

DECEMBER 18, 2012

Analytical Data Package Prepared For

CH2M Hill Plateau Remediation

Radiochemical Analysis By

TestAmerica TARL

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

Data Package Contains 18 Pages

Report Nbr: 54018

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W064931	H3-007	B2MXL6	J2K070446-1	MW87H1AG	9MW87H10	2347053

Comments:

DECEMBER 18, 2012



THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

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

TestAmerica Laboratories, Inc.

December 18, 2012

Attention: Scot Fitzgerald

SAF Number	:	I13-007
Date SDG Closed	:	November 12, 2012
Number of Samples	:	One (1)
Sample Type	:	Water
SDG Number	:	W06493I
Data Deliverable	:	30-Day / Summary

CASE NARRATIVE

I. Introduction

On November 7, 2012 one water sample was received at TestAmerica (TARL). Upon receipt, the sample was assigned the following laboratory ID number to correspond with the CH2M specific ID:

<u>CH2M ID#</u>	<u>TARL ID#</u>	<u>DATE OF RECEIPT</u>	<u>MATRIX</u>
B2MXL6	MW87H	11/07/12	WATER

II. Sample Receipt

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

During the bi-weekly phone call on September 5, 2012 TARL was notified that all groundwater samples received between October 1, 2012 – December 31, 2012 will have a 30 day turnaround time regardless if the chain of custodians 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

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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:

Sample B2MXL6 was inadvertently not analyzed with the initial batch. For more details refer to the SIR (CHPRC Tracking Number: SDR13-063) that is included in this report. Except as noted; the LCS, batch blank, sample and sample duplicate (B2MXL6) 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

DECEMBER 18, 2012

SAMPLE ISSUE RESOLUTION

SIR NUM SDR13-063
REV NUM 0
DATE INITIATED 12/12/2012

SAMPLE EVENT INFORMATION

SAF NUM(S) I13-007
OPERABLE UNIT(S) 100-NR-2
PROJECT(S) CERC13
SAMPLE EVENT TITLE(S) CERC13
LABORATORY TestAmerica Incorporated, Richland

SAMPLING INFORMATION

NUMBER OF SAMPLES 1
SAMPLE NUMBERS B2MXL6
SAMPLE MATRIX WATER
COLLECTION DATE 11/7/2012 - 11/7/2012
SDG NUM W06493

ISSUE BACKGROUND

CLASS Laboratory Issue
TYPE Other Laboratory Issue (Specify)
DESCRIPTION Sample B2MXL6 was inadvertently missed during batching and was not analyzed for Isotopic Plutonium as requested.

DISPOSITION

DESCRIPTION PROPOSED DISPOSITION: Analyze sample B2MXL6 for Isotopic Plutonium and report under SDG W06493I. Report SDG W06493 and note in narrative that sample B2MXL6 for Plutonium will be reported when the analysis is completed. Initiate SIR and include comments in the case narratives.

JUSTIFICATION ACCEPTED DISPOSITION: Accept proposed resolution.

SUBMITTED BY: Rhonda Wager/TARL DATE: 12/12/12
ACCEPTED BY: Karen Waters-Husted/CHPRC DATE: 12/12/12

Drinking Water Method Cross References

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

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

Uncertainty Estimation

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

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

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

Report Definitions

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

TestAmerica Report

FormNbr:	R	FormatType:	FEAD	Version:	05	Rpt Nbr:	54018	File Name:	h:\Reportdb\eddi\FeedIV\Rad\W06493.Edd
<hr/>									
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:
9MW87H10	B2MXL6		MW6-SBB-A1	I13-007	W06493 I				Collection Date:
Batch Analyte	CAS#	Result	Unit	CntrU2S	TotU2S	Qual	MDA	TrcYield	Method
2347053 PU-238	13981-16-3	-1.70E-02	pCi/L	8.6E-02	8.6E-02	U	2.40E-01	90.7	PUISO_PLATE_AE 2.019E-01
2347053 PU-239	PU-239/240	-2.38E-02	pCi/L	8.7E-02	8.7E-02	U	2.63E-01	90.7	PUISO_PLATE_AE 2.019E-01

