

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: 58450

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W06642	S14-012	B2TJ08	J3L120417-1	M2NJNI1AA	9M2NJNI10	3353036
		B2TJ08	J3L120417-1	M2NJNI1AC	9M2NJNI10	3353043
		B2TJ08	J3L120417-1	M2NJNI1AD	9M2NJNI10	3353042
		B2TKK3	J3L120417-2	M2NJP1AA	9M2NJP10	3353036
		B2TKK3	J3L120417-2	M2NJP1AC	9M2NJP10	3353043
		B2TKK3	J3L120417-2	M2NJP1AD	9M2NJP10	3353042
		B2TLJ9	J3L120418-1	M2NMQ1AA	9M2NMQ10	3353042
		B2TLK7	J3L120418-2	M2NJR1AA	9M2NJR10	3353042
		B2TM02	J3L120418-3	M2NJT1AA	9M2NJT10	3353042
		B2TLM1	J3L120418-4	M2NJV1AA	9M2NJV10	3353042
I14-005		B2TLN3	J3L120418-5	M2NJV1AA	9M2NJV10	3353042
		B2RT75	J3L160418-1	M2N4X1AA	9M2N4X10	3353043
		B2RT76	J3L160418-2	M2N401AA	9M2N4010	3350039
		B2RT76	J3L160418-2	M2N401AC	9M2N4010	3353045
		B2RT76	J3L160418-2	M2N401AE	9M2N4010	3353039

Comments:

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SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH	
W06642	I14-005	B2RT76	J3L160418-2	M2N401AF	9M2N4010	3353041	
		B2RT76	J3L160418-2	M2N401AG	9M2N4010	3353040	
		B2RT76	J3L160418-2	M2N401AH	9M2N4010	3353044	
		B2RT76	J3L160418-2	M2N402AD	9M2N4020	3353038	
		B2RTB1	J3L160418-3	M2N411AA	9M2N4110	3353045	
		B2RTB1	J3L160418-3	M2N411AC	9M2N4110	3353038	
		B2RTB1	J3L160418-3	M2N411AD	9M2N4110	3353039	
		B2RTB1	J3L160418-3	M2N411AE	9M2N4110	3353041	
		B2RTB1	J3L160418-3	M2N411AF	9M2N4110	3353040	
		B2RTB1	J3L160418-3	M2N411AG	9M2N4110	3353044	
		B2RTB1	J3L160418-3	M2N411AH	9M2N4110	3350039	
		B2RTB0	J3L160418-4	M2N421AA	9M2N4210	3353043	
		B2RTP4	J3L160418-5	M2N431AA	9M2N4310	3350039	
		B2RVN5	J3L160418-6	M2N441AA	9M2N4410	3350039	
		B2RVN5	J3L160418-6	M2N441AC	9M2N4410	3353045	
		B2RVN5	J3L160418-6	M2N441AD	9M2N4410	3353041	
		B2RVN5	J3L160418-6	M2N441AE	9M2N4410	3353040	
		B2RVN5	J3L160418-6	M2N441AF	9M2N4410	3353044	
		B2RVN6	J3L160418-7	M2N451AA	9M2N4510	3353043	
		I14-008	I14-009	B2TL83	J3L160419-1	M2N471AA	9M2N4710
B2TL44	J3L170422-1			M2PC81AA	9M2PC810	3351078	
I14-009	I14-009	B2TL44	J3L170422-1	M2PC81AC	9M2PC810	3353045	
		B2TL44	J3L170422-1	M2PC81AD	9M2PC810	3353038	
		B2TL44	J3L170422-1	M2PC81AE	9M2PC810	3353039	
		B2TL44	J3L170422-1	M2PC81AF	9M2PC810	3353041	
		B2TL44	J3L170422-1	M2PC81AG	9M2PC810	3353035	

Comments:

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SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W06642	I14-009	B2TL44	J3L170422-1	M2PC81AH	9M2PC810	3353040
		B2TL44	J3L170422-1	M2PC81AJ	9M2PC810	3353044
		B2TL44	J3L170422-1	M2PC81AL	9M2PC810	3353046
		B2TL44	J3L170422-1	M2PC82AL	9M2PC820	4006041
		B2TL44	J3L170422-1	M2PC83AK	9M2PC830	4012022
	W14-012	B2TLJ5	J3L170432-1	M2PHA1AA	9M2PHA10	3353042
		B2TLX3	J3L170432-2	M2PHC1AA	9M2PHC10	3353042
		B2TLL3	J3L170432-3	M2PHD1AA	9M2PHD10	3353042
		B2TLL7	J3L170432-4	M2PHE1AA	9M2PHE10	3353042
		B2TLM5	J3L170432-5	M2PHF1AA	9M2PHF10	3353042
		B2TLM9	J3L170432-6	M2PHG1AA	9M2PHG10	3353042

Comments:



Certificate of Analysis

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

January 20, 2014

Attention: Scot Fitzgerald

SAF Number	:	I14-005, I14-008, I14-009, S14-012, W14-012
Date SDG Closed	:	December 17, 2013
Number of Samples	:	Twenty Two (22)
Sample Type	:	Water
SDG Number	:	W06642
Data Deliverable	:	30-Day / Summary

CASE NARRATIVE

I. Introduction

Between December 11, 2013 and December 17, 2013, twenty two 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>
B2TJ08	M2NJV	12/11/13	WATER
B2TKK3	M2NJP	12/11/13	WATER
B2TLJ9	M2NJQ	12/11/13	WATER
B2TLK7	M2NJR	12/11/13	WATER
B2TM02	M2NJT	12/11/13	WATER
B2TLM1	M2NJV	12/11/13	WATER
B2TLN3	M2NJV	12/11/13	WATER
B2RT75	M2N4X	12/16/13	WATER
B2RT76	M2N40	12/16/13	WATER
B2RTB1	M2N41	12/16/13	WATER
B2RTB0	M2N42	12/16/13	WATER
B2RTP4	M2N43	12/16/13	WATER

CH2M Hill Plateau Remediation Company
January 20, 2014

B2RVN5	M2N44	12/16/13	WATER
B2RVN6	M2N45	12/16/13	WATER
B2TL83	M2N47	12/16/13	WATER
B2TL44	M2PC8	12/17/13	WATER
B2TLJ5	M2PHA	12/16/13	WATER
B2TLX3	M2PHC	12/16/13	WATER
B2TLL3	M2PHD	12/16/13	WATER
B2TLL7	M2PHE	12/16/13	WATER
B2TLM5	M2PHF	12/16/13	WATER
B2TLM9	M2PHG	12/16/13	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

Plutonium-238, -239/240 by method RL-ALP-002

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

Uranium 234, 235 and 238 by method RL-ALP-015

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

Laser Induced Phosphorimetry

Total Uranium by method RL-KPA-003

Chemical Analysis

Hexavalent Chromium by EPA method 7196A

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IV. Quality Control

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

QC and sample results are reported in the same units.

V. Comments

Alpha Spectroscopy

Plutonium-238, -239/240 by method RL-ALP-002:

The LCS, batch blank, sample and sample duplicate (B2TL44) results are within contractual requirements.

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

The LCS, batch blank, sample and sample duplicate (B2TJ08) results are within contractual requirements.

Uranium 234, 235 and 238 by method RL-ALP-015:

The original batch failed due to smeared sample spectra. The samples were reanalyzed. Except as noted, the LCS, batch blank, sample and sample duplicate (BT2L44) results are within contractual requirements.

Gas Proportional Counting

Gross Alpha by method RL-GPC-001:

Sample B2RTB1 and B2TL44 were analyzed with reduced aliquots based on weight screen results. The initial precipitate weight for sample B2RT76 exceeded acceptance criteria. The sample was reflamed, reweighed and recounted. Except as noted, the LCS, batch blank, samples and sample duplicate (B2RT76) results are within contractual requirements.

Gross Beta by method RL-GPC-001:

The MDA for sample B2TL44 exceeds the CRDL due to aliquot reduction which was based upon the weight screen results. Except as noted, the LCS, batch blank, samples and sample duplicate (B2RT76) results are within contractual requirements.

Strontium-90 by method RL-GPC-003:

The LCS, batch blank, samples and sample duplicate (B2RT76) results are within contractual requirements.

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Gamma Spectroscopy

Gamma Spec by method RL-GAM-001:

There was insufficient volume for a duplicate. Sample B2RT76 was recounted on a different detector for the duplicate (B2RT76 DUP). The MDA for sample B2TL44 exceeds the CRDL due to aliquot reduction which was based upon the weight screen results. Except as noted, the LCS, batch blank, samples and sample duplicate (B2RT76) results are within contractual requirements.

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

Sample B2TJ08 and its duplicate are not within acceptable agreement limits. For more details refer to the SIR (CHPRC Tracking Number: SDR14-075) that is included in this report. Except as noted, the LCS, batch blank, samples and sample duplicate (B2TJ08) results are within contractual requirements.

Liquid Scintillation Counting

Carbon-14 by method RL-LSC-008:

The LCS, batch blank, samples and sample duplicate (B2TJ08) results are within contractual requirements.

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

The LCS, batch blank, samples, sample duplicate (B2RT76) and sample matrix spike (B2RT76) results are within contractual requirements.

Tritium by method RL-LSC-005:

The LCS, batch blank, samples and sample duplicate (B2RT76) results are within contractual requirements.

Total Uranium

Total Uranium by method RL-KPA-003:

The original batch failed due to a high LCS recovery and the RPD criteria exceeded limits. The entire batch was reanalyzed. Except as noted, the LCS, batch blank, samples, sample duplicate (B2TL44) and sample matrix spike (B2TL44) results are within contractual requirements.

Chemical Analysis

BATCH 3350039

Hexavalent Chromium by EPA method 7196A

The LCS, batch blank, samples, sample duplicate (B2RT76) sample matrix spike (B2RT76) and matrix spike duplicate (B2RT76) results are within contractual requirements.

BATCH 3350040

Hexavalent Chromium by EPA method 7196A

The LCS, batch blank, samples, sample duplicate (B2TL83) sample matrix spike (B2TL83) and matrix spike duplicate (B2TL83) results are within contractual requirements.

JANUARY 20, 2014

CH2M Hill Plateau Remediation Company
January 20, 2014

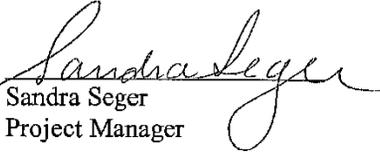
BATCH 3351078

Hexavalent Chromium by EPA method 7196A

The LCS, batch blank, samples, sample duplicate (B2TL44) sample matrix spike (B2TL44) and matrix spike duplicate (B2TL44) 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

SAMPLE ISSUE RESOLUTION

SIR NUM SDR14-075
REV NUM 0
DATE INITIATED 1/15/2014

SAMPLE EVENT INFORMATION

SAF NUM(S) S14-012, W14-012
OPERABLE UNIT(S) NONE
PROJECT(S) SURV14, RCRA14
SAMPLE EVENT TITLE(S) SURV14, RCRA14
LABORATORY TestAmerica Incorporated, Richland

SAMPLING INFORMATION

NUMBER OF SAMPLES 13
SAMPLE NUMBERS B2TJ08, B2TKK3, B2TLJ5, B2TLJ9, B2TLK7, B2TLL3, B2TLL7, B2TLM1, B2TLM5, B2TLM9, B2TLN3, B2TLX3, B2TM02
SAMPLE MATRIX WATER
COLLECTION DATE 12/10/2013 - 12/13/2013
SDG NUM W06642

ISSUE BACKGROUND

CLASS Laboratory Issue
TYPE Quality Control Failure
DESCRIPTION The I129LL_SEP_LEPS_GS_LL: I-129 (1) duplicate failed. The results for sample B2TJ08 and its duplicate are not within the acceptable agreement limits. Both samples were recounted but the results did not improve. There is no volume remaining for this sample therefore it can not be reanalyzed. The tracer and LCS recoveries are acceptable for all samples in the batch.

DISPOSITION

DESCRIPTION PROPOSED DISPOSITION: Initiate SIR, report all results and include comment about the duplicate in the case narratives.
JUSTIFICATION ACCEPTED DISPOSITION: Accept proposed resolution.
SUBMITTED BY: Sandra Seger/TARL Date: 1/15/14
ACCEPTED BY: Karen Waters-Husted/CHPRC and Scot Fitzgerald/CHPRC Date: 1-16-14

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 ($S/?n$), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

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

Report Definitions

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

1/20/2014 11:33:34 AM

TestAmerica Inc Report

Lab Code: TARL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 58450 File Name: h:\Reportdb\edd\Fead\IVRad\W06642.Edd, h:\Reportdb\edd\Fead\IVRad\158450.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:				
9M2N4010	B2RT76		MW6-SBB-A1	114-005	W06642					12/16/2013 12:05				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
3353045	H-3	10028-17-8	6.13E+02	pCi/L	1.4E+02	1.6E+02	U	2.92E+02	100.0	906.0_H3_LSC	5.016E-03	L	01/10/2014 12:53	I
3353039	BETA	12587-47-2	1.01E+01	pCi/L	1.5E+00	2.0E+00	U	2.06E+00	100.0	9310_ALPHABETA	1.999E-01	L	12/30/2013 14:24	I
3353041	BE-7	13966-02-4	6.88E-01	pCi/L	1.2E+01	1.2E+01	U	2.10E+01		GAMMA_GS	2.50E+00	L	12/24/2013 06:23	I
3353041	CO-60	10198-40-0	7.37E-01	pCi/L	1.7E+00	1.7E+00	U	3.39E+00		GAMMA_GS	2.50E+00	L	12/24/2013 06:23	I
3353041	CS-134	13967-70-9	3.40E-01	pCi/L	1.7E+00	1.7E+00	U	3.23E+00		GAMMA_GS	2.50E+00	L	12/24/2013 06:23	I
3353041	CS-137	10045-97-3	9.47E-02	pCi/L	1.4E+00	1.4E+00	U	2.55E+00		GAMMA_GS	2.50E+00	L	12/24/2013 06:23	I
3353041	EU-152	14683-23-9	-1.12E+00	pCi/L	4.0E+00	4.0E+00	U	6.78E+00		GAMMA_GS	2.50E+00	L	12/24/2013 06:23	I
3353041	EU-154	15585-10-1	2.00E+00	pCi/L	4.1E+00	4.1E+00	U	8.56E+00		GAMMA_GS	2.50E+00	L	12/24/2013 06:23	I
3353041	EU-155	14391-16-3	-3.03E+00	pCi/L	3.2E+00	3.2E+00	U	4.96E+00		GAMMA_GS	2.50E+00	L	12/24/2013 06:23	I
3353041	K-40	13966-00-2	-4.89E+01	pCi/L	4.8E+01	4.8E+01	U	1.05E+02		GAMMA_GS	2.50E+00	L	12/24/2013 06:23	I
3353041	RU-106	13967-48-1	6.82E-01	pCi/L	1.2E+01	1.2E+01	U	2.14E+01		GAMMA_GS	2.50E+00	L	12/24/2013 06:23	I
3353041	SB-125	14234-35-6	-1.51E+00	pCi/L	3.6E+00	3.6E+00	U	6.26E+00		GAMMA_GS	2.50E+00	L	12/24/2013 06:23	I
3353040	SR-89/90	SR-RAD	-3.11E-02	pCi/L	1.6E-01	1.6E-01	U	3.55E-01	100.0	SRTOT_SEP_PRE	1.0124E+00	L	01/02/2014 20:48	I
3353044	Tc-99	14133-76-7	-5.31E-01	pCi/L	3.9E+00	5.3E+00	U	9.36E+00	100.0	TC99_ETVDSK_LS	1.26E-01	L	01/02/2014 19:38	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:				
9M2N4020	B2RT76		MW6-SBB-A1	114-005	W06642					12/16/2013 10:33				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
3353045	H-3	10028-17-8	4.40E+04	pCi/L	6.9E+02	1.4E+03	U	2.93E+02	100.0	906.0_H3_LSC	5.009E-03	L	01/10/2014 15:37	I
3353038	ALPHA	12587-46-1	3.44E+00	pCi/L	1.5E+00	1.7E+00	U	2.01E+00	100.0	9310_ALPHABETA	1.087E-01	L	12/30/2013 14:40	I
3353039	BETA	12587-47-2	7.90E+00	pCi/L	1.6E+00	1.8E+00	U	2.31E+00	100.0	9310_ALPHABETA	2.00E-01	L	12/30/2013 18:08	I
3353041	BE-7	13966-02-4	-1.23E+01	pCi/L	1.3E+01	1.3E+01	U	2.07E+01		GAMMA_GS	2.50E+00	L	12/24/2013 06:24	I
3353041	CO-60	10198-40-0	2.73E-01	pCi/L	1.8E+00	1.8E+00	U	3.58E+00		GAMMA_GS	2.50E+00	L	12/24/2013 06:24	I
3353041	CS-134	13967-70-9	-1.37E-01	pCi/L	1.5E+00	1.5E+00	U	2.89E+00		GAMMA_GS	2.50E+00	L	12/24/2013 06:24	I
3353041	CS-137	10045-97-3	-8.10E-01	pCi/L	1.3E+00	1.3E+00	U	2.17E+00		GAMMA_GS	2.50E+00	L	12/24/2013 06:24	I

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.

TestAmerica Inc Report

1/20/2014 11:33:54 AM

Lab Code: TARL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 56450 File Name: h:\Reportdb\edd\Fead\Rad\W06642.Edd, h:\Reportdb\edd\Fead\Rad\56450.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:
3353041	EU-152	14683-23-9	1.13E+00	pCi/L	4.0E+00	4.0E+00	U	7.35E+00	GAMMA_GS	12/24/2013 06:24
3353041	EU-154	15585-10-1	-1.33E+00	pCi/L	4.2E+00	4.2E+00	U	7.68E+00	GAMMA_GS	12/24/2013 06:24
3353041	EU-155	14391-16-3	8.86E-01	pCi/L	3.2E+00	3.2E+00	U	5.64E+00	GAMMA_GS	12/24/2013 06:24
3353041	K-40	13966-00-2	-1.24E+01	pCi/L	4.0E+01	4.0E+01	U	9.03E+01	GAMMA_GS	12/24/2013 06:24
3353041	RU-106	13967-48-1	6.18E+00	pCi/L	1.2E+01	1.2E+01	U	2.40E+01	GAMMA_GS	12/24/2013 06:24
3353041	SB-125	14234-35-6	1.28E+00	pCi/L	3.9E+00	3.9E+00	U	7.14E+00	GAMMA_GS	12/24/2013 06:24
3353040	SR-89/90	SR-RAD	-6.98E-02	pCi/L	1.7E-01	1.7E-01	U	3.86E-01	SRTOT_SEP_PRE	01/02/2014 20:48
3353044	Tc-99	14133-76-7	2.00E+00	pCi/L	4.0E+00	5.4E+00	U	9.34E+00	TC99_ETVDSK_LS	01/02/2014 22:46

Lab Sample Id:	Client Id:	Test User:	Contract Nbr:	SAF Nbr:	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume:	Sample On Date:	Collection Date:				
9M2N4210	B2RTB0		MW6-SBB-A1	114-005	W06642					12/16/2013 10:33				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
3353043	C-14	14762-75-5	2.13E+02	pCi/L	1.2E+01	1.8E+01	U	1.73E+01	100.0	C14_LSC	7.52E-02	L	12/25/2013 06:11	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:				
9M2N4410	B2RVN5		MW6-SBB-A1	114-005	W06642					12/16/2013 12:14				
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
3353045	H-3	10028-17-8	2.53E+03	pCi/L	2.0E+02	2.3E+02	U	2.92E+02	100.0	906.0_H3_LSC	5.024E-03	L	01/10/2014 16:59	I
3353041	BE-7	13966-02-4	4.96E+00	pCi/L	1.1E+01	1.1E+01	U	2.14E+01		GAMMA_GS	2.50E+00	L	12/24/2013 08:07	I
3353041	CO-60	10198-40-0	-5.61E-01	pCi/L	1.3E+00	1.3E+00	U	2.35E+00		GAMMA_GS	2.50E+00	L	12/24/2013 08:07	I
3353041	CS-134	13967-70-9	1.48E+00	pCi/L	1.6E+00	1.6E+00	U	3.19E+00		GAMMA_GS	2.50E+00	L	12/24/2013 08:07	I
3353041	CS-137	10045-97-3	1.66E+00	pCi/L	1.6E+00	1.6E+00	U	3.12E+00		GAMMA_GS	2.50E+00	L	12/24/2013 08:07	I
3353041	EU-152	14683-23-9	-2.63E+00	pCi/L	4.0E+00	4.0E+00	U	6.49E+00		GAMMA_GS	2.50E+00	L	12/24/2013 08:07	I
3353041	EU-154	15585-10-1	1.98E+00	pCi/L	4.0E+00	4.0E+00	U	8.32E+00		GAMMA_GS	2.50E+00	L	12/24/2013 08:07	I
3353041	EU-155	14391-16-3	5.18E-01	pCi/L	3.0E+00	3.0E+00	U	5.32E+00		GAMMA_GS	2.50E+00	L	12/24/2013 08:07	I
3353041	K-40	13966-00-2	-4.95E+01	pCi/L	4.9E+01	4.9E+01	U	1.06E+02		GAMMA_GS	2.50E+00	L	12/24/2013 08:07	I
3353041	RU-106	13967-48-1	6.15E+00	pCi/L	1.1E+01	1.1E+01	U	2.21E+01		GAMMA_GS	2.50E+00	L	12/24/2013 08:07	I
3353041	SB-125	14234-35-6	-3.72E+00	pCi/L	3.3E+00	3.3E+00	U	5.13E+00		GAMMA_GS	2.50E+00	L	12/24/2013 08:07	I
3353040	SR-89/90	SR-RAD	2.03E+02	pCi/L	2.3E+00	4.6E+01	U	3.62E-01	100.0	SRTOT_SEP_PRE	1.013E+00	L	01/02/2014 21:29	I
3353044	Tc-99	14133-76-7	-9.75E-01	pCi/L	3.9E+00	5.4E+00	U	9.59E+00	100.0	TC99_ETVDSK_LS	1.25E-01	L	01/02/2014 23:49	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:
9M2N4510	B2RVN6		MW6-SBB-A1	114-005	W06642					12/16/2013 12:14

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.

1/20/2014 11:33:34 AM

TestAmerica Inc Report

Lab Code: TARL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 58450 File Name: h:\Reportdb\edd\Fead\Rad\W06642.Edd, h:\Reportdb\edd\Fead\Rad\58450.Ed

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
3353043	C-14	14762-75-5	2.35E+01	pCi/L	7.9E+00	9.4E+00	U	1.73E+01	100.0	C14_LSC	7.53E-02	L	12/25/2013 07:15	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:				
9M2N4X10 B2RT75			MW6-SBB-A1 114-005	W06642					12/16/2013 12:05					
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method <td>Alq Size</td> <td>Unit</td> <td>Analy Date/Time</td> <td>Act</td>	Alq Size	Unit	Analy Date/Time	Act
3353043	C-14	14762-75-5	8.76E+03	pCi/L	6.4E+01	4.9E+02	U	1.73E+01	100.0	C14_LSC	7.53E-02	L	12/25/2013 05:08	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:				
9M2NUN10 B2TJ08			MW6-SBB-A1 S14-012	W06642					12/10/2013 10:00					
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method <td>Alq Size</td> <td>Unit</td> <td>Analy Date/Time</td> <td>Act</td>	Alq Size	Unit	Analy Date/Time	Act
3353043	C-14	14762-75-5	3.76E+00	pCi/L	7.4E+00	8.7E+00	U	1.74E+01	100.0	C14_LSC	7.51E-02	L	12/25/2013 01:58	I
3353042	I-129	15046-84-1	2.64E+00	pCi/L	4.7E-01	4.7E-01	U	2.34E-01	80.0	I129LL_SEP_LEPS	3.7192E+00	L	01/09/2014 16:22	I
3353036	Th-228	14274-82-9	1.73E-01	pCi/L	1.2E-01	1.2E-01	U	9.43E-02	96.0	THISO_IE_PLATE	2.075E-01	L	12/31/2013 16:17	I
3353036	Th-230	14269-63-7	9.64E-02	pCi/L	8.7E-02	8.8E-02	U	5.23E-02	96.0	THISO_IE_PLATE	2.075E-01	L	12/31/2013 16:17	I
3353036	Th-232	TH-232	1.54E-02	pCi/L	3.9E-02	3.9E-02	U	9.24E-02	96.0	THISO_IE_PLATE	2.075E-01	L	12/31/2013 16:17	I

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
3353043	C-14	14762-75-5	9.79E+00	pCi/L	7.5E+00	8.9E+00	U	1.74E+01	100.0	C14_LSC	7.52E-02	L	12/25/2013 04:05	I
3353042	I-129	15046-84-1	-5.01E-02	pCi/L	1.6E-01	1.6E-01	U	2.66E-01	96.2	I129LL_SEP_LEPS	3.5419E+00	L	01/09/2014 20:03	I
3353036	Th-228	14274-82-9	2.66E-01	pCi/L	1.4E-01	1.4E-01	U	8.08E-02	95.1	THISO_IE_PLATE	2.023E-01	L	12/31/2013 06:58	I
3353036	Th-230	14269-63-7	2.97E-02	pCi/L	4.7E-02	4.7E-02	U	7.91E-02	95.1	THISO_IE_PLATE	2.023E-01	L	12/31/2013 06:58	I
3353036	Th-232	TH-232	-3.30E-03	pCi/L	3.4E-02	3.4E-02	U	7.91E-02	95.1	THISO_IE_PLATE	2.023E-01	L	12/31/2013 06:58	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:				
9M2NJP10 B2TKK3			MW6-SBB-A1 S14-012	W06642					12/10/2013 08:00					
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method <td>Alq Size</td> <td>Unit</td> <td>Analy Date/Time</td> <td>Act</td>	Alq Size	Unit	Analy Date/Time	Act
3353042	I-129	15046-84-1	3.47E+00	pCi/L	5.1E-01	5.1E-01	U	2.12E-01	92.7	I129LL_SEP_LEPS	3.7099E+00	L	01/09/2014 20:04	I
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:				
9M2NJC10 B2TLJ9			MW6-SBB-A1 W14-012	W06642					12/10/2013 11:53					
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method <td>Alq Size</td> <td>Unit</td> <td>Analy Date/Time</td> <td>Act</td>	Alq Size	Unit	Analy Date/Time	Act
3353042	I-129	15046-84-1	3.47E+00	pCi/L	5.1E-01	5.1E-01	U	2.12E-01	92.7	I129LL_SEP_LEPS	3.7099E+00	L	01/09/2014 20:04	I
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:				
9M2NJR10 B2TLK7			MW6-SBB-A1 W14-012	W06642					12/10/2013 12:46					

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.

