	9M2PTW10	4006013
		B2TKH8	J3L180430-2	M2PTW1AD	9M2PTW10	4006019
		B2TKH8	J3L180430-2	M2PTW1AE	9M2PTW10	4006018
		B2TKJ3	J3L180430-3	M2PTX1AC	9M2PTX10	4006022
		B2TJ28	J3L180430-4	M2PT01AA	9M2PT010	4006013
		B2TJ28	J3L180430-4	M2PT01AC	9M2PT010	4006019
		B2TJ28	J3L180430-4	M2PT01AD	9M2PT010	4006018
		B2TK65	J3L180430-5	M2PT11AC	9M2PT110	4006022
		B2TJ33	J3L180430-6	M2PT21AA	9M2PT210	4006019
		B2TJ33	J3L180430-6	M2PT21AC	9M2PT210	4006018
		B2TJ33	J3L180430-6	M2PT21AD	9M2PT210	4006013
		B2TK69	J3L180430-7	M2PT31AC	9M2PT310	4006022
		B2TKD5	J3L200405-1	M2P7J1AA	9M2P7J10	4006018

Comments:

Report Nbr: 58523

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH		
W06643	S14-012	B2THX7	J3L200405-2	M2P7K1AA	9M2P7K10	4006018		
		B2THX9	J3L200405-3	M2P7L1AA	9M2P7L10	4006018		
		B2THY2	J3L200405-4	M2P7M1AA	9M2P7M10	4006018		
		B2TKK6	J3L200405-5	M2P7P1AA	9M2P7P10	4006018		
		B2TL77	J3L200406-1	M2P7R1AA	9M2P7R10	4006019		
	I14-008		B2TL66	J3L200406-2	M2P7T1AA	9M2P7T10	4006019	
			B2TL72	J3L200406-3	M2P7V1AA	9M2P7V10	4006019	
			B2RVR2	J3L310410-1	M2Q4X1AA	9M2Q4X10	3365014	
			B2RVR2	J3L310410-1	M2Q4X1AC	9M2Q4X10	4006021	
			B2RVR2	J3L310410-1	M2Q4X1AD	9M2Q4X10	4006014	
I14-005		B2RVR2	J3L310410-1	M2Q4X1AE	9M2Q4X10	4006015		
		B2RVR2	J3L310410-1	M2Q4X1AF	9M2Q4X10	4006017		
		B2RVR2	J3L310410-1	M2Q4X1AG	9M2Q4X10	4006016		
		B2RVR2	J3L310410-1	M2Q4X1AH	9M2Q4X10	4006020		
		B2RVR1	J3L310410-2	M2Q401AA	9M2Q4010	4006019		
		B2RVK7	J4A020426-1	M2Q911AA	9M2Q9110	4006019		
		B2TKR5	J4A020427-1	M2Q921AA	9M2Q9210	4006018		
		I14-011		B2TKR5	J4A020427-1	M2Q921AA	9M2Q9210	4006018
				B2TKR5	J4A020427-1	M2Q921AA	9M2Q9210	4006018
				B2TKR5	J4A020427-1	M2Q921AA	9M2Q9210	4006018
B2TKR5	J4A020427-1			M2Q921AA	9M2Q9210	4006018		
B2TKR5	J4A020427-1			M2Q921AA	9M2Q9210	4006018		

Comments:



Certificate of Analysis

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

January 24, 2014

Attention: Scot Fitzgerald

SAF Number	:	I14-005, I14-008, I14-011, S14-012
Date SDG Closed	:	December 31, 2013
Number of Samples	:	Twenty (20)
Sample Type	:	Water
SDG Number	:	W06643
Data Deliverable	:	30-Day / Summary

CASE NARRATIVE

I. Introduction

Between December 16, 2013 and December 31, 2013, twenty water samples were received at TestAmerica (TARL). Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the CH2M specific IDs:

<u>CH2M ID#</u>	<u>TARL ID#</u>	<u>DATE OF RECEIPT</u>	<u>MATRIX</u>
B2TJ25	M2PHH	12/16/13	WATER
B2THX3	M2PTV	12/17/13	WATER
B2TKH8	M2PTW	12/17/13	WATER
B2TKJ3	M2PTX	12/17/13	WATER
B2TJ28	M2PT0	12/17/13	WATER
B2TK65	M2PT1	12/17/13	WATER
B2TJ33	M2PT2	12/17/13	WATER
B2TK69	M2PT3	12/17/13	WATER
B2TKD5	M2P7J	12/19/13	WATER
B2THX7	M2P7K	12/19/13	WATER
B2THX9	M2P7L	12/19/13	WATER
B2THY2	M2P7M	12/19/13	WATER

CH2M Hill Plateau Remediation Company
January 24, 2014

B2TKK6	M2P7P	12/19/13	WATER
B2TL77	M2P7R	12/19/13	WATER
B2TL66	M2P7T	12/19/13	WATER
B2TL72	M2P7V	12/19/13	WATER
B2RVR2	M2Q4X	12/31/13	WATER
B2RVR1	M2Q40	12/31/13	WATER
B2RVK7	M2Q91	12/30/13	WATER
B2TKR5	M2Q92	12/30/13	WATER

II. Sample Receipt

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

During the monthly phone call on November 13, 2013 TARL was notified that all groundwater samples received will continue to have a 30 day turnaround time regardless if the chain of custodies have a turn around time that is greater than 30 days.

III. Analytical Results/Methodology

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

The requested analyses were:

- Alpha Spectroscopy**
Thorium-228,230,232 by method RL-ALP-005
- Gas Proportional Counting**
Gross Alpha by method RL-GPC-001
Gross Beta by method RL-GPC-001
Strontium-90 by method RL-GPC-003
- Gamma Spectroscopy**
Gamma Spec by method RL-GAM-001
Iodine-129 (LL) by method RL-GAM-002
- Liquid Scintillation Counting**
Carbon-14 by method RL-LSC-008
Technetium-99 by TEVA method RL-LSC-014
Tritium by method RL-LSC-005
Mid Level Tritium by method RL-LSC-005
- 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.

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QC and sample results are reported in the same units.

V. Comments

Alpha Spectroscopy

Thorium-228,230,232 by method RL-ALP-005:

The RPD on the duplicate sample (B2TKH8) for Th-230 and Th-232 is more than 20%. The sample and duplicate results are less than the CRDL. Except as noted, the LCS, batch blank, sample and sample duplicate (B2TKH8) results are within contractual requirements.

Gas Proportional Counting

Gross Alpha by method RL-GPC-001:

Sample B2RVR2 and B2RVR2 DUP were analyzed with reduced aliquots based on weight screen results. The RPD on the duplicate sample (B2RVR2) is more than 20%. The sample and duplicate results are less than the CRDL. Except as noted, the LCS, batch blank, sample and sample duplicate (B2RVR2) results are within contractual requirements.

Gross Beta by method RL-GPC-001:

Sample B2RVR2 and B2RVR2 DUP were analyzed with slightly reduced aliquots based on weight screen results. Except as noted, the LCS, batch blank, sample and sample duplicate (B2RVR2) results are within contractual requirements.

Strontium-90 by method RL-GPC-003:

The LCS, batch blank, samples and sample duplicate (B2RVR2) results are within contractual requirements.

Gamma Spectroscopy

Gamma Spec by method RL-GAM-001:

There was insufficient volume for a duplicate. Sample B2RVR2 was recounted on a different detector for the duplicate (B2RVR2 DUP). Except as noted, the LCS, batch blank, sample and sample duplicate (B2RVR2) results are within contractual requirements.

Iodine-129 (LL) by method RL-GAM-002:

The LCS, batch blank, samples and sample duplicate (B2TJ25) results are within contractual requirements.

Liquid Scintillation Counting

Carbon-14 by method RL-LSC-008:

The LCS, batch blank, samples and sample duplicate (B2TKH8) results are within contractual requirements.

Technetium-99 by TEVA method RL-LSC-014:

The RPD on the duplicate sample (B2RVR2) is more than 20%. The sample and duplicate results are less than the CRDL. Except as noted, the LCS, batch blank, sample, sample duplicate (B2RVR2) and sample matrix spike (B2RVR2) results are within contractual requirements.

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Tritium by method RL-LSC-005:

The LCS, batch blank, samples and sample duplicate (B2RVR2) results are within contractual requirements.

Mid Level Tritium by method RL-LSC-005:

The negative result for samples B2TK65 and B2TK69 indicate sample activity below the subtracted instrument blank. The RPD on the duplicate sample (B2TKJ3) is more than 20%. The sample and duplicate results are less than the CRDL. Except as noted, the LCS, batch blank, samples and sample duplicate (B2TKJ3) results are within contractual requirements.

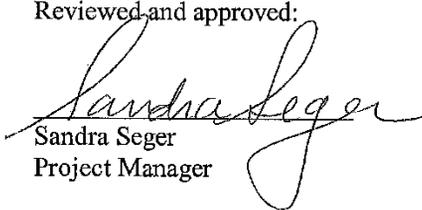
Chemical Analysis

Hexavalent Chromium by EPA method 7196A

The LCS, batch blank, samples, sample duplicate (B2RVR2) sample matrix spike (B2RVR2) and matrix spike duplicate (B2RVR2) results are within contractual requirements.

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

Reviewed and approved:


Sandra Seger
Project Manager

Problem and Discrepancy Report**TARL****SDG W06643****2/13/14**

1. The data package has the following issues:

- a) Sample B2TJ28, B2TJ33, and B25KH8 are missing Thorium-234 in the hardcopy and electronic data.

Resolution: *Provide correction.*

Lab Response: TARL analyzes for Th-228, Th-230 & Th-232. TARL does not analyze for Th-234.

Please correct the issues and resubmit the hardcopy and electronic data package.

Provide a resolution to each issue noted on the report
Page 1 of 1

Drinking Water Method Cross References

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

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

Uncertainty Estimation

TestAmerica Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, $R = \text{constants} * f(x,y,z,...)$. 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 $(\text{Result}/\text{Expected})-1$ as defined by ANSI N13.30.
COC No	Chain of Custody Number assigned by the Client or TestAmerica.
Count Error (#s)	Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.
Total Uncert (#s) <i>u_c</i> - Combined Uncertainty.	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, <i>u_c</i> the combined uncertainty. The uncertainty is absolute and in the same units as the result.
(#s), Coverage Factor	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
CRDL (RL)	Contractual Required Detection Limit as defined in the Client's Statement Of Work or TestAmerica "default" nominal detection limit. Often referred to the reporting level (RL)
Lc	Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. $Lc = (1.645 * \sqrt{2 * (\text{BkgndCnt}/\text{BkgndCntMin}) / \text{SCntMin}}) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol}) * \text{IngrFct})$. For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero.
Lot-Sample No	The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.
MDC MDA	Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. $MDC = (4.65 * \sqrt{(\text{BkgndCnt}/\text{BkgndCntMin}) / \text{SCntMin}} + 2.71 / \text{SCntMin}) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol}) * \text{IngrFct})$. For LSC methods the batch blank is used as a measure of the background variability.
Primary Detector	The instrument identifier associated with the analysis of the sample aliquot.
Ratio U-234/U-238	The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.
Rst/MDC	Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Rst/TotUncert	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 = $(S-D)/[\sqrt{(\text{TPUs}^2 + \text{TPUd}^2)}]$ 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.

1/24/2014 10:28:34 AM

TestAmerica Inc Report

Lab Code: TARL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 58523 File Name: h:\Report\bld\Fead\Rad\W06643.Edd, h:\Report\bld\Fead\Rad\58523.Edd

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:		
9M2P7J10	B2TKD5		MW6-SBB-A1	S14-012	W06643					12/19/2013 07:15		
Batch 4006018	Analyte I-129	15046-84-1	Result 4.03E-02	Unit pCi/L	CntU 2S 1.2E-01	TotU 2S 1.2E-01	Qual U	MDA 2.26E-01	Method 1129LL_SEP_LEPS	Alq Size 3.7196E+00	Unit L	Analy Date/Time Act 01/21/2014 06:58

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:		
9M2P7K10	B2THX7		MW6-SBB-A1	S14-012	W06643					12/19/2013 11:36		
Batch 4006018	Analyte I-129	15046-84-1	Result 2.64E+00	Unit pCi/L	CntU 2S 4.2E-01	TotU 2S 4.2E-01	Qual U	MDA 1.84E-01	Method 1129LL_SEP_LEPS	Alq Size 3.8259E+00	Unit L	Analy Date/Time Act 01/21/2014 06:59

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:		
9M2P7L10	B2THX9		MW6-SBB-A1	S14-012	W06643					12/19/2013 10:44		
Batch 4006018	Analyte I-129	15046-84-1	Result 2.36E+00	Unit pCi/L	CntU 2S 5.2E-01	TotU 2S 5.2E-01	Qual U	MDA 3.03E-01	Method 1129LL_SEP_LEPS	Alq Size 3.753E+00	Unit L	Analy Date/Time Act 01/21/2014 11:59

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:		
9M2P7M10	B2THY2		MW6-SBB-A1	S14-012	W06643					12/19/2013 08:42		
Batch 4006018	Analyte I-129	15046-84-1	Result 3.02E+00	Unit pCi/L	CntU 2S 4.3E-01	TotU 2S 4.3E-01	Qual U	MDA 1.80E-01	Method 1129LL_SEP_LEPS	Alq Size 3.7575E+00	Unit L	Analy Date/Time Act 01/21/2014 12:00

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:		
9M2P7P10	B2TKK6		MW6-SBB-A1	S14-012	W06643					12/19/2013 08:42		
Batch 4006018	Analyte I-129	15046-84-1	Result 2.78E+00	Unit pCi/L	CntU 2S 4.5E-01	TotU 2S 4.5E-01	Qual U	MDA 2.06E-01	Method 1129LL_SEP_LEPS	Alq Size 3.7072E+00	Unit L	Analy Date/Time Act 01/21/2014 19:09

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:		
9M2P7R10	B2TL77		MW6-SBB-A1	I14-008	W06643					12/18/2013 12:10		
Batch 4006019	Analyte C-14	14762-75-5	Result 1.21E+01	Unit pCi/L	CntU 2S 8.0E+00	TotU 2S 9.4E+00	Qual U	MDA 1.82E+01	Method C14_LSC	Alq Size 7.50E-02	Unit L	Analy Date/Time Act 01/08/2014 03:56

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:		
9M2P7T10	B2TL66		MW6-SBB-A1	I14-008	W06643					12/18/2013 12:10		
Batch 4006019	Analyte C-14	14762-75-5	Result 8.72E+00	Unit pCi/L	CntU 2S 7.9E+00	TotU 2S 9.3E+00	Qual U	MDA 1.82E+01	Method C14_LSC	Alq Size 7.52E-02	Unit L	Analy Date/Time Act 01/08/2014 04:59

TestAmerica Inc
 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.

1/24/2014 10:28:34 AM

TestAmerica Inc Report

Lab Code: TARL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 58523 File Name: h:\Report\bld\Feed\Rad\W06643.Edd, h:\Report\bld\Feed\Rad\58523.Ed

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%*:	Distilled Volume	Sample On Date:	Collection Date:	
9M2P7V10	B2TL72		MW6-SBB-A1	114-008	W06643				12/18/2013 09:30		
Batch	Analyste	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	
4006019	C-14	14762-75-5	2.11E+01	pCi/L	8.2E+00	9.7E+00	U	1.82E+01	100.0	C14_LSC	
										Alq Size	
											7.52E-02
										Unit	L
										Analy Date/Time	01/08/2014 06:03
										Act	I
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%*:	Distilled Volume	Sample On Date:	Collection Date:	
9M2PHH10	B2TJ25		MW6-SBB-A1	S14-012	W06643				12/13/2013 12:08		
Batch	Analyste	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	
4006018	I-129	15046-84-1	3.90E+00	pCi/L	6.1E-01	6.1E-01	U	2.39E-01	97.0	I129LL_SEP_LEPS	
										Alq Size	3.893E+00
										Unit	L
										Analy Date/Time	01/20/2014 11:01
										Act	I
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%*:	Distilled Volume	Sample On Date:	Collection Date:	
9M2PT010	B2TJ28		MW6-SBB-A1	S14-012	W06643				12/17/2013 09:05		
Batch	Analyste	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	
4006019	C-14	14762-75-5	-3.62E+00	pCi/L	7.5E+00	8.9E+00	U	1.83E+01	100.0	C14_LSC	
										Alq Size	7.51E-02
										Unit	L
										Analy Date/Time	01/08/2014 01:49
										Act	I
4006018	I-129	15046-84-1	1.83E-02	pCi/L	9.8E-02	9.8E-02	U	1.71E-01	96.8	I129LL_SEP_LEPS	
										Alq Size	3.8587E+00
										Unit	L
										Analy Date/Time	01/20/2014 19:01
										Act	I
4006013	Th-228	14274-82-9	3.23E-01	pCi/L	2.3E-01	2.3E-01	U	2.12E-01	82.2	THISO_IE_PLATE_	
										Alq Size	2.019E-01
										Unit	L
										Analy Date/Time	01/13/2014 19:43
										Act	I
4006013	Th-230	14269-63-7	3.63E-01	pCi/L	2.3E-01	2.4E-01	U	1.47E-01	82.2	THISO_IE_PLATE_	
										Alq Size	2.019E-01
										Unit	L
										Analy Date/Time	01/13/2014 19:43
										Act	I
4006013	Th-232	TH-232	3.36E-02	pCi/L	7.3E-02	7.4E-02	U	1.47E-01	82.2	THISO_IE_PLATE_	
										Alq Size	2.019E-01
										Unit	L
										Analy Date/Time	01/13/2014 19:43
										Act	I
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%*:	Distilled Volume	Sample On Date:	Collection Date:	
9M2PT110	B2TK65		MW6-SBB-A1	S14-012	W06643				12/17/2013 09:05		
Batch	Analyste	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	
4006022	H-3	10028-17-8	-5.01E+01	pCi/L	1.0E+01	2.0E+01	U	2.47E+01	100.0	906.0ML_H3_LSC	
										Alq Size	1.0011E-02
										Unit	L
										Analy Date/Time	01/08/2014 13:29
										Act	I
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%*:	Distilled Volume	Sample On Date:	Collection Date:	
9M2PT210	B2TJ33		MW6-SBB-A1	S14-012	W06643				12/17/2013 10:10		
Batch	Analyste	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	
4006019	C-14	14762-75-5	-2.16E+00	pCi/L	7.5E+00	8.9E+00	U	1.82E+01	100.0	C14_LSC	
										Alq Size	7.51E-02
										Unit	L
										Analy Date/Time	01/08/2014 02:52
										Act	I
4006018	I-129	15046-84-1	3.43E-02	pCi/L	7.9E-02	7.9E-02	U	1.51E-01	94.6	I129LL_SEP_LEPS	
										Alq Size	3.8627E+00
										Unit	L
										Analy Date/Time	01/20/2014 19:02
										Act	I
4006013	Th-228	14274-82-9	7.57E-01	pCi/L	4.1E-01	4.2E-01	U	2.50E-01	82.2	THISO_IE_PLATE_	
										Alq Size	2.008E-01
										Unit	L
										Analy Date/Time	01/13/2014 23:04
										Act	I
4006013	Th-230	14269-63-7	1.47E-01	pCi/L	1.8E-01	1.9E-01	U	2.66E-01	82.2	THISO_IE_PLATE_	
										Alq Size	2.008E-01
										Unit	L
										Analy Date/Time	01/13/2014 23:04
										Act	I
4006013	Th-232	TH-232	-8.53E-03	pCi/L	1.1E-01	1.1E-01	U	2.43E-01	82.2	THISO_IE_PLATE_	
										Alq Size	2.008E-01
										Unit	L
										Analy Date/Time	01/13/2014 23:04
										Act	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 Inc
 rptFeedRadSummaryEdd v3.48

1/24/2014 10:28:34 AM

TestAmerica Inc Report

Lab Code: TARL

FormNbr: R

FormatType: FEAD Version: 05

Rpt Nbr: 58523

File Name: h:\Reportdb\edd\Fead\Rad\W06643.Edd, h:\Reportdb\edd\Fead\Rad\58523.Ed

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%*:	Distilled Volume	Sample On Date:	Collection Date:	
9M2PT310	B2TK69		MW6-SBB-A1	S14-012	W06643					12/17/2013 10:10	
Batch 4006022	Analyte H-3	10028-17-8	Result -4.15E+01	Unit pCi/L	CntU 2S 1.1E+01	TotU 2S 2.0E+01	MDA 2.54E+01	TrcYield 100.0	Method 906.0ML_H3_LSC	Unit L	Analy Date/Time 01/08/2014 13:29

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%*:	Distilled Volume	Sample On Date:	Collection Date:	
9M2PTV10	B2THX3		MW6-SBB-A1	S14-012	W06643					12/17/2013 11:52	
Batch 4006018	Analyte I-129	15046-84-1	Result 2.92E+00	Unit pCi/L	CntU 2S 4.3E-01	TotU 2S 4.3E-01	MDA 1.96E-01	TrcYield 96.2	Method 1129LL_SEP_LEPS	Unit L	Analy Date/Time 01/20/2014 14:28