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TestAmerica QC Blank Report										
FormatType:	FEAD	VersionNbr:	05	File Name:	h:\Reportdb\edtf\FeadiV\Rad\W06493.Edt, h:\Reportdb\edtf\FeadiV\Rad\W06493.Edt					
Lab Sample Id:	MXKA51AB	Sdg/Rept Nbr:	W06493I	54018	Collection Date:	11/07/2012 10:21				
Client Id:	NA	Matrix:	WATER	WATER	Sample On Date:					
Moisture/Solids%*:		QC Type:	BLK		Received Date:	11/07/2012				
SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
	MW6-SBB-A19981								AC	H
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt	Qu- al	Tracer	Spk Conc/ %Rec	Anly Method	Aliq Size/	LCS
2347053 PU-238	-8.25E-03	pCi/L	6.9E-02	U	1.71E-01	100.0	PUISO_PLATE	2.00E-01	12/14/2012	LCL/UCL
BLK 13981-16-3			6.9E-02						17:45	R
2347053 PU-239	-4.67E-02	pCi/L	7.3E-02	U	2.79E-01	100.0	PUISO_PLATE	2.00E-01	12/14/2012	D
BLK PU-239/240			7.2E-02						17:45	

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TestAmerica QC Control Sample Report									
FormNbr:	R	FormatType:	FEAD	VersionNbr:	05	File Name:	h:\Reportdb\lead\Fead\VRad\W06493.Edt, h:\Reportdb\lead\Fead\VRad\54018.Edt		
Lab Sample Id:	MXKA51CS	Sdg/Rept Nbr:	W06493 I	54018		Collection Date:	11/07/2012 10:21		
Client Id:	NA	Matrix:	WATER	WATER		Sample On Date:			
Moisture/Solids%*:		QC Type:	BS			Received Date:	11/07/2012		
SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix RTyp
	MW6-SBB-A19981								AD H
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu-al	Tracer Yield	Spk Conc/ %Rec	Date/Time Analyzed	RPD/ UCL
2347053	PU239	4.59E+00	pCi/L	1.1E+00	2.09E-01	98.4	4.52E+00	12/14/2012	LCL/UCL Typ
BS	PU-239/240			8.8E-01		101.7		17:45	70 130 D

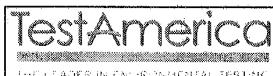
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TestAmerica QC Duplicate Report									
FormNbr:	R	FormatType:	FEAD	VersionNbr:	05	File Name:	h:\Report\bedd1\RadW06493.Edd	Lab Code: TARL	
Lab Sample Id:	MW87H1WR	Sdg/Rept Nbr:	W06493 I	Collection Date:	11/07/2012 10:21				
Client Id:	B2MXL6	Matrix:	WATER	Sample On Date:					
Moisture/Solids%*:		QC Type:	DUP	Received Date:	11/07/2012				
SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix
113-007	MW6-SBB-A19981								AB
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu-al	Tracer MDC Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/
2347053 PU238	PU238	-2.27E-02	pCi/L	8.3E-02	U	2.51E-01	98.0	PUISO_PLATE	2.018E-01
DUP 13981-16-3		-1.70E-02		8.3E-02					
2347053 PU239	PU239	-9.72E-03	pCi/L	8.2E-02	U	2.02E-01	98.0	PUISO_PLATE	2.018E-01
DUP PU-239/240		-2.38E-02		8.2E-02					

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu-al	Tracer MDC Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/
2347053 PU238	PU238	-2.27E-02	pCi/L	8.3E-02	U	2.51E-01	98.0	PUISO_PLATE	2.018E-01
DUP 13981-16-3		-1.70E-02		8.3E-02					
2347053 PU239	PU239	-9.72E-03	pCi/L	8.2E-02	U	2.02E-01	98.0	PUISO_PLATE	2.018E-01
DUP PU-239/240		-2.38E-02		8.2E-02					

TestAmerica	U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
rptReadRadEdd v3.68	J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).
	B Qual- Analyte was found in the associated laboratory blank above the MDC.