1/20/2014 11:33:54 AM

TestAmerica Inc Report

Lab Code: TARL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 58450 File Name: h:\Reportdb\edd\Fead\W06642.Edd, h:\Reportdb\edd\Fead\W06642.Edd, h:\Reportdb\edd\Fead\W06642.Edd

Batch	AnalYTE	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
3353042	I-129	15046-84-1	2.71E+00	pCi/L	4.6E-01	4.6E-01	U	2.59E-01	93.0	1129LL_SEP_LEPS	3.689E+00	L	01/09/2014 23:36	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:				
9M2NJ10 B2TM02			MW6-SBB-A1	W14-012	W06642					12/10/2013 07:45				
Batch	AnalYTE	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method <td>Alq Size</td> <td>Unit</td> <td>Analy Date/Time</td> <td>Act</td>	Alq Size	Unit	Analy Date/Time	Act
3353042	I-129	15046-84-1	-2.24E-02	pCi/L	8.7E-02	8.7E-02	U	1.55E-01	94.9	1129LL_SEP_LEPS	3.723E+00	L	01/09/2014 23:37	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:				
9M2NJV10 B2TLM1			MW6-SBB-A1	W14-012	W06642					12/10/2013 10:38				
Batch	AnalYTE	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method <td>Alq Size</td> <td>Unit</td> <td>Analy Date/Time</td> <td>Act</td>	Alq Size	Unit	Analy Date/Time	Act
3353042	I-129	15046-84-1	4.91E+00	pCi/L	6.8E-01	6.8E-01	U	2.80E-01	87.8	1129LL_SEP_LEPS	3.7381E+00	L	01/10/2014 07:30	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:				
9M2NJW10 B2TLN3			MW6-SBB-A1	W14-012	W06642					12/10/2013 11:13				
Batch	AnalYTE	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method <td>Alq Size</td> <td>Unit</td> <td>Analy Date/Time</td> <td>Act</td>	Alq Size	Unit	Analy Date/Time	Act
3353042	I-129	15046-84-1	5.21E+00	pCi/L	7.2E-01	7.2E-01	U	2.51E-01	88.6	1129LL_SEP_LEPS	3.7069E+00	L	01/10/2014 07:31	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:				
9M2PC810 B2TL44			MW6-SBB-A1	114-009	W06642					12/17/2013 09:51				
Batch	AnalYTE	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method <td>Alq Size</td> <td>Unit</td> <td>Analy Date/Time</td> <td>Act</td>	Alq Size	Unit	Analy Date/Time	Act
3353045	H-3	10028-17-8	1.28E+04	pCi/L	3.8E+02	5.4E+02	U	2.90E+02	100.0	906.0_H3_LSC	5.018E-03	L	01/10/2014 18:20	I
3353038	ALPHA	12587-46-1	3.94E+00	pCi/L	2.1E+00	2.3E+00	U	2.85E+00	100.0	9310_ALPHABETA	5.37E-02	L	12/30/2013 14:40	I
3353039	BETA	12587-47-2	1.95E+04	pCi/L	1.1E+02	2.4E+03	U	1.09E+01	100.0	9310_ALPHABETA	3.50E-02	L	12/30/2013 18:08	I
3353041	BE-7	13966-02-4	1.91E-01	pCi/L	6.1E+01	6.1E+01	U	1.08E+02		GAMMA_GS	5.00E-01	L	12/24/2013 09:58	I
3353041	CO-60	10198-40-0	-3.70E+00	pCi/L	7.3E+00	7.3E+00	U	1.27E+01		GAMMA_GS	5.00E-01	L	12/24/2013 09:58	I
3353041	CS-134	13967-70-9	-7.79E+00	pCi/L	8.8E+00	8.8E+00	U	1.43E+01		GAMMA_GS	5.00E-01	L	12/24/2013 09:58	I
3353041	CS-137	10045-97-3	3.69E+00	pCi/L	8.3E+00	8.3E+00	U	1.54E+01		GAMMA_GS	5.00E-01	L	12/24/2013 09:58	I
3353041	EU-152	14683-23-9	1.63E+00	pCi/L	2.0E+01	2.0E+01	U	3.55E+01		GAMMA_GS	5.00E-01	L	12/24/2013 09:58	I
3353041	EU-154	15585-10-1	4.68E+00	pCi/L	2.3E+01	2.3E+01	U	4.43E+01		GAMMA_GS	5.00E-01	L	12/24/2013 09:58	I
3353041	EU-155	14391-16-3	1.58E+01	pCi/L	1.7E+01	1.7E+01	U	3.16E+01		GAMMA_GS	5.00E-01	L	12/24/2013 09:58	I
3353041	K-40	13966-00-2	-4.64E+02	pCi/L	2.3E+02	2.3E+02	U	4.91E+02		GAMMA_GS	5.00E-01	L	12/24/2013 09:58	I
3353041	RU-106	13967-48-1	-2.35E+01	pCi/L	6.1E+01	6.1E+01	U	1.06E+02		GAMMA_GS	5.00E-01	L	12/24/2013 09:58	I
3353041	SB-125	14234-35-6	2.92E+00	pCi/L	1.9E+01	1.9E+01	U	3.50E+01		GAMMA_GS	5.00E-01	L	12/24/2013 09:58	I

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.

1/20/2014 11:33:54 AM

TestAmerica Inc Report

Lab Code: TARL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 58450 File Name: h:\Reportdb\dd\Fead\Rad\W06642.Edd, h:\Reportdb\dd\Fead\Rad\58450.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:
3353035	Pu-238	13981-16-3	9.71E-02	pCi/L	1.9E-01	2.0E-01	U	2.63E-01	100.0	01/06/2014 21:16
3353035	Pu-239	PU-239/240	-7.77E-03	pCi/L	1.9E-01	1.9E-01	U	3.91E-01	100.0	01/06/2014 21:16
3353040	SR-89/90	SR-RAD	1.14E+04	pCi/L	6.6E+01	2.6E+03		4.93E+00	94.2	01/02/2014 21:29
3353044	Tc-99	14133-76-7	2.88E+01	pCi/L	4.9E+00	6.9E+00		9.50E+00	100.0	01/03/2014 00:51
3353046	Uranium	7440-61-1	2.25E+00	ug/L	2.3E-01	2.3E-01		8.25E-02		12/31/2013 13:38

Batch	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
4006041	Uranium	7440-61-1	2.26E+00	ug/L	2.3E-01	2.3E-01	8.35E-02		UTOT_KPA	2.51E-02	ML	01/16/2014 18:12	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:
9M2PC830	B2TL44		MW6-SBB-A1	114-009	W06642					12/17/2013 09:51

Batch	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
4012022	U-234	13966-29-5	8.16E-01	pCi/L	6.1E-01	6.3E-01	8.13E-01	78.2	UIISO_PLATE_AEA	7.83E-02	L	01/15/2014 21:04	I
4012022	U-235	15117-96-1	5.77E-02	pCi/L	2.0E-01	2.0E-01	5.44E-01	78.2	UIISO_PLATE_AEA	7.83E-02	L	01/15/2014 21:04	I
4012022	U-238	9.94E-01	pCi/L	6.7E-01	6.9E-01		8.42E-01	78.2	UIISO_PLATE_AEA	7.83E-02	L	01/15/2014 21:04	I

Lab Sample Id:	Client Id:	Test User:	Contract Nbr:	SAF Nbr:	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume:	Sample On Date:	Collection Date:
9M2PHA10	B2TLJ5		MW6-SBB-A1	W14-012	W06642					12/13/2013 08:34

Batch	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
3353042	I-129	15046-84-1	6.37E+00	pCi/L	8.4E-01	8.4E-01	2.88E-01	84.1	I129LL_SEP_LEPS	3.8616E+00	L	01/10/2014 10:54	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:
9M2PHC10	B2TLX3		MW6-SBB-A1	W14-012	W06642					12/13/2013 14:02

Batch	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
3353042	I-129	15046-84-1	3.84E+00	pCi/L	5.6E-01	5.6E-01	2.26E-01	92.7	I129LL_SEP_LEPS	3.8679E+00	L	01/10/2014 10:55	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:
9M2PHD10	B2TL3		MW6-SBB-A1	W14-012	W06642					12/13/2013 14:02

Batch	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
3353042	I-129	15046-84-1	3.84E+00	pCi/L	5.6E-01	5.6E-01	2.54E-01	88.1	I129LL_SEP_LEPS	3.9087E+00	L	01/10/2014 14:19	I

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.

TestAmerica Inc Report

1/20/2014 11:33:54 AM

Lab Code: TARL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 58450 File Name: h:\Reportdb\dd\Fead\Rad\W06642.Edd, h:\Reportdb\dd\Fead\Rad\58450.Ed

9M2PHE10 B2TLL7 MW6-SBB-A1 W14-012 W06642 12/13/2013 09:49

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
3353042	I-129	15046-84-1	5.25E+00	pCi/L	6.8E-01	6.8E-01		2.07E-01	91.6	I129LL_SEP_LEPS	3.9019E+00	L	01/10/2014 14:20	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:
9M2PHF10 B2TLM5			MW6-SBB-A1	W14-012	W06642					12/13/2013 13:29

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
3353042	I-129	15046-84-1	3.31E+00	pCi/L	5.1E-01	5.1E-01		2.28E-01	92.7	I129LL_SEP_LEPS	3.8326E+00	L	01/10/2014 17:55	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:
9M2PHG10 B2TLM9			MW6-SBB-A1	W14-012	W06642					12/13/2013 10:36

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
3353042	I-129	15046-84-1	3.33E+00	pCi/L	4.9E-01	4.9E-01		1.64E-01	98.9	I129LL_SEP_LEPS	3.8592E+00	L	01/10/2014 17:56	I

TestAmerica Inc

rptFeadRadSummary.Edd 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.

Monday, January 20, 2014
 FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Report\b\edd\Fead\Rad\W06642.Edd, h:\Report\b\edd\Fead\Rad\58450.Ed Lab Code: TARL

TestAmerica Inc QC Blank Report

Lab Sample Id: M2P241AB Sdg/Rept Nbr: W06642 58450 Collection Date: 12/10/2013 10:00
 Client Id: NA Matrix: WATER WATER Sample On Date:
 Moisture/Solids%*: QC Type: BLK Received Date: 12/12/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	F Suffix	R Type
	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 LCU/UCL	R Typ
3353043	C-14	6.19E+00	pCi/L	8.7E+00	U	1.72E+01	100.0		C14_LSC	7.50E-02	12/25/2013				D
BLK	14762-75-5			7.4E+00						L	08:18				

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

Monday, January 20, 2014

TestAmerica Inc QC Blank Report

Lab Code: TARL

Form Nbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\IVRad\W06642.Edd, h:\Reportdb\edd\Fead\IVRad\58450.Ed

Lab Sample Id: M2P251AB Sdg/Rept Nbr: W06642 58450 Collection Date: 12/16/2013 12:05
 Client Id: NA Matrix: WATER WATER Sample On Date:
 Moisture/Solids%*: QC Type: BLK Received Date: 12/16/2013

SAF Nbr	Analyt/ CAS#	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	F Suffix	R Typ		
3353044	Tc-99	MW6-SBB-A19981								BK	H		
BLK	14133-76-7												
			Unit	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	RPD/ UCL	RER/ UCL	LCS LCL/UCL	Typ D
			pCi/L	U	9.43E+00	100.0		TC99_ETVDSK	1.262E-01				
			5.4E+00						L				
			4.0E+00										

TestAmerica Inc
rpfFeadRadEdd 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.

Monday, January 20, 2014
 FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportabledd\Fead\W06642.Edd, h:\Reportabledd\Fead\W06642.Edd
 Lab Code: TARL

TestAmerica Inc QC Blank Report

Lab Sample Id: M2P261AB Sdg/Rept Nbr: W06642 58450 Collection Date: 12/16/2013 12:05
 Client Id: NA Matrix: WATER WATER Sample On Date:
 Moisture/Solids%*: QC Type: BLK 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	Toi/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCU/ UCL	R Typ
3353045 H-3		-8.78E+01	pCi/L	1.3E+02	U	3.02E+02	100.0		906.0_H3_LSC	5.031E-03	01/10/2014				D
BLK	10028-17-8			1.2E+02						L	19:42				

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. 4

Monday, January 20, 2014
 Form Nbr: R Format Type: FEAD Version Nbr: 05 File Name: h:\Reportable\Fead\W06642.Edd, h:\Reportable\Fead\W06642.Edd, h:\Reportable\Fead\W06642.Edd
 Lab Code: TARL

TestAmerica Inc QC Blank Report

Lab Sample Id: M2P271AB Sdg/Rept Nbr: W06642 58450 Collection Date: 12/17/2013 09:51
 Client Id: NA Matrix: WATER WATER Sample On Date:
 Moisture/Solids%*: QC Type: BLK Received Date: 12/17/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RType
	MW6-SBB-A19981								BO	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
3353046 BLK	Uranium 7440-61-1	3.16E+00	ug/L	3.2E-01 3.2E-01		7.20E-02			UTOT_KPA	2.91E-02	12/31/2013 13:46				D

TestAmerica Inc rpt\FeadRadEdd v3.68 5

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.

Monday, January 20, 2014
 FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Report\bledd\Fead\W06642.Edd, h:\Report\bledd\Fead\W06642.Edd
 Lab Code: TARL

TestAmerica Inc QC Blank Report

Lab Sample Id: M2P2H1AB Sdg/Rept Nbr: W06642 Collection Date: 12/17/2013 09:51
 Client Id: NA Matrix: WATER 58450 Sample On Date:
 Moisture/Solids%*: QC Type: BLK Received Date: 12/17/2013

SAF Nbr	Analyt/ CAS#	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	F Suffix	R TYP		
		MW6-SBB-A19981								BR	H		
Batch # / Qc Type	3353035 Pu-238	Result/ Orig Rst	Toi/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCU/ UCL	Typ
BLK	13981-16-3	3.18E-02	7.6E-02	U	1.73E-01	92.1	PUISO_PLATE	2.023E-01	01/06/2014				D
3353035 Pu-239		-3.03E-03	7.6E-02	U	1.52E-01	92.1	PUISO_PLATE	L	21:17				D
BLK	PU-239/240		7.6E-02					L	21:17				D

TestAmerica Inc rptFeadRadEdd v3.68 6

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.

Monday, January 20, 2014
 FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIVRad\W06642.Edd, h:\Reportdb\edd\FeadIVRad\58450.Ed
 Lab Code: TARL

TestAmerica Inc QC Blank Report

Lab Sample Id: M2P2L1AB Sdg/Rept Nbr: W06642 58450 Collection Date: 12/10/2013 10:00
 Client Id: NA Matrix: WATER WATER Sample On Date:
 Moisture/Solids%*: QC Type: BLK Received Date: 12/12/2013

SAF Nbr	Analyt/ CAS#	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	F Suffix	R Typ				
		MW6-SBB-A19981								BT	H				
Batch # / Qc Type	Result/ Orig Rst	Unit	Toi/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	THISO_IE_PL	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCLUCL	R Typ
3353036 Th-228 BLK 14274-82-9	1.26E-01	pCi/L	8.7E-02 8.5E-02	U	8.43E-02	93.6		THISO_IE_PL		2.014E-01	12/31/2013 06:59				D
3353036 Th-230 BLK 14269-63-7	2.62E-02	pCi/L	4.7E-02 4.7E-02	U	9.63E-02	93.6		THISO_IE_PL		2.014E-01	12/31/2013 06:59				D
3353036 Th-232 BLK TH-232	7.85E-03	pCi/L	2.7E-02 2.7E-02	U	7.40E-02	93.6		THISO_IE_PL		2.014E-01	12/31/2013 06:59				D

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. 7

Monday, January 20, 2014
 FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\Rad\W06642.Edd, h:\Reportable\edd\Fead\Rad\58450.Ed
 Lab Code: TARL

TestAmerica Inc QC Blank Report

Lab Sample Id: M2P2P1AB Sdg/Rept Nbr: W06642 58450 Collection Date: 12/16/2013 12:05
 Client Id: NA Matrix: WATER WATER Sample On Date:
 Moisture/Solids%*: QC Type: BLK Received Date: 12/16/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	F Suffix	RTyp
	MW6-SBB-A19981								BV	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 LCUJCL	R Typ
3353038 BLK	ALPHA 12587-46-1	3.94E-01	pCi/L	4.6E-01 4.5E-01	U	7.70E-01	100.0		9310_ALPHA	1.999E-01	12/30/2013 14:40				D

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. 8

Monday, January 20, 2014
 Form Nbr: R Format Type: FEAD Version Nbr: 05 File Name: h:\Reportdb\edd\Fead\W06642.Edd, h:\Reportdb\edd\Fead\W06642.Edd, h:\Reportdb\edd\Fead\W06642.Edd
 Lab Code: TARL

TestAmerica Inc QC Blank Report

Lab Sample Id: M2P2R1AB Sdg/Rept Nbr: W06642 58450 Collection Date: 12/16/2013 12:05
 Client Id: NA Matrix: WATER WATER Sample On Date:
 Moisture/Solids%*: QC Type: BLK 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								BX	H

Batch # / Analyt/ Result/ Tot/Cnt Qu- Tracer Spk Conc/ Aliq Date/Time RER/ LCS R
 Qc Type CAS# Orig Rst Uncert 2S al Yield %Rec Size/ Analyzed UCL UCL Typ
 3353039 BETA 1.16E+00 1.1E+00 U 100.0 2.00E-01 12/30/2013 D
 BLK 12587-47-2 1.1E+00

TestAmerica Inc 9
 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.

Monday, January 20, 2014

TestAmerica Inc QC Blank Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\VRad\W06642.Edd, h:\Reportdb\edd\Fead\VRad\58450.Ed

Lab Sample Id: M2P2T1AB Sdg/Rept Nbr: W06642 Collection Date: 12/16/2013 12:05
 Client Id: NA Matrix: WATER Decant: 58450 Sample On Date:
 Moisture/Solids%*: QC Type: BLK Received Date: 12/16/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	F Suffix	R Type
	MW6-SBB-A19981								BZ	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 Type
3353040 BLK	SR-89/90 SR-RAD	4.41E-02	pCi/L	1.7E-01	U	3.63E-01	95.9		SRTOT_SEP_	1.0105E+00	01/02/2014				D
				1.7E-01						L	21:29				

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.

Monday, January 20, 2014

TestAmerica Inc QC Blank Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIVRad\W06642.Edd, h:\Reportdb\edd\FeadIVRad\58450.Edd

Lab Sample Id: M2P2V1AB Sdg/Rept Nbr: W06642 58450 Collection Date: 12/16/2013 12:05
 Client Id: NA Matrix: WATER WATER Sample On Date:
 Moisture/Solids%*: QC Type: BLK Received Date: 12/16/2013

SAF Nbr	Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Concl/ %Rec	Analy Method	Decant	Distilled Volume	File Id	F Suffix	R TYP
	3353041 BLK	BE-7 13966-02-4	-8.51E+00	pCi/L	1.2E+01	U	1.93E+01			GAMMA_GS		2.50E+00			D
	3353041 BLK	CO-60 10198-40-0	-7.11E-01	pCi/L	1.8E+00	U	3.17E+00			GAMMA_GS		2.50E+00			D
	3353041 BLK	CS-134 13967-70-9	-1.39E+00	pCi/L	1.6E+00	U	2.59E+00			GAMMA_GS		2.50E+00			D
	3353041 BLK	CS-137 10045-97-3	-6.99E-01	pCi/L	1.5E+00	U	2.56E+00			GAMMA_GS		2.50E+00			D
	3353041 BLK	EU-152 14683-23-9	9.54E-01	pCi/L	3.9E+00	U	7.16E+00			GAMMA_GS		2.50E+00			D
	3353041 BLK	EU-154 15585-10-1	1.32E-02	pCi/L	5.1E+00	U	9.62E+00			GAMMA_GS		2.50E+00			D
	3353041 BLK	EU-155 14391-16-3	-1.18E+00	pCi/L	2.9E+00	U	4.87E+00			GAMMA_GS		2.50E+00			D
	3353041 BLK	K-40 13966-00-2	-1.93E+01	pCi/L	4.0E+01	U	8.95E+01			GAMMA_GS		2.50E+00			D
	3353041 BLK	RU-106 13967-48-1	-3.43E+00	pCi/L	1.2E+01	U	2.05E+01			GAMMA_GS		2.50E+00			D
	3353041 BLK	SB-125 14234-35-6	5.80E-01	pCi/L	3.5E+00	U	6.45E+00			GAMMA_GS		2.50E+00			D

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

TestAmerica Inc
 rptFeadRadEdd v3.68

Monday, January 20, 2014

TestAmerica Inc QC Blank Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\W06642.Edd, h:\Reportdb\edd\Fead\W06642.Edd, h:\Reportdb\edd\Fead\W06642.Edd

Lab Sample Id: M2RM51AB Sdg/Rept Nbr: W06642 58450 Collection Date: 12/17/2013 09:51
 Client Id: NA Matrix: WATER WATER Sample On Date:
 Moisture/Solids%*: QC Type: BLK Received Date: 12/17/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
	MW6-SBB-A19981								CJ	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
4006041 BLK	Uranium 7440-61-1	1.41E-02	ug/L	2.5E-03 2.5E-03	U	8.15E-02				UTOT_KPA	2.57E-02 ML	01/16/2014 18:20				D

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.

Monday, January 20, 2014
 FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\ledd\Fead\Rad\W06642.Edd, h:\Reportdb\ledd\Fead\Rad\58450.Ed
 Lab Code: TARL

TestAmerica Inc QC Blank Report

Lab Sample Id: M2TJV1AB Sdg/Rept Nbr: W06642 58450 Collection Date: 12/17/2013 09:51
 Client Id: NA Matrix: WATER WATER Sample On Date:
 Moisture/Solids%*: QC Type: BLK Received Date: 12/17/2013

Batch # / Qc Type	Analyl CAS#	Result/ Orig Rst	Unit	Toi/Cnt Uncert ZS	Qu- al	MDC	Tracer Yield	Spk Concl/ %Rec	Analy Method	Decant	Distilled Volume	File Id	FSuffix	RTyp
4012022	U-234	-1.68E-02	pCi/L	9.8E-02	U	3.79E-01	65.8		UIISO_PLATE_		2.003E-01	01/15/2014		D
BLK	13966-29-5			9.8E-02							L	21:04		
4012022	U-235	1.83E-03	pCi/L	9.7E-02	U	3.39E-01	65.8		UIISO_PLATE_		2.003E-01	01/15/2014		D
BLK	15117-96-1			9.7E-02							L	21:04		
4012022	U-238	1.96E-01	pCi/L	2.1E-01	U	3.20E-01	65.8		UIISO_PLATE_		2.003E-01	01/15/2014		D
BLK	U-238			2.1E-01							L	21:04		

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.

Monday, January 20, 2014

TestAmerica Inc QC Control Sample Report

Lab Code: TARL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\ledd\Fead\I\Rad\W06642.Edd, h:\Reportdb\ledd\Fead\I\Rad\58450.Ed

Lab Sample Id: M2P231CS Sdg/Rept Nbr: W06642 58450 Collection Date: 12/10/2013 10:00
 Client Id: NA Matrix: WATER WATER Sample On Date:
 Moisture/Solids%*: QC Type: BS Received Date: 12/12/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RType
	MW6-SBB-A19981								BH	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
3353042	I-129	9.74E+00	pCi/L	1.1E+00		2.29E-01	95.7	9.97E+00	I129LL_SEP_L	3.9695E+00	01/10/2014			70	D
BS	15046-84-1			1.1E+00				97.6		L	21:48			130	

TestAmerica Inc
 rptReadRadEdd 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.

Monday, January 20, 2014 Lab Code: TARL
 FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Report\bled\Fead\VRad\W06642.Edd, h:\Report\bled\Fead\VRad\58450.Ed

TestAmerica Inc QC Control Sample Report

Lab Sample Id: M2P241CS Sdg/Rept Nbr: W06642 58450 Collection Date: 12/10/2013 10:00
 Client Id: NA Matrix: WATER WATER Sample On Date:
 Moisture/Solids%*: QC Type: BS Received Date: 12/12/2013

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

Batch # / Qc Type	AnalYd 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
3353043	C-14	4.29E+02	pCi/L	3.0E+01		1.74E+01	100.0	4.81E+02	C14_LSC	7.52E-02	12/25/2013 09:21			70	D
BS	14762-75-5			1.6E+01				89.1		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.
 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.

Monday, January 20, 2014

TestAmerica Inc QC Control Sample Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Report\bh\edd\Fead\IVRad\W06642.Edd, h:\Report\bh\edd\Fead\IVRad\58450.Edd

Lab Sample Id: M2P251CS Sdg/Rept Nbr: W06642 58450 Collection Date: 12/16/2013 12:05
 Client Id: NA Matrix: WATER WATER Sample On Date:
 Moisture/Solids%*: QC Type: BS Received Date: 12/16/2013

SAF Nbr	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Concl/ %Rec	Analy Method	Decant	Distilled Volume	File Id	F Suffix	R Type	
3353044	Tc-99	4.75E+02	pCi/L	3.1E+01		9.48E+00	100.0	5.40E+02	TC99_ETVDSK		1.255E-01	01/03/2014		70	D
BS	14133-76-7			1.2E+01				88.0			L	02:55		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.

Monday, January 20, 2014

TestAmerica Inc QC Control Sample Report

Lab Code: TARL

Form Nbr: R Format Type: FEAD Version Nbr: 05 File Name: h:\Report\b\edd\Fead\Rad\W06642.Edd, h:\Report\b\edd\Fead\Rad\W06642.Edd

Lab Sample Id: M2P261CS Sdg/Rept Nbr: W06642 58450 Collection Date: 12/16/2013 12:05
 Client Id: NA Matrix: WATER 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	RTyp					
	MW6-SBB-A19981								BN	H					
Batch # / Qc Type	Analyl/ 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
3353045 BS	H-3 10028-17-8	2.75E+03	pCi/L	2.4E+02 2.1E+02		3.02E+02	100.0	2.70E+03 101.8	906.0_H3_LSC	5.036E-03 L	01/10/2014 21:04			70 130	D

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.

Monday, January 20, 2014

TestAmerica Inc QC Control Sample Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\VRad\W06642.Edd, h:\Reportdb\edd\Fead\VRad\56450.Ed

Lab Sample Id: M2P271CS Sdg/Rept Nbr: W06642 58450 Collection Date: 12/17/2013 09:51
 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	F Suffix	R Typ						
	MW6-SBB-A19981								BP	H						
Batch # / Qc Type	Analyt / CAS#	Result / Orig Rst	Unit	Tot / Cnt	Qu- al	MDC	Tracer Yield	Spk Conc / %Rec	Analy Method	UTOT_KPA	Aliq Size /	Date / Time Analyzed	RPD / UCL	RER / UCL	LCS LCL / UCL	R Typ
3353046 BS	Uranium 7440-61-1	3.29E+01	ug/L	3.9E+00 3.9E+00		8.19E-02		3.59E+01 91.7			2.56E-02 ML	12/31/2013 13:48			70 130	D

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.

Monday, January 20, 2014

TestAmerica Inc QC Control Sample Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Report\bled\Fead\Rad\W06642.Edd, h:\Report\bled\Fead\Rad\158450.Ed

Lab Sample Id: M2P271DS Sdg/Rept Nbr: W06642 Collection Date: 12/17/2013 09:51
 Client Id: NA Matrix: WATER Decant: 58450 Sample On Date:
 Moisture/Solids%*: QC Type: BS Received Date: 12/17/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Distilled Volume	File Id	F Suffix	R Typ						
								BQ	H						
3353046	MW6-SBB-A19981														
BS															
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
7440-61-1	Uranium	4.38E+00	ug/L	4.5E-01	4.5E-01	7.79E-02		3.47E+00	UTOT_KPA	2.69E-02	12/31/2013			70	D
								126.3		ML	13:50			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.

Monday, January 20, 2014

TestAmerica Inc QC Control Sample Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 Sdg/Rept Nbr: W06642 Matrix: WATER QC Type: BS Collection Date: 12/10/2013 10:00 Sample On Date: Received Date: 12/12/2013

File Name: h:\Reportdb\led1\Fead\VRad\W06642.Edd, h:\Reportdb\led1\Fead\VRad\68450.Ed

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RType					
	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	R Type
3353036 BS	Th-230 14269-63-7	4.27E+00	pCi/L	8.1E-01 5.9E-01		1.64E-01	84.8	5.42E+00 78.8	THISO_IE_PL	2.103E-01 L	12/31/2013 16:17			70 130	D

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.

Monday, January 20, 2014 Lab Code: TARL
 FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Report\bld\Fead\VRad\W06642.Edd, h:\Report\bld\Fead\VRad\58450.Ed

TestAmerica Inc QC Control Sample Report

Lab Sample Id: M2P2P1CS Sdg/Rept Nbr: W06642 58450 Collection Date: 12/16/2013 12:05
 Client Id: NA Matrix: WATER 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								BW	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qual	MDC	Tracer Yield	Spk Concl/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
3353038 BS	ALPHA 12587-46-1	2.15E+01	pCi/L	5.6E+00 1.6E+00	6.02E-01	100.0	2.38E+01 90.4	9310_ALPHA	2.00E-01	L	12/30/2013 14:40			70 130	D

TestAmerica Inc 22
 rptFeadRadE\dd 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.