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%*:	Distilled Volume	Sample On Date:	Collection Date:	
9M2PTW10	B2TKH8		MW6-SBB-A1	S14-012	W06643					12/17/2013 07:00	
Batch 4006019	Analyte C-14	14762-75-5	Result 2.75E+00	Unit pCi/L	CntU 2S 7.7E+00	TotU 2S 9.1E+00	MDA 1.83E+01	TrcYield 100.0	Method C14_LSC	Unit L	Analy Date/Time 01/07/2014 23:42
Batch 4006018	Analyte I-129	15046-84-1	Result 1.34E-04	Unit pCi/L	CntU 2S 9.8E-02	TotU 2S 9.8E-02	MDA 1.79E-01	TrcYield 80.0	Method 1129LL_SEP_LEPS	Unit L	Analy Date/Time 01/20/2014 14:29
Batch 4006013	Analyte Th-228	14274-82-9	Result 3.58E-01	Unit pCi/L	CntU 2S 2.5E-01	TotU 2S 2.5E-01	MDA 2.04E-01	TrcYield 76.4	Method THISO_IE_PLATE_	Unit L	Analy Date/Time 01/13/2014 19:42
Batch 4006013	Analyte Th-230	14269-63-7	Result 7.53E-01	Unit pCi/L	CntU 2S 3.5E-01	TotU 2S 3.6E-01	MDA 1.60E-01	TrcYield 76.4	Method THISO_IE_PLATE_	Unit L	Analy Date/Time 01/13/2014 19:42
Batch 4006013	Analyte Th-232	TH-232	Result 3.34E-02	Unit pCi/L	CntU 2S 8.0E-02	TotU 2S 8.0E-02	MDA 1.82E-01	TrcYield 76.4	Method THISO_IE_PLATE_	Unit L	Analy Date/Time 01/13/2014 19:42

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%*:	Distilled Volume	Sample On Date:	Collection Date:	
9M2PTX10	B2TKJ3		MW6-SBB-A1	S14-012	W06643					12/17/2013 07:00	
Batch 4006022	Analyte H-3	10028-17-8	Result 6.83E+00	Unit pCi/L	CntU 2S 1.2E+01	TotU 2S 2.2E+01	MDA 2.64E+01	TrcYield 100.0	Method 906.0ML_H3_LSC	Unit L	Analy Date/Time 01/08/2014 13:29

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%*:	Distilled Volume	Sample On Date:	Collection Date:	
9M2Q4010	B2RVR1		MW6-SBB-A1	I14-005	W06643					12/31/2013 10:28	
Batch 4006019	Analyte C-14	14762-75-5	Result 1.50E+01	Unit pCi/L	CntU 2S 8.0E+00	TotU 2S 9.5E+00	MDA 1.82E+01	TrcYield 100.0	Method C14_LSC	Unit L	Analy Date/Time 01/08/2014 07:06

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%*:	Distilled Volume	Sample On Date:	Collection Date:	
9M2Q4X10	B2RVR2		MW6-SBB-A1	I14-005	W06643					12/31/2013 10:28	
Batch 4006021	Analyte H-3	10028-17-8	Result 1.47E+03	Unit pCi/L	CntU 2S 1.9E+02	TotU 2S 2.1E+02	MDA 3.30E+02	TrcYield 100.0	Method 906.0_H3_LSC	Unit L	Analy Date/Time 01/13/2014 13:09
Batch 4006014	Analyte ALPHA	12587-46-1	Result 1.12E+00	Unit pCi/L	CntU 2S 1.2E+00	TotU 2S 1.2E+00	MDA 2.05E+00	TrcYield 100.0	Method 9310_ALPHABETA	Unit L	Analy Date/Time 01/09/2014 09:00

TestAmerica Inc
 rpt\FeadRadSummaryEdd 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.

1/24/2014 10:28:35 AM

TestAmerica Inc Report

Lab Code: TARL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 58523 File Name: h:\Report\bldd\Fead\Rad\W06643.Edd, h:\Report\bldd\Fead\Rad\58523.Ed

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:				
4006015	BETA	12587-47-2	3.05E+01	pCi/L	2.2E+00	4.3E+00	2.24E+00	100.0	9310_ALPHABETA	1.964E-01	L	01/13/2014	19:02	I
4006017	BE-7	13966-02-4	-7.61E+00	pCi/L	7.9E+00	7.9E+00	1.25E+01		GAMMA_GS	2.50E+00	L	01/08/2014	10:57	I
4006017	CO-60	10198-40-0	-9.47E-03	pCi/L	1.5E+00	1.5E+00	2.86E+00		GAMMA_GS	2.50E+00	L	01/08/2014	10:57	I
4006017	CS-134	13967-70-9	-5.38E-01	pCi/L	9.9E-01	9.9E-01	1.74E+00		GAMMA_GS	2.50E+00	L	01/08/2014	10:57	I
4006017	CS-137	10045-97-3	-7.68E-01	pCi/L	9.8E-01	9.8E-01	1.59E+00		GAMMA_GS	2.50E+00	L	01/08/2014	10:57	I
4006017	EU-152	14683-23-9	-6.22E-01	pCi/L	2.2E+00	2.2E+00	3.82E+00		GAMMA_GS	2.50E+00	L	01/08/2014	10:57	I
4006017	EU-154	15585-10-1	-8.18E-01	pCi/L	3.3E+00	3.3E+00	6.35E+00		GAMMA_GS	2.50E+00	L	01/08/2014	10:57	I
4006017	EU-155	14391-16-3	-8.98E-02	pCi/L	1.2E+00	1.2E+00	2.26E+00		GAMMA_GS	2.50E+00	L	01/08/2014	10:57	I
4006017	K-40	13966-00-2	2.23E+01	pCi/L	1.6E+01	1.6E+01	3.72E+01		GAMMA_GS	2.50E+00	L	01/08/2014	10:57	I
4006017	RU-106	13967-48-1	1.80E+00	pCi/L	8.7E+00	8.7E+00	1.70E+01		GAMMA_GS	2.50E+00	L	01/08/2014	10:57	I
4006017	SB-125	14234-35-6	5.79E-01	pCi/L	2.1E+00	2.1E+00	4.12E+00		GAMMA_GS	2.50E+00	L	01/08/2014	10:57	I
4006016	SR-89/90	SR-RAD	1.32E+01	pCi/L	7.6E-01	3.1E+00	5.29E-01	100.0	SRTOT_SEP_PRE	1.0124E+00	L	01/10/2014	21:10	I
4006020	Tc-99	14133-76-7	8.95E+00	pCi/L	4.1E+00	5.6E+00	9.20E+00	100.0	TC99_ETVDSK_LS	1.287E-01	L	01/09/2014	08:14	I

Lab Sample Id:	Client Id:	Test User	Contract Nbr	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act	
9M2Q9110	B2RVK7		MW6-SBB-A1	114-005			W06643							12/19/2013	09:02	
4006019	C-14	14762-75-5	-2.44E+00	pCi/L	7.5E+00	8.9E+00	U	1.82E+01	100.0	C14_LSC		7.50E-02	L	01/08/2014	08:10	I

Lab Sample Id:	Client Id:	Test User	Contract Nbr	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act	
9M2Q9210	B2TKR5		MW6-SBB-A1	114-011			W06643							12/30/2013	13:40	
4006018	I-129	15046-84-1	1.58E-01	pCi/L	1.3E-01	1.3E-01	U	2.22E-01	97.6	I129LL_SEP_LEPS		3.8406E+00	L	01/21/2014	19:09	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 Inc QC Blank Report

Friday, January 24, 2014

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\W06643.Edd, h:\Reportdb\edd\Fead\W06643.Edd

Lab Sample Id: M2RH01AB Sdg/Rept Nbr: W06643 58523 Collection Date: 12/31/2013 10:28
Client Id: NA Matrix: WATER WATER Sample On Date:
Moisture/Solids%*: QC Type: BLK Received Date: 12/31/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RType						
	MW6-SBB-A19981								BF	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 Type
4006015 BLK	BETA	-1.10E-01	pCi/L	9.7E-01	9.7E-01	U	1.83E+00	100.0		9310_ALPHA	2.004E-01	01/13/2014				D
											L	19:02				

TestAmerica Inc
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, January 24, 2014
 Form Nbr: R Format Type: FEAD Version Nbr: 05 File Name: h:\Reportabledd\Fead\W06643.Edd, h:\Reportabledd\Fead\W06643.Edd
 Lab Code: TARD

TestAmerica Inc QC Blank Report

Lab Sample Id: M2RH11AB Sdg/Rept Nbr: W06643 58523 Collection Date: 12/31/2013 10:28
 Client Id: NA Matrix: WATER WATER Sample On Date:
 Moisture/Solids%*: QC Type: BLK Received Date: 12/31/2013

SAF Nbr	Analyt/ CAS#	Result/ Orig Rst	Unit	Uncert 2S	Tof/Cnt	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Decant	Suffix	SAS Nbr	Case Nbr	Test User	Distilled Volume	File Id	FSuffix	RType	
4006016	SR-89/90	1.74E-01	pCi/L	2.6E-01	2.6E-01	U	5.40E-01	93.4		SRTOT_SEP_						1.002E+00				D
BLK	SR-RAD															L				
																				BH H

TestAmerica Inc 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. 2

Friday, January 24, 2014

TestAmerica Inc QC Blank Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Report\bledd\Fead\W06643.Edd, h:\Report\bledd\Fead\W06643.Edd

Lab Sample Id: M2RH21AB **Sdg/Rept Nbr:** W06643 **Collection Date:** 12/31/2013 10:28
Client Id: NA **Matrix:** WATER **Decant:** 58523 **Sample On Date:**
Moisture/Solids%*: **QC Type:** BLK **Received Date:** 12/31/2013

SAF Nbr	Analyt/ CAS#	Result/ Orig Rst	Unit	Tof/Cnt Uncert 2S	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
4006017	BE-7	9.49E+00	pCi/L	8.6E+00	U	1.74E+01		GAMMA_GS	2.50E+00	01/08/2014 10:57				D
BLK	13966-02-4			8.6E+00					L					
4006017	CO-60	-2.55E-03	pCi/L	9.7E-01	U	2.01E+00		GAMMA_GS	2.50E+00	01/08/2014 10:57				D
BLK	10198-40-0			9.7E-01					L					
4006017	CS-134	1.12E-02	pCi/L	1.3E+00	U	2.45E+00		GAMMA_GS	2.50E+00	01/08/2014 10:57				D
BLK	13967-70-9			1.3E+00					L					
4006017	CS-137	-6.99E-01	pCi/L	9.8E-01	U	1.63E+00		GAMMA_GS	2.50E+00	01/08/2014 10:57				D
BLK	10045-97-3			9.8E-01					L					
4006017	EU-152	8.01E-02	pCi/L	2.2E+00	U	4.11E+00		GAMMA_GS	2.50E+00	01/08/2014 10:57				D
BLK	14683-23-9			2.2E+00					L					
4006017	EU-154	9.72E-01	pCi/L	3.7E+00	U	7.69E+00		GAMMA_GS	2.50E+00	01/08/2014 10:57				D
BLK	15585-10-1			3.7E+00					L					
4006017	EU-155	1.73E+00	pCi/L	1.5E+00	U	3.04E+00		GAMMA_GS	2.50E+00	01/08/2014 10:57				D
BLK	14391-16-3			1.5E+00					L					
4006017	K-40	-1.37E+01	pCi/L	3.4E+01	U	7.55E+01		GAMMA_GS	2.50E+00	01/08/2014 10:57				D
BLK	13966-00-2			3.4E+01					L					
4006017	RU-106	-4.13E+00	pCi/L	8.5E+00	U	1.49E+01		GAMMA_GS	2.50E+00	01/08/2014 10:57				D
BLK	13967-48-1			8.5E+00					L					
4006017	SB-125	7.65E-01	pCi/L	2.3E+00	U	4.51E+00		GAMMA_GS	2.50E+00	01/08/2014 10:57				D
BLK	14234-35-6			2.3E+00					L					

TestAmerica Inc 3
 rpt\FeadRadEdd 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, January 24, 2014
 FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\W06643.Edd, h:\Reportdb\edd\Fead\W06643.Edd
 Lab Code: TARL

TestAmerica Inc QC Blank Report

Lab Sample Id: M2RH31AB Sdg/Rept Nbr: W06643 58523 Collection Date: 12/13/2013 12:08
 Client Id: NA Matrix: WATER WATER Sample On Date:
 Moisture/Solids%*: QC Type: BLK Received Date: 12/16/2013

SAF Nbr	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
4006018	I-129	-1.90E-02	pCi/L	1.2E-01	U	2.08E-01	84.6		1129LL_SEP_L	3.8423E+00	01/22/2014				D
BLK	15046-84-1			1.2E-01						L	07:15				

Distilled Volume Decant File Id FSuffix R Typ
 BL H

TestAmerica Inc rptFeadRadEdd v3.68 4

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 Inc QC Blank Report

Friday, January 24, 2014

Lab Code: TARL

File Name: h:\Reportdb\edd\Fead\VRad\W06643.Edd, h:\Reportdb\edd\Fead\VRad\58523.Edd

VersionNbr: 05

FormatType: FEAD

FormNbr: R

Lab Sample Id: M2RH61AB **Sdg/Rept Nbr:** W06643 **Collection Date:** 12/31/2013 10:28
Client Id: NA **Matrix:** WATER **Sample On Date:**
Moisture/Solids%*: **QC Type:** BLK **Received Date:** 12/31/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	F Suffix	R Typ
	MW6-SBB-A19981								BR	H

Batch # /	Analyt/	Result/	Qu-	Tracer	Spk Conc/	Analy	Aliq	Date/Time	RER/	LCS	R
Qc Type	CAS#	Orig Rst	al	Yield	%Rec	Method	Size/	Analyzed	UCL	LCL/UCL	Typ
4006021	H-3	-1.42E+02	U	100.0		906.0_H3_LSC	5.037E-03	01/13/2014			D
BLK	10028-17-8						L	15:54			

TestAmerica Inc
 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, January 24, 2014

TestAmerica Inc QC Blank Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\W06643.Edd, h:\Reportdb\edd\Fead\W06643.Edd, h:\Reportdb\edd\Fead\W06643.Edd

Lab Sample Id: M2RHW1AB **Sdg/Rept Nbr:** W06643 **Collection Date:** 12/17/2013 07:00
Client Id: NA **Matrix:** WATER **Decant:** 58523 **Sample On Date:**
Moisture/Solids%*: **QC Type:** BLK **Received Date:** 12/17/2013

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
4006013	Th-228	1.62E-01	pCi/L	2.2E-01	U	3.53E-01	68.5		THISO_IE_PL	2.003E-01	01/13/2014 23:05				D
BLK	14274-82-9			2.2E-01						L					
4006013	Th-230	5.59E-02	pCi/L	1.2E-01	U	2.44E-01	68.5		THISO_IE_PL	2.003E-01	01/13/2014 23:05				D
BLK	14269-63-7			1.2E-01						L					
4006013	Th-232	-4.86E-03	pCi/L	1.2E-01	U	2.44E-01	68.5		THISO_IE_PL	2.003E-01	01/13/2014 23:05				D
BLK	TH-232			1.2E-01						L					

SAF Nbr Contract Nbr
MW6-SBB-A19981

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 Inc
rptFeadRadEdd v3.68

Friday, January 24, 2014
 FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Report\bledd\Fead\W06643.Edd, h:\Report\bledd\Fead\W06643.Edd
 Lab Code: TARTL

TestAmerica Inc QC Blank Report

Lab Sample Id: M2RRHX1AB Sdg/Rept Nbr: W06643 58523 Collection Date: 12/31/2013 10:28
 Client Id: NA Matrix: WATER WATER Sample On Date:
 Moisture/Solids%*: QC Type: BLK Received Date: 12/31/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	F Suffix	R TYP
	MW6-SBB-A19981								BX	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
4006014 BLK	ALPHA	-3.59E-02	pCi/L	4.1E-01	U	8.07E-01	100.0		9310_ALPHAB	2.003E-01	01/09/2014 09:00				D

TestAmerica Inc U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
 rptFeadRadEdd v3.68 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. 10

Friday, January 24, 2014 Lab Code: TARL

TestAmerica Inc QC Control Sample Report

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportable\Fead\W06643.Edd, h:\Reportable\Fead\W06643.Edd

Lab Sample Id: M2RH01CS Sdg/Rept Nbr: W06643 Collection Date: 12/31/2013 10:28

Client Id: NA Matrix: WATER Sample On Date: 12/31/2013

Moisture/Solids%*: QC Type: BS Received Date: 12/31/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	F Suffix	R Typ
	MW6-SBB-A19981								BG	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Ret	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
4006015 BETA		1.83E+01	pCi/L	2.8E+00		1.72E+00	100.0	2.27E+01	9310_ALPHAB	2.002E-01	01/13/2014			70	D
BS	12587-47-2			1.6E+00				80.6		L	19:02			130	

TestAmerica Inc 11

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, January 24, 2014 Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\ledd\Fead\VRad\W06643.Edd, h:\Reportdb\ledd\Fead\VRad\58523.Ed

TestAmerica Inc QC Control Sample Report

Lab Sample Id: M2RH11CS Sdg/Rept Nbr: W06643 Collection Date: 12/31/2013 10:28

Cifent Id: NA Matrix: WATER Sample On Date: 12/31/2013

Moisture/Solids%*: BS QC Type: BS Received Date: 12/31/2013

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

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
4006016 BS	SR-89/90 SR-RAD	6.96E+00	pCi/L	1.8E+00 6.1E-01		6.21E-01	92.6	6.74E+00 103.1	SRTOT_SEP_	L	01/10/2014 21:10			70 130	D

TestAmerica Inc 12

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, January 24, 2014 Lab Code: TARL
 Form Nbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\ledd\Fead\W06643.Edd, h:\Reportdb\ledd\Fead\W06643.Edd

TestAmerica Inc QC Control Sample Report

Lab Sample Id: M2RH21CS Sdg/Rept Nbr: W06643 Collection Date: 12/31/2013 10:28
 Client Id: NA Matrix: WATER Sample On Date: 12/31/2013
 Moisture/Solids%*: QC Type: BS Received Date: 12/31/2013

SAF Nbr	Batch # / Qc Type	Analyt/ CAS#	Contract Nbr	Result/ Orig Rst	Unit	Tot/Cnt Uncert.2S	Case Nbr	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Decant	Distilled Volume	File Id	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ	
			MW6-SBB-A19981																
4006017	BS	CO-60	10198-40-0	2.67E+01	pCi/L	5.5E+00	2.67E+00	2.67E+00	2.72E+01	98.1	GAMMA_GS		2.50E+00	01/08/2014			70	130	D
4006017	BS	CS-137	10045-97-3	3.85E+01	pCi/L	7.0E+00	3.08E+00	3.95E+01	3.95E+01	97.5	GAMMA_GS		2.50E+00	01/08/2014			70	130	D
4006017	BS	EU-152	14683-23-9	5.28E+01	pCi/L	1.2E+01	6.45E+00	5.89E+01	5.89E+01	89.6	GAMMA_GS		2.50E+00	01/08/2014			70	130	D

TestAmerica Inc 13
 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, January 24, 2014 Lab Code: TARL
 Form Nbr: R File Name: h:\Reportdb\ledd\Fead\W06643.Edd, h:\Reportdb\ledd\Fead\W06643.Edd
 Format Type: FEAD Version Nbr: 05

TestAmerica Inc QC Control Sample Report

Lab Sample Id: M2RH31CS Sdg/Rept Nbr: W06643 Collection Date: 12/13/2013 12:08
 Client Id: NA Matrix: WATER Sample On Date:
 Moisture/Solids%*: QC Type: BS Received Date: 12/16/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RType
	MW6-SBB-A19981								BM	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
4006018	I-129	9.54E+00	pCi/L	1.2E+00		2.88E-01	77.3	9.93E+00	I129LL_SEP_L	3.9984E+00	01/22/2014			70	D
BS	15046-84-1			1.2E+00				96.1		L	10:38			130	

TestAmerica Inc 14
 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.

TestAmerica Inc QC Control Sample Report

Friday, January 24, 2014

Lab Code: TARL

File Name: h:\Reportable\Fead\W06643.Edd, h:\Reportable\Fead\W06643.Edd

VersionNbr: 05

FormatType: FEAD

FormNbr: R

Lab Sample Id: M2RH41CS Sdg/Rept Nbr: W06643 58523 Collection Date: 12/17/2013 07:00
Client Id: NA Matrix: WATER WATER Sample On Date:
Moisture/Solids%*: QC Type: BS Received Date: 12/17/2013

Table with columns: SAF Nbr, Contract Nbr, Test User, Case Nbr, SAS Nbr, Suffix, Decant, Distilled Volume, File Id, FSuffix, RType. Includes values like MW6-SBB-A19981, BS, 14762-75-5, 1.82E+01, 100.0, 4.87E+02, 7.53E-02, L, 10:16, BO, H.