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Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

12/17/2012 9:09:10 AM

Lot No., Due Date: J2K070446; 12/13/2012
 Client, Site: 384868; PGW 615HANFORD HANFORD
 QC Batch No., Method Test: 2347053; RPUISO Pulso by ALP
 SDG, Matrix: W06493; 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


Ona Auterson

Date

TestAmerica Richland
QAS_RADCALcv4.8.44

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Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 2347053

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 \leq 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 \leq the Contract Detection Limit?	✗		
7. Do the MS/MSD results and yields meet acceptance criteria?			✓
8. Do the duplicate sample results and yields meet acceptance criteria?	✗		
C. Other			
1. Are all Non-conformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✗		
4. Was transcription checked?	✗		
5. Were all calculations checked at a minimum frequency?	✗		
6. Were units checked?	✗		

Comments on any "No" response:

Second Level Review

Date: 12/17/12

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

**CH2MHill Plateau Remediation
Company**

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

		C.O.C. #	
		113-007-005	
		Page 1 of 1	

Collector	Contact/Requester	Karen Waters-Husted	Telephone No.
Robert Crow			376-4650
SAF No.	Sampling Origin	Hanford Site	Purchase Order/Charge Code
113-007	HNF-N-506	36	300071ES20
Project Title	Logbook No.	Ice Chest No.	N/A
Shipped To (Lab)	Method of Shipment	Bill of Lading/Air Bill No.	N/A
TestAmerica Incorporated, Richland	GOVERNMENT VEHICLE		
Protocol	Priority:	PRIORITY	Offsite Property No.
CERCLA	30 Days		N/A
POSSIBLE HAZARDS/REMARKS		SPECIAL INSTRUCTIONS	
** ** 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)		Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
<p>100 Area Generator Knowledge Information Form applies. The CACN for all analytical work at WSCR is 401647. FY12 and FY13 samples cannot be in the same SD</p>			

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2MXL6	N	W	11-7-12	1021	1x500-mL ag	7196_CRG6_Hexavalent Chromium (4)	24 Hours	Cool-4C
B2MXL6	N	W			1x1-LP	906.0 H3 LSC: Tritium (1)	6 Months	None
B2MXL6	N	W			1x1-LP	9340_AlphaBeta_GPC: Alpha + Beta (2)	6 Months	HNO3 to pH <2
B2MXL6	N	W			1x20-mL P	Activity Scan	6 Months	None
B2MXL6	N	W			3x1-LG/P	GAMMA_CS_List-1(10)	6 Months	HNO3 to pH <2
B2MXL6	N	W			1x1-LG/P	PUISO_PLATE_AEA: Pu-238 + 239/240 (2)	6 Months	HNO3 to pH <2
B2MXL6	N	W			3x1-LG/P	SRISO_SEP_PRECIP_GPC_Sr-90 (4)	6 Months	HNO3 to pH <2
B2MXL6	N	W			4x500-mL P	TG699_EPAWSK_LSC_Te-90 (4)	6 Months	HCl to pH <2
B2MXL6	N	W			1x1-LG/P	USSO_PLATE_AEA_UST-T (3)	6 Months	HNO3 to pH <2

R
113-007-005

JAYDON H
WODE4931


J2K070446

Relinquished By	Print	Sign	Date/Time	Received By	Date/Time	Print	Sign	Date/Time	Date/Time	Matrix *
Robert Crow	R Crow		NOV 07 2012 1:05	John Entwistle	NOV 07 2012 1:05			NOV 07 2012 1:05	11-7-12 14:00	S = Soil
Relinquished By			Date/Time	Received By	Date/Time	Received By		Date/Time	Date/Time	DS = Drum Solids
Robert Crow										SE = Sediment
Relinquished By										SO = Solid
Relinquished By										SL = Sludge
Relinquished By										W = Water
Relinquished By										O = Oil
Relinquished By										V = Vegetation
Relinquished By										A = Air
Relinquished By										X = Other
FINAL SAMPLE	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time							Date/Time
DISPOSITION										
PRINTED O	10/24/2012									A-6004-842 (REV 2)