Monday, January 20, 2014 Lab Code: TARL
 Form Nbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Report\b\edd\Fead\Rad\W06642.Edd, h:\Report\b\edd\Fead\Rad\58450.Ed

TestAmerica Inc QC Control Sample Report

Lab Sample Id: M2P2R1CS Sdg/Rept Nbr: W06642 Collection Date: 12/16/2013 12:05
 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	F Suffix	R Type					
									BY	H					
	MW6-SBB-A19981														
Batch # / Qc Type	Analyl/ 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 Type
3353039 BS	BETA 12587-47-2	1.94E+01	pCi/L	3.0E+00 1.6E+00		1.70E+00	100.0	2.27E+01 85.3	9310_ALPHA	2.00E-01 L	12/30/2013 18:08			70 130	D

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.

TestAmerica Inc QC Control Sample Report

Monday, January 20, 2014

Lab Code: TARL

Form Nbr: R Format Type: FEAD Version Nbr: 05 File Name: h:\Report\bld\Fead\Rad\W06642.Edd, h:\Report\bld\Fead\Rad\58450.Ed

Lab Sample Id: M2P2T1CS Sdg/Rept Nbr: W06642 58450 Collection Date: 12/16/2013 12:05
 Client Id: NA Matrix: WATER 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								CA	H		
Batch # / Qc Type	AnalYU CAS#	Result/ Orig Rst	Qu- al	MDC	Tracer Yield	Spk Concl/ %Rec	Analy Method	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
3353040 BS	SR-89/90 SR-RAD	6.76E+00	1.6E+00 4.8E-01	4.03E-01	92.6	6.70E+00 100.8	SRTOT_SEP_	01/03/2014 07:45	UCL	UCL	70	D
											130	

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.

Monday, January 20, 2014 Lab Code: TARL
TestAmerica Inc QC Control Sample Report
 FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\VRad\W06642.Edd, h:\Reportdb\edd\Fead\VRad\58450.Ed

Lab Sample Id: M2P2V1CS Sdg/Rept Nbr: W06642 Collection Date: 12/16/2013 12:05
 Client Id: NA Matrix: WATER Sample On Date: 12/16/2013
 Moisture/Solids%*: BS 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						
Batch # / Qc Type	AnalV/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	GAMMA_GS	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
3353041 BS	CO-60 10198-40-0	3.30E+01	pCi/L	6.5E+00 6.5E+00	1.88E+00	2.75E+01	120.0	2.50E+00	GAMMA_GS	L	12/24/2013 09:59	70	70	130	D	
3353041 BS	CS-137 10045-97-3	4.35E+01	pCi/L	7.5E+00 7.5E+00	2.53E+00	3.97E+01	109.6	2.50E+00	GAMMA_GS	L	12/24/2013 09:59	70	70	130	D	
3353041 BS	EU-152 14683-23-9	6.48E+01	pCi/L	1.1E+01 1.1E+01	5.23E+00	5.95E+01	108.8	2.50E+00	GAMMA_GS	L	12/24/2013 09:59	70	70	130	D	

TestAmerica Inc 25
 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.

Monday, January 20, 2014

TestAmerica Inc QC Control Sample Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportabledd\Fead\VRad\W06642.Edd, h:\Reportabledd\Fead\VRad\58450.Ed

Lab Sample Id: M2RM51DS Sdg/Rept Nbr: W06642 58450 Collection Date: 12/17/2013 09:51
 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	F Suffix	R Typ						
	MW6-SBB-A19981								CL	H						
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rest	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Concl/ %Rec	Analy Method	UTOT_KPA	Aliq Size/ ML	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCLUJCL	R Typ
4006041 BS	Uranium 7440-61-1	4.18E+00	ug/L	4.3E-01 4.3E-01		8.35E-02		3.85E+00 108.6			2.51E-02	01/16/2014 18:28			70	D
															130	

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.

Monday, January 20, 2014 Lab Code: TARL
 FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Report\b\edd\Fead\IVRad\W06642.Edd, h:\Report\b\edd\Fead\IVRad\58450.Ed

TestAmerica Inc QC Control Sample Report

Lab Sample Id: M2TJV1CS Sdg/Rept Nbr: W06642 Collection Date: 12/17/2013 09:51
 Client Id: NA Matrix: WATER Sample On Date: 12/17/2013
 Moisture/Solids%*: BS 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	RType					
									CN	H					
	MW6-SBB-A19981														
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/UCL	R Typ
4012022 BS	U-234 13966-29-5	9.43E+00	pCi/L	1.9E+00 1.1E+00		2.15E-01	81.8	8.61E+00 109.5	UIISO_PLATE_	2.00E-01 L	01/15/2014 21:04			70 130	D D
4012022 BS	U-238	9.02E+00	pCi/L	1.8E+00 1.1E+00		3.32E-01	81.8	9.02E+00 100.1	UIISO_PLATE_	2.00E-01 L	01/15/2014 21:04			70 130	D D

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.

Monday, January 20, 2014

TestAmerica Inc QC Duplicate Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\VRad\W06642.Edd, h:\Reportdb\edd\Fead\VRad\58450.Edd

Lab Sample Id: M2N401MR Sdg/Rept Nbr: W06642 58450 Collection Date: 12/16/2013 12:05
 Client Id: B2RT76 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	FSuffix	RType						
I14-005	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
3353038	ALPHA	3.93E+00	pCi/L	1.6E+00	1.3E+00		1.62E+00	100.0		9310_ALPHA	1.999E-01	12/30/2013	22.7	0.9		D
DUP	12587-46-1	4.94E+00									L	14:40	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.

Monday, January 20, 2014

TestAmerica Inc QC Duplicate Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\VARad\58450.Ed

Lab Sample Id: M2N401NR Sdg/Rept Nbr: W06642 58450 Collection Date: 12/16/2013 12:05
 Client Id: B2RT76 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	FSuffix	RType
I14-005	MW6-SBB-A19981								AY	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
3353039	BETA	8.16E+00	pCi/L	1.8E+00		2.19E+00	100.0		9310_ALPHA	1.999E-01	12/30/2013	20.8	1.5		D
DUP	12587-47-2	1.01E+01		1.5E+00						L	14:24	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.

Monday, January 20, 2014 Lab Code: TARL

TestAmerica Inc QC Duplicate Report

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Report\bledd\Fead\VRad\W06642.Edd, h:\Report\bledd\Fead\VRad\58450.Edd

Lab Sample Id: M2N401PR Sdg/Rept Nbr: W06642 Collection Date: 12/16/2013 12:05

Client Id: B2RT76 Matrix: 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	FSuffix	RType
I14-005	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 Typ
3353040	SR-89/90	4.20E-02	pCi/L	1.7E-01	U	3.60E-01	100.0		SRTOT_SEP_	1.0036E+00	01/02/2014	1336.1	0.6		D
DUP	SR-RAD	-3.11E-02		1.7E-01						L	20:48	20.0	3		

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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.

Monday, January 20, 2014
 FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Report\bld\Fead\VRad\W06642.Edd, h:\Report\bld\Fead\VRad\58450.Ed
 Lab Code: TARL

TestAmerica Inc QC Duplicate Report

Lab Sample Id: M2N401QR Sdg/Rept Nbr: W06642 58450 Collection Date: 12/16/2013 12:05
 Client Id: B2RT76 Matrix: WATER WATER Sample On Date:
 Moisture/Solids%*: QC Type: DUP Received Date: 12/16/2013

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cmt 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
3353041	BE-7	5.59E+00	pCi/L	1.3E+01	U	2.35E+01			GAMMA_GS	2.50E+00	12/24/2013 08:07	156.1	0.6		D
DUP	13966-02-4	6.88E-01	pCi/L	1.3E+01	U	1.87E+00			GAMMA_GS	2.50E+00	12/24/2013 08:07	20.0	3		D
3353041	CO-60	-1.78E+00	pCi/L	1.4E+00	U	2.95E+00			GAMMA_GS	2.50E+00	12/24/2013 08:07	0.0	2.5		D
DUP	10198-40-0	7.37E-01	pCi/L	1.4E+00	U	2.76E+00			GAMMA_GS	2.50E+00	12/24/2013 08:07	32.3	0.1		D
3353041	CS-134	4.71E-01	pCi/L	1.5E+00	U	7.94E+00			GAMMA_GS	2.50E+00	12/24/2013 08:07	20.0	3		D
DUP	13967-70-9	3.40E-01	pCi/L	1.5E+00	U	5.03E+00			GAMMA_GS	2.50E+00	12/24/2013 08:07	0.0	0.7		D
3353041	CS-137	-6.49E-01	pCi/L	1.6E+00	U	1.6E+00			GAMMA_GS	2.50E+00	12/24/2013 08:07	20.0	3		D
DUP	10045-97-3	9.47E-02	pCi/L	1.6E+00	U	7.94E+00			GAMMA_GS	2.50E+00	12/24/2013 08:07	352.3	1.8		D
3353041	EU-152	4.05E+00	pCi/L	4.1E+00	U	9.44E+00			GAMMA_GS	2.50E+00	12/24/2013 08:07	266.7	0.6		D
DUP	14683-23-9	-1.12E+00	pCi/L	4.1E+00	U	5.03E+00			GAMMA_GS	2.50E+00	12/24/2013 08:07	20.0	3		D
3353041	EU-154	-2.85E-01	pCi/L	5.0E+00	U	8.55E+01			GAMMA_GS	2.50E+00	12/24/2013 08:07	0.0	1.		D
DUP	15585-10-1	2.00E+00	pCi/L	5.0E+00	U	2.31E+01			GAMMA_GS	2.50E+00	12/24/2013 08:07	143.0	0.4		D
3353041	EU-155	-8.77E-01	pCi/L	2.9E+00	U	7.57E+00			GAMMA_GS	2.50E+00	12/24/2013 08:07	953.9	1.3		D
DUP	14391-16-3	-3.03E+00	pCi/L	2.9E+00	U	4.0E+00			GAMMA_GS	2.50E+00	12/24/2013 08:07	20.0	3		D
3353041	K-40	-4.02E+01	pCi/L	3.9E+01	U				GAMMA_GS	2.50E+00	12/24/2013 08:07	0.0	0.3		D
DUP	13966-00-2	4.89E+01	pCi/L	3.9E+01	U				GAMMA_GS	2.50E+00	12/24/2013 08:07	20.0	3		D
3353041	RU-106	4.10E+00	pCi/L	1.2E+01	U				GAMMA_GS	2.50E+00	12/24/2013 08:07	20.0	3		D
DUP	13967-48-1	6.82E-01	pCi/L	1.2E+01	U				GAMMA_GS	2.50E+00	12/24/2013 08:07	20.0	3		D
3353041	SB-125	2.31E+00	pCi/L	4.0E+00	U				GAMMA_GS	2.50E+00	12/24/2013 08:07	953.9	1.3		D
DUP	14234-35-6	-1.51E+00	pCi/L	4.0E+00	U				GAMMA_GS	2.50E+00	12/24/2013 08:07	20.0	3		D

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

Monday, January 20, 2014
 FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\VRad\W06642.Edd, h:\Reportdb\edd\Fead\VRad\58450.Ed
 Lab Code: TARL

TestAmerica Inc QC Duplicate Report

Lab Sample Id: M2N401TR Sdg/Rept Nbr: W06642 58450 Collection Date: 12/16/2013 12:05
 Client Id: B2RT76 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	FSuffix	RType							
I14-005	MW6-SBB-A19981								BC	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 Type
3353044	Tc-99	-5.68E+00	pCi/L	5.1E+00	3.7E+00		U	9.42E+00	100.0		TC99_ETVDSK	1.255E-01	01/02/2014	0.0	1.4		D
DUP	14133-76-7	-5.31E-01										L	21:44	20.0	3		

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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.

Monday, January 20, 2014
 FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\VRad\W06642.Edd, h:\Reportdb\edd\Fead\VRad\58450.Ed
 Lab Code: TARL

TestAmerica Inc QC Duplicate Report

Lab Sample Id: M2N401UR Sdg/Rept Nbr: W06642 58450 Collection Date: 12/16/2013 12:05
 Client Id: B2RT76 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	FSuffix	RTyp
I14-005	MW6-SBB-A19981								BD	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
3353045	H-3	3.19E+02	pCi/L	1.5E+02	1.3E+02			2.93E+02	100.0		906.0_H3_LSC	5.018E-03	01/10/2014	63.1	2.8		D
DUP	10028-17-8	6.13E+02										L	14:15	20.0	3		

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TestAmerica Inc QC Duplicate Report

Lab Code: TARL

Monday, January 20, 2014

File Name: h:\Reportdb\edd\Fead\Rad\W06642.Edd, h:\Reportdb\edd\Fead\Rad\58450.Ed

FormNbr: R FormatType: FEAD VersionNbr: 05 Sdg/Rept Nbr: W06642 W06642 58450 Collection Date: 12/10/2013 10:00
 Lab Sample Id: M2NJN1ER Matrix: WATER Decant Analy Method Spk Conc/ %Rec Tracer Yield Case Nbr SAS Nbr Suffix Distilled Volume File Id FSuffix RType
 Client Id: B2TJ08 QC Type: DUP THISO_IE_PL 2.027E-01 L 2.027E-01 12/31/2013 06:58 60.1 1.5 D
 Moisture/Solids%*: THISO_IE_PL 2.027E-01 L 2.027E-01 12/31/2013 06:58 37.2 0.7 D
 THISO_IE_PL 2.027E-01 L 2.027E-01 12/31/2013 06:58 276.1 1. D
 THISO_IE_PL 2.027E-01 L 2.027E-01 12/31/2013 06:58 20.0 3 D

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qual	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Type
3353036	Th-228	3.22E-01	pCi/L	1.4E-01		7.11E-02	101.0		THISO_IE_PL	2.027E-01	12/31/2013 06:58	60.1	1.5		D
DUP	14274-82-9	1.73E-01	pCi/L	1.3E-01		7.78E-02	101.0		THISO_IE_PL	2.027E-01	12/31/2013 06:58	37.2	0.7		D
3353036	Th-230	1.41E-01	pCi/L	8.8E-02		5.90E-02	101.0		THISO_IE_PL	2.027E-01	12/31/2013 06:58	276.1	1.0		D
DUP	14269-63-7	9.64E-02	pCi/L	8.6E-02	U	5.90E-02	101.0		THISO_IE_PL	2.027E-01	12/31/2013 06:58	276.1	1.0		D
3353036	Th-232	-2.47E-03	pCi/L	2.5E-02											
DUP	TH-232	1.54E-02		2.5E-02											

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 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.

Monday, January 20, 2014
 FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\VRad\W06642.Edd, h:\Reportdb\edd\Fead\VRad\58450.Ed
 Lab Code: TARL

TestAmerica Inc QC Duplicate Report

Lab Sample Id: M2NJN1GR Sdg/Rept Nbr: W06642 58450 Collection Date: 12/10/2013 10:00
 Cifent Id: B2TJ08 Matrix: WATER WATER Sample On Date:
 Moisture/Solids%*: QC Type: DUP Received Date: 12/12/2013

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								BF	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
3353043	C-14	-9.98E-01	pCi/L	8.5E+00	U	1.74E+01	100.0		C14_LSC	7.51E-02	12/25/2013	344.3	0.8		D
DUP	14762-75-5	3.76E+00		7.2E+00						L	03:01	20.0	3		

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U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
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 B Qual- Analyte was found in the associated laboratory blank above the MDC.

Monday, January 20, 2014
 FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\Rad\W06642.Edd, h:\Reportdb\edd\Fead\Rad\58450.Ed
 Lab Code: TARL

TestAmerica Inc QC Duplicate Report

Lab Sample Id: M2PC81QR Sdg/Rept Nbr: W06642 Collection Date: 12/17/2013 09:51
 Client Id: B2TL44 Matrix: WATER 58450 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					
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qual	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
3353035	PU-238	8.90E-02	pCi/L	2.7E-01	U	6.99E-01	73.5	7.57E-02	PUISO_PLATE	L	01/06/2014	8.7	0.		D
DUP	13981-16-3	9.71E-02	pCi/L	2.7E-01	U	5.98E-01	73.5	7.57E-02	PUISO_PLATE	L	21:17	20.0	3		D
3353035	PU-239	-2.09E-02	pCi/L	2.6E-01	U						01/06/2014	0.0	0.1		D
DUP	PU-239/240	-7.77E-03	pCi/L	2.6E-01	U						21:17	20.0	3		D

TestAmerica Inc rptFeadRadEdd v3.68 37

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.

Monday, January 20, 2014
 FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\VRad\W06642.Edd, h:\Reportdb\edd\Fead\VRad\58450.Ed
 Lab Code: TARL

TestAmerica Inc QC Duplicate Report

Lab Sample Id: M2PC81UR Sdg/Rept Nbr: W06642 Collection Date: 12/17/2013 09:51
 Client Id: B2TL44 Matrix: WATER Decant 58450 Sample On Date:
 Moisture/Solids%*: QC Type: DUP Distilled Volume Received Date: 12/17/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RType					
114-009	MW6-SBB-A19981								CF	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/ ML	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Type
3353046	Uranium	4.11E+00	ug/L	4.9E-01		7.46E-02		UTOT_KPA	UTOT_KPA	2.81E-02	12/31/2013	58.6	5.4		D
DUP	7440-61-1	2.25E+00		4.9E-01							13:43	20.0	3		

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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.

Monday, January 20, 2014 Lab Code: TARL

TestAmerica Inc QC Duplicate Report

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\VRad\W06642.Edd, h:\Reportdb\edd\Fead\VRad\58450.Ed

Lab Sample Id: M2PC81VR Sdg/Rept Nbr: W06642 58450 Collection Date: 12/17/2013 09:51

Client Id: B2TL44 Matrix: WATER WATER Sample On Date:

Moisture/Solids%*: QC Type: DUP Received Date: 12/17/2013

Batch # / Qc Type	Analyst / CAS#	Result / Orig Rst	Unit	Tot/Cnt	Uncert	2S	Qual	MDC	Tracer Yield	Spk Conc / %Rec	Analy Method	Aliq Size /	Date/Time Analyzed	RPD / UCL	RER / UCL	LCS / LCL / UCL	R Typ
4012022	U-234	9.37E-01	pCi/L	5.9E-01	5.7E-01		U	5.31E-01	90.1		UIISO_PLATE_	7.87E-02	01/15/2014	13.8	0.3		D
DUP	13966-29-5	8.16E-01	pCi/L	1.7E-01	1.7E-01		U	3.32E-01	90.1		UIISO_PLATE_	7.87E-02	01/15/2014	27.2	0.2		D
4012022	U-235	7.59E-02	pCi/L	1.7E-01	1.7E-01		U	4.41E-01	90.1		UIISO_PLATE_	7.87E-02	01/15/2014	5.2	0.1		D
DUP	15117-96-1	5.77E-02	pCi/L	6.2E-01	6.0E-01		U				UIISO_PLATE_	7.87E-02	01/15/2014	20.0	3		D
4012022	U-238	1.05E+00	pCi/L	6.2E-01	6.0E-01		U				UIISO_PLATE_	7.87E-02	01/15/2014	20.0	3		D
DUP	U-238	9.94E-01	pCi/L	6.0E-01	6.0E-01		U				UIISO_PLATE_	7.87E-02	01/15/2014	20.0	3		D

FSuffix RType
CG H

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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 (CRDI).
 B Qual- Analyte was found in the associated laboratory blank above the MDC.

Monday, January 20, 2014
 FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\VRad\W06642.Edd, h:\Reportdb\edd\Fead\VRad\58450.Ed
 Lab Code: TARL

TestAmerica Inc QC Duplicate Report

Lab Sample Id: M2PC82UR Sdg/Rept Nbr: W06642 58450 Collection Date: 12/17/2013 09:51
 Client Id: B2TL44 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	FSuffix	RType					
114-009	MW6-SBB-A19981								CI	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 Type
4006041	Uranium	2.22E+00	ug/L	2.3E-01		7.94E-02			UTOT_KPA	2.64E-02	01/16/2014	1.8	0.2		D
DUP	7440-61-1	2.26E+00		2.3E-01						ML	18:18	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.

Monday, January 20, 2014 Lab Code: TARL
 FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd1\Fead\VRad\W06642.Edd, h:\Reportdb\edd1\Fead\VRad\58450.Ed

TestAmerica Inc Qc Matrix Spike Report

Lab Sample Id: M2N401RW Sdg/Rept Nbr: W06642 Collection Date: 12/16/2013 12:05
 Client Id: B2RT76 Matrix: WATER Sample On Date: 12/16/2013
 Moisture/Solids%*: MS QC Type: MS Received Date: 12/16/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp					
114-005	MW6-SBB-A19981								BB	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
3353044 MS	Tc-99 14133-76-7	2.93E+03	pCi/L	1.6E+02 2.8E+01		9.13E+00	100.0	3.49E+03 84.0	TC99_ETVDSK	1.297E-01 L	01/02/2014 20:41			60 140	D

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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.

Monday, January 20, 2014
 FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Report\bled\Fead\Rad\W06642.Edd, h:\Report\bled\Fead\Rad\58450.Ed
 Lab Code: TARL

TestAmerica Inc Qc Matrix Spike Report

Lab Sample Id: M2PC81TW Sdg/Rept Nbr: W06642 58450 Collection Date: 12/17/2013 09:51
 Client Id: B2TL44 Matrix: WATER WATER Sample On Date:
 Moisture/Solids%*: QC Type: MS 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					
114-009	MW6-SBB-A19981								CE	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/ ML	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
3353046 MS	Uranium 7440-61-1	2.36E+01	ug/L	2.8E+00 2.8E+00		7.20E-02		3.19E+01 74.1	UTOT_KPA	2.91E-02	12/31/2013 13:41			60 140	D

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.
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 B Qual- Analyte was found in the associated laboratory blank above the MDC.

Monday, January 20, 2014
 FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\W06642.Edd, h:\Reportdb\edd\Fead\W06642.Edd
 Lab Code: TARL

TestAmerica Inc Qc Matrix Spike Report

Lab Sample Id: M2PC82TW Sdg/Rept Nbr: W06642 Collection Date: 12/17/2013 09:51
 Client Id: B2TL44 Matrix: WATER Decant Sample On Date: 12/17/2013
 Moisture/Solids%*: MS QC Type: MS 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					
									CH	H					
114-009	MW6-SBB-A19981														
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/ ML	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
4006041 MS	Uranium 7440-61-1	3.13E+01	ug/L	4.0E+00 4.0E+00		7.06E-02		3.14E+01 99.6	UTOT_KPA	2.97E-02	01/16/2014 18:16	UCL	UCL	60	D

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. 43

Hexavalent Chromium - Water



Analyst: H. Rahavi		BATCH # 3350039											
Start Date: 12/16/2013		SDG # W06642											
Start Time: 17:25		Matrix Water											
End Date: 12/16/2013		SOP Information											
End Time: 18:10		RL-WC-003											
Analyst Signature:		Revision 5											
Date: 12/16/2013		Instrument: Hach DR2010											
Standard Volume (mL): 95.000		Wavelength: 540											
Date of Curve: 12/16/2013		MDL (mg/L) 0.008											
Calibration Curve Information													
Blank	Amount (mL)	Conc. (mg/L)	ABS.										
Blank	0.000	0.000	0.000										
Std. 1	0.100	0.048	0.099										
Std. 2	0.500	0.238	0.481										
Std. 3	0.750	0.356	0.712										
Std. 4	1.500	0.713	1.415										
Std. 5	2.000	0.950	1.851										
$y = 0.00041x^2 + 0.4861x + 0.0002$ $R^2 = 1.0000$													
ICV/CCV Information: Cr-13-00466													
LCS Information: Cr-13-00465													
Dilution ID #	Cr-13-00465	12/16/13	50										
Prep Date:	12/16/13	50	12/16/13										
Concentration (mg/L)	12/17/13	190	12/17/13										
Expiration Date:	70,190	1.00	1.50										
Pipette(s)	100.000	100.00	100.00										
Volume Used (mL)	0.475	0.475	0.713										
Final Volume (mL)													
Expected Value (mg/L)													
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	0.936		0.936	1	0.4675	0.4750	98.43%	0.468	U
n/a	n/a	ICB	95.000	100.000	0.000		0.000	1	0.0002	0.4750	97.14%	0.461	U
n/a	n/a	CCV	95.000	100.000	0.924		0.924	1	0.4614			<MDL	U
n/a	n/a	CCB	95.000	100.000	0.001		0.001	1	0.0007			<MDL	U
M2N5G1AA	n/a	BLK	95.000	100.000	0.003		0.003	1	0.0017	0.4750	97.78%	0.464	U
M2N5G1AC	n/a	LCS	95.000	100.000	0.930		0.930	1	0.4645			<MDL	U
M2N401AA	B2RT76	Sample	95.000	100.000	0.007		0.007	1	0.0036	0.7500	99.03%	0.743	U
M2N401AA	B2RT76	MSD*	95.000	100.000	1.466		1.466	1	0.7431	0.7500	100.56%	0.754	U
M2N401AD-D	B2RT76	Duplicate	95.000	100.000	1.487		1.487	1	0.0036			<MDL	U
M2N411AH	B2RT76	Sample	95.000	100.000	0.007		0.007	1	0.5586			0.556	U
M2N431AA	B2RTP4	Sample	95.000	100.000	1.107		1.107	1	0.0002			<MDL	U
M2N441AA	B2RVN5	Sample	95.000	100.000	0.027		0.027	1	0.0133			0.013	U
n/a	n/a	CCV	95.000	100.000	0.922		0.922	1	0.4604	0.4750	96.92%	0.460	U
n/a	n/a	CCB	95.000	100.000	0.001		0.001	1	0.0007			<MDL	U

HR ✓

12/16/2013

*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. 6/1/2013

Hexavalent Chromium - Water



Analyst: H. Rahavi		BATCH # 3350040											
Start Date: 12/16/2013		SDG # W06642											
Start Time: 17:50		Matrix: Water											
End Date: 12/16/2013		SOP Information											
End Time: 18:20		RL-WC-003											
Analyst Signature: <i>[Signature]</i>		Revision: 5											
Date: 12/16/13		Instrument Information											
		Instrument: Hach DR2010											
		Wavelength: 540											
Calibration Curve Information													
Amount (mL)	Conc. (mg/L)	ABS.											
Blank	0.000	0.000											
Std. 1	0.100	0.048											
Std. 2	0.500	0.238											
Std. 3	0.750	0.356											
Std. 4	1.500	0.713											
Std. 5	2.000	0.950											
Standard Volume (mL):	95.000												
Date of Curve:	12/16/2013												
Calibration Curve Information													
R Squared	1.0000												
2nd Coeff (a)	0.0141												
1st Coeff (b)	0.4861												
Constant (c)	0.0002												
Intercept	-0.0004												
$y = 0.0441x^2 + 0.4861x + 0.0002$ $R^2 = 1.0000$													
MDL (mg/L)	0.008												
Instrument Information													
Hach DR2010													
Wavelength: 540													
LCS Information:													
Dilution ID #	Cr-13-00465												
Prep Date:	12/16/13												
Concentration (mg/L)	50												
Expiration Date:	12/17/13												
Pipettor(s)	70,190												
Volume Used (mL)	1.000												
Final Volume (mL)	100.000												
Expected Value (mg/L)	0.475												
ICV/CCV Information:													
Dilution ID #	Cr-13-00466												
Prep Date:	12/16/13												
Concentration (mg/L)	50												
Expiration Date:	12/17/13												
Pipettor(s)	70,190												
Volume Used (mL)	1.000												
Final Volume (mL)	100.000												
Expected Value (mg/L)	0.475												
Matrix Spike Information:													
Dilution ID #	Cr-13-00465												
Prep Date:	12/16/13												
Concentration (mg/L)	50												
Expiration Date:	12/17/13												
Pipettor(s)	190												
Volume Used (mL)	1.50												
Final Volume (mL)	100.00												
Expected Value (mg/L)	0.713												
Final Report													
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	0.936		0.936	1	0.4675	0.4750	98.43%	0.468	U
n/a	n/a	ICB	95.000	100.000	0.000		0.000	1	0.0002	0.4750	96.92%	0.460	U
n/a	n/a	CCV	95.000	100.000	0.922		0.922	1	0.4604	0.4750	96.92%	<MDL	U
n/a	n/a	CCB	95.000	100.000	0.000		0.000	1	0.0002	0.4750	101.35%	<MDL	U
M2N5H1AA	n/a	BLK	95.000	100.000	0.002		0.002	1	0.0012	0.4750	101.35%	0.481	U
M2N5H1AC	n/a	LCS	95.000	100.000	0.963		0.963	1	0.4814	0.4750	98.22%	<MDL	U
M2N471AC-S	B2TL83*	Sample	95.000	100.000	0.005		0.005	1	0.0026	0.4750	98.22%	0.744	U
M2N471AD-S	B2TL83*-MSD	MS*	95.000	100.000	1.468		1.468	1	0.7442	0.7500	99.79%	0.748	U
M2N471AD-D	B2TL83*-MSD	MSD*	95.000	100.000	1.476		1.476	1	0.7484	0.7500	99.79%	0.748	U
M2N471AE-X	B2TL83 DUP*	Duplicate	95.000	100.000	0.003		0.003	1	0.0017	0.4750	96.92%	<MDL	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	0.922		0.922	1	0.4604	0.4750	96.92%	0.460	U
n/a	n/a	CCB	95.000	100.000	0.001		0.001	1	0.0007	0.4750	96.92%	<MDL	U