TestAmerica Inc 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, January 24, 2014
 FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportable\Fead\W06643.Edd, h:\Reportable\Fead\W06643.Edd
 Lab Code: TARL

TestAmerica Inc QC Control Sample Report

Lab Sample Id: M2RH51CS Sdg/Rept Nbr: W06643 58523 Collection Date: 12/31/2013 10:28
 Client Id: NA Matrix: WATER WATER Sample On Date:
 Moisture/Solids%*: QC Type: BS Received Date: 12/31/2013

SAF Nbr	Analyt/ CAS#	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	F Suffix	R Typ
4006020	Tc-99	MW6-SBB-A19981								BQ	H
BS	14133-76-7										

Batch # / Qc Type	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
4006020	4.61E+02	pCi/L	3.0E+01		9.37E+00	100.0	5.41E+02	TC99_ETVDSK	1.261E-01	01/09/2014			70	D
BS			1.2E+01				85.1		L	12:22			130	

TestAmerica Inc 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. 16

Friday, January 24, 2014 Lab Code: TARL

TestAmerica Inc QC Control Sample Report

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Report\bledd\Fead\W06643.Ed

Lab Sample Id: M2RH61CS Sdg/Rept Nbr: W06643 Collection Date: 12/31/2013 10:28

Client Id: NA Matrix: WATER Sample On Date: 12/31/2013

Moisture/Solids%*: QC Type: BS Received Date: 12/31/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	F Suffix	R Typ
	MW6-SBB-A19981								BS	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
4006021 H-3		2.39E+03	pCi/L	2.5E+02		3.37E+02	100.0	2.69E+03	906.0_H3_LSC	5.039E-03	01/13/2014			70	D
BS	10028-17-8			2.2E+02				88.7		L	17:17			130	

TestAmerica Inc 17

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, January 24, 2014
 FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd1\Fead\IVRad\W06643.Edd, h:\Reportdb\edd1\Fead\IVRad\58523.Ed
 Lab Code: TARL

TestAmerica Inc QC Control Sample Report

Lab Sample Id: M2RH71CS Sdg/Rept Nbr: W06643 58523 Collection Date: 12/17/2013 07:00
 Client Id: NA Matrix: WATER WATER Sample On Date:
 Moisture/Solids%*: QC Type: BS Received Date: 12/17/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
BS	MW6-SBB-A19981								BU	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	Typ
4006022	H-3	7.60E+03	pCi/L	8.7E+02		2.75E+01	100.0	9.11E+03	906.0ML_H3_L	1.0008E-02	01/08/2014			70	D
				6.1E+01				83.4		L	13:29			130	

TestAmerica Inc 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. 18

Friday, January 24, 2014
 FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Report\bldd\Fead\VRad\W06643.Edd, h:\Report\bldd\Fead\VRad\58523.Ed
 Lab Code: TARL

TestAmerica Inc QC Control Sample Report

Lab Sample Id: M2RHX1CS Sdg/Rept Nbr: W06643 58523 Collection Date: 12/31/2013 10:28
 Client Id: NA Matrix: WATER WATER Sample On Date:
 Moisture/Solids%*: QC Type: BS Received Date: 12/31/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	F Suffix	R Typ							
	MW6-SBB-A19981								BY	H							
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	pC/L	Tot/Cnt	Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Concl/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCU/CL	R Typ
4006014 BS	ALPHA 12587-46-1	2.12E+01			5.6E+00	1.6E+00		8.05E-01	100.0	2.33E+01	9310_ALPHAB	2.005E-01	01/09/2014 09:00			70	D
										90.8		L				130	

TestAmerica Inc rptFeadRadEdd v3.68 U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide. 20
 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, January 24, 2014

TestAmerica Inc QC Duplicate Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\VRad\W06643.Edd, h:\Reportdb\edd\Fead\VRad\58523.Edd

Lab Sample Id: M2PHH1CR Sdg/Rept Nbr: W06643 Collection Date: 12/13/2013 12:08
Client Id: B2TJ25 Matrix: WATER WATER Sample On Date:
Moisture/Solids%*: QC Type: DUP Received Date: 12/16/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	F Suffix	R Typ				
S14-012	MW6-SBBA-19981								AU	H				
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Tot/Cnt Uncert 2S	Unit	Tracer Yield	MDC	Spk Concl %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCU/ UCL	R Typ
4006018	I-129	3.40E+00	5.4E-01	pCi/L	93.5	1.81E-01		1129LL_SEP_L	3.9016E+00	01/20/2014	13.5	1.3		D
DUP	15046-84-1	3.90E+00	5.4E-01						L	11:01	20.0	3		

TestAmerica Inc 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. 21

Friday, January 24, 2014

TestAmerica Inc QC Duplicate Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\Rad\W06643.Edd, h:\Reportdb\edd\Fead\Rad\58523.Ed

Lab Sample Id: M2PTW1FR Sdg/Rept Nbr: W06643 58523 Collection Date: 12/17/2013 07:00
Client Id: B2TKH8 Matrix: WATER WATER Sample On Date:
Moisture/Solids%*: QC Type: DUP Received Date: 12/17/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	F Suffix	R Typ					
S14-012	MW6-SBB-A19981								AV	H					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
4006013	Th-228	3.68E-01	pCi/L	2.8E-01		2.74E-01	64.7		THISO_IE_PL	2.019E-01	01/13/2014	2.8	0.1		D
DUP	14274-82-9	3.58E-01		2.7E-01				L			19:43	20.0	3		
4006013	Th-230	3.28E-01	pCi/L	2.5E-01		1.90E-01	64.7		THISO_IE_PL	2.019E-01	01/13/2014	79.0	2.4		D
DUP	14269-63-7	7.53E-01		2.5E-01				L			19:43	20.0	3		
4006013	Th-232	-3.77E-03	pCi/L	9.5E-02	U	1.90E-01	64.7		THISO_IE_PL	2.019E-01	01/13/2014	250.9	0.6		D
DUP	TH-232	3.34E-02		9.5E-02				L			19:43	20.0	3		

TestAmerica Inc 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. 22

Friday, January 24, 2014 Lab Code: TARL
 FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Report\bledd\Fead\W06643.Edd, h:\Report\bledd\Fead\W06643.Edd

TestAmerica Inc QC Duplicate Report

Lab Sample Id: M2PTW1GR Sdg/Rept Nbr: W06643 Collection Date: 12/17/2013 07:00
 Client Id: B2TKH8 Matrix: WATER Sample On Date: 12/17/2013
 Moisture/Solids%*: QC Type: DUP Received Date: 12/17/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	F Suffix	R Typ
S14-012	MW6-SBB-A19981								AW	H

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
4006019	C-14	-4.89E+00	pC/L	8.8E+00	U	1.82E+01	100.0		C14_LSC	7.55E-02	01/08/2014	0.0	1.2		D
DUP	14762-75-5	2.75E+00		7.4E+00						L	00:45	20.0	3		

TestAmerica Inc 23
 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, January 24, 2014
 FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\W06643.Edd, h:\Reportdb\edd\Fead\W06643.Edd, h:\Reportdb\edd\Fead\W06643.Edd
 Lab Code: TARL

TestAmerica Inc QC Duplicate Report

Lab Sample Id: M2PTX1DR Sdg/Rept Nbr: W06643 58523 Collection Date: 12/17/2013 07:00
 Client Id: B2TKJ3 Matrix: WATER WATER Sample On Date:
 Moisture/Solids%*: QC Type: DUP Received Date: 12/17/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	F Suffix	R Typ
S14-012	MW6-SBB-A19981								AX	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
4006022	H-3	1.50E+01	pCi/L	2.2E+01	U	2.68E+01	100.0		906.0ML_H3_L	1.0007E-02	01/08/2014 13:29	74.8	0.5		D
DUP	10028-17-8	6.83E+00		1.2E+01						L		20.0	3		

TestAmerica Inc 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. 24

Friday, January 24, 2014
 FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\VRad\W06643.Edd, h:\Reportdb\edd\Fead\VRad\W06643.Edd
 Lab Code: TARL

TestAmerica Inc QC Duplicate Report

Lab Sample Id: M2Q4X1NR Sdg/Rept Nbr: W06643 Collection Date: 12/31/2013 10:28
 Client Id: B2RVR2 Matrix: WATER Decant: 58523 Sample On Date:
 Moisture/Solids%*: QC Type: DUP Received Date: 12/31/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Distilled Volume	File Id	F-Suffix	RType
114-005	MW6-SBB-A19981							AZ	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 Type
4006015	BETA	2.62E+01	pCi/L	3.8E+00		2.15E+00	100.0		9310_ALPHA	1.967E-01	01/13/2014	15.4	1.6		D
DUP	12587-47-2	3.05E+01		2.1E+00						L	19:02	20.0	3		

TestAmerica Inc
 rpt\FeadRadEdd 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, January 24, 2014
 FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Report\bledd\Fead\VRad\W06643.Edd, h:\Report\bledd\Fead\VRad\58523.Ed
 Lab Code: TARL

TestAmerica Inc QC Duplicate Report

Lab Sample Id: M2Q4X1PR Sdg/Rept Nbr: W06643 58523 Collection Date: 12/31/2013 10:28
 Client Id: B2RVR2 Matrix: WATER WATER Sample On Date:
 Moisture/Solids%*: QC Type: DUP Received Date: 12/31/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	F Suffix	R Type			
114-005	MW6-SBB-A19981								BA	H			
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	MDC	Tracer Yield	Spk Concl/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Type
4006016 DUP	SR-89/90	1.27E+01 1.32E+01	pCi/L	5.11E-01	100.0		SRTOT_SEP_	1.0023E+00	01/10/2014	3.6	0.2		D
								L	21:10	20.0	3		

TestAmerica Inc 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. 27

Friday, January 24, 2014

TestAmerica Inc QC Duplicate Report

Lab Code: TARL

File Name: h:\Reportable\d\Fead\W06643.Edd, h:\Reportable\d\Fead\W06643.Edd

VersionNbr: 05

FormatType: FEAD

FormNbr: R

Lab Sample Id: M2Q4X1QR Sdg/Rept Nbr: W06643 58523 Collection Date: 12/31/2013 10:28
Client Id: B2RVR2 Matrix: WATER WATER Sample On Date:
Moisture/Solids%*: QC Type: DUP Received Date: 12/31/2013

Table with columns: SAF Nbr, Contract Nbr, Test User, Case Nbr, SAS Nbr, Suffix, Decant, Distilled Volume, File Id, F-Suffix, R-Type, 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 LCU/CL, R Type

TestAmerica Inc 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, January 24, 2014

TestAmerica Inc QC Duplicate Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\Rad\W06643.Edd, h:\Reportdb\edd\Fead\Rad\W06643.Edd

Lab Sample Id: M2Q4X1TR **Sdg/Rept Nbr:** W06643 **Collection Date:** 12/31/2013 10:28
Client Id: B2RVR2 **Matrix:** WATER **Decant:** 58523 **Sample On Date:**
Moisture/Solids%*: **QC Type:** DUP **Received Date:** 12/31/2013

SAF Nbr	Analyt/ CAS#	Result/ Orig Rst	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	F-Suffix	RType				
114-005		MW6-SBB-A19981								BD	H				
Batch #/ Qc Type	4006020 Tc-99	2.73E+00	Tot/Cnt Uncert 2S	U	9.34E+00	100.0	Tracer Yield	Spk Concl/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Type
DUP	14133-76-7	8.95E+00	5.4E+00	U	9.34E+00	100.0	100.0		TC99_ETVDSK	1.273E-01	01/09/2014	106.7	1.6		D
			3.9E+00							L	10:18	20.0	3		

TestAmerica Inc
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, January 24, 2014

TestAmerica Inc QC Duplicate Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\W06643.Edd, h:\Reportdb\edd\Fead\W06643.Edd

Lab Sample Id: M2Q4X1UR **Sdg/Rept Nbr:** W06643 **Collection Date:** 12/31/2013 10:28
Client Id: B2RVR2 **Matrix:** WATER **Sample On Date:**
Moisture/Solids%*: **QC Type:** DUP **Received Date:** 12/31/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	F Suffix	R Typ
114-005	MW6-SBB-A19981								BE	H

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
4006021	H-3	1.51E+03	pCi/L	2.1E+02		3.26E+02	100.0		906.0_H3_LSC	5.038E-03	01/13/2014	2.5	0.2		D
DUP	10028-17-8	1.47E+03		1.9E+02						L	14:31	20.0	3		

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

TestAmerica Inc
rptFeadRadEdd v3.68

Friday, January 24, 2014 Lab Code: TARL

TestAmerica Inc Qc Matrix Spike Report

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\VRad\W06643.Edd, h:\Reportdb\edd\Fead\VRad\58523.Ed

Lab Sample Id: M2Q4X1RW **Sdg/Rept Nbr:** W06643 **Collection Date:** 12/31/2013 10:28

Client Id: B2RVR2 **Matrix:** WATER **Decant:** 58523 **Sample On Date:**

Moisture/Solids%*: **QC Type:** MS **Received Date:** 12/31/2013

SAF Nbr	114-005	Contract Nbr	MW6-SBB-A19981	Test User	Case Nbr	SAS Nbr	Suffix	Distilled Volume	File Id	Fsuffix	RType
Batch # / Qc Type	4006020 Tc-99 MS	Result/ Orig Rst	3.26E+03	Tot/Cnt Uncert 2S	Unit	1.8E+02	3.1E+01	Spk Conc/ %Rec	90.5	Yield	100.0
				MDC	9.43E+00	100.0	Tracer	TC99_ETVDSK	1.258E-01	Aliq Size/	L
							Analy Method	TC99_ETVDSK	1.258E-01	Date/Time Analyzed	01/09/2014 09:16
										RPD/ UCL	RER/ UCL
										60	60
										140	140
										BC	H

TestAmerica Inc 31

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.



Hexavalent Chromium - Water

Analyst: H.Rahavi		BATCH #											
Start Date:	12/31/2013	SDG #	3365014										
Start Time:	15:00	Matrix	Water										
End Date:	12/31/2013	SOP Information											
End Time:	15:45	RL-WC-003											
Analyst Signature:		Revision 5											
Date:		Instrument Information											
		Instrument:	Hach DR2010										
		Wavelength:	540										
Calibration Curve Information													
Amount (mL)	Conc. (mg/L)	ABS.	R Squared										
Blank	0.000	0.000	1.0000										
Std. 1	0.100	0.099	0.0139										
Std. 2	0.500	0.487	0.4819										
Std. 3	0.750	0.721	0.0000										
Std. 4	1.500	1.423	0.0000										
Std. 5	2.000	1.869	0.0000										
Standard Volume (mL):		95.000	0.008										
Date of Curve:		12/31/2013											
Dilution ID #		Matrix Spike Information:											
Cr-134-00477	Cr-134-00477	Cr-134-00477	Cr-134-00477										
Prep Date:	12/31/13	12/31/13	12/31/13										
Concentration (mg/L)	50	50	50										
Expiration Date:	01/01/14	01/01/14	01/01/14										
Pipettor(s)	70, 190	190	190										
Volume Used (mL)	1.000	1.000	1.500										
Final Volume (mL)	100.000	100.000	100.000										
Expected Value (mg/L)	0.475	0.475	0.713										
Sample ID	Client ID	Type	Sample Volume (mL)	Final Volume (mL)	Sample ABS.	Color Blank ABS.	Corrected ABS.	Dilution Factor	Curve Conc. (mg/L)	Expected (mg/L)	% Rec. / RPD	Final Reported Conc. (mg/L)	Qualifier
n/a	n/a	ICV	95.000	100.000	0.959		0.959	1	0.4749	0.4750	99.98%	0.475	U
n/a	n/a	ICB	95.000	100.000	0.001		0.001	1	0.0005	0.4750	99.88%	<MDL	U
n/a	n/a	CCV	95.000	100.000	0.958		0.958	1	0.4744	0.4750	99.88%	0.474	U
n/a	n/a	CCB	95.000	100.000	0.000		0.000	1	0.0000	0.4750	99.34%	<MDL	U
M2Q411AA	n/a	BLK	95.000	100.000	0.003		0.003	1	0.0014	0.4750	99.34%	0.472	U
M2Q411AC	n/a	LCS	95.000	100.000	0.953		0.953	1	0.4719	0.4750	99.00%	0.054	U
M2Q411AA	B2RVR2	Sample	95.000	100.000	0.112		0.112	1	0.0541	0.4750	99.00%	0.742	U
M2Q411AC-S	B2RVR2-S	MS*	95.000	100.000	1.581		1.581	1	0.7966	0.7500	99.28%	0.745	U
M2Q411AD-D	B2RVR2-D	MSD*	95.000	100.000	1.585		1.585	1	0.7967	0.7500	1.81%	0.053	U
M2Q411AE-X	B2RVR2-X	Duplicate	95.000	100.000	0.110		0.110	1	0.0532	0.4750	99.77%	0.474	U
			95.000	100.000				1					
			95.000	100.000				1					
			95.000	100.000				1					
			95.000	100.000				1					
n/a	n/a	CCV	95.000	100.000	0.957		0.957	1	0.4739	0.4750	99.77%	0.474	U
n/a	n/a	CCB	95.000	100.000	0.001		0.001	1	0.0005	0.4750	99.77%	<MDL	U

*If the parent sample is above the MDL, the Final Reported Conc. (mg/L) for the MS and MSD is corrected for the parent sample. CG-223 Rev. 5/1/2013



Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

1/14/2014 4:15:40 PM

Lot No., Due Date: J3L180430; 01/31/2014
 Client, Site: 384868; A210440HANFORD HANFORD
 QC Batch No., Method Test: 4006013; RTHISO Thiso by ALP
 SDG, Matrix: W06643; 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 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 filed 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:	<input checked="" type="checkbox"/>

Thomas DME
 First Level _____ Date 1/14/13



Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 4026013

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 Nonconformances (NCM) included and noted?			✓
2. Was the correct methodology used?	✓		
3. Were units checked?	✓		

Comments on any "No" response: _____

Second Level Review: Sandra Segue Date: 1-15-14



Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

1/9/2014 3:09:42 PM

Lot No., Due Date: J3L310410; 01/31/2014
 Client, Site: 384868; A210440HANFORD HANFORD
 QC Batch No., Method Test: 4006014; RALPHA-A Alpha by GPC-Am
 SDG, Matrix: W06643; 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 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 type="checkbox"/> <input type="checkbox"/> <input checked="" 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 _____ Date 1/9/14



Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 4006014

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 Nonconformances (NCM) included and noted?			✓
2. Was the correct methodology used?	✓		
3. Were units checked?	✓		

Comments on any "No" response: CRDL = 3

Second Level Review: *[Signature]* Date: 1/10/14

Lot No., Due Date: J3L310410; 01/31/2014
 Client, Site: 384868; A210440HANFORD HANFORD
 QC Batch No., Method Test: 4006015; RBETA-SR Beta by GPC-Sr/Y
 SDG, Matrix: W06643; WATER

1.0 COC

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

Yes No N/A

2.0 QC Batch

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

Yes No N/A

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

Yes No N/A

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

Yes No N/A

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

Yes No N/A

3.0 QC & Samples

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

Yes No N/A

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

Yes No N/A

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

Yes No N/A

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

Yes No N/A

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

Yes No N/A

4.0 Raw Data

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

Yes No N/A

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

Yes No N/A

4.3 Were Yields entered correctly? Yes No N/A

Yes No N/A

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

Yes No N/A

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

Yes No N/A

5.0 Other

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

Yes No N/A

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

Yes No N/A

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

Yes No N/A

5.4 Was transcription checked? Yes No N/A

Yes No N/A

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

Yes No N/A

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

Yes No N/A

6.0 Comments on any No response:

Thomas DME
 First Level _____ Date 1/14/14



THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 4006015

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 Nonconformances (NCM) included and noted?			✓
2. Was the correct methodology used?	✓		
3. Were units checked?	✓		

Comments on any "No" response: _____

Second Level Review: Sandra Berger Date: 1-14-14

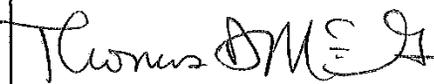


Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

1/13/2014 9:31:26 AM

Lot No., Due Date: J3L310410; 01/31/2014
 Client, Site: 384868; A210440HANFORD HANFORD
 QC Batch No., Method Test: 4006016; RSRTOT SrTot by GPC
 SDG, Matrix: W06643; 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 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 checked="" type="checkbox"/> <input type="checkbox"/> <input 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:		<input checked="" type="checkbox"/>



 First Level _____ Date 1/13/14



THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist

RADIOCHEMISTRY

Second Level Review

Batch Number: 4006016

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 Nonconformances (NCM) included and noted?			✓
2. Was the correct methodology used?	✓		
3. Were units checked?	✓		

Comments on any "No" response: _____

Second Level Review: *Sandra Segal* Date: 1-13-14

Lot No., Due Date: J3L310410; 01/31/2014
Client, Site: 384868; A210440HANFORD HANFORD
QC Batch No., Method Test: 4006017; RGAMMA Gamma by GER
SDG, Matrix: W06643; WATER

1.0 COC

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

2.0 QC Batch

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

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

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

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

3.0 QC & Samples

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

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

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

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

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

4.0 Raw Data

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

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

4.3 Were Yields entered correctly? Yes No N/A

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

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

5.0 Other

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

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

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

5.4 Was transcription checked? Yes No N/A

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

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

6.0 Comments on any No response:

First Level *John Anderson* Date *1/9/14*

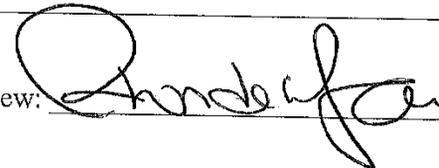


Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 4006017

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 Nonconformances (NCM) included and noted?			✓
2. Was the correct methodology used?	✓		
3. Were units checked?	✓		