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Sample Check-in List

Date/Time Received: 12/18/12 Container GM Screen Result: (Airlock) 104 Initials B]
Sample GM Screen Result (Sample Receiving) 104 Initials B]

Client Qbw SDG #: W006493T NA [] SAF #: I13-007 NA []

Lot Number: JAK0104444

Chain of Custody # I13-007-005

Shipping Container ID: Hand d.CN. NA [] Air Bill Number: NAP

Samples received inside shipping container/cooler/box Yes [] Continue with 1 through 4. Initial appropriate response.

No [] Go to 5, add comment to #16.

1. Custody Seals on shipping container intact? Yes [] No [] No Custody Seal B]
2. Custody Seals dated and signed? Yes [] No [] No Custody Seal B]
3. Cooler temperature: 5.9 °C NA []
4. Vermiculite/packing materials is NA [] Wet [] Dry []

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes B] No []
6. Number of samples received (Each sample may contain multiple bottles): 1
7. Containers received: 1x vial 20; 1x 500 ml up; 1x 500 mL Ag; 10 x LF
-
8. Sample holding times exceeded? NA [] Yes [] No B]
9. Samples have:
 tape hazard labels
 B custody seals 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
 B are broken _____ have air bubbles (Only for samples requiring no head space)
 Other N/A
-
12. Sample pH appropriate for analysis requested Yes B] No [] NA []
(If acidification is necessary, then document sample ID, initial pH, amount of HNO₃ added and pH after addition on table overleaf)
- RPL ID # of preservative used : N/A
13. Were any anomalies identified in sample receipt? Yes [] No B]
14. Description of anomalies (include sample numbers): NA B
-

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

16. Additional Information: NA

Client/Courier denied temperature check.

1 Client/Courier unpack cooler.

Sample Custodian:

Date: 11-7-12

Client Informed on NA by NA Person contacted NA

[] No action necessary; process as is

Project Manager Linda Legge Date 11-8-12

J2K070446 SKS 11-8-12

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Sample Preparation/Analysis										Balance Id:1120403183
										Pipet #:
										Sep1 DT/Tm Tech:
										Sep2 DT/Tm Tech:
Work Ord, Lot, Sample Date	Total Amt/Unit	Initial Aliquot Acidified/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count (24-hr) Circle	Detector Id	CR Analyst, Init/Date	Comments:
1 MW87H-1-AG	201.90g,in	201.90g	PUTC13219 08/28/12,pd 01/01/10,r	PUTC13219 08/28/12,pd 01/01/10,r	Scr:	Alpha: 2.98E-03 uCi/Sa	Beta: 2.95E-03 uCi/Sa			
J2K070446-1-SAMP 11/07/2012 10:21	201.80g,in	201.80g	PUTC13220 08/28/12,pd 01/01/10,r	PUTC13220 08/28/12,pd 01/01/10,r	Scr:	Alpha: 2.98E-03 uCi/Sa	Beta: 2.95E-03 uCi/Sa			
2 MW87H-1-AW-X J2K070446-1-DUP 11/07/2012 10:21	200.00g,in	200.00g	PUTC13221 08/28/12,pd 01/01/10,r	PUTC13221 08/28/12,pd 01/01/10,r	Scr:	Alpha: 2.98E-03 uCi/Sa	Beta: 2.95E-03 uCi/Sa			
3 MXKA5-1-AA-B J2L120000-53-BLK 12/11/2012 15:09 pd	201.20g,in	201.20g	PUTG1142 11/14/12,pd 01/01/10,r	PUTG1142 11/14/12,pd 01/01/10,r	Scr:	Alpha:	Beta:			
4 MXKA5-1-AC-C J2L120000-53-LCS 12/11/2012 15:09 pd	201.20g,in	201.20g	PUTG1142 11/14/12,pd 01/01/10,r	PUTG1142 11/14/12,pd 01/01/10,r	Scr:	Alpha:	Beta:			
Comments: MXKA5-BLK CommentsP-12-00228,P-12-00478										ISV - Insufficient Volume for Analysis
All Clients for Batch: 384888, CH2M Hill Plateau Remediation Company										Pacific Northwest National Lab, SS , 57671
KW87H1AG-SAMP	Constituent List:	pCi/L	UCL:	RDL:	pCi/L	UCL:	RDL:	pCi/L	UCL:	RD
Pu-238	RDL:1	pCi/L	UCL:105	RDL:20	pCi/L	UCL:130	RDL:20	pCi/L	UCL:130	RD
Pu-242	RDL:	pCi/L	UCL:20	RDL:20	pCi/L	UCL:20	RDL:20	pCi/L	UCL:20	RD
MXKA51AA-BLK:										
Pu-238	RDL:1	pCi/L	UCL:105	RDL:20	pCi/L	UCL:130	RDL:20	pCi/L	UCL:130	RD
Pu-242	RDL:	pCi/L	UCL:20	RDL:20	pCi/L	UCL:20	RDL:20	pCi/L	UCL:20	RD
MXKA51AC-LCS:										
TestAmerica	Key: In - Initial 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	W/O Cnt: 4								
		Prep_SamplePrep v4.8.60								