Handwritten mark: *are*

12/16/2013

*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. 6/1/2013

Hexavalent Chromium - Water



Analyst: R.Clark		BATCH # 3351078	
Start Date: 12/17/2013		SDG # W06642	
Start Time: 16:58		Matrix Water	
End Date: 12/17/2013		1st Coeff (a) 0.0110	
End Time: 17:27		1st Coeff (b) 0.4950	
		Constant (c) 0.0001	
		Intercept -0.0002	
Analyst Signature: <i>[Signature]</i>		Instrument Information	
Date: 12/17/13		Instrument: Hach DR2010	
		Wavelength: 540	

Calibration Curve Information			
Amount (mL)	Conc. (mg/L)	ABS.	
Blank	0.000	0.000	
Std. 1	0.100	0.096	
Std. 2	0.500	0.477	
Std. 3	0.750	0.702	
Std. 4	1.500	1.401	
Std. 5	2.000	1.841	
Standard Volume (mL):	0.950	95.000	
Date of Curve:	12/17/2013		

$y = 0.0110x + 0.4950x + 0.0001$
 $R^2 = 1.0000$

ICV/CCV Information:		LCS Information:		Matrix Spike Information:	
Cr-13-00467	Cr-13-00468	Cr-13-00467	Cr-13-00467	Cr-13-00467	Cr-13-00467
12/17/13	12/17/13	12/17/13	12/17/13	12/17/13	12/17/13
50	50	50	50	50	50
12/18/13	12/18/13	12/18/13	12/18/13	12/18/13	12/18/13
70,190	190	190	190	190	190
	1,000	1,000	1,000	1,500	1,500
	100,000	100,000	100,000	100,000	100,000
	0.475	0.475	0.475	0.713	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	0.906	0.002	0.906	1	0.4576	0.4750	96.34%	<MDL	U
n/a	n/a	ICB	95.000	100.000	0.002	0.002	0.002	1	0.0011	0.4750	92.87%	0.441	U
n/a	n/a	CCV	95.000	100.000	0.874	0.001	0.874	1	0.4411	0.4750	92.87%	<MDL	U
n/a	n/a	CCB	95.000	100.000	0.001	0.001	0.001	1	0.0006	0.4750	102.09%	<MDL	U
M2PDH1AA	n/a	BLK	95.000	100.000	0.002	0.002	0.002	1	0.0011	0.4750	102.09%	0.485	U
M2PDH1AC	n/a	LCS	95.000	100.000	0.959	0.006	0.959	1	0.4849	0.4750	102.31%	<MDL	U
M2PC81AA	B2TL44	Sample	95.000	100.000	0.959	0.006	0.959	1	0.0031	0.7500	101.82%	0.767	U
M2PC81AC-S	B2TL44	MS*	95.000	100.000	1.500	1.500	1.500	1	0.7674	0.7500	101.82%	0.764	U
M2PC81AD-D	B2TL44	MSD*	95.000	100.000	1.493	1.493	1.493	1	0.7637	0.7500	101.82%	<MDL	U
M2PC81AE-X	B2TL44	Duplicate	95.000	100.000	0.007	0.007	0.007	1	0.0036	0.4750	92.76%	0.441	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	0.873	0.000	0.873	1	0.4406	0.4750	92.76%	0.441	U
n/a	n/a	CCB	95.000	100.000	0.000	0.000	0.000	1	0.0001	0.4750	92.76%	<MDL	U

HR ✓

12/17/2013

*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. 6/1/2013

Lot No., Due Date: J3L170422; 01/20/2014
 Client, Site: 384868; A210440HANFORD HANFORD
 QC Batch No., Method Test: 3353035; RPUISO Pulso by ALP
 SDG, Matrix: W06642; 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:		

Thomas DM
 First Level _____ Date 1/9/14



Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 33 53035

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 = 1.0 pCi/l

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

Lot No., Due Date: J3L120417; 01/20/2014
Client, Site: 384868; A210440HANFORD HANFORD
QC Batch No., Method Test: 3353036; RTHISO Thlso by ALP
SDG, Matrix: W06642; WATER

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

Thomas DMEG
First Level _____ **Date** 1/9/14

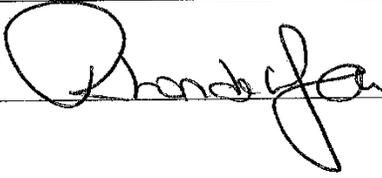


Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 3353036

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: CPDL = 1.0 pic/C

Second Level Review:  Date: 1/10/14

Lot No., Due Date: J3L170422; 01/20/2014
 Client, Site: 384868; A210440HANFORD HANFORD
 QC Batch No., Method Test: 4012022; RUIISO Uiso by ALP
 SDG, Matrix: W06642; WATER

1.0 COC		
1.1	Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	Yes No N/A <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
2.0 QC Batch		
2.1	Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	Yes No N/A <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
2.2	Are the QC appropriate for the analysis included in the batch?	Yes No N/A <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
2.3	Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	Yes No N/A <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
2.4	Does the Worksheets include a Tracer Vial label for each sample?	Yes No N/A <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
3.0 QC & Samples		
3.1	Is the blank results, yield, and MDA within contract limits?	Yes No N/A <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
3.2	Is the LCS result, yield, and MDA within contract limits?	Yes No N/A <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
3.3	Are the MS/MSD results, yields, and MDA within contract limits?	Yes No N/A <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
3.4	Are the duplicate result, yields, and MDAs within contract limits?	Yes No N/A <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
3.5	Are the sample yields and MDAs within contract limits?	Yes No N/A <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
4.0 Raw Data		
4.1	Were results calculated in the correct units?	Yes No N/A <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
4.2	Were analysis volumes entered correctly?	Yes No N/A <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
4.3	Were Yields entered correctly?	Yes No N/A <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
4.4	Were spectra reviewed/meet contractual requirements?	Yes No N/A <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
4.5	Were raw counts reviewed for anomalies?	Yes No N/A <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
5.0 Other		
5.1	Are all nonconformances included and noted?	Yes No N/A <input 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 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: NCM 10-25847	

Thomas DME
 First Level _____ Date 1/16/14



THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 4012022

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 10-25847

Second Level Review: Santha Seger Date: 1-17-14

Clouseau Nonconformance Memo



NCM #: 10-25847	Classification: Deficiency
NCM Initiated By: Tom Mcginnis	Status: PMREVIEW
Date Opened: 01/16/2014	Production Area: Environmental - Sep
Date Closed:	Tests: UIso by ALP
	Lot #'s (Sample #'s): J3L170422 (1), J4A120000 (22),
	QC Batches: 4012022,
Nonconformance: Other (describe in detail)	
Subcategory: Other (explanation required)	

Problem Description / Root Cause

Name	Date	Description
Tom Mcginnis	01/16/2014	The initial analysis batch 3353037 failed due to smeared sample spectra. Results for reanalysis batch 4012022 meet acceptance criteria.

Corrective Action

Name	Date	Corrective Action
Tom Mcginnis	01/16/2014	The PM was notified of the batch deficiencies.

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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Lot No., Due Date: J3L160418, J3L170422; 01/20/2014
 Client, Site: 384868; A210440 HANFORD HANFORD
 QC Batch No., Method Test: 3353038; RALPHA-A Alpha by GPC-Am
 SDG, Matrix: W06642; 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: NCM 10-25739		


 First Level _____ Date 1/2/14



Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 3353038

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 10-25739

Second Level Review: *Sandra Segur* Date: 1-4-14

**Clouseau
Nonconformance Memo**



NCM #: 10-25739 NCM Initiated By: Tom McGinnis Date Opened: 01/02/2014 Date Closed:	Classification: Deficiency Status: PMREVIEW Production Area: Environmental - Sep Tests: Alpha by GPC-Am Lot #'s (Sample #'s): J3L160418 (2,3), J3L170422 (1), J3L190000 (38), QC Batches: 3353038,
Nonconformance: Other (describe in detail) Subcategory: Other (explanation required)	

Problem Description / Root Cause

<u>Name</u>	<u>Date</u>	<u>Description</u>
Tom McGinnis	01/02/2014	The initial precipitate weight for sample J3L160418-2 exceeded acceptance criteria. The sample was reflamed, reweighed and recounted. Final results meet acceptance criteria.

Corrective Action

<u>Name</u>	<u>Date</u>	<u>Corrective Action</u>
Tom McGinnis	01/02/2014	The PM was notified of the batch deficiency.

Client Notification Summary

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

Quality Assurance Verification

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

Approval History

<u>Date Approved</u>	<u>Approved By</u>	<u>Position</u>
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Lot No., Due Date: J3L160418, J3L170422; 01/20/2014
Client, Site: 384868; A210440 HANFORD HANFORD
QC Batch No., Method Test: 3353039; RBETA-SR Beta by GPC-Sr/Y
SDG, Matrix: W06642; WATER

Section	Question	Yes	No	N/A
1.0 COC				
1.1	Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	<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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	Are the QC appropriate for the analysis included in the batch?	<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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.4	Does the Worksheets include a Tracer Vial label for each sample?	<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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	Is the LCS result, yield, and MDA within contract limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3	Are the MS/MSD results, yields, and MDA within contract limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.4	Are the duplicate result, yields, and MDAs within contract limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.5	Are the sample yields and MDAs within contract limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4.0 Raw Data				
4.1	Were results calculated in the correct units?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2	Were analysis volumes entered correctly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.3	Were Yields entered correctly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4.4	Were spectra reviewed/meet contractual requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4.5	Were raw counts reviewed for anomalies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.0 Other				
5.1	Are all nonconformances included and noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2	Are all required forms filled out?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.3	Was the correct methodology used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.4	Was transcription checked?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.5	Were all calculations checked at a minimum frequency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5.6	Are worksheet entries complete and correct?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.0	Comments on any No response: NCM 10-25712			

Thomas RM
First Level _____ **Date** 12/31/13



Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 3353039

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 10-25712

Second Level Review: *Ranaha Lopez* Date: 1-4-14

**Clouseau
Nonconformance Memo**



NCM #: 10-25712	Classification: Deficiency
NCM Initiated By: Tom McGinnis	Status: PMREVIEW
Date Opened: 12/31/2013	Production Area: Environmental - Sep
Date Closed:	Tests: Beta by GPC-Sr/Y
Nonconformance: Batch Result Out of Limits	Lot #'s (Sample #'s): J3L160418 (2,3), J3L170422 (1), J3L190000 (39),
Subcategory: MDA exceeds RDL	QC Batches: 3353039,

Problem Description / Root Cause

<u>Name</u>	<u>Date</u>	<u>Description</u>
Tom McGinnis	12/31/2013	The MDA for sample J3L170422-1 exceeds the CRDL due to aliquot reduction based on facility activity screening results.

Corrective Action

<u>Name</u>	<u>Date</u>	<u>Corrective Action</u>
Tom McGinnis	12/31/2013	The PM was notified of the batch deficiency.

Client Notification Summary

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

Quality Assurance Verification

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

Approval History

<u>Date Approved</u>	<u>Approved By</u>	<u>Position</u>
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Lot No., Due Date: J3L160418, J3L170422; 01/20/2014
Client, Site: 384868; A210440 HANFORD HANFORD
QC Batch No., Method Test: 3353040; RSRTOT SrTot by GPC
SDG, Matrix: W06642; WATER

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

Thomas DM
First Level _____ **Date** 1/3/14



THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 3353040

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 Jeger* Date: 1-13-14

Lot No., Due Date: J3L160418, J3L170422; 01/20/2014
 Client, Site: 384868; A210440HANFORD HANFORD
 QC Batch No., Method Test: 3353041; RGAMMA Gamma by GER
 SDG, Matrix: W06642; 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:
 NCM 10-25799

Thomas DME
 First Level _____ Date 1/9/14



THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 3353041

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: CRDC = 15 pCi/l
See NCM #10-25799

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

**Clouseau
Nonconformance Memo**



NCM #: 10-25799 NCM Initiated By: Tom McGinnis Date Opened: 01/09/2014 Date Closed:	Classification: Deficiency Status: PMREVIEW Production Area: Environmental - Sep Tests: Gamma by GER Lot #'s (Sample #'s): J3L160418 (2,3,6), J3L170422 (1), J3L190000 (41), QC Batches: 3353041,
Nonconformance: Other (describe in detail) Subcategory: Other (explanation required)	

Problem Description / Root Cause

<u>Name</u>	<u>Date</u>	<u>Description</u>
Tom McGinnis	01/09/2014	Sample J3L160418-2 was counted on a different detector to provide a duplicate analysis. The MDAs for sample J3L170422-1 exceed the CRDL due to aliquot reduction based on facility activity screening results.

Corrective Action

<u>Name</u>	<u>Date</u>	<u>Corrective Action</u>
Tom McGinnis	01/09/2014	The PM was notified of the batch deficiencies.

Client Notification Summary

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

Quality Assurance Verification

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

Approval History

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

Lot No., Due Date: J3L120417, J3L120418, J3L170432; 01/20/2014
Client, Site: 384868; A210440 HANFORD HANFORD
QC Batch No., Method Test: 3353042; RGAMLEPS Gamma by LEPS
SDG, Matrix: W06642; 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:
NCM 10-25838

Thomas DME
First Level _____ **Date** 1/15/14



THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 3353042

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 10-25838

Second Level Review: *Sandra Seger* Date: 1-15-14

**Clouseau
Nonconformance Memo**



NCM #: 10-25838 NCM Initiated By: Tom McGinnis Date Opened: 01/15/2014 Date Closed:	Classification: Deficiency Status: PMREVIEW Production Area: Environmental - Sep Tests: Gamma by LEPS Lot #'s (Sample #'s): J3L120417 (1,2), J3L120418 (1,2,3,4,5), J3L170432 (1,2,3,4,5,6), J3L190000 (42), QC Batches: 3353042,
Nonconformance: Batch Result Out of Limits Subcategory: Duplicate agreement exceeds acceptance limit	

Problem Description / Root Cause

<u>Name</u>	<u>Date</u>	<u>Description</u>
Tom McGinnis	01/15/2014	The duplicate agreement for sample J3L120417-1 exceeds acceptance criteria. The sample and duplicate were recounted and confirm the reported results. There is insufficient volume for reanalysis. All other batch results meet acceptance criteria,

Corrective Action

<u>Name</u>	<u>Date</u>	<u>Corrective Action</u>
Tom McGinnis	01/15/2014	The PM was notified of the batch deficiency.

Client Notification Summary

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

Quality Assurance Verification

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

Approval History

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

1/9/2014 4:05:52 PM

Sample Preparation/Analysis

Balance Id: 1120482733

384868, CH2M Hill Plateau Remediation Company
 , Pacific Northwest National Lab
 BN I-129 Pp/SEP GAM002
 TB Gamma by LEPD
 5I CLIENT: HANFORD

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

AnalyteDate: 01/20/2014

Batch: 3353042 WATER pCi/L PM, Quote: SS, 57671

SEQ Batch, Test: None All Tests: 3353036 9NS1, 3353042 BNTB, 3353043 5SS3,

Prep Tech: AtkinsA,SannohS

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 1 Off (24hr) Circle	CR Analyst, Intri/Date	Comments:
1 M2NUN-1-AD J3L120417-1-SAMP 12/10/2013 10:00	3719.20g	3719.20g	3719.20g	3719.20g	ITA13467 12/13/13		29.8mg	200	200	L4	1942	1/9/14 GAD	Beta: 1.20E-03 uCi/Sa
2 M2NUN-1-AF-X J3L120417-1-DUP 12/10/2013 10:00	3726.30g	3726.30g	3726.30g	3726.30g	ITA13468 12/13/13		21.8mg	200	200	L5	1943		Beta: 1.20E-03 uCi/Sa
3 M2NJP-1-AD J3L120417-2-SAMP 12/10/2013 08:00	3541.90g	3541.90g	3541.90g	3541.90g	ITA13469 12/13/13		35.6mg	200	200	L4	2373		Beta: 1.20E-03 uCi/Sa
4 M2NJQ-1-AA J3L120418-1-SAMP 12/10/2013 11:53	3709.90g	3709.90g	3709.90g	3709.90g	ITA13470 12/13/13		34.3mg	200	200	L5	2324		Beta: 1.47E-04 uCi/Sa
5 M2NJR-1-AA J3L120418-2-SAMP 12/10/2013 12:46	3689.00g	3689.00g	3689.00g	3689.00g	ITA13471 12/13/13		34.4mg	200	200	L4	0250		Beta: 7.89E-04 uCi/Sa
6 M2NJT-1-AA J3L120418-3-SAMP 12/10/2013 07:45	3723.00g	3723.00g	3723.00g	3723.00g	ITA13472 12/13/13		35.1mg	200	200	L5	0251		Beta: 2.77E-04 uCi/Sa
7 M2NVJ-1-AA J3L120418-4-SAMP 12/10/2013 10:38	3738.10g	3738.10g	3738.10g	3738.10g	ITA13473 12/13/13		32.5mg	200	200	L4	1050	1/10/14/5	Beta: 8.74E-04 uCi/Sa
													Beta: 3.20E-04 uCi/Sa

15636

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-Cocktalled Added
 ISV - Insufficient Volume for Analysis
 WO Cnt: 7
 Prep_SamplePrep v4.8.65

1/9/2014 4:05:54 PM		Sample Preparation/Analysis		Balance Id: 1120482733									
384888, CH2M Hill Plateau Remediation Company		BN I-129 Pp/sep GAM002		Pipet #:									
Pacific Northwest National Lab		TB Gamma by LEPD		Sep1 DT/Tm Tech:									
AnalyteDate: 01/20/2014		51 CLIENT: HANFORD		Sep2 DT/Tm Tech:									
Batch: 3353042		WATER		PM, Quote: SS, 57671									
SEQ Batch, Test: None		pCi/L		Prep Tech: ,SannoHS									
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 1 Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 M2NJW-1-AA	3706.90g.in	3706.90g.in	3706.90g	3706.90g	ITA13474		32.8mg		200	L5	1051	1/10/14/BS	Beta: 5.39E-04 uCi/Sa
J3L120418-5-SAMP					12/13/13								
12/10/2013 11:13													
9 M2PHA-1-AA	3861.60g.in	3861.60g	3861.60g	3861.60g	ITA13475		31.1mg		200	L4	144	1/10/14/BS	Beta: 5.39E-04 uCi/Sa
J3L170432-1-SAMP					12/13/13								
12/13/2013 08:34													
10 M2PHC-1-AA	3867.90g.in	3867.90g	3867.90g	3867.90g	ITA13476		34.3mg		200	L5	1115		Beta: 9.55E-04 uCi/Sa
J3L170432-2-SAMP					12/13/13								
12/13/2013 14:02													
11 M2PHD-1-AA	3908.70g.in	3908.70g	3908.70g	3908.70g	ITA13477		32.6mg		200	L4	1739	1/10/14/BS	Beta: 3.24E-04 uCi/Sa
J3L170432-3-SAMP					12/13/13								
12/13/2013 14:02													
12 M2PHE-1-AA	3901.90g.in	3901.90g	3901.90g	3901.90g	ITA13478		33.9mg		200	L5	1740		Beta: 8.39E-04 uCi/Sa
J3L170432-4-SAMP					12/13/13								
12/13/2013 09:49													
13 M2PHF-1-AA	3832.60g.in	3832.60g	3832.60g	3832.60g	ITA13479		34.3mg		200	L4	2115	1/10/14/BS	Beta: 4.95E-04 uCi/Sa
J3L170432-5-SAMP					12/13/13								
12/13/2013 13:29													
14 M2PHG-1-AA	3859.20g.in	3859.20g	3859.20g	3859.20g	ITA13480		36.6mg		200	L5	2116		Beta: 6.65E-04 uCi/Sa
J3L170432-6-SAMP					12/13/13								
12/13/2013 10:36													

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: 14
 Prep_SamplePrep v4.8.65

1/9/2014 4:05:56 PM		Sample Preparation/Analysis		Balance Id:1120482733									
BN I-129 Prp/Sep GAM002		Pipet #:											
TB Gamma by LEPD		Sep1 DT/Tm Tech:											
5I CLIENT: HANFORD		Sep2 DT/Tm Tech:											
AnalytDueDate: 01/20/2014		Prep Tech: HarbinsonD,Sannohs											
Batch: 3353042		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:
15 M2P23-1-AA-B J3L190000-42-BLK 12/19/2013 14:35 pd	3956.80g.in	3956.80g.in	3956.80g.in	3956.80g	ITA13481 12/13/13		35.4mg		200	L4	0107	1/10/14	
16 M2P23-1-AC-C J3L190000-42-LCS 12/19/2013 14:35 pd	3969.50g.in	3969.50g.in	3969.50g	3969.50g	ISD1612 10/10/13		36.0mg		200	L5	0108		
AmtRec: #Containers: 1		Alpha:		Beta:									
AmtRec: #Containers: 1		Alpha:		Beta:									
TestAmerica		Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2		Page 3		ISV - Insufficient Volume for Analysis		WO Cnt: 16		Prep_SamplePrep v4.8.65			
Richland Wa.		pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added											

1/9/2014 4:05:56 PM

Sample Preparation/Analysis

Balance Id: 1120482733

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

Pipet #:

Analysis Due Date: 01/20/2014

Sep1 DT/Tm Tech:

Batch: 3353042

pCi/L

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: HarbinsonD,SannoHs

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Amt/Unit 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:
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Comments: M2P23-BLK CommentsDHP-13-00623,P-13-00441,S-13-00126,S-14-00006,S-13-00328,S-13-00229,,,P-13-00594,S-12-00214

[Handwritten Signature]
1-9-2014

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

M2NUNLAD-SAMP Constituent List:

I-129	RDL: 0.50E+00	pCi/L	LCL:	UCL:	RFD:							
M2P231AA-BLK:												
I-129	RDL: 0.50E+00	pCi/L	LCL:	UCL:	RFD:							
M2P231AC-LCS:												
I-129	RDL: 5	pCi/L	LCL: 70	UCL: 130	RFD: 20							
M2NUNLAD-SAMP Calc Info:												
Uncert Level (#):	2		Decay to SA/Dt: Y	Blk Subt.: N	Sci. Not.: Y	ODRs: B						
M2P231AA-BLK:												
Uncert Level (#):	2		Decay to SA/Dt: Y	Blk Subt.: N	Sci. Not.: Y	ODRs: B						
M2P231AC-LCS:												
Uncert Level (#):	2		Decay to SA/Dt: Y	Blk Subt.: N	Sci. Not.: Y	ODRs: B						

TestAmerica
Richland Wa.

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 4
pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ISV - Insufficient Volume for Analysis

WO Cnt: 16
Prep_SamplePrep v4.8.65

1/15/2014 12:33:42 PM

ICOC Fraction Transfer/Status Report

ByDate: 1/15/2013, 1/20/2014, Batch: '3353042', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
3353042				
AC	Rev1C	SannohS	12/23/2013 6:39:58	
SC		campbellsc	IsBatched 12/19/2013 3:11:24 PM	ICOC_RADCALC v4.8.49
SC		SannohS	InPrep 12/23/2013 6:39:58 AM	RL-GAM-002 REVISION 3
SC		HarbinsonD	Sep2C 1/9/2014 4:04:41 PM	RL-GAM-002 REVISION 3
SC		DawkinsO	InCnt1 1/9/2014 4:24:28 PM	RL-CI-007 REVISION 3
SC		DawkinsO	CalcC 1/14/2014 12:12:46 AM	RL-CI-008 REVISION 3
SC		DawkinsO	InCnt1 1/14/2014 7:25:31 PM	RL-CI-007 REVISION 3
SC		DawkinsO	CalcC 1/15/2014 1:33:30 AM	RL-CI-007 REVISION 3
SC		mcginnist	Rev1C 1/15/2014 12:32:41 PM	RL-DR-001 Rev 4
AC		HarbinsonD	1/9/2014 4:04:41 PM	
AC		DawkinsO	1/9/2014 4:24:28 PM	
AC		DawkinsO	1/14/2014 12:12:46	
AC		DawkinsO	1/14/2014 7:25:31 PM	
AC		DawkinsO	1/15/2014 1:33:30	
AC		mcginnist	1/15/2014 12:32:41	

AC: Accepting Entry; SC: Status Change

TestAmerica Richland
Richland Wa.

Lot No., Due Date: J3L160418, J3L120417; 01/20/2014
Client, Site: 384868; A210440 HANFORD HANFORD
QC Batch No., Method Test: 3353043; RC14 C-14 by LSC
SDG, Matrix: W06642; WATER

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

First Level

Sandberg

Date

1/7/2014



THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 3353043

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: 1-13-14

Lot No., Due Date: J3L160418,J3L170422; 01/20/2014
Client, Site: 384868; A210440HANFORD HANFORD
QC Batch No., Method Test: 3353044; RTC99 Tc-99 by LSC
SDG, Matrix: W06642; 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 1/7/2014



Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 3353044

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: *Lanaha Legner* Date: 1-13-14

Lot No., Due Date: J3L160418, J3L170422; 01/20/2014
Client, Site: 384868; A210440 HANFORD HANFORD
QC Batch No., Method Test: 3353045; RTRITIUM H-3 by LSC
SDG, Matrix: W06642; 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** 1/13/14



THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 8353045

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 Seeger* Date: 1-14-14



Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

1/20/2014 9:31:50 AM

Lot No., Due Date: J3L170422; 01/20/2014
 Client, Site: 384868; A210440HANFORD HANFORD
 QC Batch No., Method Test: 4006041; RUNAT UNat by KPA
 SDG, Matrix: W06642; 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:		

Items 10-25804 & 25805

First Level *[Signature]* Date *1/20/14*



THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 40006041

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 NCMs 10-25864 & 10-25865

Second Level Review: Sandra Segre Date: 1-20-14

**Clouseau
Nonconformance Memo**



NCM #: 10-25864 NCM Initiated By: Tabitha Liebrecht <i>7-11-2014</i> Date Opened: 01/20/2014 Date Closed:	Classification: Anomaly Status: PMREVIEW Production Area: Counting Tests: UNat by KPA Lot #'s (Sample #'s): J3L170422 (1), J3L190000 (46), QC Batches: 3353046,
Nonconformance: LCS result out of limits Subcategory: Analyte was recovered high in the LCS	

Problem Description / Root Cause

<u>Name</u>	<u>Date</u>	<u>Description</u>
Tabitha Liebrecht	01/20/2014	One LCS recovered high.

Corrective Action

<u>Name</u>	<u>Date</u>	<u>Corrective Action</u>
Tabitha Liebrecht	01/20/2014	Batch was reanalyzed and both LCSs were within acceptabel limits.