Comments on any "No" response: CRD = 15.0 pCi/L

Second Level Review:  Date: 1/10/14



Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

1/23/2014 2:41:21 PM

Lot No., Due Date: J3L200405, J3L170433, J3L180430, J4A020427; 01/31/2014
Client, Site: 384868; A210440HANFORD HANFORD
QC Batch No., Method Test: 4006018; RGAMLEPS Gamma by LEPS
SDG, Matrix: W06643; WATER

1.0 COC

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

2.0 QC Batch

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

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

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

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

3.0 QC & Samples

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

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

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

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

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

4.0 Raw Data

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

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

4.3 Were Yields entered correctly? Yes No N/A

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

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

5.0 Other

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

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

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

5.4 Was transcription checked? Yes No N/A

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

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

6.0 Comments on any No response:

First Level *Paul Antonson* date *1/23/14*



Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 4006018

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 Nonconformances (NCM) included and noted?			✓
2. Was the correct methodology used?	✓		
3. Were units checked?	✓		

Comments on any "No" response: _____

Second Level Review: *Sandra Seger* Date: 1-24-14



Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

1/9/2014 2:04:52 PM

Lot No., Due Date: J3L200406, J3L180430, J3L310410, J4A020426; 01/31/2014
Client, Site: 384868; A210440HANFORD HANFORD
QC Batch No., Method Test: 4006019; RC14 C-14 by LSC
SDG, Matrix: W06643; WATER

1.0 COC

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

2.0 QC Batch

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

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

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

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

3.0 QC & Samples

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

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

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

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

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

4.0 Raw Data

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

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

4.3 Were Yields entered correctly? Yes No N/A

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

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

5.0 Other

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

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

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

5.4 Was transcription checked? Yes No N/A

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

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

6.0 Comments on any No response:

First Level *Lisa Anderson* Date *1/19/14*



Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 4006019

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 Nonconformances (NCM) included and noted?			✓
2. Was the correct methodology used?	✓		
3. Were units checked?	✓		

Comments on any "No" response: CRDL = 200pCi/L

Second Level Review: *Quandara* Date: 1/10/14

DR-001, Rev. 01, 10/30/2013

Lot No., Due Date: J3L310410; 01/31/2014
Client, Site: 384868; A210440HANFORD HANFORD
QC Batch No., Method Test: 4006020; RTC99 Tc-99 by LSC
SDG, Matrix: W06643; WATER

1.0 COC

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

2.0 QC Batch

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

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

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

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

3.0 QC & Samples

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

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

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

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

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

4.0 Raw Data

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

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

4.3 Were Yields entered correctly? Yes No N/A

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

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

5.0 Other

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

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

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

5.4 Was transcription checked? Yes No N/A

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

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

6.0 Comments on any No response:

First Level *Paula Antonson* Date *1/10/14*



Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 4000020

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 Nonconformances (NCM) included and noted?			✓
2. Was the correct methodology used?	✓		
3. Were units checked?	✓		

Comments on any "No" response: QDC = 15.0 pCi/L

Second Level Review: [Signature] Date: 2/10/14



Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

1/14/2014 9:53:52 AM

Lot No., Due Date: J3L310410; 01/31/2014
Client, Site: 384868; A210440HANFORD HANFORD
QC Batch No., Method Test: 4006021; RTRITIUM H-3 by LSC
SDG, Matrix: W06643; WATER

1.0 COC

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

2.0 QC Batch

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

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

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

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

3.0 QC & Samples

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

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

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

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

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

4.0 Raw Data

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

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

4.3 Were Yields entered correctly? Yes No N/A

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

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

5.0 Other

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

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

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

5.4 Was transcription checked? Yes No N/A

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

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

6.0 Comments on any No response:

First Level: *[Signature]* Date: 1/14/2014



Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

1/20/2014 2:18:17 PM

Lot No., Due Date: J3L180430; 01/31/2014
 Client, Site: 384868; A210440HANFORD HANFORD
 QC Batch No., Method Test: 4006022; RTRITIUM Midlevel Tritium
 SDG, Matrix: W06643; WATER

1.0 QC

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

2.0 QC Batch

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

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

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

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

3.0 QC & Samples

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

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

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

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

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

4.0 Raw Data

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

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

4.3 Were Yields entered correctly? Yes No N/A

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

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

5.0 Other

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

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

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

5.4 Was transcription checked? Yes No N/A

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

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

6.0 Comments on any No response:

NCM 10-25873

Thomas OME
 First Level _____ Date 1/20/14



Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 4006022

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 Nonconformances (NCM) included and noted?	✓		
2. Was the correct methodology used?	✓		
3. Were units checked?	✓		

Comments on any "No" response: See NCM 10 - 25873

Second Level Review: *Landra Seger* Date: 1-21-14

Clouseau Nonconformance Memo



NCM #: 10-25873 NCM Initiated By: Tom McGinnis Date Opened: 01/20/2014 Date Closed:	Classification: Deficiency Status: PMREVIEW Production Area: Environmental - Sep Tests: Midlevel Tritium Lot #'s (Sample #'s): J3L180430 (3,5,7), J4A060000 (22), QC Batches: 4006022,
Nonconformance: Other (describe in detail) Subcategory: Other (explanation required)	

Problem Description / Root Cause

Name	Date	Description
Tom McGinnis	01/20/2014	The negative result for samples J3L180430-5 and 7 indicate sample activity below the subtracted instrument blank. All other batch results meet acceptance criteria.

Corrective Action

Name	Date	Corrective Action
Tom McGinnis	01/20/2014	The PM was notified of the batch issues.

Client Notification Summary

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

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position
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**Richland Laboratory
Data Review Check List
Hexavalent Chromium**

Batch Number(s):	3365014	Lab Sample Numbers or SDG:	W06643	
Method/Test/Parameter: Cr+6 <input checked="" type="checkbox"/> RL-WC-003(Aqueous) <input type="checkbox"/> RL-WC-004(Solid)				
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 greater than 0.97?	✓			✓
3. Initial calibration verification (ICV) analyzed immediately after calibration and results within 10% of expected?	✓			✓
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 10% of expected?	✓			✓
2. CCB analyzed at required frequency and all results ≤ reporting limit?	✓			✓
C. Sample Analysis				
1. Were any samples with concentrations above the linear range diluted and reanalyzed?			✓	✓
2. Were all sample holding times met?	✓			✓
D. QC Samples				
1. All results for the preparation blank below limits?	✓			✓
2. LCS percent recovery within 85-115%	✓			✓
3. PbCrO ₄ percent recovery within 75-125%?			✓	✓
4. Sample and Duplicate within 20% (aqueous) or 35% (solid) RPD?	✓			✓
5. MS or MS/MSD recoveries within 85-115% (aqueous) or 75-125% (solid)?	✓			✓
6. On MS failure, PDMS within 85-115%?			✓	✓
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 or list NCM number:

Analyst H. Rahavi Date 12/31/13 2nd Review [Signature] Date 12/31/13

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C. # S14-012-177	
Collector	FM Hill CHPRC	Contact/Requester	Karen Waters-Husted		
SAF No.	S14-012	Sampling Origin	Hanford Site		
Project Title	SURV, DECEMBER 2013	Logbook No.	HNF-N-5065874		
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE		
Protocol	SURV	Priority:	30 Days PRIORITY		
POSSIBLE SAMPLE HAZARDS/REMARKS		SPECIAL INSTRUCTIONS		Hold Time	
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)		Site Wide Generator Knowledge Information Form applies. The CACN for analytical work at WSCF is 401647. FY13 and FY14 samples cannot be in the same SDG.		Total Activity Exemption: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis
B21J25	N	W	12/13/13	1708	1x20-ml P Activity Scan
B21J25	N	W	↓	↓	1129LL_SEP_LEPS_GS_LL: COMMON MARSH
					Holding Time 6 Months 6 Months
					Preservative None None

55LINDX33
W0664B
Qu



Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
FM Hill CHPRC			DEC 13 2013 1455	SSU #1			DEC 13 2013 1455	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
SSU-1			DEC 16 2013 1800	KC Patterson CHPRC			DEC 16 2013 1800	DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
KC Patterson CHPRC			DEC 16 2013 1020	J. Bull J. Bull			DEC 16 2013 1020	
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By		Date/Time		
PRINTED O 10/23/2013								A-6004-842 (REV 2)



Sample Check-in List

THE LEADER IN ENVIRONMENTAL TESTING

Date/Time Received: 12-16-13/1020 Container GM Screen Result: (Airlock) 60 cpm Initials []
Sample GM Screen Result (Sample Receiving) 40 cpm Initials []

Client: Pkw SDG #: W06643 SAF #: S14-012 NA []

Lot Number: J3L170433

Chain of Custody # S14-012-177

Shipping Container ID or Air Bill Number : hand deliv. NA []

Samples received inside shipping container/cooler/box Yes [] Continue with 1 through 4. Initial appropriate response.
No [] Go to 5, add comment to #16.

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

Item 5 through 16 for samples. Initial appropriate response.

- 5. Chain of Custody record present? Yes [] No []
- 6. Number of samples received (Each sample may contain multiple bottles): 1
- 7. Containers received: 1x 20, 2x 4L

- 8. Sample holding times exceeded? NA [] Yes [] No []
- 9. Samples have: _____ tape _____ hazard labels [] custody seals [] appropriate sample labels
- 10. Matrix: _____ A (FLT, Wipe, Solid, Soil) [] I (Water) _____ S (Air, Niosh 7400) _____ T (Biological, Ni-63)

11. Samples: [] are in good condition _____ are leaking _____ are broken
_____ have air bubbles (Only for samples requiring no head space) _____ Other _____

12. Sample pH appropriate for analysis requested Yes [] No [] NA []
(If acidification is necessary go to pH area & document sample ID, initial pH, amount of HNO₃ added and pH after addition on table)

13. Were any anomalies identified in sample receipt? Yes [] No []

14. Description of anomalies (include sample numbers): NA []

15. Sample Location, Sample Collector Listed on COC? * Yes [] No []
*For documentation only. No corrective action needed.

16. Additional Information: P/A

[] Client/Courier denied temperature check. [] Client/Courier unpack cooler.

Sample Check-in List completed by Sample Custodian:
Signature: [] Date: 12-17-13

Client Notification needed? Yes [] No [] Date: _____
By: _____
Person contacted: _____

[] No action necessary; process as is
Project Manager: [] Date: 12-18-13

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.# **S14-012-178**
Page 1 of 1

Collector: **FM Hill CHPRC**
Telephone No. **509-376-4650**

SAF No. **S14-012**
Purchase Order/Charge Code **300071ES20**

Project Title: **SURV, DECEMBER 2013**
Ice Chest No. **N/A**

Shipped To (Lab): **TestAmerica Incorporated, Richland**
Bill of Lading/Air Bill No. **N/A**

Protocol: **SURV**
Offsite Property No. **N/A**

Contact/Requester: **Karen Waters-Husted**
Priority: **30 Days**
Priority: **PRIORITY**

Sampling Origin: **Hanford Site**
Method of Shipment: **GOVERNMENT VEHICLE**

Logbook No.: **HNF-N-506-53/17**

POSSIBLE SAMPLE HAZARDS/REMARKS

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

800.12/17/13

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes No

Site Wide Generator Knowledge Information Form applies. The CACN for analytical work at WSCF is 401647. FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	No/Type Container	Activity Scan	Sample Analysis	Holding Time	Preservative
B2TKH8	N	1x20-mL P	Activity Scan		6 Months	None
B2TKH8	W	2x1-L G/P	C14_LSC: COMMON	<i>magtw</i>	6 Months	None
B2TKH8	W	2x4-L G/P	I129LL_SEP_LEPS_GS_LL: COMMON	<i>magtw</i>	6 Months	None
B2TKH8	N	1x1-L G/P	THISO_IE_PLATE_AEA: COMMON	<i>magtw</i>	6 Months	HNO3 to pH <2
B2TKJ3	N	1x1-L P	906.0ML_TRITIUM_LSC: COMMON	<i>magtw</i>	6 Months	None

35180130

W004413

MAGTW

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
FM Hill CHPRC	<i>[Signature]</i>	<i>[Signature]</i>	DEC 17 2013 15:15	DAVID HARGREAVE	<i>[Signature]</i>	<i>[Signature]</i>	DEC 17 2013 15:15	S = Soil, DS = Drum Solids, SE = Sediment, DL = Drum Liquids, SO = Solid, T = Tissue, SL = Sludge, WI = Wipe, W = Water, L = Liquid, O = Oil, V = Vegetation, A = Air, X = Other
Relinquished By			Date/Time	Received By			Date/Time	
Relinquished By			Date/Time	Received By			Date/Time	

Disposal Method (e.g., Return to customer, per lab procedure, used in process)

Disposed By

Date/Time

PRINTED O 10/23/2013

A-6004-842 (REV 2)

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C.# S14-012-179	
Collector FM Hall CHPRC		Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650	Page 1 of 1	
SAF No. S14-012	Sampling Origin Hanford Site	Logbook No. HNF-N-506 53/17	Purchase Order/Charge Code 30007IES20		
Project Title SURV, DECEMBER, 2013	Method of Shipment GOVERNMENT VEHICLE	Priority: 30 Days	Bill of Lading/Air Bill No. N/A		
Shipped To (Lab) TestAmerica Incorporated, Richland	Offsite Property No. N/A	SPECIAL INSTRUCTIONS Hold Time <input type="checkbox"/> No <input type="checkbox"/> Site Wide Generator Knowledge Information Form applies. The CACN for analytical work at WSCF is 401647. FY13 and FY14 samples cannot be in the same SDG.			
Protocol SURV	SPECIAL INSTRUCTIONS Hold Time <input type="checkbox"/> No <input type="checkbox"/> Site Wide Generator Knowledge Information Form applies. The CACN for analytical work at WSCF is 401647. FY13 and FY14 samples cannot be in the same SDG.				
Filter	No/Type Container	Sample Analysis	Holding Time	Preservative	
B2TJ28	1x20-mL P	Activity Scan	6 Months	None	
B2TJ28	2x1-L G/P	C14_LSC: COMMON	6 Months	None	
B2TJ28	2x4-L G/P	I129LL_SEP_LEPS_GS_LL: COMMON	6 Months	None	
B2TJ28	1x1-L G/P	THISO_IE_PLATE_AEA: COMMON	6 Months	HNO3 to pH <2	
B2TK65	1x1-L P	906.0ML_TRITIUM_LSC: COMMON	6 Months	None	

Handwritten notes:
JL180430
W000013

Relinquished By FM Hall CHPRC	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Received By <i>[Signature]</i>	Print DAVID HARRIS	Sign <i>[Signature]</i>	Date/Time DEC 17 2013 15:15	Matrix *
Relinquished By			Received By			Date/Time	S = Soil, DS = Drum Solids, SE = Sediment, DL = Drum Liquids, SO = Solid, T = Tissue, SL = Sludge, WI = Wipe, W = Water, L = Liquid, O = Oil, V = Vegetation, A = Air, X = Other
Relinquished By			Received By			Date/Time	
FINAL SAMPLE DISPOSITION							Date/Time
Disposal Method (e.g., Return to customer, per lab procedure, used in process)							Date/Time
PRINTED O 10/23/2013							Date/Time

A-6004-842 (REV 2)

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C.# S14-012-180	
Collector FM Hill CHPRC		Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650	Page 1 of 1	
SAF No. S14-012	Sampling Origin Hanford Site	Logbook No. HNF-N-506.53/177	Purchase Order/Charge Code 300071ES20		
Project Title SURV, DECEMBER 2013	Method of Shipment GOVERNMENT VEHICLE	Ice Chest No. N/A	Bill of Lading/Air Bill No. N/A		
Shipped To (Lab) TestAmerica Incorporated, Richland	Priority: 30 Days	Offsite Property No. N/A			
Protocol SURV	SPECIAL INSTRUCTIONS Hold Time PRIORITY				

POSSIBLE SAMPLE HAZARDS/REMARKS
 ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993).
 Site Wide Generator Knowledge Information Form applies. The CACN for analytical work at WSCF is 401647. FY13 and FY14 samples cannot be in the same SDG.

Sample No.	Filter	* Date	Time	No/Type Container	Activity Scan	Sample Analysis	Holding Time	Preservative
B2TJ33	N	W 12/17/13	1010	1x20-mL P	C14_LSC: COMMON		6 Months	None
B2TJ33	N	W		2x1-L G/P	C14_LSC: COMMON		6 Months	None
B2TJ33	N	W		2x4-L G/P	I129LL_SEP_LEPS_GS_LL: COMMON	mapa	6 Months	None
B2TJ33	N	W		1x1-L G/P	THISO_IE_PLATE_AEA: COMMON	mapa	6 Months	HNO3 to pH <2
B2TK69	N	W		1x1-L P	906.0ML_TITRIM_LSC: COMMON	mapa	6 Months	None

J3UR80430
WOODS

Relinquished By FM Hill CHPRC	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time DEC 17 2013 15:15	Received By DAVID HARRISON	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time DEC 17 2013 15:15
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
FINAL SAMPLE DISPOSITION				Disposal Method (e.g., Return to customer, per lab procedure, used in process)			
PRINTED O 10/24/2013				A-6004-842 (REV 2)			

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 12-17-13/1515 Container GM Screen Result: (Airlock) 60 cpm Initials [B] Sample GM Screen Result (Sample Receiving) 40 cpm Initials [B]

Client: Plw SDG #: W06643 SAF #: S14-012 NA []

Lot Number: J3L180430

Chain of Custody # S14-012-116; 178; 179; 180

Shipping Container ID or Air Bill Number: hand deliv. NA [B]

Samples received inside shipping container/cooler/box Yes [B] Continue with 1 through 4. Initial appropriate response. No [] Go to 5, add comment to #16.

- 1. Custody Seals on shipping container intact? Yes [] No [] No Custody Seal [B]
2. Custody Seals dated and signed? Yes [] No [] No Custody Seal [B]
3. Cooler temperature: 3.9 C IC NA []
4. Vermiculite/packing materials is NA [B] Wet [] Dry []

Item 5 through 16 for samples. Initial appropriate response.

- 5. Chain of Custody record present? Yes [B] No []
6. Number of samples received (Each sample may contain multiple bottles): 7
7. Containers received: 4x vial 20; 8x 4LP; 12x LP

- 8. Sample holding times exceeded? NA [] Yes [] No [B]
9. Samples have: tape hazard labels [B] custody seals [B] appropriate sample labels
10. Matrix: A (FLT, Wipe, Solid, Soil) [B] I (Water) S (Air, Niosh 7400) T (Biological, Ni-63)

- 11. Samples: [B] are in good condition are leaking are broken have air bubbles (Only for samples requiring no head space) Other

- 12. Sample pH appropriate for analysis requested Yes [B] No [] NA [] (If acidification is necessary go to pH area & document sample ID, initial pH, amount of HNO3 added and pH after addition on table)

- 13. Were any anomalies identified in sample receipt? Yes [] No [B]

- 14. Description of anomalies (include sample numbers): NA [B] N/A

- 15. Sample Location, Sample Collector Listed on COC? * Yes [B] No [] *For documentation only. No corrective action needed.

- 16. Additional Information: N/A

[] Client/Courier denied temperature check. [B] Client/Courier unpack cooler.