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Sample Preparation/Analysis										Balance Id:1120403183		
6D Pu Prp PRP004, Sep ALP002(ALP015) SO Plutonium-238,239/40 by Alpha Spec										Pipet #:		
51 CLIENT: HANFORD										Sep1 DT/Tm Tech:		
Batch: 2347053 SEQ Batch, Test: None										Sep2 DT/Tm Tech:		
pCi/L										Prep Tech: RichardsonB		
Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
PD-239	RDL:1	pCi/L	LCL:70	UCL:130	RPD:20	Pu-242	RDL:	pCi/L	TCL:105	LCL:20	RPD: 2.0	
MW87H1AG-SAMP Calc Info:												
Uncert Level1 (#s):	2	Decay to Sadt: Y	Blk Subt.: N	Sci.Not.: Y	ODRS: B							
xxxxx1AA-BLK:												
Uncert Level1 (#s):	2	Decay to Sadt: Y	Blk Subt.: N	Sci.Not.: Y	ODRS: B							
xxxxx51AC-LCS:												
Uncert Level1 (#s):	2	Decay to Sadt: Y	Blk Subt.: N	Sci.Not.: Y	ODRS: B							

DECEMBER 18, 2012

ICOC Fraction Transfer/Status Report					
By Date: 12/18/2011, 12/22/2012, Batch: '2347053', User: *ALL Order By DateTimeAccepting					
Q	Batch	Work Ord	CurStatus	Accepting	Comments
2347053					
AC		Rev1C	RichardsonB	12/13/2012 6:45:49	
SC			mcginnist	IsBatched	12/12/2012 5:02:06 PM ICOC_RADCALC v4.8.49
SC			RichardsonB	InPrep	12/13/2012 6:45:49 AM RL-PRP-004 REVISION 2
SC			HayesA	Prep2C	12/13/2012 5:18:27 PM RL-PRP-010 REVISION 3
SC			HayesA	Sep1C	12/13/2012 5:18:53 PM RL-ALP-001 REVISION 3
SC			DawkinsO	CalcC	12/14/2012 8:48:29 PM RL-CI-008 REV. 2
SC			antonsonl	Rev1C	12/17/2012 9:08:18 AM RL-DR-001 Rev 2
AC			HayesA		12/13/2012 5:18:27
AC			HayesA		12/13/2012 5:18:53
AC			DawkinsO		12/14/2012 8:48:29
AC			antonsonl		12/17/2012 9:08:18

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

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Grp Rec Cnt:5
ICOCFractions v4.8.44