Client Notification Summary

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

Quality Assurance Verification

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

Approval History

<u>Date Approved</u>	<u>Approved By</u>	<u>Position</u>
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Clouseau Nonconformance Memo



NCM #: 10-25865	Classification: Anomaly
NCM Initiated By: Tabitha Liebrecht <i>1/20/14</i>	Status: PMREVIEW
Date Opened: 01/20/2014	Production Area: Counting
Date Closed:	Tests: UNat by KPA
Nonconformance: QC data exceeded criteria	Lot #'s (Sample #'s): J3L170422 (1),
Subcategory: Duplicate precision out of control	QC Batches: 3353046,

Problem Description / Root Cause

Name	Date	Description
Tabitha Liebrecht	01/20/2014	The RPD criterion was exceeded for U. The poor duplicate precision may be attributable to sample heterogeneity.

Corrective Action

Name	Date	Corrective Action
Tabitha Liebrecht	01/20/2014	Sample and duplicate reanalyzed and results were within acceptable limits.

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

JANUARY 20, 2014



THE LEADER IN ENVIRONMENTAL TESTING

Richland Laboratory
Data Review Check List
Hexavalent Chromium

Batch Number(s):	3350039	Lab Sample Numbers or SDG:	W06642		
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 12/16/13 2nd Review [Signature] Date 12/19/13

JANUARY 20, 2014



Richland Laboratory
Data Review Check List
Hexavalent Chromium

Batch Number(s):	3350040	Lab Sample Numbers or SDG:	W06642	
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 12/17/13 2nd Review [Signature] Date 12/18/13

JANUARY 20, 2014



THE LEADER IN ENVIRONMENTAL TESTING

Richland Laboratory
Data Review Check List
Hexavalent Chromium

Batch Number(s):	3351078	Lab Sample Numbers or SDG:	W06642	
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 *John Z...* Date 12/17/13 2nd Review H. Rahavi Date 12/18/13

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C.# S14-012-176	
John Fulton		Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	S14-012	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	SURV, DECEMBER 2013	Logbook No.	HNF-N-506 <u>61/39</u>	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	
*** 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 checked="" type="checkbox"/> No <input type="checkbox"/>	

Sample No.	Filter	* Date	Time	No./Type Container	Activity Scan	Sample Analysis	Holding Time	Preservative
B2TJ08	N	DEC 10 2013	1000	1x20-mL P	Activity Scan		6 Months	None
B2TJ08	N	W		2x1-L G/P	C14_LSC: COMMON		6 Months	None
B2TJ08	N	W		2x4-L G/P	1129LL_SEP_LEPS_GS_LL: COMMON		6 Months	None
B2TJ08	N	W		1x1-L G/P	THISO_IE_PLATE_AEA: COMMON	MAUSO	6 Months	HNO3 to pH <2

J3120411
WD6642
Dne



Relinquished By John Fulton	Print	Sign	Received By SSU-1	Date/Time DEC 10 2013 1405	Print	Sign	Received By Kevin Patterson	Date/Time DEC 11 2013 1715	Date/Time DEC 10 2013 1405	Matrix *
Relinquished By SSU-1			Received By Kevin Patterson	Date/Time DEC 11 2013 1715			Received By J. Ball Back-TALK	Date/Time DEC 11 2013 1000	Date/Time DEC 11 2013 1000	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By Kevin Patterson			Received By	Date/Time			Received By	Date/Time	Date/Time	DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Relinquished By			Received By	Date/Time			Received By	Date/Time	Date/Time	
FINAL SAMPLE DISPOSITION										
Disposal Method (e.g., Return to customer, per lab procedure, used in process)								Disposed By		Date/Time

CH2M Hill Plateau Remediation Company		C.O.C. # S14-012-669	
Project Title: SURV, DECEMBER 2013		Page 1 of 1	
Collector: John Fulton	Contact/Requester: 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 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	* Time	Date
B2TK3	N	W	DEC 10 2013 0800
B2TK3	N	W	
B2TK3	N	W	
B2TK3	N	W	
Sample Analysis		Holding Time	Preservative
Activity Scan		6 Months	None
C14_LSC: COMMON		6 Months	None
1129L_SEP_LEPS_GS_LL: COMMON		6 Months	None
THISO_IE_PLATE_AEA: COMMON		6 Months	HNO3 to pH <2

SSU-1
wobehz
Dne

Relinquished By: John Fulton	Print: [Signature]	Sign: [Signature]	Received By: SSU-1	Date/Time: DEC 10 2013 1425
Relinquished By: SSU-1	Print: [Signature]	Sign: [Signature]	Received By: Kevin Patterson	Date/Time: DEC 11 2013 0715
Relinquished By: Kevin Patterson	Print: [Signature]	Sign: [Signature]	Received By: S. Bell	Date/Time: DEC 11 2013 1000
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

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

Sample Check-in List

THE LEADER IN ENVIRONMENTAL TESTING

Date/Time Received: 12-11-13/1000 Container GM Screen Result: (Airlock) 60 cpm Initials [B]
Sample GM Screen Result (Sample Receiving) 60 cpm Initials [B]

Client: PLW SDG #: W06042 SAF #: S14-012 NA []

Lot Number: JSL120417

Chain of Custody # S14-012-176, 669

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

Samples received inside shipping container/cooler/box Yes [X] 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 [X]
2. Custody Seals dated and signed? Yes [] No [] No Custody Seal [X]
3. Cooler temperature: _____ °C NA [X]
4. Vermiculite/packing materials is NA [X] Wet [] Dry []

Item 5 through 16 for samples. Initial appropriate response.

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

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

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

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

16. Additional Information: N/A

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

Sample Check-in List completed by Sample Custodian:
Signature: [Signature] Date: 12-11-13

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

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

CH2M Hill Plateau Remediation Company		C.O.C. # W14-012-017	
Collector John Fulton		Page 1 of 1	
Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	W14-012	Purchase Order/Charge Code	300071ES20
Project Title	RCRA, DECEMBER 2013	Ice Chest No.	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	Bill of Lading/Air Bill No.	N/A
Protocol	RCRA	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 5600.5 (1990/1993)		Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Special Instructions	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.		
Sample No.	Filter *	Date	Time
B2TLJ9	N	DEC 10 2013	159
B2TLJ9	N	W	
No/Type Container		Sample Analysis	
1x20-mL P		Activity Scan	
2x4-L G/P		I129LL_SEP_LEPS_GS_LL: COMMON MANDO	
Holding Time		Preservative	
6 Months		None	
6 Months		None	



331120418
 W06442
 DW

Relinquished By	John Fulton	Sign	[Signature]	Date/Time	DEC 10 2013 1435
Received By	SSU #1	Print	[Signature]	Date/Time	DEC 10 2013 1435
Relinquished By	Kevin Perterson	Sign	[Signature]	Date/Time	DEC 11 2013 1615
Received By	Kevin Perterson	Print	[Signature]	Date/Time	DEC 11 2013 1615
Relinquished By	Kevin Perterson	Sign	[Signature]	Date/Time	DEC 11 2013 1600
Received By	J. Bobe	Print	[Signature]	Date/Time	DEC 11 2013 1600
Relinquished By	[Signature]	Sign	[Signature]	Date/Time	DEC 11 2013 1600
Received By	[Signature]	Print	[Signature]	Date/Time	DEC 11 2013 1600
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Date/Time	
PRINTED O 10/16/2013		A-6004-842 (REV 2)			

CH2MHill Plateau Remediation Company		C.O.C. # W14-012-020	
Project Title		Page 1 of 1	
Collector	John Fulton	Contact/Requester	Karen Waters-Husted
SAF No.	W14-012	Sampling Origin	Hanford Site
Project Title	RCRA, DECEMBER 2013	Logbook No.	HNF-N-506 6 / 33
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE
Protocol	RCRA	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 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
B2TLK7	N	DEC 10 2013	1246
B2TLK7	N	W	1
No/Type Container	1x20-mL P	Activity Scan	
Sample Analysis	I129LL_SEP_LEPS_GS_LL: COMMON MANJL		
Holding Time	6 Months		
Preservative	None		
Total Activity Exemption:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

S31212013
 W0202013
 DW

Relinquished By	John Fulton	Sign		Received By	SSU #1	Sign		Date/Time	DEC 10 2013 1425
Relinquished By	SSU-1	Sign		Received By	Kevin Patterson	Sign		Date/Time	DEC 11 2013 8715
Relinquished By	Kevin Patterson	Sign		Received By	S. Beck	Sign		Date/Time	DEC 11 2013 1000
Relinquished By		Sign		Received By		Sign		Date/Time	

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

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

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C. # W14-012-024	
Collector <i>John Fulkerson</i>		Contact/Requester Karen Waters-Husted	Telephone No.	509-376-4650	
SAF No. W14-012		Sampling Origin Hanford Site	Purchase Order/Charge Code	300071ES20	
Project Title RCRA, DECEMBER 2013		Logbook No. HNF-N-506_61/39	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 RCRA		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 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.	Hold Time	Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis
B2TM02	N	W	DEC 10 2013 0745	1x20-mL P	Activity Scan
B2TM02	N	W	1	2x4-L G/P	1129LL_SEP_LEPS_GS_LL: COMMON <i>MANIFEST</i>
					Holding Time 6 Months
					6 Months
					Preservative None
					None

Sullivan
Ward
Due

Relinquished By <i>[Signature]</i>	Sign	Date/Time DEC 10 2013 1425	Received By SSU-1	Sign	Date/Time DEC 10 2013 1425	Matrix *
Relinquished By SSU-1		DEC 11 2013 1015	Received By Kevin Patterson	<i>[Signature]</i>	DEC 11 2013 1015	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By Kevin Patterson		DEC 11 2013 1000	Received By S. Beck	<i>[Signature]</i>	DEC 11 2013 1000	DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Relinquished By			Received By			
FINAL SAMPLE DISPOSITION			Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Date/Time	
PRINTED ON 10/16/2013						A-6004-842 (REV 2)

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C. # W14-012-025	
Collector <i>John Paulson</i>		Contact/Requester Karen Waters-Husted	Telephone No.	509-376-4650	
SAF No. W14-012		Sampling Origin Hanford Site	Purchase Order/Charge Code	300071ES20	
Project Title RCRA, DECEMBER 2013		Logbook No. HNF-N-506 <u>61/39</u>	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 RCRA		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 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
B2TLM1	N	DEC 10 2013	1038	1x20-mL P	Activity Scan
B2TLM1	N	W	1	2x4-L G/P	1129LL_SEP_LEPS_GS_LL: COMMON <u>man 3V</u>
					Holding Time 6 Months
					6 Months
					Preservative None
					None

*SZHU2013
WATER
DW*

Relinquished By <i>John Paulson</i>	Sign 	Date/Time DEC 10 2013 1425	Received By SSU-1	Print 	Sign 	Date/Time DEC 11 2013 1015	Matrix *
Relinquished By SSU-1		DEC 11 2013 1015	Received By Kevin Patterson			DEC 11 2013 1015	s = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Relinquished By Kevin Patterson		DEC 11 2013 1000	Received By S. Beck	<i>beck</i>	<i>TALK</i>	DEC 11 2013 1000	
Relinquished By			Received By				
FINAL SAMPLE DISPOSITION			Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Date/Time		

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C.# W14-012-028	
Collector <i>John Fulkner</i>		Contact/Requester Karen Waters-Husted	Telephone No.	509-376-4650	
SAF No. W14-012		Sampling Origin Hanford Site	Purchase Order/Charge Code	300071ES20	
Project Title RCRA, DECEMBER 2013		Logbook No. HNF-N-506 <i>61 / 39</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 RCRA		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 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 checked="" type="checkbox"/> No <input type="checkbox"/>	
Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis
B2TLN3	N	W	DEC 10 2013 1113	1x20-mL P	Activity Scan
B2TLN3	N	W	1	2x4-L G/P	(129LL_SEP_LEPS_GS_LL: COMMON <i>MANJW</i>)
					Holding Time 6 Months
					6 Months
					Preservative None
					None

*J3112013
W06012
Dm*

Relinquished By <i>John Fulkner</i>	Sign	Date/Time DEC 10 2013 1445	Received By <i>SSU #1</i>	Sign	Date/Time DEC 10 2013 1445	Matrix *
Relinquished By SSU-1	Sign	Date/Time DEC 11 2013 1615	Received By <i>Kevin Patterson</i>	Sign	Date/Time DEC 11 2013 1615	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Relinquished By <i>Kevin Patterson</i>	Sign	Date/Time DEC 11 2013 1600	Received By <i>J. Beck</i>	Sign	Date/Time DEC 11 2013 1600	
Relinquished By	Sign	Date/Time	Received By	Sign	Date/Time	
FINAL SAMPLE DISPOSITION			Disposal Method (e.g., Return to customer, per lab procedure, used in process)			Date/Time
PRINTED ON 10/16/2013			A-6004-842 (REV 2)			



Sample Check-in List

Date/Time Received: 12-11-13/1000 Container GM Screen Result: (Airlock) 60 cpm Initials [B]
Sample GM Screen Result (Sample Receiving) 60 cpm Initials [B]

Client: PLW SDG #: W02123712-3 SAF #: W14-012 NA []

Lot Number: 336110416 12-11-13 336120418

Chain of Custody # W14-012-017, 020, 024, 025, 028

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: _____ °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: 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: [Signature] Date: 12-11-13

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

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

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C.# I14-005-071			
Collector FM Hill CHPRC I14-005		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-50653/76	Ice Chest No. N/A				
Shipped To (Lab) CERCLA		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 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.					
*** 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) ***							
Sample No.	Filter	* Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2RT75	N	W 12/16/13	1205	2x1-L GP	C14_LSC: COMMON	6 Months	None
B2RT76	N	W		.1x500-mL aG	7196_CR6: COMMON	24 Hours	Cool-4C
B2RT76	N	W		4x1-L-P	906.0_TRITIUM_LSC: COMMON	6 Months	None
B2RT76	N	W		1x1-L-P	9310_ALPHABETA_GPC: COMMON	6 Months	HNO3 to pH <2
B2RT76	N	W		1x20-mL P	Activity Scan	6 Months	None
B2RT76	N	W		3x1-L GP	GAMMA_GS: COMMON; GAMMA_GS: GW.01	6 Months	HNO3 to pH <2
B2RT76	N	W		3x1-L GP	SRTOT_SEP_PRECIP_GPC: COMMON	6 Months	HNO3 to pH <2
B2RT76	N	W		1x500-mL P	TC99_ETVDSK_LSC: COMMON	6 Months	HCl to pH <2

331160418
W06643



Relinquished By FM Hill CHPRC	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time DEC 16 2013 1420	Received By S. Soul	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time DEC 16 2013 1420
Relinquished By				Received By			
Relinquished By				Received By			
Relinquished By				Received By			
FINAL SAMPLE DISPOSITION				Disposal Method (e.g., Return to customer, per lab procedure, used in process)			
PRINTED ON 9/24/2013				Disposed By			

Matrix *

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

CH2M Hill Plateau Remediation Company		C.O.C. # I14-005-075	
Collector: Roy Shepard		Page 1 of 1	
SAF No. I14-005	Contact/Requester: Karen Waters-Husted	Telephone No. 509-376-4650	
Project Title: 100KR4, NOVEMBER 2013	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300071ES20	
Shipped To (Lab): TestAmerica Incorporated, Richland	Logbook No. HNF-N-506 58 / 47	Ice Chest No. N/A	
Protocol: CERCLA	Method of Shipment: GOVERNMENT VEHICLE	Bill of Lading/Air Bill No. N/A	
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 <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	Holding Time	Preservative
B2RTB1	N	12-16-13	1033	1x500-mL aG	7196_CR6: COMMON	24 Hours	Cool-4C
B2RTB1	N			1x1-L P	906.0_TRITIUM_LSC: COMMON	6 Months	None
B2RTB1	N			1x1-L P	9310_ALPHABETA_GPC: COMMON	6 Months	HNO3 to pH <2
B2RTB1	N			1x20-mL P	Activity Scan	6 Months	None
B2RTB1	N			3x1-L GIP	GAMMA_GS: COMMON; GAMMA_GS: GW.01	6 Months	HNO3 to pH <2
B2RTB1	N			3x1-L GIP	SRTOT_SEP_PRECIP_GPC: COMMON	6 Months	HNO3 to pH <2
B2RTB1	N			1x500-mL P	TC99_ETVDSK_LSC: COMMON	6 Months	HCl to pH <2
B2RTB0	N	12-16-13	1033	2x1-L GIP	C14_LSC: COMMON	6 Months	None

53L16041V
 WDW643

Relinquished By: Roy Shepard	Signature: [Signature]	Date/Time: DEC 16 2013 1420	Print: J. Soul	Sign: [Signature]	Date/Time: DEC 16 2013 1420	Matrix * S = Soil, DS = Drum Solids, SE = Sediment, DL = Drum Liquids, SO = Solid, T = Tissue, SL = Sludge, WT = Wipe, W = Water, L = Liquid, O = Oil, V = Vegetation, A = Air, X = Other
Relinquished By:	Received By: J. Soul	Date/Time: 1420	Print: [Signature]	Sign: [Signature]	Date/Time: DEC 16 2013 1420	
Relinquished By:	Received By:	Date/Time:			Date/Time:	
Relinquished By:	Received By:	Date/Time:			Date/Time:	

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

PRINTED ON 9/24/2013 A-6004-842 (REV 2)

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C.# 114-005-088	
Collector FM Hill CHPRC		Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650	Page 1 of 1	
SAF No. 114-005	Sampling Origin Hanford Site	Logbook No. HNF-N-506 53776	Purchase Order/Charge Code 300071ES20	Ice Chest No. N/A	
Project Title 100KR4, NOVEMBER 2013	Method of Shipment GOVERNMENT VEHICLE	Priority: 30 Days	Bill of Lading/Air Bill No. N/A	Offsite Property No. N/A	
Shipped To (Lab) TestAmerica Incorporated, Richland	Special Instructions PRIORITY	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.			
Protocol CERCLA	No/Type Container	Sample Analysis	Holding Time	Preservative	
B2RTP4	1x500-mL aG	7196_CR6: COMMON	24 Hours	Cool-4C	
B2RTP4	1x20-mL P	Activity Scan	6 Months	None	

351160418
WD06042

Relinquished By FM Hill CHPRC	Date/Time DEC 16 2013 1420	Received By <i>S. S. ...</i>	Date/Time DEC 16 2013 1420	Print	Sign	Matrix *
Relinquished By	Date/Time	Received By	Date/Time	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	Date/Time	Received By	Date/Time	Date/Time		
Relinquished By	Date/Time	Received By	Date/Time	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.# **I14-005-129**
Page 1 of 1

Collector: Roy Shepard
 Contact/Requester: Karen Waters-Husted
 Telephone No.: 509-376-4650
 SAF No.: I14-005
 Sampling Origin: Hamford Site
 Purchase Order/Charge Code: 30007IES20
 Project Title: 100KR4, NOVEMBER 2013
 Logbook No.: HNF-N-506 58 / 47
 Ice Chest No.: N/A
 Shipped To (Lab): TestAmerica Incorporated, Richland
 Method of Shipment: GOVERNMENT VEHICLE
 Bill of Lading/Air Bill No.: N/A
 Protocol: CERCLA
 Priority: 30 Days
 Priority: PRIORITY
 Offsite Property No.: N/A

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

SPECIAL INSTRUCTIONS Hold Time: No Yes
 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
B2RVN5	N	12-16-13	1214	1x500-mL aG	7196_CR6: COMMON	24 Hours	Cool-4C
B2RVN5	N			1x1-L P	906.0_TRITIUM_LSC: COMMON	6 Months	None
B2RVN5	N			1x20-mL P	Activity Scan	6 Months	None
B2RVN5	N			3x1-L G/P	GAMMA_GS: COMMON; GAMMA_GS: GW 01	6 Months	HNO3 to pH <2
B2RVN5	N			3x1-L G/P	SRTOT_SEP_PRECIP_GPC: COMMON	6 Months	HNO3 to pH <2
B2RVN5	N	12-16-13	1214	1x500-mL P	TC99_ETVDSK_LSC: COMMON	6 Months	HCl to pH <2

J3L160419
W006642

Relinquished By Roy Shepard	Date/Time DEC 16 2013 1400	Received By S. Boul	Date/Time DEC 16 2013 1400	Sign <i>[Signature]</i>	Date/Time DEC 16 2013 1400	Matrix * S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wine L = Liquid V = Vegetation X = Other
Relinquished By	Date/Time	Received By	Date/Time	Sign	Date/Time	
Relinquished By	Date/Time	Received By	Date/Time	Sign	Date/Time	
Relinquished By	Date/Time	Received By	Date/Time	Sign	Date/Time	
FINAL SAMPLE DISPOSITION				Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Date/Time
PRINTED O 9/30/2013				A-6004-842 (REV 2)		

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C.# I14-005-130				
Collector: Roy Shepard		Contact/Requester: Karen Waters-Husted	Telephone No.: 509-376-4650	Page 1 of 1				
SAF No.: I14-005		Sampling Origin: Hanford Site	Purchase Order/Charge Code: 30007IES20					
Project Title: 100KR4, NOVEMBER 2013		Logbook No.: HNF-N-506 58 / 47	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 *** 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"/> 100 Area Generator Knowledge Information Form applies. The CACN for analytical work at WSCF is 401647. FY13 & FY14 SAF's cannot be in the same SDG.						
Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2RVN6	N	W	12-16-13	12:14	1x20-ml P	Activity Scan	6 Months	None
B2RVN6	N	W	12-16-13	12:14	2x1-L G/P	C14_LSC: COMMON	6 Months	None

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W010642

Relinquished By: Roy Shepard	Print: [Signature]	Sign: [Signature]	Date/Time: DEC 16 2013 14:00	Received By: [Signature]	Print: [Signature]	Sign: [Signature]	Date/Time: DEC 16 2013 14:00
Relinquished By:			Date/Time:	Received By:			Date/Time:
Relinquished By:			Date/Time:	Received By:			Date/Time:
Relinquished By:			Date/Time:	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

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

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 12-16-13/1420 Container GM Screen Result: (Airlock) 60 cpm Initials [B]
Sample GM Screen Result (Sample Receiving) 40 cpm Initials []

Client: Pkw SDG #: W06642 SAF #: I14-005 NA []

Lot Number: J3L160418

Chain of Custody # I14-005-071; 075; 088; 129; 130

Shipping Container ID or Air Bill Number: Hand de Div. NA [SKS]

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: 4.4 °C ice 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): 5 to 7
7. Containers received: 24 x 1-LG/P, 4 x 500mL, 5 x 1-LP, 5 x 20mLP, 3 x 500mLP
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 [SKS] 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. SKS Client/Courier unpack cooler.

Sample Check-in List completed by Sample Custodian:

Signature: [Signature] Date: 12-16-13

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

SKS No action necessary; process as is

Project Manager [Signature] Date 12-17-13

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C.# I14-008-004	
Collector FM Hall CHPRC		Contact/Requester Karen Waters-Husted	Telephone No.	509-376-4650	
SAF No. I14-008		Sampling Origin Hanford Site	Purchase Order/Charge Code	300071ES20	
Project Title 100KR4, DECEMBER 2013		Logbook No. HNF-N-506 53/76	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 <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
B2TL83	N	W	12/16/13 1126	1x20-mL P	Activity Scan
B2TL83	N	W	↓	1x500-mL aG	7196_CR6: COMMON
				Holding Time	
				6 Months	
				24 Hours	
				Preservative	
				None	
				Cool~4C	



J3L160419
W006642
Du

Relinquished By FM Hall CHPRC	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time DEC 16 2013 1410	Received By <i>[Signature]</i>	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time DEC 16 2013 1420
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)		Disposed 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



Sample Check-in List

Date/Time Received: 12-16-13 | 1420 Container GM Screen Result: (Airlock) 60 cpm Initials [B]
Sample GM Screen Result (Sample Receiving) 40 cpm Initials []

Client: Pkw SDG #: WDW642 SAF #: I14-008 NA []

Lot Number: J32160419

Chain of Custody # I14-008-004

Shipping Container ID or Air Bill Number: Hand de Div. 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: 4.4 C Ice 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): 1
7. Containers received: 1 x Vial 20; 1 x 500 mL AB

- 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: W/A

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

Sample Check-in List completed by Sample Custodian:
Signature: [Signature] Date: 12-16-13

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

[B] No action necessary; process as is
Project Manager: [Signature] Date: 12-17-14

CH2M Hill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.# **I14-009-005**

Page 1 of 1

Collector: **John Fulton**

Contact/Requester: **Karen Waters-Husted**

Telephone No.: **509-376-4650**

SAF No.: **I14-009**

Sampling Origin: **Hanford Site**

Purchase Order/Charge Code: **300071ES20**

Project Title: **100NR2, DECEMBER 2013**

Logbook No.: **HNF-N-506 61/45**

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

*** 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 all 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	Holding Time	Preservative
B2TL44	N	W	DEC 17 2013 0951	1x20-mL P	Activity Scan	6 Months	None
B2TL44	N	W		1x600-mL aG	7196_CR6: COMMON	24 Hours	Cool-4C
B2TL44	N	W		1x1-L P	9310_ALPHABETA_GPC: COMMON	6 Months	HNO3 to pH <2
B2TL44	N	W		3x1-L G/P	GAMMA_GS: COMMON	6 Months	HNO3 to pH <2
B2TL44	N	W		3x1-L G/P	SRTOT_SEP_PRECIP_GPC: COMMON	6 Months	HNO3 to pH <2
B2TL44	N	W		1x1-L G/P	PUISO_PLATE_AEA: COMMON	6 Months	HNO3 to pH <2
B2TL44	N	W		1x600-mL P	TC99_ETVDSK_LSC: COMMON	6 Months	HCl to pH <2
B2TL44	N	W		1x600-mL G/P	KPA_UTOT: COMMON	6 Months	HNO3 to pH <2
B2TL44	N	W		1x1-L P	906.0_TRITIUM_LSC: COMMON	6 Months	None
B2TL44	N	W		1x1-L G/P	UI50_PLATE_AEA: COMMON	6 Months	HNO3 to pH <2



J3L170422
WOLANA
DUE

Relinquished By: John Fulton	Print: David Hargis	Sign: <i>[Signature]</i>	Date/Time: DEC 17 2013 15:15
Relinquished By:	Received By:	Sign:	Date/Time: DEC 17 2013 15:15
Relinquished By:	Received By:	Sign:	Date/Time:
Relinquished By:	Received By:	Sign:	Date/Time:

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

JANUARY 20, 2014

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 #: W06642 SAF #: I14-009 NA []

Lot Number: S3L170422

Chain of Custody # I14-009-005

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 [B] No Custody Seal [B]
3. Cooler temperature: 3.9 C ICE 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): 1
7. Containers received: 1 x vial 20; 2 x 500mlp; 1 x 500mlab; 10 x 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: 12-18-13

CH2M Hill Plateau Remediation Company		C.O.C. # W14-012-016	
Collector: FM Hall CHPRC		Contact/Requester: Karen Waters-Husted	Telephone No. 509-376-4650
SAF No. W14-012		Sampling Origin: Hanford Site	Purchase Order/Charge Code 30007IES20
Project Title: RCRA, DECEMBER 2013		Logbook No. HNF-N-50653 / 74	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: RCRA		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 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 checked="" type="checkbox"/> No <input type="checkbox"/>
Sample No.	Filter	Date	Time
B2TLJ5	N	W	12/13/13 0834
B2TLJ5	N	W	↓



J3L170432
W506642

Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2TLJ5	N	W	12/13/13 0834	1x20-mL P	Activity Scan	6 Months	None
B2TLJ5	N	W	↓	2x4-L G/P	(129LL_SEP_LEPS_GS_LL: COMMON MARXA)	6 Months	None

Relinquished By: FM Hall CHPRC	Print:	Sign:	Date/Time: DEC 13 2013 1455	Received By: SSU #1	Print:	Sign:	Date/Time: DEC 13 2013 1455	Matrix * S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By: SSU-1	Print:	Sign:	Date/Time: DEC 16 2013 1455	Received By: KC Patterson CHPRC	Print:	Sign:	Date/Time: DEC 16 2013 1680	DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Relinquished By: KC Patterson CHPRC	Print:	Sign:	Date/Time: DEC 16 2013 1520	Received By: J. Scott West-TA	Print:	Sign:	Date/Time: DEC 16 2013 1520	
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)			Date/Time		