Sample Check-in List completed by Sample Custodian: Signature: [Signature] Date: 12-17-13

Client Notification needed? Yes [] No [B] Date: By: Person contacted:

[B] No action necessary, process as is Project Manager [Signature] Date: 12-20-13

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				C.O.C.# S14-012-167
Collector	SCOTT KING	Contact/Requester	Karen Waters-Husted		Telephone No.	509-376-4650
SAF No.	S14-012	Sampling Origin	Hanford Site		Purchase Order/Charge Code	30007IES20
Project Title	SURV, DECEMBER 2013	Logbook No.	HNF-N-506 <i>60 / 45</i>		Ice Chest No.	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE		Bill of Lading/Air Bill No.	N/A
Protocol	SURV	Priority:	30 Days		Offsite Property No.	N/A
POSSIBLE SAMPLE HAZARDS/REMARKS		SPECIAL INSTRUCTIONS		Hold Time		Total Activity Exemption: Yes <input type="checkbox"/> No <input type="checkbox"/>
** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)		Site Wide Generator Knowledge Information Form applies. The CACN for analytical work at WSCF is 401647. FY13 and FY14 samples cannot be in the same SDG.		Site Wide Generator Knowledge Information Form applies.		
Sample No.	Filter	* Date	Time	No/Type Container	Sample Analysis	Holding Time
B2TKD5	N	<i>W</i> DEC 19 2013	<i>0715</i>	1x20-mL P	Activity Scan	6 Months
B2TKD5	N	<i>W</i> DEC 19 2013	<i>1</i>	2x4-L G/P	1129LL_SEP_LEPS_GS_LL: COMMON <i>marks</i>	6 Months



J3L200405
W06L413

Relinquished By SCOTT KING	Print <i>Scott King</i>	Sign	Received By <i>Book J. Book-Talk</i>	Print <i>Book J. Book-Talk</i>	Sign	Date/Time DEC 19 2013 1430	Matrix *
Relinquished By	Date/Time DEC 19 2013 1430	Date/Time	Received By	Date/Time	Date/Time	Date/Time	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By	Date/Time	Date/Time	Received By	Date/Time	Date/Time	Date/Time	DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Relinquished By	Date/Time	Date/Time	Received By	Date/Time	Date/Time	Date/Time	
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By		Date/Time	
PRINTED ON 10/16/2013							A-6004-842 (REV 2)

CH2M Hill Plateau Remediation Company		C.O.C. # S14-012-168		Page 1 of 1
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				
Collector	SCOTT KING	Contact/Requester	Karen Waters-Husted	
SAF No.	S14-012	Sampling Origin	Hamford Site	
Project Title	SURV, DECEMBER 2013	Logbook No.	HNF-N-506	600 / 45
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE	
Protocol	SURV	Priority:	30 Days	PRIORITY
POSSIBLE SAMPLE HAZARDS/REMARKS *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)		SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Site Wide Generator Knowledge Information Form applies. The CACN for analytical work at WSCF is 401647. FY13 and FY14 samples cannot be in the same SDG.		
Sample No.	Filter	Date	Time	No/Type Container
B2THX7	N	DEC 19 2013	1136	1x20-mL P
B2THX7	N	W	I	2x4-L GIP
				Activity Scan
				1129LL_SEP_LEPS_GS_LL: COMMON
				Sample Analysis
				6 Months
				6 Months
				Preservative
				None
				None

S32200405
W00000B

Relinquished By	Print	Received By	Print	Sign	Date/Time	Matrix *
SCOTT KING	<i>Scott King</i>	J. Beck	J. Beck	TAU	DEC 19 2013	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By		Received By			DEC 19 2013	DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Relinquished By		Received By				
Relinquished By		Received By				
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By	Date/Time	
PRINTED O 10/16/2013						A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company		C.O.C.# S14-012-169	
SCOTT KING		Page 1 of 1	
Collector	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	S14-012	Purchase Order/Charge Code	300071ES20
Project Title	SURV, DECEMBER 2013	Ice Chest No.	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	Bill of Lading/Air Bill No.	N/A
Protocol	SURV	Offsite Property No.	N/A
POSSIBLE SAMPLE HAZARDS/REMARKS *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)		SPECIAL INSTRUCTIONS Hold Time Site Wide Generator Knowledge Information Form applies. The CACN for analytical work at WSCF is 401647. FY13 and FY14 samples cannot be in the same SDG.	
Contact/Requester	Karen Waters-Husted	Total Activity Exemption: Yes	<input type="checkbox"/> No
Sampling Origin	Hanford Site		
Logbook No.	HNF-N-506 10/45		
Method of Shipment	GOVERNMENT VEHICLE		
Priority:	30 Days		

Sample No.	Filter	* Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2THX9	N	DEC 19 2013	10:44	1x20-mL P	Activity Scan	6 Months	None
B2THX9	N	W	1	2x4-L G/P	1129LL_SEP_LEPS_GS_LL: COMMON MAPNL	6 Months	None

336200405
W066443

Relinquished By SCOTT KING	Print	Sign	Date/Time
<i>Scott King</i>			DEC 19 2013 14:50
Relinquished By	Received By	Print	Date/Time
	<i>Scott J. Bull</i>	TAKA	DEC 19 2013 14:50
Relinquished By	Received By		Date/Time
Relinquished By	Received By		Date/Time
FINAL SAMPLE DISPOSITION		Disposed By	Date/Time

A-6004-842 (REV 2)

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C.# S14-012-170	
Collector	SCOTT KING	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	S14-012	Sampling Origin	Hanford Site	Purchase Order/Charge Code	30007IES20
Project Title	SURV, DECEMBER 2013	Logbook No.	HNF-N-506 <i>60/45</i>	Ice Chest No.	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	SURV	Priority:	30 Days	Offsite Property No.	N/A
POSSIBLE SAMPLE HAZARDS/REMARKS		SPECIAL INSTRUCTIONS		Total Activity Exemption: Yes <input type="checkbox"/> No <input type="checkbox"/>	
*** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)		Site Wide Generator Knowledge Information Form applies. The CACN for analytical work at WSCF is 401647. FY13 and FY14 samples cannot be in the same SDG.			
Sample No.	Filter	* Date	Time	No/Type Container	Sample Analysis
B2THY2	N	W	DEC 19 2013 0844	1x20-ml P	Activity Scan
B2THY2	N	W		2x4-L GP	1129LL_SEP_LEPS_GS_LL; COMMON <i>MAPAM</i>
					Holding Time
					6 Months
					6 Months
					Preservative
					None
					None

33200005
W000003

Relinquished By	Print	Sign	Received By	Print	Sign	Date/Time	Matrix *
SCOTT KING	<i>Scott King</i>		<i>J Scott</i>	<i>Scott King</i>		DEC 19 2013 1430	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By			Received By			DEC 19 2013 1430	DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Relinquished By			Received By				
Relinquished By			Received By				
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By		Date/Time	
PRINTED O 10/23/2013							A-6004-842 (REV 2)

CH2M Hill Plateau Remediation Company		C.O.C.# S14-012-673	
Project Title		Page 1 of 1	
Collector	SCOTT KING	Contact/Requester	Karen Waters-Husted
SAF No.	S14-012	Telephone No.	509-376-4650
Project Title	SURV, DECEMBER 2013	Purchase Order/Charge Code	300071ES20
Shipped To (Lab)	TestAmerica Incorporated, Richland	Ice Chest No.	N/A
Protocol	SURV	Bill of Lading/Air Bill No.	N/A
POSSIBLE SAMPLE HAZARDS/REMARKS *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)		Priority:	30 Days
SPECIAL INSTRUCTIONS Site Wide Generator Knowledge Information Form applies. The CACN for analytical work at WSCF is 401647. FY13 and FY14 samples cannot be in the same SDG.		Offsite Property No.	N/A
Sample No.	Filter	Date	Time
B2TKK6	N	DEC 19 2013	08:41
B2TKK6	N	W	1
No/Type Container		Sample Analysis	Holding Time
1x20-mL P		Activity Scan	6 Months
2x4-L G/P		1129LL_SEP_LEPS_GS_LL: COMMON	6 Months
Preservative		None	
Preservative		None	

S32a00405
W000403

Relinquished By	SCOTT KING	Print	Sign	Received By	450 S. Bank Road TPA, TN	Date/Time	DEC 19 2013 14:30
Relinquished By				Received By		Date/Time	
Relinquished By				Received By		Date/Time	
Relinquished By				Received By		Date/Time	
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By		Date/Time	



Sample Check-in List

THE LEADER IN ENVIRONMENTAL TESTING

Date/Time Received: 12-19-13 / 1430 Container GM Screen Result: (Airlock) 40 cpm Initials [B]
Sample GM Screen Result (Sample Receiving) 20 cpm Initials [B]

Client: Pw SDG #: W06643 SAF #: 514-012 NA []

Lot Number: J3L200405

Chain of Custody # 514-012-167, 168, 169, 170, 673

Shipping Container ID or Air Bill Number: [Handwritten] NA [B]

Samples received inside shipping container/cooler/box Yes [B]] Continue with 1 through 4. Initial appropriate response.
No []] Go to 5, add comment to #16.

- 1. Custody Seals on shipping container intact? Yes [] No [] No Custody Seal [B]
2. Custody Seals dated and signed? Yes [] No [] No Custody Seal [B]
3. Cooler temperature: _____ °C NA [B]
4. Vermiculite/packing materials is NA [B] Wet [] Dry []

Item 5 through 16 for samples. Initial appropriate response.

- 5. Chain of Custody record present? Yes [B]] No []
6. Number of samples received (Each sample may contain multiple bottles): 5
7. Containers received: 5 x 20, 10 x 4LP

- 8. Sample holding times exceeded? NA [] Yes [] No [B]
9. Samples have: _____ tape _____ hazard labels [B] custody seals [B] appropriate sample labels
10. Matrix: _____ A (FLT, Wipe, Solid, Soil) [B] I (Water) _____ S (Air, Niosh 7400) _____ T (Biological, Ni-63)

- 11. Samples: [B] are in good condition _____ are leaking _____ are broken
_____ have air bubbles (Only for samples requiring no head space) _____ Other _____

- 12. Sample pH appropriate for analysis requested Yes [B]] No [] NA []
(If acidification is necessary go to pH area & document sample ID, initial pH, amount of HNO3 added and pH after addition on table)

- 13. Were any anomalies identified in sample receipt? Yes [] No [B]]
14. Description of anomalies (include sample numbers): NA [B]]

- 15. Sample Location, Sample Collector Listed on COC? * Yes [B]] No []
*For documentation only. No corrective action needed.

- 16. Additional Information: N/A

[] Client/Courier denied temperature check. [B] Client/Courier unpack cooler.

Sample Check-in List completed by Sample Custodian:
Signature: [Handwritten] Date: 12-20-13

Client Notification needed? Yes [] No [B]] Date: _____
By: _____
Person contacted: _____

[B] No action necessary; process as is
Project Manager: Sandra Seger Date: 12-21-13

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C. # I14-008-005	
Collector Roy Shepard		Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650	Page 1 of 1	
SAF No. I14-008		Sampling Origin Hanford Site	Purchase Order/Charge Code 30007IES20		
Project Title 100KR4, DECEMBER 2013		Logbook No. HNF-N-50653/86	Ice Chest No. N/A		
Shipped To (Lab) TestAmerica Incorporated, Richland		Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A		
Protocol CERCLA		Priority: 30 Days	Offsite Property No. N/A		
<p>POSSIBLE SAMPLE HAZARDS/REMARKS</p> <p>*** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400 5 (1990/1993)</p>		<p>SPECIAL INSTRUCTIONS</p> <p>Hold Time 100 Area Generator Knowledge Information Form applies. The CACN for analytical work at WSCF is 401647. FY13 & FY14 SAFs cannot be in the same SDG.</p>	Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Sample No.	Filter	* Date	Time	No./Type Container	Sample Analysis
B2TL77	N	W	12/18/13	1x20-mL P	Activity Scan
B2TL77	N	W	↓	2x1-L GIP	C14_LSC: COMMON
			↓		margin
					6 Months
					6 Months
					Preservative



S32200406
W000403

Relinquished By Roy Shepard	Print	Sign	Received By SSU-1	Date/Time DEC 18 2013 1500
Relinquished By SSU-1	Print	Sign	Received By Benton	Date/Time 12/19/13 0930
Relinquished By Benton	Print	Sign	Received By J. Beck	Date/Time 12/19/13 1430
Relinquished By	Print	Sign	Received By	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)			Date/Time

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C.# 114-008-006	
Collector Roy Shepard		Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650	Page 1 of 1	
SAF No. 114-008		Sampling Origin Hanford Site	Purchase Order/Charge Code 300071ES20		
Project Title 100KR4, DECEMBER 2013		Logbook No. HNF-N-50653/80	Ice Chest No. N/A		
Shipped To (Lab) TestAmerica Incorporated, Richland		Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A		
Protocol CERCLA		Priority: 30 Days	Offsite Property No. N/A		
POSSIBLE SAMPLE HAZARDS/REMARKS		SPECIAL INSTRUCTIONS	Hold Time	Total Activity Exemption: Yes <input type="checkbox"/> No <input type="checkbox"/>	
*** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)		100 Area Generator Knowledge Information Form applies. The CACN for analytical work at WSCF is 401647. FY13 & FY14 SAFs cannot be in the same SDG.			
Sample No.	Filter	* Date	Time	No./Type Container	Sample Analysis
B2TL66	N	W 12/18/13	1210	1x20-mL P	Activity Scan
B2TL66	N	W ↓	↓	2x1-L GIP	C14_LSC: COMMON

332220106
Waters

Relinquished By Roy Shepard	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time DEC 18 2013 1500	Received By SSU-1	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time DEC 18 2013 1500
Relinquished By SSU-1	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time 12/19/13 0920	Received By C. Fulton	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time 12/19/13 0920
Relinquished By <i>[Signature]</i>	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time 12/19/13 1430	Received By J. Ball	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time 12-19-13 1430
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
FINAL SAMPLE DISPOSITION				Disposal Method (e.g., Return to customer, per lab procedure, used in process)			
PRINTED O 10/16/2013				A-6004-842 (REV 2)			

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C. # II4-008-007	
Collector Roy Shepard		Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650	Page 1 of 1	
SAF No. II4-008	Sampling Origin Hanford Site	Logbook No. HNF-N-50653/80	Purchase Order/Charge Code 300071ES20	Ice Chest No. N/A	
Project Title 100KR4, DECEMBER 2013	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A	Offsite Property No. N/A	Priority: 30 Days	
Shipped To (Lab) TestAmerica Incorporated, Richland	Protocol CERCLA	SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 100 Area Generator Knowledge Information Form applies. The CACN for analytical work at WSCF is 401647. FY13 & FY14 SAFs cannot be in the same SDG.			
Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis
B2TL72	N	12/18/13	0930	1x20-mL P	Activity Scan
B2TL72	N	W	↓	2x1-L G/P	C14_LSC: COMMON

332000404
W000003

Relinquished By Roy Shepard	Print SSU-1	Sign DEC 18 2013	Date/Time 1500
Relinquished By SSU-1	Received By Fulton	Date/Time 12/19/13	Date/Time 0920
Relinquished By Fulton	Received By S. Burt	Date/Time 12/19/13	Date/Time 1430
Relinquished By	Received By	Date/Time	Date/Time
Matrix *	S = Soil	DS = Drum Solids	
	SE = Sediment	DL = Drum Liquids	
	SO = Solid	T = Tissue	
	SL = Sludge	WI = Wipe	
	W = Water	L = Liquid	
	O = Oil	V = Vegetation	
	A = Air	X = Other	
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Date/Time
Disposed By			

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 12-19-13 / 1430 Container GM Screen Result: (Airlock) 40 cpm Initials [B]
Sample GM Screen Result (Sample Receiving) 20 cpm Initials [B]

Client: Pkw SDG #: W01043 SAF #: I14-008 NA []

Lot Number: 336200404

Chain of Custody # I14-008-005; 006; 007

Shipping Container ID or Air Bill Number: Int'l de Qu. NA [BFS]

Samples received inside shipping container/cooler/box Yes [B]] Continue with 1 through 4. Initial appropriate response.
No []] Go to 5, add comment to #16.

- 1. Custody Seals on shipping container intact? Yes [] No [] No Custody Seal [B]]
2. Custody Seals dated and signed? Yes [] No [] No Custody Seal [B]]
3. Cooler temperature: _____ °C NA [B]]
4. Vermiculite/packing materials is NA [B]] Wet [] Dry []

Item 5 through 16 for samples. Initial appropriate response.

- 5. Chain of Custody record present? Yes [B]] No []
6. Number of samples received (Each sample may contain multiple bottles): 3
7. Containers received: 3 x vial 20, 6 x 4

- 8. Sample holding times exceeded? NA [] Yes [] No [B]]
9. Samples have: _____ tape _____ hazard labels [B] custody seals [B] appropriate sample labels
10. Matrix: _____ A (FLT, Wipe, Solid, Soil) [B] I (Water) _____ S (Air, Niosh 7400) _____ T (Biological, Ni-63)

- 11. Samples:
[B] are in good condition _____ are leaking _____ are broken
_____ have air bubbles (Only for samples requiring no head space) _____ Other _____

- 12. Sample pH appropriate for analysis requested Yes [B]] No [] NA []
(If acidification is necessary go to pH area & document sample ID, initial pH, amount of HNO3 added and pH after addition on table)

- 13. Were any anomalies identified in sample receipt? Yes [] No [B]]
14. Description of anomalies (include sample numbers): NA [B]]

- 15. Sample Location, Sample Collector Listed on COC? * Yes [B]] No []
*For documentation only. No corrective action needed.

16. Additional Information: N/A

[] Client/Courier denied temperature check. [B] Client/Courier unpack cooler.

Sample Check-in List completed by Sample Custodian:
Signature: [Signature] Date: 12-20-13

Client Notification needed? Yes [] No [BFS] Date: _____
By: _____
Person contacted: _____

[BFS] No action necessary; process as is
Project Manager: [Signature] Date: 12-21-13

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.# **I14-005-132**
Page 1 of 1

Collector: **SCOTT KING** Telephone No. **509-376-4650**

SAF No. **I14-005** Purchase Order/Charge Code **300071ES20**

Project Title **100KR4, NOVEMBER 2013** Ice Chest No. **N/A**

Shipped To (Lab) **TestAmerica Incorporated, Richland** Bill of Lading/Air Bill No. **N/A**

Protocol **CERCLA** Priority: **30 Days** Offsite Property No. **N/A**

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

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes No
 100 Area Generator Knowledge Information Form applies.
 The CACN for analytical work at WSCF is 401647.
 FY13 & FY14 SAFs cannot be in the same SDG.

Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2RVR2	N	DEC 31 2013	1028	1x500-mL aG	7196_CR6: COMMON	24 Hours	Cool-4C
B2RVR2	N			1x1-L P	906.0_TRIITIUM_LSC: COMMON	6 Months	None
B2RVR2	N			1x1-L P	9310_ALPHABETA_GPC: COMMON	6 Months	HNO3 to pH <2
B2RVR2	N			3x1-L G/P	GAMMA_GS: COMMON; GAMMA_GS: GW 01	6 Months	HNO3 to pH <2
B2RVR2	N			3x1-L G/P	SRTOT_SEP_PRECIP_GPC: COMMON	6 Months	HNO3 to pH <2
B2RVR2	N			1x500-mL P	TC99_ETVDSK_LSC: COMMON	6 Months	HCl to pH <2
B2RVR1	N			1x20-mL P	Activity Scan	6 Months	None
B2RVR1	N	DEC 31 2013	1028	2x1-L G/P	C14_LSC: COMMON	6 Months	None



W 46643
J3L310410

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
SCOTT KING	<i>Scott King</i>		DEC 31 2013 1127	MALIKATE MARJOLITE	<i>Malikate Marjolite</i>		DEC 31 2013 1127	S = Soil, DS = Drum Solids, SE = Sediment, DL = Drum Liquids, SO = Solid, T = Tissue, SL = Sludge, WI = Wipe, W = Water, L = Liquid, O = Oil, V = Vegetation, A = Air, X = Other
MALIKATE MARJOLITE	<i>Malikate Marjolite</i>		12-31-13 1340	Tom McGinnis	<i>Tom McGinnis</i>		12/31/13 1340	
Relinquished By				Received By				
Relinquished By				Received By				

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process)

Disposed By: _____ Date/Time: _____

PRINTED ON 12/12/2013 A-6004-842 (REV 2)



Sample Check-in List

Date/Time Received: 12/31/13 1340 Container GM Screen Result: (Airlock) 20 cpm Initials [MT]
Sample GM Screen Result (Sample Receiving) 20 cpm Initials [MT]

Client: PGW SDG #: W06643 SAF #: I14-005 NA []

Lot Number: F3L31040 J3L310410

Chain of Custody # I14-005-132

Shipping Container ID or Air Bill Number: Hmo Delivered NA [] coolers

Samples received inside shipping container/cooler/box Yes [] Continue with 1 through 4. Initial appropriate response. No [] Go to 5, add comment to #16.

- 1. Custody Seals on shipping container intact? Yes [] No [] No Custody Seal []
2. Custody Seals dated and signed? Yes [] No [] No Custody Seal []
3. Cooler temperature: ON ICE 12.0 C NA []
4. Vermiculite/packing materials is NA [] Wet [] Dry []

Item 5 through 16 for samples. Initial appropriate response.

- 5. Chain of Custody record present? Yes [] No []
6. Number of samples received (Each sample may contain multiple bottles): 13 2 SKS 1-3-14
7. Containers received: 1X500-ml a/b, 2X1-L-P, 6X1-LG/A, 1X500mLP, 1X20-mlP, 2X1-LG/A
8. Sample holding times exceeded? NA [] Yes [] No []
9. Samples have: tape hazard labels [] custody seals [] appropriate sample labels []
10. Matrix: A (FLT, Wipe, Solid, Soil) [] I (Water) [] S (Air, Niosh 7400) [] T (Biological, Ni-63) []
11. Samples: are in good condition [] are leaking [] are broken []
have air bubbles (Only for samples requiring no head space) [] Other []
12. Sample pH appropriate for analysis requested Yes [] No [] NA []
(If acidification is necessary go to pH area & document sample ID, initial pH, amount of HNO3 added and pH after addition on table)
13. Were any anomalies identified in sample receipt? Yes [] No []
14. Description of anomalies (include sample numbers): NA []
15. Sample Location, Sample Collector Listed on COC? * Yes [] No []
*For documentation only. No corrective action needed.
16. Additional Information: N/A

[] Client/Courier denied temperature check. [] Client/Courier unpack cooler.

Sample Check-in List completed by Sample Custodian: Signature: TOM OM Date: 12/31/13

Client Notification needed? Yes [] No [] Date: By: Person contacted:

[] No action necessary; process as is

Project Manager Sandra Seger Date 1-3-14

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C. # II4-005-124	
Collector <i>Roy Shepanski</i>	114-005	Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650	Page 1 of 1	
SAF No.	100KR4, NOVEMBER 2013	Sampling Origin Hanford Site	Purchase Order/Charge Code 300071ES20		
Project Title	TestAmerica Incorporated, Richland	Logbook No. HNF-N-506 <u>53/82</u>	Ice Chest No. N/A		
Shipped To (Lab)	CERCLA	Method of Shipment GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A		
Protocol	30 Days	Priority: PRIORITY	Offsite Property No. N/A		
POSSIBLE SAMPLE HAZARDS/REMARKS		SPECIAL INSTRUCTIONS Hold Time			
*** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5600.5 (1990/1993)		100 Area Generator Knowledge Information Form applies. The CACN for analytical work at WSCF is 401647. FY13 & FY14 SAFs cannot be in the same SDG.			
Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis
B2RVK7	N	12/19/13	0902	1x20-mL P	Activity Scan
B2RVK7	N	↓	↓	2x1-L G/P	C14_LSC: COMMON
					mag91
					6 Months
					6 Months
					Preservative

54A020426
W06643
Due



Relinquished By <i>Roy Shepanski</i>	Print <i>[Signature]</i>	Sign	Received By SSU-1	Print	Sign	Date/Time DEC 19 2013 1500	Matrix *
Relinquished By SSU-1	Print <i>[Signature]</i>	Sign	Received By <i>Kevin Patterson</i>	Print	Sign	DEC 30 2013 1230	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By <i>Kevin Patterson</i>	Print <i>[Signature]</i>	Sign	Received By <i>J. Boul</i>	Print	Sign	DEC 30 2013 1300	DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Relinquished By	Print	Sign	Received By	Print	Sign	Date/Time	
FINAL SAMPLE DISPOSITION			Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Date/Time		

TestAmerica

Sample Check-in List

THE LEADER IN ENVIRONMENTAL TESTING

Date/Time Received: 12-30-13 / 1500 Container GM Screen Result: (Airlock) 60 cpm Initials [B]
Sample GM Screen Result (Sample Receiving) 40 cpm Initials [B]

Client: P6W SDG #: W06643 SAF #: I14-005 NA []

Lot Number: J4A020426

Chain of Custody # I14-005-124

Shipping Container ID or Air Bill Number: Hand de Qu. NA [B]

Samples received inside shipping container/cooler/box Yes [B] Continue with 1 through 4. Initial appropriate response. No [] Go to 5, add comment to #16.

1. Custody Seals on shipping container intact? Yes [] No [] No Custody Seal [B]

2. Custody Seals dated and signed? Yes [] No [] No Custody Seal [B]

3. Cooler temperature: _____ °C NA [B]

4. Vermiculite/packing materials is NA [B] Wet [] Dry []

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes [B] No []

6. Number of samples received (Each sample may contain multiple bottles): 1

7. Containers received: 1x vial 20; 2x LP

8. Sample holding times exceeded? NA [] Yes [] No [B]

9. Samples have: _____ tape _____ hazard labels SL5 custody seals [B] appropriate sample labels

10. Matrix: _____ A (FLT, Wipe, Solid, Soil) [B] I (Water) _____ S (Air, Niosh 7400) _____ T (Biological, Ni-63)

11. Samples: [B] are in good condition _____ are leaking _____ are broken
_____ have air bubbles (Only for samples requiring no head space) _____ Other _____

12. Sample pH appropriate for analysis requested Yes [B] No [] NA []
(If acidification is necessary go to pH area & document sample ID, initial pH, amount of HNO3 added and pH after addition on table)

13. Were any anomalies identified in sample receipt? Yes [] No [B]

14. Description of anomalies (include sample numbers): NA [B]

15. Sample Location, Sample Collector Listed on COC? * Yes [B] No []
*For documentation only. No corrective action needed.

16. Additional Information: N/A

[] Client/Courier denied temperature check. [B] Client/Courier unpack cooler.

Sample Check-in List completed by Sample Custodian:

Signature: Juan Bosch Date: 1-2-14

Client Notification needed? Yes [] No [B] Date: _____
By: _____
Person contacted: _____

[B] No action necessary; process as is

Project Manager: Sandra Seger Date: 1-3-14

CH2MHill Plateau Remediation Company		C.O.C.# 114-011-019	
Collector Roy Shepard		Page 1 of 1	
Project Title	2ZP1, DECEMBER 2013	Telephone No.	509-376-4650
Shipped To (Lab)	TestAmerica Incorporated, Richland	Purchase Order/Charge Code	30007IES20
Protocol	CERCLA	Ice Chest No.	N/A
Priority	30 Days	Bill of Lading/Air Bill No.	N/A
Method of Shipment	GOVERNMENT VEHICLE	Offsite Property No.	N/A
Sampling Origin	Hanford Site	SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Contact/Requester	Karen Waters-Husted	200 Area Generator Knowledge Information Form applies. The CACN for analytical work at WSCF is 401647. FY13 and FY14 samples cannot be in the same SDG.	
Logbook No.	HNF-N-506.53/85	Sample Analysis	Preservative
Activity Scan	1129LL_SEP_LEPS_GS_LL: COMMON magga	6 Months	None
No/Type Container	1x20-mL P	6 Months	None
Filter *	N		
Date	12/30/13		
Time	1340		

J4A02042N
W06643
Du



Relinquished By Roy Shepard	Date/Time DEC 30 2013 1500	Received By SSUE #1	Date/Time DEC 30 2013 1500	Print	Sign
Relinquished By SSUE #1	Date/Time 12/30/13 1545	Received By KA Shepard	Date/Time 12/30/13 1505		
Relinquished By KA Shepard	Date/Time 12/30/13 1515	Received By S. Boulger	Date/Time 12/30/13 1515		
Relinquished By	Date/Time	Received By	Date/Time		
FINAL SAMPLE DISPOSITION				Disposal Method (e.g., Return to customer, per lab procedure, used in process)	
PRINTED ON 10/24/2013				A-6004-842 (REV 2)	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 12-30-13/1515 Container GM Screen Result: (Airlock) 60 cpm Initials [B]
Sample GM Screen Result (Sample Receiving) 40 cpm Initials [B]

Client: P/W SDG #: W06643 SAF #: I14-011 NA []

Lot Number: J4A020427

Chain of Custody # I14-011-019

Shipping Container ID or Air Bill Number: Hand de Cav. NA [B]

Samples received inside shipping container/cooler/box Yes [B] Continue with 1 through 4. Initial appropriate response.
No [] Go to 5, add comment to #16.

- 1. Custody Seals on shipping container intact? Yes [] No [] No Custody Seal [B]
2. Custody Seals dated and signed? Yes [] No [] No Custody Seal [B]
3. Cooler temperature: _____ °C NA [B]
4. Vermiculite/packing materials is Wet [] Dry []

- Item 5 through 16 for samples. Initial appropriate response.
5. Chain of Custody record present? Yes [B] No []
6. Number of samples received (Each sample may contain multiple bottles): 1
7. Containers received: 1 x vial 20, 2 x 4L

- 8. Sample holding times exceeded? NA [] Yes [] No [B]
9. Samples have: _____ tape _____ hazard labels [B] custody seals [B] appropriate sample labels
10. Matrix: _____ A (FLT, Wipe, Solid, Soil) [B] _____ I (Water) _____ S (Air, Niosh 7400) _____ T (Biological, Ni-63)

- 11. Samples: [B] are in good condition _____ are leaking _____ are broken
_____ have air bubbles (Only for samples requiring no head space) Other _____
12. Sample pH appropriate for analysis requested Yes [B] No [] NA []
13. Were any anomalies identified in sample receipt? Yes [] No [B]
14. Description of anomalies (include sample numbers): NA [B]

- 15. Sample Location, Sample Collector Listed on COC? * Yes [B] No []
*For documentation only. No corrective action needed.
16. Additional Information: W/A

[] Client/Courier denied temperature check. [B] Client/Courier unpack cooler.

Sample Check-in List completed by Sample Custodian:
Signature: [Signature] Date: 1-2-14

Client Notification needed? Yes [] No [B] Date: _____
By: _____
Person contacted: _____

[B] No action necessary; process as is
Project Manager: [Signature] Date: 1-2-14

Balance Id: 1120482733

Sample Preparation/Analysis

1/8/2014 9:26:39 AM
384868, CH2M Hill Plateau Remediation Company
Pacific Northwest National Lab

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

AnalyteDueDate: 01/31/2014

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

Batch: 4006013 WATER pCi/L PM, Quote: SS, 57671
SEQ Batch, Test: None All Tests: ARS6, 4006013 9NS1, 4006018 BNTB, 4006019 SSS3, 4006022 ART0,

Prep Tech: AtkinsA,WebbK

Work Ord. Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	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 M2PTW-1-AA J3L180430-2-SAMP 12/17/2013 07:00	203.10g,in		203.10g		THTC27060 01/08/14,pd 10/28/13,r				200 min	114	2123	1/13/14 oia	Beta: 1.17E-04 uCi/Sa
2 M2PTW-1-AF-X J3L180430-2-DUP 12/17/2013 07:00	201.90g,in		201.90g		THTC27061 01/08/14,pd 10/28/13,r				115				Beta: 1.17E-04 uCi/Sa
3 M2PT0-1-AA J3L180430-4-SAMP 12/17/2013 09:05	201.90g,in		201.90g		THTC27062 01/08/14,pd 10/28/13,r				116				Beta: 1.17E-04 uCi/Sa
4 M2PT2-1-AD J3L180430-6-SAMP 12/17/2013 10:10	200.80g,in		200.80g		THTC27063 01/08/14,pd 10/28/13,r				21	6645			Beta: 4.69E-04 uCi/Sa
5 M2RHW-1-AA-B J4A060000-13-BLK 01/06/2014 12:42 pd	200.30g,in		200.30g		THTC27064 01/08/14,pd 10/28/13,r				23				Beta: 3.52E-03 uCi/Sa
6 M2RHW-1-AC-C J4A060000-13-LCS 01/06/2014 12:42 pd	201.40g,in		201.40g		THSI3653 01/08/14,pd 10/28/13,r				24				Beta:

Balance Id:1120482733

Pipet #:

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: ,Webbk

Sample Preparation/Analysis

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

AnalyDueDate: 01/31/2014

pci/l

Batch: 4006013

SEQ Batch, Test: None

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	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:
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Comments:

All Clients for Batch: 384868, CHEM Hill Plateau Remediation Company Pacific Northwest National Lab, SS , 57671

M2PFW1AA-SAMP Constituent List:

TH-228	RDL:1	PCI/L	LCL:	UCL:	RPD:	TH-230	RDL:1	PCI/L	LCL:70	UCL:130	RPD:20		
TH-232	RDL:1	PCI/L	LCL:	UCL:	RPD:	TH-234	RDL:	PCI/L	LCL:20	UCL:115	RPD:20		
M2RHW1AA-BLK:													
TH-228	RDL:1	PCI/L	LCL:	UCL:	RPD:	TH-230	RDL:1	PCI/L	LCL:	UCL:	RPD:		
TH-232	RDL:1	PCI/L	LCL:	UCL:	RPD:	TH-234	RDL:	PCI/L	LCL:20	UCL:115	RPD:20		
M2RHW1AC-LCS:													
TH-230	RDL:1	PCI/L	LCL:70	UCL:130	RPD:20	TH-234	RDL:	PCI/L	LCL:20	UCL:115	RPD:20		

M2PFW1AA-SAMP Calc Info:

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

1/14/2014 4:14:13 PM

ICOC Fraction Transfer/Status Report

ByDate: 1/14/2013, 1/19/2014, Batch: '4006013', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
4006013				
AC	Rev1C	BourneD	1/9/2014 7:40:25 AM	
SC		campbellsc	IsBatched	1/6/2014 1:09:00 PM
SC		BourneD	Sep1C	1/9/2014 7:40:25 AM
SC		RichardsonB	Sep2C	1/9/2014 10:30:16 AM
SC		JorgensonD	Sep2C	1/13/2014 11:17:35 AM
SC		BullJ	InCnt1	1/13/2014 11:47:02 AM
SC		BullJ	CalcC	1/14/2014 8:45:44 AM
SC		mcginnist	Rev1C	1/14/2014 4:13:59 PM
AC		RichardsonB	1/9/2014 10:30:16	ICOC_RADCALC v4.8.49
AC		JorgensonD	1/13/2014 11:17:35	RL-ALP-001 REVISION 4
AC		BullJ	1/13/2014 11:47:02	RL-ALP-016 REVISION 3
AC		BullJ	1/14/2014 8:45:44	RL-ALP-016 REVISION 2
AC		mcginnist	1/14/2014 4:13:59 PM	RL-CI-008 REVISION 3
				RL-CI-008 REVISION 3
				RL-DR-001 Rev 4

AC: Accepting Entry; SC: Status Change

TestAmerica Richland
Richland Wa.

Sample Preparation/Analysis
 Balance Id: 1120482733
 Pipet #: _____
 Sep1 DT/Tm Tech: _____
 Sep2 DT/Tm Tech: _____
 Prep Tech: WebbK

384868, CH2M Hill Plateau Remediation Company
 Pacific Northwest National Lab
 AZ Gross Alpha Prp GPC001
 S7 Gross Alpha by GPC using Am-241 curve
 51 CLIENT: HANFORD

1/8/2014 4:09:31 PM
 Analyze Date: 01/31/2014
 PM, Quote: SS, 57671

Batch: 4006014 WATER pCi/L
 SEQ Batch, Test: None All Tests: 3365014 88EA, 4006014 AZS7, 4006015 BCS8, 4006016 CGTH, 4006017 AWT, 4006019 5SS3, 4006020 FPS5, 4006021 ARS6, #Containers: 11

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On (24hr) Circle	CR Analyst, Init/Date	Comments:
1 M2Q4X-1AD J3L310410-1-SAMP 12/31/2013 10:28	98.60g.in	98.60g	98.60g.in	98.60g					17.9mg	Alpha: 9.83E-04 uCi/Sa	213	Beta: 1.20E-03 uCi/Sa	19/11/13
2 M2Q4X-1-AM-X J3L310410-1-DUP 12/31/2013 10:28	98.30g.in	98.30g	98.30g.in	98.30g					19.5mg	Alpha: 9.83E-04 uCi/Sa	213	Beta: 1.20E-03 uCi/Sa	
3 M2RHX-1-AA-B J4A060000-14-BLK 01/06/2014 12:42 pd	200.30g.in	200.30g	200.30g.in	200.30g					0.3mg	Alpha: 9.83E-04 uCi/Sa	213	Beta: 1.20E-03 uCi/Sa	
4 M2RHX-1-ACC J4A060000-14-LCS 01/06/2014 12:42 pd	200.50g.in	200.50g	200.50g.in	200.50g	ASD5565				0.4mg	Alpha: 9.83E-04 uCi/Sa	213	Beta: 1.20E-03 uCi/Sa	

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

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

WO Cnt: 4
 Prep_SamplePrep v4.8.65

1/8/2014 4:09:32 PM **Sample Preparation/Analysis** Balance Id:1120482733

AZ Gross Alpha Pip GPC001 Pipet #:

S7 Gross Alpha by GPC using Am-241 curve

51 CLIENT: HANFORD

Analyte Due Date: 01/31/2014

Batch: 4006014

SEQ Batch, Test: None

PCi/L

Sep1 DT/Tm Tech: Sep2 DT/Tm Tech: Prep Tech: WebbK

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	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:
Comments: M2RHXBK CommentsKWP-13-00441,S-13-00668													
All Clients for Batch:													
384868, CH2M Hill Plateau Remediation Company	Pacific Northwest National Lab, SS , 57671												
M2Q4X1AD-SAMP Constituent List:													
ALPHA RDL:3	pci/L	LCL:	UCL:	RPD:									
M2REX1AA-BLK:	pci/L	LCL:	UCL:	RPD:									
ALPHA RDL:3	pci/L	LCL:70	UCL:130	RPD:20									
M2REX1AC-LCS:	pci/L												
Am-241													
M2Q4X1AD-SAMP Calc Info:													
Uncert Level (#s): 2	Decay to Sadt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B									
M2REX1AA-BLK:	Uncert Level (#s): 2	Decay to Sadt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B								
M2REX1AC-LCS:	Uncert Level (#s): 2	Decay to Sadt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B								

TestAmerica Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2

Richland Wa. pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ISV - Insufficient Volume for Analysis

WO Cnt: 4

Prep_SamplePrep v4.8.65

1/9/2014 3:08:22 PM

ICOC Fraction Transfer/Status Report

ByDate: 1/9/2013, 1/14/2014, Batch: '4006014', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
4006014				
AC	Rev1C	HayesA	1/8/2014 4:19:06 PM	
SC		campbellsc	IsBatched	1/6/2014 1:09:03 PM
SC		HayesA	Sep2C	1/8/2014 4:19:06 PM
SC		DawkinsO	InCnt1	1/8/2014 5:09:50 PM
SC		BullJ	CalcC	1/9/2014 11:33:11 AM
SC		mcginnist	Rev1C	1/9/2014 3:08:14 PM
AC		DawkinsO	1/8/2014 5:09:50 PM	
AC		BullJ	1/9/2014 11:33:11	
AC		mcginnist	1/9/2014 3:08:14 PM	

ICOC_RADCALC v4.8.49
 RL-GPC-001 REVISION 3
 RL-CI-006 REVISION 5
 RL-CI-006 REVISION 5
 RL-DR-001 Rev 4

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

1/13/2014 3:45:12 PM **Sample Preparation/Analysis** Balance Id: 1120482733

384868, CH2M Hill Plateau Remediation Company BC Gross Beta Prp GPC001 Pipet #: _____
 , Pacific Northwest National Lab S8 Gross Beta by GPC using Sr/Y-90 curve
 5I CLIENT: HANFORD Sep1 DT/Tm Tech: _____

AnalytDueDate: 01/31/2014 PM, Quote: SS, 57671 Sep2 DT/Tm Tech: _____

Batch: 4006015 WATER pCi/L Prep Tech: WebbK

SEQ Batch, Test: None

Work Ord. Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	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 M2Q4X-1-AE	196.40g,in	196.40g	196.40g	196.40g				60.1mg	200	Alpha: 9.83E-04 uCi/Sa	26A	Beta: 1.20E-03 uCi/Sa	2012/1/13/14
J3L310410-1-SAMP 12/31/2013 10:28									Scr:				
2 M2Q4X-1-AW-X	196.70g,in	196.70g	196.70g	196.70g				58.0mg	26B	Alpha: 9.83E-04 uCi/Sa		Beta: 1.20E-03 uCi/Sa	
J3L310410-1-DUP 12/31/2013 10:28									Scr:				
3 M2RH0-1-AA-B	200.40g,in	200.40g	200.40g	200.40g				0.2mg	26C	Alpha: 9.83E-04 uCi/Sa		Beta: 1.20E-03 uCi/Sa	
J4A060000-15-BLK 01/06/2014 12:42 pd									Scr:				
4 M2RH0-1-AC-C	200.20g,in	200.20g	200.20g	200.20g				0.2mg	26D	Alpha: 9.83E-04 uCi/Sa		Beta: 1.20E-03 uCi/Sa	
J4A060000-15-LCS 01/06/2014 12:42 pd									Scr:				

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

ISV - Insufficient Volume for Analysis WO Cnt: 4
 Prep_SamplePrep v4.8.65

1/13/2014 3:45:13 PM **Sample Preparation/Analysis** Balance Id:1120482733

BC Gross Beta Prp GPC001
 S8 Gross Beta by GPC using Sr/Y-90 curve
 51 CLIENT: HANFORD

Analyte Due Date: 01/31/2014
 Batch: 4006015
 SEQ Batch, Test: None

pCi/L

Prep Tech: Webbk

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	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:
Comments: M2RH0-BLK Comments:KWP-13-00441,S-13-00668													
All Clients for Batch:													
384868, CH2M Hill Plateau Remediation Company	Pacific Northwest National Lab, SS , 57671												
M2Q4X1AE-SAMP Constituent List:													
BETA RDL:4	pCi/L	LCL:		UCL:		RPD:							
M2RH01AA-BLK:													
BETA RDL:4	pCi/L	LCL:		UCL:		RPD:							
M2RH01AC-ICS:													
SR-90 RDL:	pCi/L	LCL:70		UCL:130		RPD:20							
M2Q4X1AE-SAMP Calc Info:													
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B									
M2RH01AA-BLK:													
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B									
M2RH01AC-ICS:													
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B									

TestAmerica Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2
 Richland Wa. pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ISV - Insufficient Volume for Analysis
 WO Cnt: 4
 Prep_SamplePrep v4.8.65

1/14/2014 11:31:27 AM

ICOC Fraction Transfer/Status Report

ByDate: 1/14/2013, 1/19/2014, Batch: '4006015', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
4006015				
AC		Rev1C	HayesA 1/13/2014 3:48:30 PM	
SC		campbellsc	IsBatched 1/6/2014 1:09:05 PM	ICOC_RADCALC v4.8.49
SC		HayesA	Sep2C 1/13/2014 3:48:30 PM	RL-GPC-001 REVISION 3
SC		DawkinsO	InCnt1 1/13/2014 4:41:38 PM	RL-CI-006 REVISION 5
SC		DawkinsO	CalcC 1/14/2014 12:14:34 AM	RL-CI-006 REVISION 5
SC		mcginnist	Rev1C 1/14/2014 11:31:21 AM	RL-DR-001 Rev 4
AC		DawkinsO	1/13/2014 4:41:38 PM	
AC		DawkinsO	1/14/2014 12:14:34	
AC		mcginnist	1/14/2014 11:31:21	

AC: Accepting Entry; SC: Status Change

TestAmerica Richland
Richland Wa.