CH2M Hill Plateau Remediation Company		C.O.C. # W14-012-021	
Collector FM Hill CHPRC		Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650
SAF No. W14-012		Sampling Origin Hanford Site	Purchase Order/Charge Code 300071ES20
Project Title RCRA, DECEMBER 2013		Logbook No. HNF-N-506 53/75	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 RCRA		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 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
B2TLX3	N	W 12/13/13	1402
B2TLX3	N	W	↓
Sample Analysis		Sample No./Type Container	Holding Time
1129LL_SEP_LEPS_GS_LL: COMMON		1x20-mL P	6 Months
MARHC		2x4-L G/P	6 Months
Preservative		None	

53L170432
W000443

Relinquished By FM Hill CHPRC	Print 	Sign 	Date/Time DEC 13 2013 1455	Received By SSU #1	Print 	Sign 	Date/Time DEC 13 2013 1455	Matrix *
Relinquished By SSU-1	Print 	Sign 	Date/Time DEC 16 2013 1400	Received By KC Patterson CHPRC	Print 	Sign 	Date/Time DEC 16 2013 1400	S = Soil SE = Sediment SO = Solid SW = Sludge W = Water O = Oil A = Air
Relinquished By KC Patterson CHPRC	Print 	Sign 	Date/Time DEC 16 2013 1400	Received By J Beck Good Fall	Print 	Sign 	Date/Time DEC 16 2013 1400	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	
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. # W14-012-022	
Collector	FM Hill CHPRC	Contact/Requester	Karen Waters-Husted		
SAF No.	W14-012	Sampling Origin	Hamford Site		
Project Title	RCRA, DECEMBER 2013	Logbook No.	HNF-N-506 53 / 75		
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE		
Protocol	RCRA	Priority:	30 Days PRIORITY		
POSSIBLE SAMPLE HAZARDS/REMARKS *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CRF 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.		Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis
B2TLL3	N	W 12/13/13	1402	1x20-mL P	Activity Scan
B2TLL3	N	W	↓	2x4-L G/P	1129LL_SEP_LEPS_GS_LL: COMMON MARPD
					Holding Time
					6 Months
					6 Months
					Preservative
					None
					None

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W06642

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 1020	CHPRC		DEC 16 2013	1020	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 *
CHPRC			DEC 16 2013 1020	J. S. Sullivan		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		

CH2M Hill Plateau Remediation Company		C.O.C. # W14-012-023	
Collector FM Hill CHPRC		Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650
SAF No. W14-012		Sampling Origin Hanford Site	Purchase Order/Charge Code 30007IES20
Project Title RCRA, DECEMBER 2013		Logbook No. HNF-N-506 53/74	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 RCRA		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 CRF but are not releasable per DOE Order 5400.5 (1990/1993)</p>		<p>SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>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.</p>	
Sample No.	Filter	Date	Time
B2TLL7	N	12/13/13	0949
B2TLL7	N	↓	↓
No/Type Container		Sample Analysis	Holding Time
1x20-mL P		Activity Scan	6 Months
2x4-L G/P		1129LL_SEP_LEPS_GS_LL: COMMON <i>ma.PHE</i>	6 Months
			Preservative

SSU170432
wdd412

Relinquished By FM Hill CHPRC	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time DEC 13 2013 1455	Received By <i>[Signature]</i>	Print SSU 71	Sign <i>[Signature]</i>	Date/Time DEC 13 2013 1455	Matrix *	
Relinquished By SSU-1	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time DEC 16 2013 1600	Received By CHPRC Patterson	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time DEC 16 2013 1600	Matrix *	
Relinquished By CHPRC	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time DEC 16 2013 1600	Received By J. Boul	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time DEC 16 2013 1600	Matrix *	
Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By		Date/Time		Date/Time		Date/Time	
FINAL SAMPLE DISPOSITION		Date/Time		Date/Time		Date/Time		Date/Time	

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C.# W14-012-026	
Collector	FM Hill CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	W14-012	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	RCRA, DECEMBER 2013	Logbook No.	HNF-N-506 <u>53/174</u>	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	RCRA	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 5600 5 (1990/1993)

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	* Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2TLM5	N	W 12/13/13	1329	1x20-mL P	Activity Scan	6 Months	None
B2TLM5	N	W ↓	↓	2x4-L G/P	1129LL_SEP_LEPS_GS_LL: COMMON <u>max HC</u>	6 Months	None

B3L1N0432
W06L642

Relinquished By FM Hill CHPRC	Print 	Sign 	Date/Time DEC 13 2013 1455	Received By 	Print SSU-1	Sign 	Date/Time DEC 13 2013 1455	Matrix *
Relinquished By SSU-1	Print 	Sign 	Date/Time DEC 16 2013 1620	Received By CHPRC	Print 	Sign 	Date/Time DEC 16 2013 1620	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By CHPRC	Print 	Sign 	Date/Time DEC 16 2013 1600	Received By S. Seal York TAC	Print 	Sign 	Date/Time DEC 16 2013 1600	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	

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

Disposed By _____

PRINTED ON 10/16/2013 A-6004-842 (REV 2)

JANUARY 20, 2014



Sample Check-in List

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

Client: RBW SDG #: W06642 SAF #: W14-012 NA []

Lot Number: 536170432

Chain of Custody # W14-012-016; 021; 022; 023; 026; 027

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: _____ °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): 6
7. Containers received: 6 x vial 20, 12 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: [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: 12-18-13

12/23/2013 9:02:17 AM **Sample Preparation/Analysis** Balance Id:1120403183
 6D Pu Prp PRP004, Sep ALP002(ALP015) Pipet #:
 SO Plutonium-238;239/40 by Alpha Spec
 5I CLIENT: HANFORD
 Sep1 DT/Tm Tech:
 Sep2 DT/Tm Tech:
 Prep Tech: WattN

Batch: 3353035 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:
Comments: M2PC8-SAMP "Comments aliquots reduced to due activity screens 12-23-13 N.W" M2P2H-BLK Comments-13-00668,p-13-00441													

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

M2PC81AG-SAMP Constituent List:	RDL:1	UCL:	UCL:	REP:	REP:	Yield	Dish Size	RDL:1	PCI/L	LCL:70	UCL:130	RPD:20
PU-238	PCI/L	LCL:20	UCL:105	REP:20	REP:20	Yield	Dish Size	RDL:1	PCI/L	LCL:70	UCL:130	RPD:20
PU-242	PCI/L	LCL:20	UCL:105	REP:20	REP:20	Yield	Dish Size	RDL:1	PCI/L	LCL:70	UCL:130	RPD:20
M2P2H1AA-BLK:												
PU-238	PCI/L	LCL:20	UCL:105	REP:20	REP:20	Yield	Dish Size	RDL:1	PCI/L	LCL:70	UCL:130	RPD:20
PU-242	PCI/L	LCL:20	UCL:105	REP:20	REP:20	Yield	Dish Size	RDL:1	PCI/L	LCL:70	UCL:130	RPD:20
M2P2H1AC-LCS:												
PU-239	PCI/L	LCL:70	UCL:130	REP:20	REP:20	Yield	Dish Size	RDL:1	PCI/L	LCL:70	UCL:130	RPD:20

M2PC81AG-SAMP Calc Info:
 Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
 M2P2H1AA-BLK:
 Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
 M2P2H1AC-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 Chtg, 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 1:59:59 PM

ICOC Fraction Transfer/Status Report

ByDate: 1/9/2013, 1/14/2014, Batch: '3353035', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
3353035				
AC	Rev1C	WattN	12/23/2013 8:58:22	
SC		campbellsc	IsBatched	12/19/2013 3:10:41 PM
SC		WattN	InPrep	12/23/2013 8:58:22 AM
SC		WattN	Prep1C	12/23/2013 9:01:55 AM
SC		BourneD	Sep1C	1/2/2014 1:18:19 PM
SC		RichardsonB	Sep2C	1/6/2014 7:44:37 AM
SC		BullJ	InCnt1	1/6/2014 9:07:51 AM
SC		DawkinsO	CalcC	1/7/2014 12:25:01 AM
SC		mcginnist	Rev1C	1/9/2014 1:59:53 PM
AC		WattN	12/23/2013 9:01:55	ICOC_RADCALC v4.8.49
AC		BourneD	1/2/2014 1:18:19 PM	rl-prp-004 revision 2
AC		RichardsonB	1/6/2014 7:44:37 AM	RL-PRP-004 REVISION 2
AC		BullJ	1/6/2014 9:07:51 AM	RL-ALP-001 REVISION 4
AC		DawkinsO	1/7/2014 12:25:01	RL-ALP-016 REVISION 3
AC		mcginnist	1/9/2014 1:59:53 PM	RL-CI-008 REVISION 3
				RL-DR-001 Rev 4

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

Balance Id: 1120403183

Sample Preparation/Analysis

12/23/2013 8:52:19 AM
 384868, CH2M Hill Plateau Remediation Company
 Pacific Northwest National Lab
 AnalyDueDate: 01/20/2014

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

PM, Quote: SS, 57671
 Batch: 3353036 WATER pCi/L
 SEQ Batch, Test: None All Tests: 3353036 9NS1, 3353042 BNTB, 3353043 5SS3

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

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 M2NJN-1-AA J3L120417-1-SAMP 12/10/2013 10:00	207.50g.in		207.50g		thtc27038 12/20/13,pd 1048/13,r				500	12	12/10/13/25 2007	12/10/13/25	Beta: 1.20E-03 uCi/Sa
2 M2NJN-1-AE-X J3L120417-1-DUP 12/10/2013 10:00	202.70g.in		202.70g		thtc27039 12/20/13,pd 1048/13,r				111				Beta: 1.20E-03 uCi/Sa
3 M2NUP-1-AA J3L120417-2-SAMP 12/10/2013 08:00	202.30g.in		202.30g		thtc27040 12/20/13,pd 1048/13,r				112				Beta: 1.20E-03 uCi/Sa
4 M2P2L-1-AA-B J3L190000-36-BLK 12/19/2013 14:35 pd	201.40g.in		201.40g		thtc27041 12/20/13,pd 1048/13,r				114				Beta: 1.47E-04 uCi/Sa
5 M2P2L-1-AC-C J3L190000-36-LCS 12/19/2013 14:35 pd	210.30g.in		210.30g		ftsn1240 12/13/13,pd 1048/13,r					12	12/18/13/25 2007	12/18/13/25	Beta: 1.20E-03 uCi/Sa

The first count for M2NJN1AA, the detector was switched off. Recounted, The first count for M2P2L1AC, the sample was in the wrong detector. Recounted. 12/18/13/25

12/23/2013 8:52:20 AM		Sample Preparation/Analysis		Balance Id:1120403183									
9N Thiso Prp PRP004, Sep ALP005(ALP016)		S1 Thorium-228,230,232 by Alpha Spec		Pipet #:									
01 STANDARD TEST SET		Sep1 DT/Tm Tech:		Sep2 DT/Tm Tech:									
Batch: 3353036		pCi/L		Prep Tech: WattN									
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:
Comments: M2P2L-BLK Commentss-13-00668,S-12-00228 All Clients for Batch: 384868, CH2M Hill Plateau Remediation Company Pacific Northwest National Lab, SS , 57671													
M2P2L1AA-SAMP Constituent List: TR-228 RDL:1 PCI/L LCL: UCL: RPD: RPD: TH-230 RDL:1 RDL:1 PCI/L LCL:230 UCL:230 RPD: RPD: UCL:130 UCL:130 RPD:20 RPD:20 TR-232 RDL:1 PCI/L LCL: UCL: RPD: RPD: TH-234 RDL:1 RDL:1 PCI/L LCL:234 UCL:234 RPD: RPD: UCL:115 UCL:115 RPD:20 RPD:20 M2P2L1AA-BLK: TR-228 RDL:1 PCI/L LCL: UCL: RPD: RPD: TH-230 RDL:1 RDL:1 PCI/L LCL:230 UCL:230 RPD: RPD: UCL:115 UCL:115 RPD:20 RPD:20 TR-232 RDL:1 PCI/L LCL: UCL: RPD: RPD: TH-234 RDL:1 RDL:1 PCI/L LCL:234 UCL:234 RPD: RPD: UCL:115 UCL:115 RPD:20 RPD:20 M2P2L1AC-LCS: TR-230 RDL:1 PCI/L LCL:70 UCL:130 RPD:20 RPD:20 TH-234 RDL:1 RDL:1 PCI/L LCL:115 UCL:115 RPD:20 RPD:20													
M2P2L1AA-SAMP Calc Info: Uncert Level (#s) : 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B M2P2L1AA-BLK: Uncert Level (#s) : 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B M2P2L1AC-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	ISV - Insufficient Volume for Analysis		WO Cnt: 5								
Richland Wa.	pd - Prep Dt, dc - Date Chtg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added				Prep_SamplePrep v4.8.65								

12/19/2013 2:35:17 PM **Sample Preparation/Analysis** Balance Id: _____
 9N Thiso Prp PRP004, Sep ALP005(ALP016) Pipet #: _____
 S1 Thorium-228,230,232 by Alpha Spec
 01 STANDARD TEST SET Sep1 DT/Tm Tech: _____
 Sep2 DT/Tm Tech: _____
 AnalyzeDate: 01/20/2014
 Batch: 3353036 pCi/L
 SEQ Batch, Test: None

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Unv-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On (24hr) Circle	OR Analyst, Init/Date	Comments
Th-232	RDL:1	pCi/L	LCL:	UCL:	RPD:	Th-234	RDL:	pCi/L	ICL:20	UCL:115	RPD:20		
M2P2L1AA-BLK:													
M2P2L1AC-LCS:													
M2N1N1AA-SAMP Calc Info:													
Uncert Level (#s): 2	Decay to Sadt: Y	Blk Subst.: N	Sci.NoL.: Y	ODRs: B									
M2P2L1AA-BLK:													
Uncert Level (#s): 2	Decay to Sadt: Y	Blk Subst.: N	Sci.NoL.: Y	ODRs: B									
M2P2L1AC-LCS:													
Uncert Level (#s): 2	Decay to Sadt: Y	Blk Subst.: N	Sci.NoL.: 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: 5
 ICOC v4.8.49

1/9/2014 1:54:50 PM

ICOC Fraction Transfer/Status Report

ByDate: 1/9/2013, 1/14/2014, Batch: '3353036', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
3353036				
AC	Rev1C	WattN	12/23/2013 8:46:45	
SC		campbellsc	IsBatched	12/19/2013 3:10:46 PM
SC		WattN	InPrep	12/23/2013 8:46:45 AM
SC		WattN	Prep1C	12/23/2013 8:52:41 AM
SC		ShewellJ	Sep1C	12/26/2013 3:12:34 PM
SC		RichardsonB	Sep2C	12/30/2013 9:03:50 AM
SC		BullJ	InCnt1	12/30/2013 1:43:58 PM
SC		BullJ	CalcC	1/2/2014 2:20:48 PM
SC		mcginnist	Rev1C	1/9/2014 1:54:20 PM
AC		WattN	12/23/2013 8:52:41	ICOC_RADCALC v4.8.49
AC		ShewellJ	12/26/2013 3:12:34	RL-RA-001 REVISION 2
AC		RichardsonB	12/30/2013 9:03:50	RL-PRP-004 REVISION 2
AC		BullJ	12/30/2013 1:43:58	RL-ALP-001 REVISION 4
AC		BullJ	1/2/2014 2:20:48 PM	RL-ALP-016 REVISION 3
AC		BullJ	1/2/2014 2:20:48 PM	RL-CI-008 REVISION 3
AC		mcginnist	1/9/2014 1:54:20 PM	RL-CI-008 REVISION 3
				RL-DR-001 Rev 4

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

PRIORITY

*** RE-ANALYSIS REQUEST ***

DUE DATE 1/20/14
CUSTOMER CH2M
ANALYSIS WISO
MATRIX water
LOT NUMBER J3L70422
SAMPLE DELIVERY GROUP _____
OLD BATCH NUMBER 3353037
NEW BATCH NUMBER 4012022

LAB SAMPLE ID	CLIENT ID	REASON FOR REQUEST & ANALYSIS COMMENTS
1) <u>all</u>		
2)		
3)		
4)		
5)		
6)		
7)		
8)		
9)		
10)		
11)		
12)		
13)		
14)		
15)		
16)		
17)		
18)		
19)		
20)		
LAB QC ID		Assigned with new batch.

Sample Preparation/Analysis									
1/13/2014 1:48:13 PM		Balance Id:1120403183		Pipet #:		Pipet #:		Comments:	
384868, CH2M Hill Plateau Remediation Company		7Y Uiso Prp PRP004/PRP010, Sep ALP004(ALP015)		SR Uranium-234,235,238 by Alpha Spec		5I CLIENT: HANFORD		Prep Tech: WattN,WebbK	
Pacific Northwest National Lab		PM, Quote: SS, 57671		Sepz DT/Tm Tech:		Sepz DT/Tm Tech:		Count On Off	
AnalytDueDate: 01/20/2014		PCi/L		Tracer Yield		Dish Size		CR Analyst, Init/Date	
Batch: 4012022 WATER		All Tests: 3351078 88EA, 3353035 6DSO, 3353037 7YSR, 3353038 AZS7, 3353039 BCS8, 3353040 CGTH, 3353041 AWTA, 3353044 FPS5, 3353045 ARS6, 3353046 DHSS, 4006041 DHSS, 4012022 7YSR		QC Tracer Prep Date		Ppt or Geometry		Detector Id	
SEQ Batch, Test: None		Adj Aliq Amt (Ur-Acidified)		Yield		Time Min		Circle	
Total Amt/Unit		Initial Aliquot Amt/Unit		Tracer Yield		Count		24-hr	
Total Amt/Unit		Total Amt/Unit		Yield		Time Min		Circle	
Total Amt/Unit		Total Amt/Unit		Yield		Time Min		Circle	
1 M2PC8-1-AV-X	78.70g.in	78.70g	UITC30839	01/07/14,pd	01/07/14,pd	200	2	2244	1/13/14 00
J3L170422-1-DUP									
12/17/2013 09:51									
2 M2PC8-3-AK	78.30g.in	78.30g	UITC30840	01/07/14,pd	01/07/14,pd		3		
J3L170422-1-SAMP									
12/17/2013 09:51									
3 M2JV-1-AA-B	200.30g.in	200.30g	UITC30841	01/07/14,pd	01/07/14,pd		4		
J4A120000-22-BLK									
01/13/2014 11:10 pd									
4 M2JV-1-AC-C	200.00g.in	200.00g	UISG2776	12/23/13,pd	01/07/14,pd		5		
J4A120000-22-LCS									
01/13/2014 11:10 pd									
Scr: Alpha: 3.09E-02 uCi/Sa 6.7E-02L		Beta: 2.99E-02 uCi/Sa 3.5E-02L		Alpha: 3.09E-02 uCi/Sa 6.7E-02L		Beta: 2.99E-02 uCi/Sa 3.5E-02L		Alpha: 3.09E-02 uCi/Sa 6.7E-02L	
Beta: 2.99E-02 uCi/Sa 3.5E-02L		Alpha: 3.09E-02 uCi/Sa 6.7E-02L		Beta: 2.99E-02 uCi/Sa 3.5E-02L		Alpha: 3.09E-02 uCi/Sa 6.7E-02L		Beta: 2.99E-02 uCi/Sa 3.5E-02L	

75847

Sample Preparation/Analysis		Balance Id:											
7Y Uiso Prp PRP004/PRP010, Sep ALP004(ALP015) SR Uranium-234,235,238 by Alpha Spec 51 CLIENT: HANFORD		Pipet #:											
Analyte Due Date: 01/20/2014		Sep1 DT/Tm Tech:											
Batch: 4012022		Sep2 DT/Tm Tech:											
SEQ Batch, Test: None		Prep Tech:											
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	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
M2FC81AV-DUP Calc Info:													
Uncert Level (#s) : 2		Decay to SaDt: Y	Blk Subt.: N	Sci. Not.: Y	ODRs: B								
M2FJV1AA-BLK:													
Uncert Level (#s) : 2		Decay to SaDt: Y	Blk Subt.: N	Sci. Not.: Y	ODRs: B								
M2FJV1AC-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-Cocktalled Added ISV - Insufficient Volume for Analysis WO Cnt: 4 ICOC v4.8.49													

1/16/2014 12:42:05 PM

ICOC Fraction Transfer/Status Report

ByDate: 1/16/2013, 1/21/2014, Batch: '4012022', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
4012022				
AC	Rev1C	WebbK	1/13/2014 1:51:14 PM	
SC		mcginnist	IsBatched	1/13/2014 11:11:18 AM
SC		WebbK	Prep1C	1/13/2014 1:51:14 PM
SC		BourneD	Sep1C	1/15/2014 8:40:41 AM
SC		BourneD	Sep2C	1/15/2014 2:56:20 PM
SC		DawkinsO	CalcC	1/16/2014 1:15:19 AM
SC		mcginnist	Rev1C	1/16/2014 12:30:37 PM
AC		BourneD	1/15/2014 8:40:41	ICOC_RADCALC v4.8.49
AC		BourneD	1/15/2014 2:56:20 PM	RL-PRP-004 REVISION 2
AC		DawkinsO	1/16/2014 1:15:19	RL-ALP-004 REVISION 4
AC		mcginnist	1/16/2014 12:30:37	RL-ALP-015 REVISION 5
				RL-CI-008 REVISION 3
				RL-DR-001 Rev 4

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

12/30/2013 9:05:08 AM		Sample Preparation/Analysis		Balance Id:1120482733									
384868, CH2M Hill Plateau Remediation Company		AZ Gross Alpha Prp GPC001		Pipet #:									
Pacific Northwest National Lab		S7 Gross Alpha by GPC using Am-241 curve		Sep1 DT/Tm Tech:									
AnalyteDueDate: 01/20/2014		5I CLIENT: HANFORD		Sep2 DT/Tm Tech:									
Batch: 3353038 WATER		PM, Quote: SS, 57671		Prep Tech: WattN,SannohS									
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	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 M2N40-1-AD	199.90g,in	199.90g	199.90g	199.90g				58.1mg	240	23C	1610	12/30/13/B	Beta: 1.90E-03 uCi/Sa
J3L160418-2-SAMP													
12/16/2013 12:05													
2 M2N40-1-AM-X	199.90g,in	199.90g	199.90g	199.90g				43.2mg					Beta: 1.90E-03 uCi/Sa
J3L160418-2-DUP													
12/16/2013 12:05													
3 M2N41-1-AC	108.70g,in	108.70g	108.70g	108.70g				22.6mg					Beta: 1.90E-03 uCi/Sa
J3L160418-3-SAMP													
12/16/2013 10:33													
4 M2PC8-1-AD	53.70g,in	53.70g	53.70g	53.70g				15.9mg					Beta: 3.65E-04 uCi/Sa
J3L170422-1-SAMP													
12/17/2013 09:51													
5 M2P2P-1-AA-B	199.90g,in	199.90g	199.90g	199.90g				0.4mg					Beta:
J3L190000-38-BLK													
12/19/2013 14:35 pd													
6 M2P2P-1-AC-C	200.00g,in	200.00g	200.00g	200.00g				0.5mg					Beta:
J3L190000-38-LCS													
12/19/2013 14:35 pd													

25739

12/30/2013 9:05:09 AM		Sample Preparation/Analysis		Balance Id:1120482733								
AZ Gross Alpha Prp GPC001		S7 Gross Alpha by GPC using Am-241 curve		Pipet #:								
5I CLIENT: HANFORD		5I CLIENT: HANFORD		Sep1 DT/Tm Tech:								
Batch: 3353038		pCi/L		Sep2 DT/Tm Tech:								
SEQ Batch, Test: None				Prep Tech: SannoHS								
Work Ord. Lot, Sample Date	Total Amt/Unit	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
Comments: M2N40-SAMP "Comments:SV-Recount dup on a Different Detector" M2PC8-SAMP "Comments aliquots reduced to due activity screens 12-23-13 N.W." M2P2P-BLK Comments-P-13-00441,S-13-00668," Samples were reduced due to weight screen. S.E.S 12/24/13"												
All Clients for Batch: 384868, CH2M Hill Plateau Remediation Company Pacific Northwest National Lab, SS , 57671												
M2N401AD-SAMP Constituent List: ALPHA RDL:3 pCi/L LCL: UCL: RPD: M2P2P1AA-BLK: ALPHA RDL:3 pCi/L LCL: UCL: RPD: M2P2P1AC-LCS: Am-241 RDL: pCi/L LCL:70 UCL:130 RPD:20 M2N401AD-SAMP Calc Info: Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B M2P2P1AA-BLK: Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B M2P2P1AC-LCS: Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B												
TestAmerica Richland Wa.	Key: In - Initial Amt, fl - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2	ISV - Insufficient Volume for Analysis		Page 2		WO Cnt: 6		Prep_SamplePrep v4.8.65				



RE-COUNT REQUEST

DUE DATE 1/20/14

CUSTOMER Ch2mHill

ANALYSIS Alpha

MATRIX WATER

LOT NUMBER _____

SAMPLE DELIVERY GROUP _____

OLD BATCH NUMBER 3353038

NEW BATCH NUMBER SAME

LAB SAMPLE ID	CLIENT ID	REASON FOR REQUEST & ANALYSIS COMMENTS
1)		
2)		
3) M2N401AD		Precipitate too
4)		Heavy
5)		
6)		
7)		
8)		
9)		ReFlame, Reweigh
10)		
11)		Recount
12)		
13)		
14)		
15)		
16)		
17)		
18)		
19)		
20)		

Sample Preparation/Analysis Balance Id: 1120482733

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

12/31/2013 12:03:22 PM

Batch: 3353038 WATER pCi/L PM, Quote: SS, 57671

SEP Batch, Test: None

Sep1 DT/Tm Tech: Sep2 DT/Tm Tech: Prep Tech: WattN, SannohS

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 M2N40-1-AD	199.90g,in		199.90g						1.4345				
J3L160418-2-SAMP													
12/16/2013 12:05													
2 M2N40-1-AM-X	199.90g,in		199.90g						1.4366				
J3L160418-2-DUP													
12/16/2013 12:05													
3 M2N40-2-AD	108.70g,in		108.70g						1.4156				
J3L160418-2-SAMP													
12/16/2013 12:05													
4 M2N41-1-AC	53.70g,in		53.70g						1.4019				
J3L160418-3-SAMP													
12/16/2013 10:33													
5 M2PC8-1-AD	199.90g,in		199.90g						1.3901				
J3L170422-1-SAMP													
12/17/2013 09:51													
6 M2P2P-1-AA-B	200.00g,in		200.00g						1.4064				
J3L190000-38-BLK													
12/19/2013 14:35 pd													
7 M2P2P-1-AC-C	199.90g,in		199.90g						1.3901				
J3L190000-38-LCS													
12/19/2013 14:35 pd													