1/10/2014 3:02:30 PM **Sample Preparation/Analysis** Balance Id:1120403183

394868, CH2M Hill Plateau Remediation Company **CG Sr-Total Prp/Sep GPC003** Pipet #: _____
 Pacific Northwest National Lab **TH Total Strontium by GPC** Sep1 DT/Tm Tech: 01/10/2014 10:18,BourneD
AnalyDueDate: 01/31/2014 51 CLIENT: HANFORD Sep2 DT/Tm Tech: _____

Batch: 4006016 WATER pCi/L PM, Quote: SS, 57671
 SEQ Batch, Test: None All Tests: 3365014 88EA, 4006014 AZS7, 4006015 BCS8, 4006016 CGTH, 4006017 AWTA, 4006019 SSS3,
 4006020 FPS5, 4006021 ARS6, Prep Tech: ,WattN

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	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 M2Q4X-1-AG J3L310410-1-SAMP 12/31/2013 10:28	1012.40g.in	1012.40g	SRTC1819 12/27/13					12.3mg	100	37A	2200	1/10/1460	
2 M2Q4X-1-AP-X J3L310410-1-DUP 12/31/2013 10:28	1002.30g.in	1002.30g	SRTC1820 12/27/13					12.1mg		37B			Beta: 1.20E-03 uCi/Sa
3 M2RH1-1-AA-B J4A060000-16-BLK 01/06/2014 12:42 pd	1002.00g.in	1002.00g	SRTC1821 12/27/13					11.3mg		37C			Beta: 1.20E-03 uCi/Sa
4 M2RH1-1-AC-C J4A060000-16-LCS 01/06/2014 12:42 pd	1005.80g.in	1005.80g	STSF0378 12/04/13					11.2mg		37D			Beta: _____

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

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

WO Cnt: 4
 Prep_SamplePrep v4.8.65

1/10/2014 3:02:31 PM **Sample Preparation/Analysis** Balance Id:1120403183

CG Sr-Total Prp/Sep GPC003
TH Total Strontium by GPC
5I CLIENT: HANFORD

AnalyDueDate: 01/31/2014
Batch: 4006016
SEQ Batch, Test: None

pCi/L

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/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:
Prep Tech: BourneD, WattN												
Comments: M2RH1-BLK CommentsS-13-00259,,,,,P-13-00610,P-13-00631,S-13-00763,S-13-00668,s-12-00228 All Clients for Batch: 384868, CH2M Hill Plateau Remediation Company Pacific Northwest National Lab, SS , 57671 M2Q4X1AG-SAMP Constituent List: Sr-90 RDL:2.00E+00 pCi/L LCL:70 UCL:130 RPD:20 M2RH11AA-BLK: Sr-90 RDL:2.00E+00 pCi/L LCL: UCL: RPD: M2RH11AC-LCS: Sr-90 RDL:2 pCi/L LCL:70 UCL:130 RPD:20 M2Q4X1AG-SAMP Calc Info: Uncert Level (#s):: 2 Decay to Sadt: Y Blk Subt.: N Sci.Not.: Y ODRs: B M2RH11AA-BLK: Uncert Level (#s):: 2 Decay to Sadt: Y Blk Subt.: N Sci.Not.: Y ODRs: B M2RH11AC-LCS: Uncert Level (#s):: 2 Decay to Sadt: Y Blk Subt.: N Sci.Not.: Y ODRs: B												

TestAmerica Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2
 Richland Wa. pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

WO Cnt: 4
Prep_SamplePrep v4.8.65

1/13/2014 9:30:51 AM

ICOC Fraction Transfer/Status Report

ByDate: 1/13/2013, 1/18/2014, Batch: '4006016', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
4006016				
AC	Rev1C	WattN	1/7/2014 8:42:29 AM	
SC		campbellsc	IsBatched	1/6/2014 1:09:08 PM
SC		WattN	InPrep	1/7/2014 8:42:29 AM
SC		WattN	Prep1C	1/7/2014 8:48:16 AM
SC		BourneD	Sep2C	1/10/2014 1:01:24 PM
SC		DawkinsO	InCnt1	1/10/2014 10:46:31 PM
SC		DawkinsO	CalcC	1/10/2014 10:55:51 PM
SC		mcginnist	Rev1C	1/13/2014 9:30:43 AM
AC		WattN	1/7/2014 8:48:16 AM	ICOC_RADCALC v4.8.49
AC		BourneD	1/10/2014 1:01:24 PM	RL-PRP-004 REVISION 2
AC		DawkinsO	1/10/2014 10:46:31	RL-PRP-004 REVISION 2
AC		DawkinsO	1/10/2014 10:55:51	RL-GPC-010 REVISION 3
AC		mcginnist	1/13/2014 9:30:43	RL-CI-006 REVISION 5
				RL-CI-006 REVISION 5
				RL-DR-001 Rev 4

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

1/7/2014 1:30:42 PM		Sample Preparation/Analysis		Balance Id:1120482733								
AW Gamma Prp GAM001 TA Gamma by HPGE 5I CLIENT: HANFORD		Pipet #:										
AnalytDueDate: 01/31/2014		Sep1 DT/Tm Tech:										
Batch: 4006017		Sep2 DT/Tm Tech:										
SEQ Batch, Test: None		Prep Tech: ,SannoHs										
pCi/L												
Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/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:
Comments:												
All Clients for Batch: 384868, CH2M Hill Plateau Remediation Company Pacific Northwest National Lab, SS , 57671												
M2Q4X1AF-SAMP Constituent List:												
Co-60	RDL:2.50E+01	Pci/L	LCL:	RPD:	Cs-134		RDL:1.50E+01	Pci/L	LCL:	RPD:		
Cs-137	RDL:1.50E+01	Pci/L	LCL:70	RPD:20	Cs-137DA		RDL:1.50E+01	Pci/L	LCL:70	RPD:20	UCL:130	RPD:20
Eu-152	RDL:5.00E+01	Pci/L	LCL:	RPD:	Eu-154		RDL:5.00E+01	Pci/L	LCL:	RPD:	UCL:130	RPD:
Eu-155	RDL:5.00E+01	Pci/L	LCL:	RPD:	K-40		RDL:0.00E+00	Pci/L	LCL:	RPD:	UCL:	RPD:
Sb-125	RDL:5.00E+01	Pci/L	LCL:	RPD:								
M2RH21AA-BLK:												
Co-60	RDL:2.50E+01	Pci/L	LCL:	RPD:	Cs-134		RDL:1.50E+01	Pci/L	LCL:	RPD:		
Cs-137	RDL:1.50E+01	Pci/L	LCL:	RPD:	Cs-137DA		RDL:1.50E+01	Pci/L	LCL:	RPD:	UCL:130	RPD:
Eu-152	RDL:5.00E+01	Pci/L	LCL:	RPD:	Eu-154		RDL:5.00E+01	Pci/L	LCL:	RPD:	UCL:130	RPD:
Eu-155	RDL:5.00E+01	Pci/L	LCL:	RPD:	K-40		RDL:0.00E+00	Pci/L	LCL:	RPD:	UCL:	RPD:
Sb-125	RDL:5.00E+01	Pci/L	LCL:	RPD:								
M2RH21AC-LCS:												
Cs-137	RDL:15	Pci/L	LCL:70	RPD:20	Cs-137DA		RDL:15	Pci/L	LCL:70	RPD:20	UCL:130	RPD:20
K-40	RDL:6	Pci/L	LCL:70	RPD:20	RA-226		RDL:--	Pci/L	LCL:70	RPD:20	UCL:130	RPD:20
RA-228	RDL:--	Pci/L	LCL:70	RPD:20	RA-228DA		RDL:--	Pci/L	LCL:70	RPD:20	UCL:130	RPD:20
U-238	RDL:--	Pci/L	LCL:70	RPD:20								
M2Q4X1AF-SAMP Calc Info:												
Uncert Level (#s): 2 Decay to Sabt: Y Blk Subt.: N Sci.Not.: Y ODRs: B												
M2RH21AA-BLK: Uncert Level (#s): 2 Decay to Sabt: Y Blk Subt.: N Sci.Not.: Y ODRs: B												
M2RH21AC-LCS: Uncert Level (#s): 2 Decay to Sabt: Y Blk Subt.: N Sci.Not.: Y ODRs: B												

TestAmerica Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2
 Richland Wa. pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktalled Added

ISV - Insufficient Volume for Analysis

WO Cnt: 4
 Prep_SamplePrep v4.8.65

1/9/2014 1:49:49 PM

ICOC Fraction Transfer/Status Report

ByDate: 1/9/2013, 1/14/2014, Batch: '4006017', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
4006017				
AC	Rev1C	SannohS	1/7/2014 1:17:01 PM	
SC		campbellsc	IsBatched	1/6/2014 1:09:11 PM
SC		SannohS	InPrep	1/7/2014 1:17:01 PM
SC		SannohS	Prep1C	1/8/2014 10:53:31 AM
SC		BullJ	InCnt1	1/8/2014 10:54:43 AM
SC		DawkinsO	CalcC	1/8/2014 11:43:22 PM
SC		antonsonl	Rev1C	1/9/2014 1:47:33 PM
AC		SannohS	1/8/2014 10:53:31	ICOC_RADCALC v4.8.49
AC		BullJ	1/8/2014 10:54:43	RL-GAM-001 REVISION 3
AC		DawkinsO	1/8/2014 11:43:22 PM	RL-GAM-001 REVISION 3
AC		antonsonl	1/9/2014 1:47:33 PM	RL-CI-007 REVISION 3
				RL-CI-007 REVISION 3
				RL-DR-001 Rev 4

AC: Accepting Entry; SC: Status Change

TestAmerica Richland
Richland Wa.

Sample Preparation/Analysis									
1/20/2014 10:30:20 AM		Balance Id: 1120482733		Pipet #:		Sep1 DT/Tm Tech:		Sep2 DT/Tm Tech:	
384868, CH2M Hill Plateau Remediation Company Pacific Northwest National Lab		BN I-129 Prp/Sep GAM002 TB Gamma by LEPD		5i CLIENT: HANFORD		PM, Quote: SS, 57671		Prep Tech: SannoHS	
Batch: 4006018 WATER pCi/L		SEQ Batch, Test: None All Tests: 4006018 BNTB,		Initial Aliquot Amt/Unit		QC Tracer Prep Date		Tracer Yield	
Work Ord, Lot, Sample Date		Total Amt/Unit		Total Acidified/Unit		Adj Aliq Amt (Un-Acidified)		Dish Size	
Ppt or Geometry		Count Time Min		Detector Id		Count On Off (24hr) Circle		CR Analyst, Init/Date	
Comments:									
MZPHH-1-AA	J3L170433-1-SAMP	3893.00g.in	3893.00g	ITA13492	12/13/13	35.9mg	14	1421	11/20/14/PS
	12/13/2013 12:08		AmtRec: 1XVIAL20:2X4LP	#Containers: 3		34.6mg	15		Beta: -7.85E-04 uCi/Sa
MZPTV-1-AC-X	J3L170433-1-DUP	3901.60g.in	3901.60g	ITA13493	12/13/13	35.6mg	14	1748	11/20/14/PS
	12/13/2013 12:08		AmtRec: 1XVIAL20:2X4LP	#Containers: 3		29.6mg	15		Beta: 1.36E-03 uCi/Sa
MZPTW-1-AA	J3L180430-1-SAMP	3884.90g.in	3884.90g	ITA13494	12/13/13	35.6mg	14	1749	
	12/17/2013 11:52		AmtRec: 1XVIAL20:2X4LP	#Containers: 3		35.0mg	15		Beta: 1.17E-04 uCi/Sa
MZPTU-1-AE	J3L180430-2-SAMP	3866.20g.in	3866.20g	ITA13495	12/13/13	35.8mg	14	2221	11/20/14/PS
	12/17/2013 07:00		AmtRec: 1XVIAL20:3XLP:2X4LP	#Containers: 6		35.0mg	15		Beta: 4.69E-04 uCi/Sa
MZPTD-1-AD	J3L180430-4-SAMP	3858.70g.in	3858.70g	ITA13496	12/13/13	28.7mg	14	1018	11/20/14/PS
	12/17/2013 09:05		AmtRec: 1XVIAL20:3XLP:2X4LP	#Containers: 6			15	2222	
MZPT2-1-AC	J3L180430-6-SAMP	3862.70g.in	3862.70g	ITA13497	12/13/13		14	1018	
	12/17/2013 10:10		AmtRec: 1XVIAL20:2X4LP:3XLP	#Containers: 6			15		Beta: 3.52E-03 uCi/Sa
MZPTJ-1-AA	J3L200405-1-SAMP	3719.60g.in	3719.60g	ITA13498	12/13/13		14	1018	
	12/19/2013 07:15		AmtRec: 1XVIAL20:2X4LP	#Containers: 3			15		Beta: -1.11E-03 uCi/Sa

Sample Preparation/Analysis													
1/20/2014 10:30:21 AM		Balance Id: 1120482733		Pipet #:		Sep1 DTTm Tech:		Sep2 DTTm Tech:					
384868, CH2M Hill Plateau Remediation Company		BN I-129 Prp/Sep GAM002		PM, Quote: SS, 57671		Prep Tech: ,SannoHS							
Pacific Northwest National Lab		TB Gamma by LEPD											
Analyte Due Date: 01/31/2014		5I CLIENT: HANFORD											
Batch: 4006018		WATER		pCi/L									
SEQ Batch, Test: None													
Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Ur-Acidified)	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:
18 M2P7K-1-AA	3825.90g.in	3825.90g	3825.90g	3825.90g	ITA13499	12/13/13	35.5mg	200	15	109	12/14/13		
J3L200405-2-SAMP													
12/19/2013 11:36													
18 M2P7L-1-AA	3753.00g.in	3753.00g	3753.00g	3753.00g	ITA13500	12/13/13	25.2mg	1	14	159	12/14/13		Beta: 3.41E-04 uCi/Sa
J3L200405-3-SAMP													
12/19/2013 10:44													
18 M2P7M-1-AA	3757.50g.in	3757.50g	3757.50g	3757.50g	ITA13501	12/13/13	36.1mg	1	15	1520	1		Beta: -2.56E-04 uCi/Sa
J3L200405-4-SAMP													
12/19/2013 08:42													
18 M2P7P-1-AA	3707.20g.in	3707.20g	3707.20g	3707.20g	ITA13502	12/13/13	36.0mg	1	14	229	12/14/13		Beta: 9.39E-04 uCi/Sa
J3L200405-5-SAMP													
12/19/2013 08:42													
18 M2Q92-1-AA	3840.60g.in	3840.60g	3840.60g	3840.60g	ITA13503	12/13/13	36.1mg	1	15	2229	1		Beta: 3.41E-04 uCi/Sa
J4A020427-1-SAMP													
12/30/2013 13:40													
18 M2RH3-1-AA-B	3842.30g.in	3842.30g	3842.30g	3842.30g	ITA13504	12/13/13	31.3mg	1	14	1035	12/21/13		Beta: -4.26E-05 uCi/Sa
J4A060000-18-BLK													
01/06/2014 12:42 pd													
18 M2RH3-1-ACC	3998.40g.in	3998.40g	3998.40g	3998.40g	ISD1615	10/10/13	29.1mg	1	14	1358	12/21/13		Beta:
J4A060000-18-LCS													
01/06/2014 12:42 pd													

1/20/2014 10:30:22 AM		Sample Preparation/Analysis		Balance Id:1120482733									
AnalytDueDate: 01/31/2014		BN I-129 Prp/Sep GAM002		Pipet #:									
Batch: 4006018		TB Gamma by LEPD		Sep1 DT/Tm Tech:									
SEQ Batch, Test: None		51 CLIENT: HANFORD		Sep2 DT/Tm Tech:									
		pCi/L		Prep Tech: Norton,J,Sannohs									
Work Ord. Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
Comments: M2P7L-SAMP "Comments The filter apparatus leaked during step 11.13.1 of GAM-002." M2RH3-BLK "Comments S-13-00328",S-14-00006,P-13-00420,P-13-0044 1,P-13-00623,S-13-00229,,S-12-00214,P-13-00594,S-13-00126													
All Clients for Batch: 384868, CHEM Hill Plateau Remediation Company Pacific Northwest National Lab, SS , 57671													
M2PH1AA-SAMP Constituent List: I-129 RDL:0.50E+00 pCi/L LCL: UCL: RPD: M2RH3IAA-BLK: I-129 RDL:0.50E+00 pCi/L LCL: UCL: RPD: M2RH3IAC-LCS: I-129 RDL:5 pCi/L LCL:70 UCL:130 RPD:20 M2PH1AA-SAMP Calc Info: Uncert Level (#s):: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B M2RH3IAA-BLK: Uncert Level (#s):: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B M2RH3IAC-LCS: Uncert Level (#s):: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B													
TestAmerica	Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2	Page 3	ISV - Insufficient Volume for Analysis		WO Cnt: 14								
Richland Wa.	pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added				Prep_SamplePrep v4.8.65								

1/23/2014 2:38:12 PM

ICOC Fraction Transfer/Status Report

ByDate: 1/23/2013, 1/28/2014, Batch: '4006018', User: *ALL Order By DateTimeAccepting

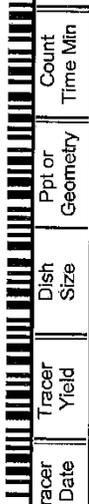
Batch	Work Ord	CurStatus	Accepting	Comments
4006018				
AC	Rev1C	SannohS	1/10/2014 10:31:38	
SC		campbellsc	IsBatched	1/6/2014 1:07:03 PM
SC		SannohS	InPrep	1/10/2014 10:31:38 AM
SC		NortonJ	InSep1	1/13/2014 1:58:25 PM
SC		NortonJ	InSep1	1/20/2014 8:03:12 AM
SC		BullJ	InCnt1	1/20/2014 11:00:50 AM
SC		DawkinsO	CalcC	1/22/2014 11:41:37 PM
SC		antonsonl	Rev1C	1/23/2014 2:38:06 PM
AC		NortonJ		1/13/2014 1:58:25 PM
AC		NortonJ		1/20/2014 8:03:12
AC		BullJ		1/20/2014 11:00:50
AC		DawkinsO		1/22/2014 11:41:37
AC		antonsonl		1/23/2014 2:38:06 PM

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AC: Accepting Entry; SC: Status Change

TestAmerica Richland
Richland Wa.

Sample Preparation/Analysis									
1/17/2014 2:27:55 PM		Balance Id:		Pipet #:		Sep1 DT/Tm Tech:		Sep2 DT/Tm Tech:	
384868, CH2M Hill Plateau Remediation Company		5S C-14 Prp/Sep LSC008		5S Carbon-14 by Liquid Scint		5I CLIENT: HANFORD		Prep Tech: AtkinsA	
Pacific Northwest National Lab		ARS6, 4006013 9NS1, 4006018 BNTB, 4006019 5SS3, 4006022 ART0,		PM, Quote: SS, 57671					
AnalytDueDate: 01/31/2014		pCi/L		QC Tracer		Tracer Yield		Dish Size	
Batch: 4006019 WATER		ARS6, 4006013 9NS1, 4006018 BNTB, 4006019 5SS3, 4006022 ART0,		Adj Aliq Amt (Un-Acidified)		QC Tracer Prep Date		Dish Size	
SEQ. Batch, Test: None		All Tests:		Amt/Unit		Initial Aliquot Amt/Unit		Ppt or Geometry	
				75.20g,in		75.20g		Count Time Min	
Work Ord, Lot, Sample Date		Total Amt/Unit		Total Acidified/Unit		Initial Aliquot Amt/Unit		Ppt or Geometry	
1 M2PTW-1-AD		75.20g,in		75.20g		75.20g		Count Time Min	
J3L180430-2-SAMP		75.20g,in		75.20g		75.20g		Count Time Min	
12/17/2013 07:00		AmtRec: 1XVIAL20:3XLP:2X4LP		#Containers: 6		Scr:		Alpha: 1.28E-03 uCi/Sa	
2 M2PTW-1-AG-X		75.50g,in		75.50g		75.50g		Count Time Min	
J3L180430-2-DUP		75.50g,in		75.50g		75.50g		Count Time Min	
12/17/2013 07:00		AmtRec: 1XVIAL20:3XLP:2X4LP		#Containers: 6		Scr:		Alpha: 1.28E-03 uCi/Sa	
3 M2PT0-1-AC		75.10g,in		75.10g		75.10g		Count Time Min	
J3L180430-4-SAMP		75.10g,in		75.10g		75.10g		Count Time Min	
12/17/2013 09:05		AmtRec: 1XVIAL20:3XLP:2X4LP		#Containers: 6		Scr:		Alpha: 1.28E-03 uCi/Sa	
4 M2PT2-1-AA		75.10g,in		75.10g		75.10g		Count Time Min	
J3L180430-6-SAMP		75.10g,in		75.10g		75.10g		Count Time Min	
12/17/2013 10:10		AmtRec: 1XVIAL20:2X4LP:3XLP		#Containers: 6		Scr:		Alpha: 1.01E-03 uCi/Sa	
5 M2P7R-1-AA		75.00g,in		75.00g		75.00g		Count Time Min	
J3L200406-1-SAMP		75.00g,in		75.00g		75.00g		Count Time Min	
12/18/2013 12:10		AmtRec: 1XVIAL20:2XLP		#Containers: 3		Scr:		Alpha: 3.19E-04 uCi/Sa	
6 M2PT7-1-AA		75.20g,in		75.20g		75.20g		Count Time Min	
J3L200406-2-SAMP		75.20g,in		75.20g		75.20g		Count Time Min	
12/18/2013 12:10		AmtRec: 1XVIAL20:2XLP		#Containers: 3		Scr:		Alpha: 5.28E-04 uCi/Sa	
7 M2PTV-1-AA		75.20g,in		75.20g		75.20g		Count Time Min	
J3L200406-3-SAMP		75.20g,in		75.20g		75.20g		Count Time Min	
12/18/2013 09:30		AmtRec: 1XVIAL20:2XLP		#Containers: 3		Scr:		Alpha: 3.41E-04 uCi/Sa	
TestAmerica		Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2		Page 1		ISV - Insufficient Volume for Analysis		WO Cnt: 7	
Richland Wa.		pg - Prep Dt, dc - Date Chg, r - Reference Cell, ec-Cocktalled Added						Prep_SamplePrep v4.8.65	

Sample Preparation/Analysis		Balance Id:											
5S C-14 Prp/Sep LSC008 S3 Carbon-14 by Liquid Scint 5I CLIENT: HANFORD		Pipet #:											
AnalytDueDate: 01/31/2014		Sep1 DT/Tm Tech:											
Batch: 4006019		Sep2 DT/Tm Tech:											
SEQ Batch, Test: None		Prep Tech:											
pCi/L													
Work Ord, Lot, Sample Date	Total Amt/Unit	Total Amt/Unit Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	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:
Comments:													
All Clients for Batch: 384868, CHE2M Hill Plateau Remediation Company Pacific Northwest National Lab, SS , 57671													
M2PFWIAD-SAMP Constituent List:													
C-14	RDL:2.00E+02	pCi/L	LCL:70	UCL:130	RPD:20								
M2RH41AA-BLK:													
C-14	RDL:2.00E+02	pCi/L	LCL:	UCL:	RPD:								
M2RH41AC-LCS:													
C-14	RDL:200	pCi/L	LCL:70	UCL:130	RPD:20								
M2RH41AD-IBLK:													
C-14	RDL:2.00E+02	pCi/L	LCL:	UCL:	RPD:								
M2PFWIAD-SAMP Calc Info:													
Uncert Level (#s):: 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B									
M2RH41AA-BLK:													
Uncert Level (#s):: 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B									
M2RH41AC-LCS:													
Uncert Level (#s):: 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B									
M2RH41AD-IBLK:													
Uncert Level (#s):: 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B									

TestAmerica Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 3
 Richland Wa. pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added
 ISV - Insufficient Volume for Analysis
 WO Cnt: 12
 Prep_SamplePrep v4.8.65

1/9/2014 2:04:06 PM **ICOC Fraction Transfer/Status Report**
 ByDate: 1/9/2013, 1/14/2014, Batch: '4006019', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
4006019				
AC	Rev1C	AtkinsA	1/7/2014 3:58:22 PM	
SC		campbellsc	IsBatched 1/6/2014 1:07:06 PM	ICOC_RADCALC v4.8.49
SC		AtkinsA	Sep1C 1/7/2014 3:58:22 PM	RL-LSC-008 REV. 4
SC		DawkinsO	InCnt1 1/7/2014 5:00:49 PM	RL-CI-005 REVISION 3
SC		BullJ	CalcC 1/8/2014 2:18:53 PM	RL-CI-005 REVISION 3
SC		antonsonl	Rev1C 1/9/2014 2:03:57 PM	RL-DR-001 Rev 4
AC		DawkinsO	1/7/2014 5:00:49 PM	
AC		BullJ	1/8/2014 2:18:53 PM	
AC		antonsonl	1/9/2014 2:03:57 PM	

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Balance Id: 1120482733

Sample Preparation/Analysis

FP Tc-99 Pp/Sep LSC014
S5 Technetium-99 by Liquid Scint
51 CLIENT: HANFORD

1/8/2014 7:39:48 AM
384868, CH2M Hill Plateau Remediation Company
Pacific Northwest National Lab

Analyte Due Date: 01/31/2014

Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech: ,Webbk

Batch: 4006020 WATER pCi/L
SEQ Batch, Test: None All Tests: 3365014 88EA, 4006014 AZS7, 4006015 BCS8, 4006016 CGT1, 4006017 AWTA, 4006019 5SS3,
4006020 FPS5, 4006021 ARS6,

Work Ord. Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	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 M2Q4X-1-AH	128.70g.in		128.70g.in	128.70g									
J3L310410-1-SAMP													
12/31/2013 10:28													
2 M2Q4X-1-AR-S	125.80g.in		125.80g.in	125.80g									
J3L310410-1-MS													
12/31/2013 10:28													
3 M2Q4X-1-AT-X	127.30g.in		127.30g.in	127.30g									
J3L310410-1-DUP													
12/31/2013 10:28													
4 M2RH5-1-AA-B	125.50g.in		125.50g.in	125.50g									
J4A060000-20-BLK													
01/06/2014 12:42 pd													
5 M2RH5-1-AC-C	126.10g.in		126.10g.in	126.10g									
J4A060000-20-LCS													
01/06/2014 12:42 pd													
6 M2RH5-1-AD-BN													
J4A060000-20-BLK													
01/06/2014 12:42 pd													

60 min

TestAmerica Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1
Richland Wa. pd - Prep Dt, dc - Date Chg, r - Reference Dt, eo-Enrichment Cell, ct-Cocktailed Added
ISV - Insufficient Volume for Analysis
WO Cnt: 6
Prep_SamplePrep v4.8.65

Sample Preparation/Analysis													
1/8/2014 7:39:50 AM					Balance Id:								
FP Tc-99 Prp/Sep LSC014					Pipet #:								
S5 Technetium-99 by Liquid Scint					Sep1 DT/Tm Tech:								
51 CLIENT: HANFORD					Sep2 DT/Tm Tech:								
Batch: 4006020					Prep Tech:								
SEQ Batch, Test: None					pCi/L								
													
Work Ord. Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Pot or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, IntrlDate	Comments:
Comments:													
All Clients for Batch: Pacific Northwest National Lab, SS , 57671													
384868, CH2M Hill Plateau Remediation Company													
M2Q4X1AR-SAMP Constituent List:													
Tc-99	RDL:15	pCi/L	LCL:70	UCL:130	RPD:20								
M2Q4X1AR-MS Constituent List:													
M2RH51AA-BLK:	RDL:15	pCi/L	LCL:	UCL:	RPD:								
Tc-99	RDL:15	pCi/L	LCL:70	UCL:130	RPD:20								
M2RH51AD-IBLK:	RDL:15	pCi/L	LCL:	UCL:	RPD:								
Tc-99	RDL:15	pCi/L	LCL:	UCL:	RPD:								
M2Q4X1AR-SAMP Calc Info:													
Uncert Level (#s):	2	Decay to SaDt: Y	Blk Subt.: N	Sci. Not.: Y	ODRs: B								
M2Q4X1AR-MS Calc Info:													
Uncert Level (#s):	2	Decay to SaDt: Y	Blk Subt.: N	Sci. Not.: Y	ODRs: B								
M2RH51AA-BLK:													
Uncert Level (#s):	2	Decay to SaDt: Y	Blk Subt.: N	Sci. Not.: Y	ODRs: B								
M2RH51AC-LCS:													
Uncert Level (#s):	2	Decay to SaDt: Y	Blk Subt.: N	Sci. Not.: Y	ODRs: B								
M2RH51AD-IBLK:													
Uncert Level (#s):	2	Decay to SaDt: Y	Blk Subt.: N	Sci. Not.: Y	ODRs: B								

TestAmerica Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2
 Richland Wa. pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added
 ISV - Insufficient Volume for Analysis
 WO Cnt: 6
 Prep_SamplePrep v4.8.65

1/10/2014 9:40:42 AM

ICOC Fraction Transfer/Status Report

ByDate: 1/10/2013, 1/15/2014, Batch: '4006020', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
4006020				
AC	Rev1C	WattN	1/8/2014 7:42:39 AM	
SC		campbellsc	IsBatched 1/6/2014 1:07:10 PM	ICOC_RADCALC v4.8.49
SC		WattN	Prep1C 1/8/2014 7:42:39 AM	RL-PRP-004 REVISION 2
SC		WagnerF	Sep1C 1/8/2014 1:37:39 PM	RL-LSC-014 REVISION 3
SC		BullJ	InCnt1 1/8/2014 2:12:22 PM	RL-CI-005 REVISION 3
SC		BullJ	CalcC 1/9/2014 1:53:58 PM	RL-CI-005 REVISION 3
SC		antonsonl	Rev1C 1/10/2014 9:40:32 AM	RL-DR-001 Rev 4
AC		WagnerF	1/8/2014 1:37:39 PM	
AC		BullJ	1/8/2014 2:12:22 PM	
AC		BullJ	1/9/2014 1:53:58 PM	
AC		antonsonl	1/10/2014 9:40:32	

AC: Accepting Entry; SC: Status Change

TestAmerica Richland
Richland Wa.

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Sample Preparation/Analysis

1/6/2014 12:42:18 PM
384868, CH2M Hill Plateau Remediation Company
Pacific Northwest National Lab

AR H-3 Prip/Sep LSC005
S6 Tritium by Liquid Scint
5l CLIENT: HANFORD

Analyte Due Date: 01/31/2014

Batch: 4006021 WATER pCi/L PM, Quote: SS, 57671

SEQ Batch, Test None

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

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	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 M2Q4X-1-AC J3L310410-1-SAMP 12/31/2013 10:28										Alpha: 9.83E-04 uCi/Sa		Beta: 1.20E-03 uCi/Sa	
2 M2Q4X-1-AU-X J3L310410-1-DUP 12/31/2013 10:28										Alpha: 9.83E-04 uCi/Sa		Beta: 1.20E-03 uCi/Sa	
3 M2RH6-1-AA-B J4A060000-21-BLK 01/06/2014 12:42 pd										Alpha: 9.83E-04 uCi/Sa		Beta: 1.20E-03 uCi/Sa	
4 M2RH6-1-AC-C J4A060000-21-LCS 01/06/2014 12:42 pd										Alpha: 9.83E-04 uCi/Sa		Beta: 1.20E-03 uCi/Sa	
5 M2RH6-1-AD-BN J4A060000-21-JBLK 01/06/2014 12:42 pd										Alpha: 9.83E-04 uCi/Sa		Beta: 1.20E-03 uCi/Sa	

Comments:

All Clients for Batch:
384868, CH2M Hill Plateau Remediation Company Pacific Northwest National Lab, SS, 57671

M2Q4X1AC-SAMP Constituent List:
E-3 RDL: 400 pCi/L ICL: 70 UCL: 130 RPD: 20

TestAmerica Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1
Richland Wa. pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added
ISV - Insufficient Volume for Analysis
WO Cnt: 5
ICOC v4-8.49

Sample Preparation/Analysis												
1/6/2014 12:42:18 PM			Balance Id:			Pipet #:			Sep1 DT/Tm Tech:			
AR H-3 Prp/Sep LSC005			S6 Tritium by Liquid Scint			SI CLIENT: HANFORD			Sep2 DT/Tm Tech:			
AnalytDueDate: 01/31/2014			pCi/L			Prep Tech:			Prep Tech:			
Batch: 4006021												
SEQ Batch, Test: None												
Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/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:
M2RH61AA-BLK:												
M2RH61AC-LCS:												
M2RH61AD-IBLK:												
M2Q4X1AC-SAMP												
Uncert Level Calc Info:												
M2RH61AA-BLK:	Uncert Level (#s) : 2	Decay to SaDt: Y	Blk Subt.: N	Sci. Not.: Y	ODRs: B							
M2RH61AC-LCS:	Uncert Level (#s) : 2	Decay to SaDt: Y	Blk Subt.: N	Sci. Not.: Y	ODRs: B							
M2RH61AD-IBLK:	Uncert Level (#s) : 2	Decay to SaDt: Y	Blk Subt.: N	Sci. Not.: Y	ODRs: B							
M2RH61AA-BLK:	Uncert Level (#s) : 2	Decay to SaDt: Y	Blk Subt.: N	Sci. Not.: Y	ODRs: B							

1/14/2014 9:53:03 AM

ICOC Fraction Transfer/Status Report

ByDate: 1/14/2013, 1/19/2014, Batch: '4006021', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
4006021				
AC	Rev1C	NortonP	1/10/2014 12:52:19	
SC		campbellsc	IsBatched	1/6/2014 1:07:13 PM ICOC_RADCALC v4.8.49
SC		NortonP	Sep1C	1/10/2014 12:52:19 PM RL-LSC-005 REVISION 4
SC		AtkinsA	Sep1C	1/10/2014 12:52:43 PM RL-LSC-005 REVISION 4
SC		BullJ	InCnt1	1/10/2014 12:56:21 PM RL-CI-005 REVISION 3
SC		BullJ	CalcC	1/14/2014 8:45:49 AM RL-CI-005 REVISION 3
SC		nagels	Rev1C	1/14/2014 9:52:55 AM RL-DR-001 Rev 4
AC		AtkinsA	1/10/2014 12:52:43	
AC		BullJ	1/10/2014 12:56:21	
AC		BullJ	1/14/2014 8:45:49	
AC		nagels	1/14/2014 9:52:55	

AC: Accepting Entry; SC: Status Change

TestAmerica Richland
Richland Wa.

140

Sample Preparation/Analysis

Balance Id: _____ Pipet #: 285

384688, CH2M Hill Plateau Remediation Company
Pacific Northwest National Lab
T0 Tritium, Measured by Liquid Scint
51 CLIENT: HANFORD

Analyte: PM, Quote: SS, 57671

Batch: **4006022** WATER pCi/L
SEQ Batch, Test: None

Work Ord. Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	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 M2PTX-1-AC													
J3L180430-3-SAMP 12/17/2013 07:00										Alpha: 4.39E-05 uCi/Sa			Beta: 4.27E-05 uCi/Sa
2 M2PTX-1-AD-X													
J3L180430-3-DUP 12/17/2013 07:00										Alpha: 4.39E-05 uCi/Sa			Beta: 4.27E-05 uCi/Sa
3 M2PT1-1-AC													
J3L180430-5-SAMP 12/17/2013 09:05										Alpha: -1.19E-04 uCi/Sa			Beta: 3.52E-04 uCi/Sa
4 M2PT3-1-AC													
J3L180430-7-SAMP 12/17/2013 10:10										Alpha: 2.70E-05 uCi/Sa			Beta: 3.41E-04 uCi/Sa
5 M2RH7-1-AA-B													
J4A06000-22-BLK 01/06/2014 12:42 pd													Beta:
6 M2RH7-1-AC-C													
J4A06000-22-LCS 01/06/2014 12:42 pd													Beta:
7 M2RH7-1-AD-BN													
J4A06000-22-BLK 01/06/2014 12:42 pd													Beta:

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

ISV - Insufficient Volume for Analysis

WO Cnt: 7
ICOC v4.8.49

75873

1/6/2014 12:42:18 PM **Sample Preparation/Analysis** Balance Id: _____ Pipet #: _____

AR H-3 Prp/Sep LSC005
T0 Tritium - Mlevel, by Liquid Scint
5I CLIENT: HANFORD

Analyte Due Date: 01/31/2014
Batch: 4006022
SEQ Batch, Test: None

QC Tracer: _____
QC Tracer Prep Date: _____
QC Tracer Yield: _____

Initial Aliquot Amt/Unit: _____
Adj. Aliq Amt (Un-Acidified): _____
Total Amt/Unit: _____
Total Acidified/Unit: _____

Work Ord, Lot, Sample Date: _____
Total Amt/Unit: _____
Total Acidified/Unit: _____

Count Time Mfn: _____
Ppt or Geometry: _____
Dish Size: _____
Tracer Yield: _____
Detector Id: _____
Count On | Off (24hr) Circle: _____

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

8 M2RH71AE-BN
J4A060000-22-IBLK
01/06/2014 12:42 pd
AmtRec: _____
#Containers: 1
Scr: _____
Alpha: _____
Beta: _____

Comments:

All Clients for Batch:
384868, CH2M Hill Plateau Remediation Company Pacific Northwest National Lab, SS , 57671

M2PXTIAC-SAMP Constituent List:
H-3 RDL:3.00E+01 pCi/L LCL: _____ UCL: _____ RPD: _____

M2RH71AA-BLK:
Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
Uncert Level (#s): 2

M2RH71AC-LCS:
Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
Uncert Level (#s): 2

M2RH71AD-IBLK:
Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
Uncert Level (#s): 2

M2RH71AE-IBLK:
Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
Uncert Level (#s): 2

TestAmerica Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2
Richland Wa. pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ISV - Insufficient Volume for Analysis
WO Cnt: 8
ICOC v4.8.49

1/20/2014 2:13:36 PM

ICOC Fraction Transfer/Status Report

ByDate: 1/20/2013, 1/25/2014, Batch: '4006022', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
4006022				
AC	Rev1C	NortonP	1/8/2014 4:38:35 PM	
SC		campbellsc	IsBatched	1/6/2014 1:07:17 PM
SC		NortonP	Sep1C	1/8/2014 4:38:35 PM
SC		AtkinsA	Sep1C	1/8/2014 4:40:35 PM
SC		DawkinsO	InCnt1	1/8/2014 6:07:27 PM
SC		BullJ	CalcC	1/20/2014 10:46:56 AM
SC		mcginnist	Rev1C	1/20/2014 2:13:28 PM
AC		AtkinsA	1/8/2014 4:40:35 PM	ICOC_RADCALC v4.8.49
AC		DawkinsO	1/8/2014 6:07:27 PM	RL-LSC-005 REVISION 4
AC		BullJ	1/20/2014 10:46:56	RL-LSC-005 REVISION 4
AC		mcginnist	1/20/2014 2:13:28 PM	RL-CI-005 REVISION 3
				RL-CI-005 REVISION 3
				RL-DR-001 Rev 4

AC: Accepting Entry; SC: Status Change

TestAmerica Richland
Richland Wa.

12/31/2013 3:13:12 PM **Sample Preparation/Analysis** **Balance Id:** _____ **Pipet #:** _____

384868, CH2M Hill Plateau Remediation Company **88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION**

Pacific Northwest National Lab **EA Chromium, Hexavalent (7196A)**

Analyte Due Date: 02/14/2014 **5I CLIENT: HANFORD**

Batch: 3365014 WATER mg/L **PM, Quote: SS, 57671**

SEQ Batch, Test: None All Tests: 5SS3, ARS6, AWTA, AZS7, BCS8, CGTH, FPS5, 3365014 88EA,

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:
1 M2Q4X-1-AA								
J3L310410-1-SAMP								
12/31/2013 10:28								
2 M2Q4X-1-AJ-S								
J3L310410-1-MS								
12/31/2013 10:28								
3 M2Q4X-1-AK-D								
J3L310410-1-MSD								
12/31/2013 10:28								
4 M2Q4X-1-AL-X								
J3L310410-1-DUP								
12/31/2013 10:28								
5 M2Q41-1-AA-B								
J3L310000-14-BLK								
12/31/2013 15:13 pd								
6 M2Q41-1-AC-C								
J3L310000-14-LCS								
12/31/2013 15:13 pd								

Scr: Alpha: Beta: (repeated for each section)

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1

Richland Wa. pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ISV - Insufficient Volume for Analysis

WO Cnt: 6 ICOC v4.8.49

12/31/2013 3:13:12 PM

Sample Preparation/Analysis

Balance Id: _____
 Pipet #: _____

88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION
 EA Chromium, Hexavalent (7196A)
 51 CLIENT: HANFORD

Analyte Due Date: 02/14/2014

Batch: 3365014
 SEQ Batch, Test: None

mg/L

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

Prep Tech: _____

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
Comments:								
All Clients for Batch:								
384868, CHEM Hill Plateau Remediation Company Pacific Northwest National Lab, SS , 57671								
M2Q4X1AA-SAMP Constituent List:								
M2Q4X1AJ-MS Constituent List:								
M2Q4X1AK-MSD:								
M2Q411AA-BLK:								
M2Q411AC-LCS:								
M2Q4X1AA-SAMP Calc Info:								
Uncert Level (#s): 2		Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y			ODRs: B	
M2Q4X1AJ-MS Calc Info:								
Uncert Level (#s): 2		Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y			ODRs: B	
M2Q4X1AK-MSD:								
Uncert Level (#s): 2		Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y			ODRs: B	
M2Q411AA-BLK:								
Uncert Level (#s): 2		Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y			ODRs: B	
M2Q411AC-LCS:								
Uncert Level (#s): 2		Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y			ODRs: B	

TestAmerica Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2
 Richland Wa. pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

WO Cnt: 6
 ICOC v4.8.49