Handwritten notes: 42.3mg 240 220 1451 12/31/13/S

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

Page 1

TestAmerica Richland Wa. ISV - Insufficient Volume for Analysis

WO Cnt: 7 ICOC v4.8.49

Sample Preparation/Analysis		Balance Id:1120482733																																																								
12/31/2013 12:03:23 PM		Pipet #:																																																								
AZ Gross Alpha Prp GPC001		Sep1 DT/Tm Tech:																																																								
S7 Gross Alpha by GPC using Am-241 curve		Sep2 DT/Tm Tech:																																																								
51 CLIENT: HANFORD		Prep Tech: SannoHS																																																								
AnalytDueDate: 01/20/2014		Count On Off																																																								
Batch: 3353038		Detector																																																								
SEQ Batch, Test: None		Id																																																								
pCi/L		Count																																																								
Total Amt/Unit		Time Min																																																								
Total Acidified/Unit		Ppt or Geometry																																																								
Initial Aliquot Amt/Unit		Dish Size																																																								
QC Tracer Prep Date		Tracer Yield																																																								
Adj Aliq Amt (Un-Acidified)		CR Analyst, Init/Date																																																								
Work Ord, Lot, Sample Date		Comments:																																																								
<p>Comments: M2N40-SAMP "Comments(SV-Recount dup on a Different Detector"</p> <p>M2PC8-SAMP "Comments aliquots reduced to due activity screens 12-23-13 N.W"</p> <p>M2P2P-BLK Comments-P-13-00441,S-13-00668," Samples were reduced due to weight screen. S.E.S 12/24/13"</p>																																																										
<p>All Clients for Batch:</p> <p>384868, CH2M Hill Plateau Remediation Company Pacific Northwest National Lab, SS , 57671</p>																																																										
<p>M2N40IAD-SAMP Constituent List:</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>ALPHA RDL:3</td> <td>pCi/L</td> <td>LCL:</td> <td>UCL:</td> <td>RPD:</td> </tr> <tr> <td>M2P2PIAA-BLK:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ALPHA RDL:3</td> <td>pCi/L</td> <td>LCL:</td> <td>UCL:</td> <td>RPD:</td> </tr> <tr> <td>M2P2PIAC-LCS:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Am-241 RDL:</td> <td>pCi/L</td> <td>LCL:70</td> <td>UCL:130</td> <td>RPD:20</td> </tr> <tr> <td>M2N40IAD-SAMP Calc Info:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Uncert Level (#s): 2</td> <td>Decay to Sabt: Y</td> <td>Blk Subt.: N</td> <td>Sci.Not.: Y</td> <td>ODRs: B</td> </tr> <tr> <td>M2P2PIAA-BLK:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Uncert Level (#s): 2</td> <td>Decay to Sabt: Y</td> <td>Blk Subt.: N</td> <td>Sci.Not.: Y</td> <td>ODRs: B</td> </tr> <tr> <td>M2P2PIAC-LCS:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Uncert Level (#s): 2</td> <td>Decay to Sabt: Y</td> <td>Blk Subt.: N</td> <td>Sci.Not.: Y</td> <td>ODRs: B</td> </tr> </table>				ALPHA RDL:3	pCi/L	LCL:	UCL:	RPD:	M2P2PIAA-BLK:					ALPHA RDL:3	pCi/L	LCL:	UCL:	RPD:	M2P2PIAC-LCS:					Am-241 RDL:	pCi/L	LCL:70	UCL:130	RPD:20	M2N40IAD-SAMP Calc Info:					Uncert Level (#s): 2	Decay to Sabt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B	M2P2PIAA-BLK:					Uncert Level (#s): 2	Decay to Sabt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B	M2P2PIAC-LCS:					Uncert Level (#s): 2	Decay to Sabt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
ALPHA RDL:3	pCi/L	LCL:	UCL:	RPD:																																																						
M2P2PIAA-BLK:																																																										
ALPHA RDL:3	pCi/L	LCL:	UCL:	RPD:																																																						
M2P2PIAC-LCS:																																																										
Am-241 RDL:	pCi/L	LCL:70	UCL:130	RPD:20																																																						
M2N40IAD-SAMP Calc Info:																																																										
Uncert Level (#s): 2	Decay to Sabt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B																																																						
M2P2PIAA-BLK:																																																										
Uncert Level (#s): 2	Decay to Sabt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B																																																						
M2P2PIAC-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	ISV - Insufficient Volume for Analysis																																																							
Richland Wa.	pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailled Added		WO Cnt: 7																																																							
			ICOC v4.8.49																																																							

1/2/2014 3:06:14 PM

ICOC Fraction Transfer/Status Report

ByDate: 1/2/2013, 1/7/2014, Batch: '3353038', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
3353038				
AC	Rev1C	SannohS	12/24/2013 8:00:55	
SC		campbellsc	IsBatched	12/19/2013 3:10:57 PM
SC		SannohS	InPrep	12/24/2013 8:00:55 AM
SC		HayesA	Sep2C	12/30/2013 9:12:28 AM
SC		BullJ	InCnt1	12/30/2013 9:29:47 AM
SC		DawkinsO	CalcC	12/31/2013 12:42:30 AM
SC		DawkinsO	CalcC	12/31/2013 9:50:33 PM
SC		mcginnist	Rev1C	1/2/2014 3:06:04 PM
AC		HayesA	12/30/2013 9:12:28	ICOC_RADCALC v4.8.49
AC		BullJ	12/30/2013 9:29:47	RL-GPC-001 REVISION 3
AC		DawkinsO	12/31/2013 12:42:30	RL-GPC-001 REVISION 3
AC		DawkinsO	12/31/2013 9:50:33	RL-CI-006 REVISION 5
AC		mcginnist	1/2/2014 3:06:04 PM	RL-CI-006 REVISION 5
				RL-DR-001 Rev 4

AC: Accepting Entry; SC: Status Change
 TestAmerica Richland
 Richland Wa.

Sample Preparation/Analysis									
Balance Id: 1120482733					Pipet #:				
384868, CH2M Hill Plateau Remediation Company					BC Gross Beta Prp GPC001				
Pacific Northwest National Lab					S8 Gross Beta by GPC using SrY-90 curve				
Analyte: AM-239Pu					51 CLIENT: HANFORD				
Batch: 3353039 WATER					PM, Quote: SS, 57671				
SEQ Batch, Test: None					All Tests: 3350039 88EA, 3353038 AZS7, 3353039 BCS8, 3353040 CGTH, 3353041 AWTA, 3353043 SSS3, 3353044 FPS5, 3353045 ARS6,				
Work Ord, Lot, Sample Date					Total Amt/Unit				
Initial Aliquot Amt/Unit					QC Tracer Prep Date				
Adj Aliq Amt (Un-Acidified)					Tracer Yield				
Dish Size					Ppt or Geometry				
Count Time Min					Detector Id				
Count On Off (24hr) Circle					CR Analyst, Init/Date				
Comments:									
1 M2N40-1-AE	199.90g,in	199.90g				86.5mg	275 1603	17/30/13/PS	Beta: 1.90E-03 uCi/Sa
J3L160418-2-SAMP									
12/16/2013 12:05									
2 M2N40-1-AN-X	199.90g,in	199.90g				79.4mg	276		Beta: 1.90E-03 uCi/Sa
J3L160418-2-DUP									
12/16/2013 12:05									
3 M2N41-1-AD	200.00g,in	200.00g				70.2mg	26A 1948	12/30/13/PS	Beta: 1.90E-03 uCi/Sa
J3L160418-3-SAMP									
12/16/2013 10:33									
4 M2PC8-1-AE	35.00g,in	35.00g				16.6mg	26B		Beta: 3.65E-04 uCi/Sa
J3L170422-1-SAMP									
12/17/2013 09:51									
5 M2P2R-1-AA-B	200.00g,in	200.00g				-0.1mg	26C		Beta: 2.99E-02 uCi/Sa 3.5E-02L
J3L190000-39-BLK									
12/19/2013 14:35 pd									
6 M2P2R-1-AC-C	200.00g,in	200.00g				0.1mg	26D		Beta: 2.99E-02 uCi/Sa 3.5E-02L
J3L190000-39-LCS									
12/19/2013 14:35 pd									

2572

12/30/2013 9:11:06 AM		Sample Preparation/Analysis		Balance Id:1120482733	
BC Gross Beta Prp GPC001		S8 Gross Beta by GPC using Sr/Y-90 curve		Pipet #:	
5I CLIENT: HANFORD		5I CLIENT: HANFORD		Sep1 DT/Tm Tech:	
AnalytDueDate: 01/20/2014		pCi/L		Sep2 DT/Tm Tech:	
Batch: 3353039		Prep Tech: SannoHS		Prep Tech: SannoHS	
SEQ Batch, Test: None				Count On Off	
				(24hr) Circle	
				CR Analyst,	
				Init/Date	
				Detector	
				Id	
				Count	
				Time Min	
				Ppt or	
				Geometry	
				Dish	
				Size	
				Tracer	
				Yield	
				QC Tracer	
				Prep Date	
				Adj Aliq Amt	
				(Un-Acidified)	
				Initial Aliquot	
				Amt/Unit	
				Total	
				Acidified/Unit	
				Total	
				Amt/Unit	
				Work Ord, Lot,	
				Sample Date	
				Comments:	
				M2N40-SAMP *Comments:SV-Recount dup on a Different Detector*	
				M2PC3-SAMP *Comments aliquots reduced to due activity screens 12-23-13 N.W*	
				M2P2R-BLK	
				Comments-P-13-00441,S-13-00668	
				All Clients for Batch:	
				384868, CE2M Hill Plateau Remediation Company Pacific Northwest National Lab, SS , 57671	
				M2N401AE-SAMP Constituent List:	
				BETA RDL:4 Pci/L LCL: UCL: RPD:	
				M2P2R1AA-BLK: Pci/L LCL: UCL: RPD:	
				BETA RDL:4 Pci/L LCL:70 UCL:130 RPD:20	
				M2P2R1AC-LCS: RDL: Decay to Sadt: Y Blk Subt.: N Sci.Not.: Y ODRs: B	
				SI-90 RDL: Decay to Sadt: Y Blk Subt.: N Sci.Not.: Y ODRs: B	
				M2N401AE-SAMP Calc Info:	
				Uncert Level (#s): 2 Decay to Sadt: Y Blk Subt.: N Sci.Not.: Y ODRs: B	
				M2P2R1AA-BLK: Uncert Level (#s): 2 Decay to Sadt: Y Blk Subt.: N Sci.Not.: Y ODRs: B	
				M2P2R1AC-LCS: Uncert Level (#s): 2 Decay to Sadt: Y Blk Subt.: N Sci.Not.: Y ODRs: B	
				Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 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-Cocktailed Added	
				iSV - Insufficient Volume for Analysis	
				WO Cnt: 6	
				Prep_SamplePrep v4.8.65	

12/31/2013 10:11:24 AM

ICOC Fraction Transfer/Status Report

ByDate: 12/31/2012, 1/5/2014, Batch: '3353039', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
3353039				
AC	Rev1C	SannohS	12/24/2013 8:20:25	
SC		campbellsc	IsBatched	12/19/2013 3:11:03 PM
SC		SannohS	InPrep	12/24/2013 8:20:25 AM
SC		HayesA	Sep2C	12/30/2013 9:12:23 AM
SC		BullJ	InCnt1	12/30/2013 9:29:42 AM
SC		DawkinsO	CalcC	12/31/2013 12:42:16 AM
SC		mcginnist	Rev1C	12/31/2013 10:11:20 AM
AC		HayesA	12/30/2013 9:12:23	ICOC_RADCALC v4.8.49
AC		BullJ	12/30/2013 9:29:42	RL-GPC-001 REVISION 3
AC		DawkinsO	12/31/2013 12:42:16	RL-GPC-001 REVISION 3
AC		mcginnist	12/31/2013 10:11:20	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.

12/31/2013 3:05:42 PM		Sample Preparation/Analysis		Balance Id: 1120403183									
384868, CH2M Hill Plateau Remediation Company		CG Sr-Total Prp/Sep GPC003		Pipet #:									
Pacific Northwest National Lab		51 CLIENT: HANFORD		Sep1 DT/Tm Tech: 12/31/2013 11:27, Boured									
AnalytDueDate: 01/20/2014		PM, Quote: SS, 57671		Sep2 DT/Tm Tech:									
Batch: 3353040 WATER pCi/L		Prep Tech: WattN		Prep Tech: WattN									
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 (24hr) Circle	CR Analyst, Inrt/Date	Comments:
1 M2N40-1-AG	1012.40g,in	1012.40g	1012.40g	1012.40g	src1712		12.8mg	12.8mg	180	32B	2138		1/2/14/ep
J3L160418-2-SAMP					12/10/13								
12/16/2013 12:05													
2 M2N40-1-AP-X	1003.60g,in	1003.60g	1003.60g	1003.60g	src1713		12.5mg	12.5mg		32C			
J3L160418-2-DUP					12/10/13								
12/16/2013 12:05													
3 M2N41-1-AF	1012.90g,in	1012.90g	1012.90g	1012.90g	src1714		12.4mg	12.4mg		32D			
J3L160418-3-SAMP					12/10/13								
12/16/2013 10:33													
4 M2N44-1-AE	1013.00g,in	1013.00g	1013.00g	1013.00g	src1715		12.3mg	12.3mg		31A	2219		
J3L160418-6-SAMP					12/10/13								
12/16/2013 12:14													
5 M2PC8-1-AH	75.30g,in	75.30g	75.30g	75.30g	src1716		11.4mg	11.4mg		31B			
J3L170422-1-SAMP					12/10/13								
12/17/2013 09:51													
6 M2P2T-1-AA-B	1010.50g,in	1010.50g	1010.50g	1010.50g	src1647		11.6mg	11.6mg		31D			
J3L190000-40-BLK					10/18/13								
12/19/2013 14:35 pd													
7 M2P2T-1-AC-C	1007.00g,in	1007.00g	1007.00g	1007.00g	src16373		11.2mg	11.2mg		31A	0835		1/3/14/MS
J3L190000-40-LCS					10/24/13								
12/19/2013 14:35 pd													

12/31/2013 3:05:44 PM		Sample Preparation/Analysis		Balance Id: 1120482733, 1120403183								
Analyt Due Date: 01/20/2014		CG Sr-Total Prp/Sep GPC003 TH Total Strontium by GPC		Pipet #:								
Batch: 3353040		5I CLIENT: HANFORD		Sep1 DT/Tm Tech:								
SEQ Batch, Test: None		pCi/L		Sep2 DT/Tm Tech:								
				Prep Tech: BourneD, WattN								
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: M2N40-SAMP "Comments: ISV-Recount dup on a Different Detector" M2PC8-SAMP "Comments aliquots reduced to due activity screens 12-23-13 N.W" M2P2T-BLK Comments: S-13-00271, P-13-00610, P-13-00631, P-13-00474, S-13-00668, S-12-00228												
All Clients for Batch: 384868, CH2M Hill Plateau Remediation Company Pacific Northwest National Lab, SS , 57671												
M2N401AG-SAMP Constituent List: Sr-90 RDL: 2.00E+00 pCi/L LCL: 70 UCL: 130 RPD: 20 M2P2T1AA-BLK: Sr-90 RDL: 2.00E+00 pCi/L LCL: UCL: RPD: M2P2T1AC-LCS: Sr-90 RDL: 2 pCi/L LCL: 70 UCL: 130 RPD: 20 M2N401AG-SAMP Calc Info: Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci. Not.: Y ODRs: B M2P2T1AA-BLK: Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci. Not.: Y ODRs: B M2P2T1AC-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		ISV - Insufficient Volume for Analysis		WO Cnt: 7		Prep_SamplePrep v4.8.65				
Richard Wa.	pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec - Enrichment Cell, ct - Cocktail Added											

1/3/2014 1:51:29 PM

ICOC Fraction Transfer/Status Report

ByDate: 1/3/2013, 1/8/2014, Batch: '3353040', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
3353040				
AC		Rev1C	WattN 12/23/2013 10:19:51	
SC		campbellsc	IsBatched 12/19/2013 3:11:09 PM	ICOC_RADCALC v4.8.49
SC		WattN	InPrep 12/23/2013 10:19:51 AM	RL-PRP-004 REVISION 2
SC		WattN	Prep1C 12/23/2013 10:27:05 AM	RL-PRP-004 REVISION 2
SC		BourneD	Sep2C 12/31/2013 1:47:33 PM	RL-GPC-010 REVISION 3
SC		DawkinsO	InCnt1 12/31/2013 5:46:22 PM	RL-CI-006 REVISION 5
SC		BullJ	CalcC 1/3/2014 8:50:47 AM	RL-CI-006 REVISION 5
SC		mcginnist	Rev1C 1/3/2014 1:51:21 PM	RL-DR-001 Rev 4
AC		WattN	12/23/2013 10:27:05	
AC		BourneD	12/31/2013 1:47:33	
AC		DawkinsO	12/31/2013 5:46:22	
AC		BullJ	1/3/2014 8:50:47 AM	
AC		mcginnist	1/3/2014 1:51:21 PM	

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

Balance Id: 1120482733

Sample Preparation/Analysis

12/23/2013 6:22:36 AM

384868, CH2M Hill Plateau Remediation Company
Pacific Northwest National Lab

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

Analyte Date: 01/20/2014

Batch: 3353041 WATER

PM, Quote: SS, 57671

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

pCi/L

Prep Tech: SannohtS

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 (24-hr) Circle	CR Analyst, Init/Date	Comments:
1 M2N40-1-AF	2500.00g,in		2500.00g,in	2500.00g					100min				
J3L160418-2-SAMP													
12/16/2013 12:05													
2 M2N40-1-AQ-X													
J3L160418-2-DUP													
12/16/2013 12:05													
3 M2N41-1-AE	2500.00g,in		2500.00g	2500.00g									
J3L160418-3-SAMP													
12/16/2013 10:33													
4 M2N44-1-AD	2500.00g,in		2500.00g	2500.00g									
J3L160418-6-SAMP													
12/16/2013 12:14													
5 M2PC8-1-AF	50.00g,in		50.00g	50.00g									
J3L170422-1-SAMP													
12/17/2013 09:51													
6 M2P2V-1-AA-B	2500.00g,in		2500.00g	2500.00g									
J3L190000-41-BLK													
12/19/2013 14:35 pd													
7 M2P2V-1-AC-C	2500.00g,in		2500.00g	2500.00g									
J3L190000-41-LCS													
12/19/2013 14:35 pd													

100min 100min 100min

I.S.V

Direct → 100min

25M9

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
Prep_SamplePrep v4.8.65

Balance Id:1120482733

Sample Preparation/Analysis

12/23/2013 6:22:38 AM

AW Gamma Prp GAM001
TA Gamma by HPGE
SI CLIENT: HANFORD

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

AnalytDueDate: 01/20/2014

Batch: 3353041
SEQ Batch, Test: None

Prep Tech: Sannohs

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, Infr/Date	Comments:
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Comments: M2N40-SAMP "Comments/SV-Recount dup on a Different Detector"

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

M2N40IAF-SAMP Constituent List:

Co-60	RDL:2.50E+01	Pci/L	LCL:70	UCL:130	RPD:20	Cs-134		RDL:1.50E+01	Pci/L	LCL:70	UCL:130	RPD:20
Cs-137	RDL:1.50E+01	Pci/L	LCL:70	UCL:130	RPD:20	Cs-137DA		RDL:1.50E+01	Pci/L	LCL:70	UCL:130	RPD:20
Eu-152	RDL:5.00E+01	Pci/L	LCL:70	UCL:130	RPD:20	Eu-154		RDL:5.00E+01	Pci/L	LCL:70	UCL:130	RPD:20
Eu-155	RDL:5.00E+01	Pci/L	LCL:70	UCL:130	RPD:20	K-40		RDL:0.00E+00	Pci/L	LCL:70	UCL:130	RPD:20
Sb-125	RDL:5.00E+01	Pci/L	LCL:70	UCL:130	RPD:20							
M2P2V1AA-BLK:												
Co-60	RDL:2.50E+01	Pci/L	LCL:70	UCL:130	RPD:20	Cs-134		RDL:1.50E+01	Pci/L	LCL:70	UCL:130	RPD:20
Cs-137	RDL:1.50E+01	Pci/L	LCL:70	UCL:130	RPD:20	Cs-137DA		RDL:1.50E+01	Pci/L	LCL:70	UCL:130	RPD:20
Eu-152	RDL:5.00E+01	Pci/L	LCL:70	UCL:130	RPD:20	Eu-154		RDL:5.00E+01	Pci/L	LCL:70	UCL:130	RPD:20
Eu-155	RDL:5.00E+01	Pci/L	LCL:70	UCL:130	RPD:20	K-40		RDL:0.00E+00	Pci/L	LCL:70	UCL:130	RPD:20
Sb-125	RDL:5.00E+01	Pci/L	LCL:70	UCL:130	RPD:20							
M2P2V1AC-LCS:												
Cs-137	RDL:15	Pci/L	LCL:70	UCL:130	RPD:20	Cs-137DA		RDL:15	Pci/L	LCL:70	UCL:130	RPD:20
K-40	RDL:6	Pci/L	LCL:70	UCL:130	RPD:20	Ra-226		RDL:--	Pci/L	LCL:70	UCL:130	RPD:20
RA-228	RDL:--	Pci/L	LCL:70	UCL:130	RPD:20	RA-228DA		RDL:--	Pci/L	LCL:70	UCL:130	RPD:20
U-238	RDL:--	Pci/L	LCL:70	UCL:130	RPD:20							

M2N40IAF-SAMP Calc Info:

Uncert Level (#s): 2	Decay to Sadt: Y	Blk Subst.: N	Sci.Not.: Y	ODRs: B
M2P2V1AA-BLK:				
Uncert Level (#s): 2	Decay to Sadt: Y	Blk Subst.: N	Sci.Not.: Y	ODRs: B
M2P2V1AC-LCS:				
Uncert Level (#s): 2	Decay to Sadt: Y	Blk Subst.: N	Sci.Not.: Y	ODRs: B

1/9/2014 2:04:40 PM

ICOC Fraction Transfer/Status Report

ByDate: 1/9/2013, 1/14/2014, Batch: '3353041', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
3353041				
AC	Rev1C	SannohS	12/23/2013 5:44:09	
SC		campbellsc	IsBatched	12/19/2013 3:11:16 PM
SC		SannohS	InPrep	12/23/2013 5:44:09 AM
SC		SannohS	Prep1C	12/23/2013 3:04:50 PM
SC		DawkinsO	InCnt1	12/23/2013 3:41:04 PM
SC		DawkinsO	CalcC	12/24/2013 8:17:41 PM
SC		mcginnist	Rev1C	1/9/2014 2:04:20 PM
AC		SannohS	12/23/2013 3:04:50	ICOC_RADCALC v4.8.49
AC		DawkinsO	12/23/2013 3:41:04	RL-GAM-001 REVISION 3
AC		DawkinsO	12/24/2013 8:17:41	RL-GAM-001 REVISION 3
AC		mcginnist	1/9/2014 2:04:20 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													
12/19/2013 2:35:21 PM					Balance Id:								
384868, CH2M Hill Plateau Remediation Company					Pipet #:								
Pacific Northwest National Lab					5S C-14 Prp/Sep LSC008								
Analyte: Carbon-14 by Liquid Scint					5I CLIENT: HANFORD								
Batch: 3353043 WATER pCi/L					PM, Quote: SS, 57671								
SEQ Batch, Test: None					Prep 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 M2NJN-1-AC													
J3L120417-1-SAMP													
AmiRec: 1XVIAL20.3XLP.2X4LP #Containers: 6													
Scr: Alpha: -1.19E-03 uCi/Sa Beta: 1.20E-03 uCi/Sa													
2 M2NJN-1-AG-X													
J3L120417-1-DUP													
AmiRec: 1XVIAL20.3XLP.2X4LP #Containers: 6													
Scr: Alpha: -1.19E-03 uCi/Sa Beta: 1.20E-03 uCi/Sa													
3 M2NJP-1-AC													
J3L120417-2-SAMP													
AmiRec: 1XVIAL20.3XLP.2X4LP #Containers: 6													
Scr: Alpha: -3.11E-04 uCi/Sa Beta: 1.47E-04 uCi/Sa													
4 M2N4X-1-AA													
J3L160418-1-SAMP													
AmiRec: 2XLP #Containers: 2													
Scr: Alpha: 1.65E-04 uCi/Sa Beta: 4.27E-06 uCi/Sa													
5 M2N42-1-AA													
J3L160418-4-SAMP													
AmiRec: 2XLP #Containers: 2													
Scr: Alpha: 2.18E-04 uCi/Sa Beta: 3.84E-05 uCi/Sa													
6 M2N45-1-AA													
J3L160418-7-SAMP													
AmiRec: 1XVIAL20.2XLP #Containers: 3													
Scr: Alpha: -6.72E-05 uCi/Sa Beta: 5.50E-04 uCi/Sa													
7 M2P24-1-AA-B													
J3L190000-43-BLK													
AmiRec: #Containers: 1													
Scr: Alpha: Beta:													
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													

Sample Preparation/Analysis

12/19/2013 2:35:21 PM Balance Id: _____

5S C-14 Prp/Sep LSC008 Pipet #: _____

S3 Carbon-14 by Liquid Scint

5I CLIENT: HANFORD

AnalDueDate: 01/20/2014

Batch: 3353043 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	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 M2P241-AC-C													
J3L190000-43-LCS													
12/19/2013 14:35 pd													
9 M2P241-AD-BN													
J3L190000-43-IBLK													
12/19/2013 14:35 pd													

Comments:

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

M2P241AC-SAMP Constituent List:

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

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

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

WO Cnt: 9
ICOC v4.8.49

1/7/2014 9:55:22 AM

ICOC Fraction Transfer/Status Report

ByDate: 1/7/2013, 1/12/2014, Batch: '3353043', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
3353043				
AC	Rev1C	AtkinsA	12/24/2013 12:33:21	
SC		campbellsc	IsBatched 12/19/2013 3:11:34 PM	ICOC_RADCALC v4.8.49
SC		AtkinsA	Sep1C 12/24/2013 12:33:21 PM	RS-LSC-008 REV. 4
SC		DawkinsO	InCnt1 12/24/2013 12:50:28 PM	RL-CI-005 REVISION 3
SC		BullJ	CalcC 12/26/2013 9:23:30 AM	RL-CI-005 REVISION 3
SC		nagels	Rev1C 1/7/2014 9:55:14 AM	RL-DR-001 Rev 4
AC		DawkinsO	12/24/2013 12:50:28	
AC		BullJ	12/26/2013 9:23:30	
AC		nagels	1/7/2014 9:55:14 AM	

AC: Accepting Entry; SC: Status Change

TestAmerica Richland
Richland Wa.

12/23/2013 12:32:54 PM		Sample Preparation/Analysis		Balance Id: 1120403183		14							
384868, CH2M Hill Plateau Remediation Company		FP Tc-99 Pp/ Sep LSC014		Pipet #:									
Pacific Northwest National Lab		S5 Technetium-99 by Liquid Scint		Sep1 DT/Tm Tech:									
Analyte Due Date: 01/20/2014		5I CLIENT: HANFORD		Sep2 DT/Tm Tech:									
Batch: 3353044 WATER		PM, Quote: SS, 57671		Prep Tech: WattN									
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	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 M2N40-1-AH	126.00g, in		126.00g						60				
J3L160418-2-SAMP													
12/16/2013 12:05										Alpha: -1.69E-03 uCi/Sa			Beta: 1.90E-03 uCi/Sa
2 M2N40-1-ARS	129.70g, in		129.70g	105g3413									
J3L160418-2-MS				11/26/13, pd									
12/16/2013 12:05				07/01/05, r						Alpha: -1.69E-03 uCi/Sa			Beta: 1.90E-03 uCi/Sa
3 M2N40-1-AT-X	125.50g, in		125.50g										
J3L160418-2-DUP													
12/16/2013 12:05										Alpha: -1.69E-03 uCi/Sa			Beta: 1.90E-03 uCi/Sa
4 M2N41-1-AG	127.70g, in		127.70g										
J3L160418-3-SAMP													
12/16/2013 10:33										Alpha: 4.50E-04 uCi/Sa			Beta: 3.65E-04 uCi/Sa
5 M2N44-1-AF	125.00g, in		125.00g										
J3L160418-6-SAMP													
12/16/2013 12:14										Alpha: 6.36E-04 uCi/Sa			Beta: 2.39E-04 uCi/Sa
6 M2PC8-1-AJ	125.60g, in		125.60g										
J3L170422-1-SAMP													
12/17/2013 09:51										Alpha: 3.09E-02 uCi/Sa	6.7E-02L		Beta: 2.99E-02 uCi/Sa 3.5E-02L
7 M2P25-1-AA-B	126.20g, in		126.20g										
J3L190000-44-BLK													
12/19/2013 14:35 pd										Alpha:			Beta:
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.		pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktalled Added						Prep_SamplePrep v4.8.65					

12/23/2013 12:32:55 PM		Sample Preparation/Analysis				Balance Id: 1120403183							
FP Tc-99 Prp/Sep LSC014		Pipet #:		Sep1 DT/Tm Tech:									
S5 Technetium-99 by Liquid Scint				Sep2 DT/Tm Tech:									
51 CLIENT: HANFORD				Prep Tech: WattN									
Analyse Due Date: 01/20/2014		pCi/L											
Batch: 3353044													
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:
8 M2P25-1-AC-C	125.50g.in	125.50g	tcss2790	11/26/13,pd	07/01/05,r								
J3L190000-44-LCS													
12/19/2013 14:35 pd													
AmitRec: #Containers: 1		Scr:		Alpha:		Beta:							
9 M2P25-1-AD-BN													
J3L190000-44-IBLK													
12/19/2013 14:35 pd													
AmitRec: #Containers: 1		Scr:		Alpha:		Beta:							
TestAmerica		Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2		Page 2		ISV - Insufficient Volume for Analysis		WO Cnt: 9					
Richland Wa.		pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktialled Added						Prep_SamplePrep v4.8.65					

12/23/2013 12:32:56 PM		Sample Preparation/Analysis		Balance Id:								
FP Tc-99 Prp/Sep LSC014		S5 Technetium-99 by Liquid Scint		Pipet #:								
5I CLIENT: HANFORD		5I CLIENT: HANFORD		Sep1 DT/Tm Tech:								
Batch: 3353044		pCi/L		Sep2 DT/Tm Tech:								
SEQ Batch, Test None				Prep Tech:								
Work Ord. Lot, Sample Date	Total Amt/Unit	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
<p>Comments: M2N40-SAMP "Comments ISV-Recount dup on a Different Detector"</p> <p>M2PC8-SAMP "Comments aliquots reduced to due activity screens 12-23-13 N.W"</p> <p>M2P25-BLK</p> <p>Comment: 13-00668, S-12-00228</p>												
<p>All Clients for Batch:</p> <p>384868, CH2M Hill Plateau Remediation Company Pacific Northwest National Lab, SS , 57671</p>												
<p>M2N401AR-SAMP Constituent List:</p> <p>Tc-99 RDL:15 pCi/L LCL:70 UCL:130 RPD:20</p> <p>M2N401AR-MS Constituent List:</p> <p>M2P251AA-BLK: RDL:15 pCi/L LCL: UCL: RPD:</p> <p>M2P251AC-LCS: RDL:15 pCi/L LCL:70 UCL:130 RPD:20</p> <p>M2P251AD-IBLK: RDL:15 pCi/L LCL: UCL: RPD:</p> <p>M2N401AR-SAMP Calc Info:</p> <p>Uncert Level (#s) : 2 Decay to SaDt: Y Blk Subt.: N Sci. Not.: Y ODRs: B</p> <p>M2N401AR-MS Calc Info:</p> <p>Uncert Level (#s) : 2 Decay to SaDt: Y Blk Subt.: N Sci. Not.: Y ODRs: B</p> <p>M2P251AA-BLK: Uncert Level (#s) : 2 Decay to SaDt: Y Blk Subt.: N Sci. Not.: Y ODRs: B</p> <p>M2P251AC-LCS: Uncert Level (#s) : 2 Decay to SaDt: Y Blk Subt.: N Sci. Not.: Y ODRs: B</p> <p>M2P251AD-IBLK: Uncert Level (#s) : 2 Decay to SaDt: Y Blk Subt.: N Sci. Not.: Y ODRs: B</p>												
TestAmerica	Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2	Page 3		ISV - Insufficient Volume for Analysis				WO Cnt: 9		Prep. SamplePrep v4.8.65		
Richland Wa.	pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktialled Added											

1/7/2014 10:02:20 AM

ICOC Fraction Transfer/Status Report

ByDate: 1/7/2013, 1/12/2014, Batch: '3353044', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
3353044				
AC	Rev1C	WattN	12/23/2013 12:25:59	
SC		campbellsc	IsBatched	12/19/2013 3:11:41 PM
SC		WattN	InPrep	12/23/2013 12:25:59 PM
SC		WattN	Prep1C	12/23/2013 12:33:00 PM
SC		WagnerF	Sep1C	1/2/2014 11:19:55 AM
SC		BullJ	InCnt1	1/2/2014 11:58:27 AM
SC		BullJ	CalcC	1/3/2014 8:50:40 AM
SC		nagels	Rev1C	1/7/2014 10:02:14 AM
AC		WattN	12/23/2013 12:33:00	ICOC_RADCALC v4.8.49
AC		WagnerF	1/2/2014 11:19:55	RL-PRP-004 REVISION 2
AC		BullJ	1/2/2014 11:58:27	RL-PRP-004 REVISION 2
AC		BullJ	1/3/2014 8:50:40 AM	RL-LSC-014 REVISION 3
AC		nagels	1/7/2014 10:02:14	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.

Sample Preparation/Analysis

12/19/2013 2:35:22 PM Balance Id:
 384868, CH2M Hill Plateau Remediation Company AR H-3 Prp/Sep LSC005 Pipet #:
 Pacific Northwest National Lab S6 Tritium by Liquid Scint
 AnalyDueDate: 01/20/2014 5I CLIENT: HANFORD Sep1 DT/Tm Tech:
 Batch: 3353045 WATER pCi/L PM, Quote: SS, 57671 Sep2 DT/Tm Tech:
 SEQ Batch, Test: None Prep 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 M2N40-1-AC													
J3L160418-2-SAMP													
12/16/2013 12:05										Alpha: -1.69E-03 uCi/Sa			Beta: 1.90E-03 uCi/Sa
AmtRec: 1XVIAL20:2X500ML:8XLP #Containers: 11													
2 M2N40-1-AU-X													
J3L160418-2-DUP													
12/16/2013 12:05										Alpha: -1.69E-03 uCi/Sa			Beta: 1.90E-03 uCi/Sa
AmtRec: 1XVIAL20:2X500ML:8XLP #Containers: 11													
3 M2N41-1-AA													
J3L160418-3-SAMP													
12/16/2013 10:33										Alpha: 4.50E-04 uCi/Sa			Beta: 3.65E-04 uCi/Sa
AmtRec: 1XVIAL20:2X500ML:8XLP #Containers: 11													
4 M2N44-1-AC													
J3L160418-6-SAMP													
12/16/2013 12:14										Alpha: 6.36E-04 uCi/Sa			Beta: 2.39E-04 uCi/Sa
AmtRec: 1XVIAL20:2X500ML:7XLP #Containers: 10													
5 M2PC8-1-AC													
J3L170422-1-SAMP													
12/17/2013 09:51										Alpha: 3.09E-02 uCi/Sa	6.7E-02L		Beta: 2.99E-02 uCi/Sa 3.5E-02L
AmtRec: 1XVIAL20:3X500,10XLP #Containers: 14													
6 M2P26-1-AA-B													
J3L190000-45-BLK													
12/19/2013 14:35 pd													Beta:
AmtRec: #Containers: 1													
7 M2P26-1-AC-C													
J3L190000-45-LCS													
12/19/2013 14:35 pd													Beta:
AmtRec: #Containers: 1													

12/19/2013 2:35:22 PM **Sample Preparation/Analysis** Balance Id: _____
 AR H-3 Prp/Sep LSC005 Pipet #: _____
 S6 Tritium by Liquid Scint Sep1 DT/Tm Tech: _____
 5I CLIENT: HANFORD Sep2 DT/Tm Tech: _____

AnalyDueDate: 01/20/2014 pCi/L
 Batch: 3353045
 SEQ Batch, Test: None Prep 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:
8 M2P26-1-AD-BN													
J3L190000-45-IBLK													
12/19/2013 14:35 pd													

AmiRec: _____ #Containers: 1
 Scr: _____ Alpha: _____ Beta: _____

Comments:

All Clients for Batch:
 384869, CH2M Hill Plateau Remediation Company Pacific Northwest National Lab, SS , 57671

M2N401AC-SAMP Constituent List:
 H-3 RDL:400 pCi/L LCL:70 UCL:130 RPD:20
 M2P261AA-BLK:
 M2P261AC-ICS:
 M2P261AD-IBLK:
 M2N401AC-SAMP Calc Info:
 Uncert Level (#s): 2 Decay to Sadt: Y Blk Subst.: N Sci.Not.: Y ODRs: B
 M2P261AA-BLK:
 Uncert Level (#s): 2 Decay to Sadt: Y Blk Subst.: N Sci.Not.: Y ODRs: B
 M2P261AC-ICS:
 Uncert Level (#s): 2 Decay to Sadt: Y Blk Subst.: N Sci.Not.: Y ODRs: B
 M2P261AD-IBLK:
 Uncert Level (#s): 2 Decay to Sadt: Y Blk Subst.: 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: 8
 ICOC v4.8.49

1/13/2014 2:22:08 PM

ICOC Fraction Transfer/Status Report

ByDate: 1/13/2013, 1/18/2014, Batch: '3353045', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
3353045				
AC	Rev1C	AtkinsA	1/9/2014 4:08:47 PM	
SC		campbellsc	IsBatched	12/19/2013 3:11:48 PM
SC		AtkinsA	Sep1C	1/9/2014 4:08:47 PM
SC		NortonP	Sep1C	1/9/2014 4:09:14 PM
SC		DawkinsO	InCnt1	1/9/2014 4:40:10 PM
SC		BullJ	CalcC	1/13/2014 2:14:08 PM
SC		mcginnist	Rev1C	1/13/2014 2:21:53 PM
AC		NortonP	1/9/2014 4:09:14 PM	ICOC_RADCALC v4.8.49
AC		DawkinsO	1/9/2014 4:40:10 PM	RL-LSC-005 REVISION 4
AC		BullJ	1/13/2014 2:14:08 PM	RL-LSC-005 REVISION 4
AC		mcginnist	1/13/2014 2:21:53 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.

*** RE-ANALYSIS REQUEST ***

DUE DATE 1/20/14

CUSTOMER Chlor Hill

ANALYSIS KPA

MATRIX Water

LOT NUMBER J3L170422

SAMPLE DELIVERY GROUP _____

OLD BATCH NUMBER 3353046

NEW BATCH NUMBER 4006041

LAB SAMPLE ID CLIENT ID REASON FOR REQUEST & ANALYSIS COMMENTS

1) M2PC82AL		One LCS failed (recovered high).
2) M2PC82AT		Sample/dup RPD=59%, PER 73.
3) M2PC82AN		Please reanalyze. Thanks!
4)		TM 1/6/14
5)		
6)		
7)		
8)		
9)		
10)		
11)		
12)		
13)		
14)		
15)		
16)		
17)		
18)		
19)		
20)		

LAB QC ID Assigned with new batch.

Balance Id:1120482733,1120403183

Sample Preparation/Analysis

384868, CH2M Hill Plateau Remediation Company
Pacific Northwest National Lab

DH UNat_Laser Pip KPA001
SS Total Uranium by KPA
5I CLIENT: HANFORD

Analyte Due Date: 01/20/2014

Batch: 4006041 WATER ug/L PM, Quote: SS, 57671

Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
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 M2PC8-2-AL	25.10g, in	10.00g, fi	25.10g, in	25.10g									
J3L170422-1-SAMP													
12/17/2013 09:51													Scr: Alpha: 3.09E-02 uCi/Sa 6.7E-02L Beta: 2.99E-02 uCi/Sa 3.5E-02L
2 M2PC8-2-AT-S	29.70g, in	10.00g, fi	29.70g, in	29.70g									
J3L170422-1-MS													
12/17/2013 09:51													Scr: Alpha: 3.09E-02 uCi/Sa 6.7E-02L Beta: 2.99E-02 uCi/Sa 3.5E-02L
3 M2PC8-2-AU-X	26.40g, in	10.00g, fi	26.40g, in	26.40g									
J3L170422-1-DUP													
12/17/2013 09:51													Scr: Alpha: 3.09E-02 uCi/Sa 6.7E-02L Beta: 2.99E-02 uCi/Sa 3.5E-02L
4 M2RM5-1-AA-B	25.70g, in	10.00g, fi	25.70g, in	25.70g									
J4A060000-41-BLK													
01/06/2014 12:25 pd													Scr: Alpha: 3.09E-02 uCi/Sa 6.7E-02L Beta: 2.99E-02 uCi/Sa 3.5E-02L
5 M2RM5-1-AC-C	26.90g, in	10.00g, fi	26.90g, in	26.90g									
J4A060000-41-LCS													
01/06/2014 12:25 pd													Scr: Alpha: 3.09E-02 uCi/Sa 6.7E-02L Beta: 2.99E-02 uCi/Sa 3.5E-02L
6 M2RM5-1-AD-C	25.10g, in	10.00g, fi	25.10g, in	25.10g									
J4A060000-41-LCS													
01/06/2014 12:25 pd													Scr: Alpha: 3.09E-02 uCi/Sa 6.7E-02L Beta: 2.99E-02 uCi/Sa 3.5E-02L

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

1/9/2014 7:45:29 AM

Sample Preparation/Analysis

Balance Id:1120482733,1120482733,1120

UH Nat Laser Pip KPA001
SS Total Uranium by KPA
5l CLIENT: HANFORD

Pipet #:

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: WattN

AnalyteDueDate: 01/20/2014

ug/L

Batch: 4006041

SEQ Batch, Test: None

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Actified/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: M2PC8-SAMP *Comments aliquots reduced to due activity screens 12-23-13 N.W*
M2RMS5-BLK CommentsKWP-13-00441s-13-00309,s-13-00151,p13-00441,

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

M2PC82AL-SAMP Constituent List:

Uranium	RDL:1.44E-01	ug/L	LCL:	LCL:	UCL:	UCL:	RPD:	RPD:
Uranium	RDL:0.144343	ug/L	LCL:70	LCL:70	UCL:130	UCL:130	RPD:20	RPD:20
Uranium	RDL:0.144343	ug/L	LCL:70	LCL:70	UCL:130	UCL:130	RPD:20	RPD:20

M2RMS51AA-BLK:

Uranium	RDL:1.44E-01	ug/L	LCL:	LCL:	UCL:	UCL:	RPD:	RPD:
Uranium	RDL:0.144343	ug/L	LCL:70	LCL:70	UCL:130	UCL:130	RPD:20	RPD:20
Uranium	RDL:0.144343	ug/L	LCL:70	LCL:70	UCL:130	UCL:130	RPD:20	RPD:20

M2PC82AL-SAMP Calc Info:

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

1/20/2014 9:28:48 AM

ICOC Fraction Transfer/Status Report

ByDate: 1/20/2013, 1/25/2014, Batch: '4006041', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
4006041				
AC	Rev1C	WattN	1/9/2014 7:44:11 AM	
SC		wattn	IsBatched 1/7/2014 7:01:15 AM	ICOC_RADCALC v4.8.49
SC		WattN	InPrep 1/9/2014 7:44:11 AM	rl-prp-004 revision 2
SC		WattN	Prep2C 1/9/2014 7:45:30 AM	RL-KPA-001 REV-02
SC		Saliful	Cnt1C 1/16/2014 7:46:22 PM	RL-KPA-003 REVISION 3
SC		liebrecht	Rev1C 1/20/2014 9:13:12 AM	RL-DR-001 Rev 4
AC		WattN	1/9/2014 7:45:30 AM	
AC		Saliful	1/16/2014 7:46:22 PM	
AC		liebrecht	1/20/2014 9:13:12	

AC: Accepting Entry; SC: Status Change

TestAmerica Richland
Richland Wa.

12/16/2013 5:05:33 PM		Sample Preparation/Analysis		Balance Id:	
354868, CH2M Hill Plateau Remediation Company		88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION		Pipet #:	
Pacific Northwest National Lab		EA Chromium, Hexavalent (7196A)		Sep1 DT/Tm Tech:	
Analyte Due Date: 01/15/2014		5I CLIENT: HANFORD		Sep2 DT/Tm Tech:	
Batch: 3350039		PM, Quote: SS, 57671		Prep Tech:	
SEQ Batch, Test: None		5SS3, ARS6, AWTA, AZS7, BCS8, CGTH, FPS5, 3350039 88EA,			
mg/L					
Work Order, Lot, Sample Date Time		Total Amt/Unit		Count On Off (24hr) Circle	
Initial Aliquot Amt/Unit		QC Tracer Prep Date		Detector Id	
Count Time Min				CR Analyst, Init/Date	
Comments:					
1 M2N40-1-AA					
J3L160418-2-SAMP					
12/16/2013 12:05		AmtRec: 1XVIAL20;2X500ML;8XLP #Containers: 11		Alpha: Beta:	
2 M2N40-1-AJ-S					
J3L160418-2-MS					
12/16/2013 12:05		AmtRec: 1XVIAL20;2X500ML;8XLP #Containers: 11		Alpha: Beta:	
3 M2N40-1-AK-D					
J3L160418-2-MSD					
12/16/2013 12:05		AmtRec: 1XVIAL20;2X500ML;8XLP #Containers: 11		Alpha: Beta:	
4 M2N40-1-AL-X					
J3L160418-2-DUP					
12/16/2013 12:05		AmtRec: 1XVIAL20;2X500ML;8XLP #Containers: 11		Alpha: Beta:	
5 M2N41-1-AH					
J3L160418-3-SAMP					
12/16/2013 10:33		AmtRec: 1XVIAL20;2X500ML;8XLP #Containers: 11		Alpha: Beta:	
6 M2N43-1-AA					
J3L160418-5-SAMP					
12/16/2013 09:56		AmtRec: 1XVIAL20;1X500MLAG #Containers: 2		Alpha: Beta:	
7 M2N44-1-AA					
J3L160418-6-SAMP					
12/16/2013 12:14		AmtRec: 1XVIAL20;2X500ML;7XLP #Containers: 10		Alpha: 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	

12/16/2013 5:05:34 PM		Sample Preparation/Analysis				Balance Id:	
88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION		EA Chromium, Hexavalent (7196A)				Pipet #:	
51 CLIENT: HANFORD		mg/L				Sep1 DT/Tm Tech:	
Analyte Due Date: 01/15/2014						Sep2 DT/Tm Tech:	
Batch: 3350039						Prep Tech:	
SEQ Batch, Test: None						CR Analyst, Init/Date	
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	
Comments:							
8 M2N5G-1-AA-B						Alpha: Beta:	
J3L160000-39-BLK						Scr: Alpha: Beta:	
12/16/2013 16:36 pd							
9 M2N5G-1-AC-C						Alpha: Beta:	
J3L160000-39-LCS						Scr: Alpha: Beta:	
12/16/2013 16:36 pd							
Comments:							
All Clients for Batch:							
394869, CH2M Hill Plateau Remediation Company Pacific Northwest National Lab, SS , 57671							
M2N401AA-SAMP Constituent List:							
M2N401AJ-MS Constituent List:							
M2N401AK-MSD:							
M2N5G1AA-BLK:							
M2N5G1AC-LCS:							
M2N401AA-SAMP Calc Info:							
Uncert Level (#s): 2		Decay to SaDt: Y		Blk Subt.: N		Sci.Not.: Y ODRs: B	
M2N401AJ-MS Calc Info:		Decay to SaDt: Y		Blk Subt.: N		Sci.Not.: Y ODRs: B	
Uncert Level (#s): 2		Decay to SaDt: Y		Blk Subt.: N		Sci.Not.: Y ODRs: B	
M2N401AK-MSD:		Decay to SaDt: Y		Blk Subt.: N		Sci.Not.: Y ODRs: B	
Uncert Level (#s): 2		Decay to SaDt: Y		Blk Subt.: N		Sci.Not.: Y ODRs: B	
M2N5G1AA-BLK:		Decay to SaDt: Y		Blk Subt.: N		Sci.Not.: Y ODRs: B	
Uncert Level (#s): 2		Decay to SaDt: Y		Blk Subt.: N		Sci.Not.: Y ODRs: B	
M2N5G1AC-LCS:		Decay to SaDt: Y		Blk Subt.: N		Sci.Not.: Y ODRs: B	
Uncert Level (#s): 2		Decay to SaDt: Y		Blk Subt.: N		Sci.Not.: Y ODRs: B	
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: 9 ICOC v4.8.49							

12/16/2013 5:05:34 PM		Sample Preparation/Analysis		Balance Id:			
88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION		EA Chromium, Hexavalent (7196A)		Pipet #:			
51 CLIENT: HANFORD		mg/L		Sep1 DT/Tm Tech:			
Batch: 3350039		GC Tracer		Sep2 DT/Tm Tech:			
SEQ Batch, Test: None		Prep Date		Prep Tech:			
Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
TestAmerica		Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2		Page 3		WO Cnt: 9	
Richland Wa.		pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added		ISV - Insufficient Volume for Analysis		ICOC v4.8.49	

12/16/2013 4:36:58 PM		Sample Preparation/Analysis		Balance Id:			
384868, CH2M Hill Plateau Remediation Company		88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION		Pipet #:			
Pacific Northwest National Lab		EA Chromium, Hexavalent (7196A)		Sep1 DT/Tm Tech:			
AnalyteDueDate: 01/15/2014		5i CLIENT: HANFORD		Sep2 DT/Tm Tech:			
Batch: 3350040		PM, Quote: SS, 57671		Prep Tech:			
SEQ Batch, Test: None		mg/L		CR Analyst, Init/Date			
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	Comments:
1 M2N47-1-AA J3L160419-1-SAMP 12/16/2013 11:26 AmtRec: 1XVIAL20;1X500MLAG #Containers: 2 Scr: Alpha: Beta:							
2 M2N47-1-AC-S J3L160419-1-MS 12/16/2013 11:26 AmtRec: 1XVIAL20;1X500MLAG #Containers: 2 Scr: Alpha: Beta:							
3 M2N47-1-AD-D J3L160419-1-MSD 12/16/2013 11:26 AmtRec: 1XVIAL20;1X500MLAG #Containers: 2 Scr: Alpha: Beta:							
4 M2N47-1-AE-X J3L160419-1-DUP 12/16/2013 11:26 AmtRec: 1XVIAL20;1X500MLAG #Containers: 2 Scr: Alpha: Beta:							
5 M2N5H-1-AA-B J3L160000-40-BLK 12/16/2013 16:36 pd AmtRec: #Containers: 1 Scr: Alpha: Beta:							
6 M2N5H-1-AC-C J3L160000-40-LCS 12/16/2013 16:36 pd AmtRec: #Containers: 1 Scr: Alpha: Beta:							
TestAmerica	Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2	Page 1	ISV - Insufficient Volume for Analysis	WO Cnt: 6			
Richland Wa.	pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added				ICOC v4.8.49		

Sample Preparation/Analysis																																	
12/16/2013 4:36:58 PM					Balance Id:																												
88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION																																	
EA Chromium, Hexavalent (7196A)																																	
51 CLIENT: HANFORD																																	
AnalyDueDate: 01/15/2014					Pipet #:																												
Batch: 3350040					Sep1 DT/Tm Tech:																												
SEQ Batch, Test: None					Sep2 DT/Tm Tech:																												
mg/L					Prep Tech:																												
Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:																									
																																	
Comments:																																	
All Clients for Batch:																																	
394868, CH2M Hill Plateau Remediation Company Pacific Northwest National Lab, SS , 57671																																	
M2N471AA-SAMP Constituent List:																																	
M2N471AC-MS Constituent List:																																	
M2N471AD-MSD:																																	
M2N5H1AA-BLK:																																	
M2N5H1AC-LCS:																																	
M2N471AA-SAMP Calc Info:																																	
Uncert Level (#s): 2																																	
M2N471AC-MS Calc Info:																																	
Uncert Level (#s): 2																																	
M2N471AD-MSD:																																	
Uncert Level (#s): 2																																	
M2N5H1AA-BLK:																																	
Uncert Level (#s): 2																																	
M2N5H1AC-LCS:																																	
Uncert Level (#s): 2																																	
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Decay to SaDt</th> <th>Blk Subt</th> <th>Sci.Not</th> <th>ODRs</th> </tr> </thead> <tbody> <tr> <td>Y</td> <td>Y</td> <td>Y</td> <td>B</td> </tr> </tbody> </table>										Decay to SaDt	Blk Subt	Sci.Not	ODRs	Y	Y	Y	B	Y	Y	Y	B	Y	Y	Y	B	Y	Y	Y	B	Y	Y	Y	B
Decay to SaDt	Blk Subt	Sci.Not	ODRs																														
Y	Y	Y	B																														
Y	Y	Y	B																														
Y	Y	Y	B																														
Y	Y	Y	B																														
Y	Y	Y	B																														
TestAmerica Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2					ISV - Insufficient Volume for Analysis																												
Richland Wa. pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Cocktailed Added					WO Cnt: 6																												
					ICOC v4.8.49																												

Sample Preparation/Analysis									
12/17/2013 5:19:49 PM					Balance Id:				
384868, CH2M Hill Plateau Remediation Company					Pipet #:				
Pacific Northwest National Lab					88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
EA Chromium, Hexavalent (7196A)					51 CLIENT: HANFORD				
Analyte: Chromium, Hexavalent (7196A)					Sep1 DT/Tm Tech:				
Batch: 3351078 WATER					PM, Quote: SS, 57671				
SEQ Batch, Test: None					Sep2 DT/Tm Tech:				
FPS5, 3351078 88EA,					Prep Tech:				
All Tests: 6DSO, 7YSR, ARS6, AWTA, AZS7, BCS8, CGTH, DHSS,					CR Analyst, Init/Date				
Initial Aliquot Amt/Unit					Count On Off (24hr) Circle				
QC Tracer Prep Date					Detector Id				
Count Time Min					Count On Off (24hr) Circle				
Work Order, Lot, Sample Date Time					Total Amt/Unit				
Initial Amt/Unit					QC Tracer Prep Date				
Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2					Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added				
1 M2PC8-1-AA									
J3L170422-1-SAMP					AmtRec: 1XVIAL20:3X500,10XLP #Containers: 14				
12/17/2013 09:51					Scr: Alpha: Beta:				
2 M2PC8-1-AM-S									
J3L170422-1-MS					AmtRec: 1XVIAL20:3X500,10XLP #Containers: 14				
12/17/2013 09:51					Scr: Alpha: Beta:				
3 M2PC8-1-AN-D									
J3L170422-1-MSD					AmtRec: 1XVIAL20:3X500,10XLP #Containers: 14				
12/17/2013 09:51					Scr: Alpha: Beta:				
4 M2PC8-1-AP-X									
J3L170422-1-DUP					AmtRec: 1XVIAL20:3X500,10XLP #Containers: 14				
12/17/2013 09:51					Scr: Alpha: Beta:				
5 M2PDH-1-AA-B									
J3L170000-78-BLK					AmtRec: 1XVIAL20:3X500,10XLP #Containers: 1				
12/17/2013 17:19 pd					Scr: Alpha: Beta:				
6 M2PDH-1-AC-C									
J3L170000-78-LCS					AmtRec: 1XVIAL20:3X500,10XLP #Containers: 1				
12/17/2013 17:19 pd					Scr: Alpha: Beta:				
TestAmerica					Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2				
Richland Wa.					Page 1				
ISV - Insufficient Volume for Analysis					Page 1				
WO Cnt: 6					ICOC v4.8.49				

12/17/2013 5:19:49 PM		Sample Preparation/Analysis		Balance Id:			
88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION		EA Chromium, Hexavalent (7196A)		Pipet #:			
51 CLIENT: HANFORD		mg/L		Sep1 DT/Tm Tech:			
AnalyseDate: 01/16/2014		Batch: 3351078		Sep2 DT/Tm Tech:			
SEQ Batch, Test: None		Prep Tech:		CR Analyst, Init/Date			
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	Comments:
<p>Comments:</p> <p>All Clients for Batch: 394868, CH2M Hill Plateau Remediation Company Pacific Northwest National Lab, SS , 57671</p> <p>MZPC81AA--SAMP Constituent List: MZPC81AM--MS Constituent List: MZPC81AN--MSD: MZPDH1AA--BLK: MZPDH1AC--LCS: MZPC81AA--SAMP Calc Info: Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci. Not.: Y ODRs: B MZPC81AM--MS Calc Info: Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci. Not.: Y ODRs: B MZPC81AN--MSD: Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci. Not.: Y ODRs: B MZPDH1AA--BLK: Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci. Not.: Y ODRs: B MZPDH1AC--LCS: Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci. Not.: Y ODRs: B</p>							
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 Call, ct-Cocktailed Added		ISV - Insufficient Volume for Analysis		WO Cnt: 6 ICOC v4.8.49	