

JANUARY 22, 2013

Analytical Data Package Prepared For  
**CH2M Hill Plateau Remediation**

Radiochemical Analysis By  
**TestAmerica**

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

Assigned Laboratory Code: TARL  
Data Package Contains 20 Pages

Report No.: 54333

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

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
W06513	F13-001	B2MTB5	J2L200463-1	MXPEC1AA	9MXPEC10	2356039

JANUARY 22, 2013



TestAmerica Laboratories, Inc.

## Certificate of Analysis

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

January 22, 2013

Attention: Scot Fitzgerald

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SAF Number	:	F13-001
Date SDG Closed	:	December 20, 2012
Number of Samples	:	One (1)
Sample Type	:	Water
SDG Number	:	W06513
Data Deliverable	:	30 Day / 30 Day Summary

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### CASE NARRATIVE

#### I. Introduction

On December 20, 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>MATRIX</u>	<u>DATE OF RECEIPT</u>
B2MTB5	MXPEC	WATER	12/20/12

#### II. Sample Receipt

The sample was received in good condition. The service list on the COC differs from the TARL service list. For more details refer to the SIR (CHPRC Tracking Number: SDR13-071) that is included in this report. No other anomalies were noted during check-in.

#### III. Analytical Results/Methodology

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

The requested analyses were:

**Gamma Spectroscopy**  
Iodine-129 (LL) by method RL-GAM-002

CH2M Hill Plateau Remediation Company  
January 22, 2013

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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**

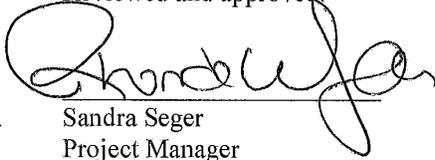
**Gamma Spectroscopy**

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

The LCS, batch blank, sample and sample duplicate (B2MTB5) 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** SDR13-071  
**REV NUM** 0  
**DATE INITIATED** 12/21/2012

**SAMPLE EVENT INFORMATION**

**SAF NUM(S)** F13-001  
**OPERABLE UNIT(S)**  
**PROJECT(S)** 200 AREA SGRP  
**SAMPLE EVENT TITLE(S)** 200-ZP-1 Remedial Action Wells  
**LABORATORY** TestAmerica Incorporated, Richland

**SAMPLING INFORMATION**

**NUMBER OF SAMPLES** 1  
**SAMPLE NUMBERS** B2MTB5  
**SAMPLE MATRIX**  
**COLLECTION DATE** -  
**SDG NUM**

**ISSUE BACKGROUND**

**CLASS** Sample Management Issues  
**TYPE** Other SDM Issue (specify)  
**DESCRIPTION** The service list on COCs is I129LL\_SEP\_LEPS\_GS:COMMON. The TARL service list for the requested analysis is I129LL\_SEP\_LEPS\_GS\_LL: I-129 (1).

**DISPOSITION**

**DESCRIPTION** PROPOSED DISPOSITION: Analyze samples by I129LL\_SEP\_LEPS\_GS\_LL: I-129 (1). Initiate SIR and include comments in the case narratives.

**JUSTIFICATION** ACCEPTED DISPOSITION: Accept the proposed disposition.

SUBMITTED BY: Rhonda Wagar/TARL DATE: 12/21/12  
ACCEPTED BY: Susan Puckett/CHPRC DATE: 12/26/12

**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**

<b>Action Lev</b>	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.
<b>Batch</b>	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
<b>Bias</b>	Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.
<b>COC No</b>	Chain of Custody Number assigned by the Client or TestAmerica.
<b>Count Error (#s)</b>	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.
<b>Total Uncert (#s) <i>u<sub>c</sub> Combined Uncertainty.</i></b>	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<sub>c</sub> the combined uncertainty</i> . The uncertainty is absolute and in the same units as the result.
<b>(#s), Coverage Factor</b>	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
<b>CRDL (RL)</b>	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)
<b>Lc</b>	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.
<b>Lot-Sample No</b>	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.
<b>MDC MDA</b>	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.
<b>Primary Detector</b>	The instrument identifier associated with the analysis of the sample aliquot.
<b>Ratio U-234/U-238</b>	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.
<b>Rst/MDC</b>	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.
<b>Rst/TotUcert</b>	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.
<b>Report DB No</b>	Sample Identifier used by the report system. The number is based upon the first five digits of the <b>Work Order</b> Number.
<b>RER</b>	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.
<b>SDG</b>	Sample Delivery Group Number assigned by the Client or assigned by TestAmerica upon sample receipt.
<b>Sum Rpt Alpha Spec Rst(s)</b>	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.
<b>Work Order</b>	The LIMS software assign test specific identifier.
<b>Yield</b>	The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

JANUARY 22, 2013

Sample Results Summary

Date: 22-Jan-13

TestAmerica TARL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 54333

SDG No: W06513

Batch	Client Id Work Order	Parameter	Result +- Uncertainty ( 2s)	Qual	Units	Tracer Yield	MDL	CRDL	RPD
2356039	I129LL_SEP_LEPS_GS								
	<b>B2MTB5</b>								
	MXPEC1AA	I129	-8.42E-02 +- 1.1E-01	U	pCi/L	92%	1.87E-01	1.00E+00	
	<b>B2MTB5 DUP</b>								
	MXPEC1AC	I129	-4.09E-02 +- 9.0E-02	U	pCi/L	90%	1.55E-01	1.00E+00	-69.3
	<b>No. of Results:</b>	2							

TestAmerica

RPD - Relative Percent Difference.

rptSTLRchSaSummary2 V5.2.23  
A2002

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

JANUARY 22, 2013

QC Results Summary

Date: 22-Jan-13

TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 54333

SDG No.: W06513

Batch	Work Order	Parameter	Result +/- Uncertainty ( 2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDL
I129LL_SEP_LEPS_GS									
2356039	BLANK QC,								
	MXPGT1AA	I129	-7.19E-03 +- 1.2E-01	U	pCi/L	85%			2.14E-01
2356039	LCS,								
	MXPGT1AC	I129	1.27E+01 +- 1.5E+00		pCi/L	79%	124%	0.2	2.81E-01
No. of Results:		2							

TestAmerica

Bias - (Result/Expected)-1 as defined by ANSI N13.30.

rptSTLRchQcSummary V5.2.23  
A2002

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

FORM I  
Date: 22-Jan-13

**SAMPLE RESULTS**

Lab Name: TestAmerica  
 Lot-Sample No.: J2L200463-1  
 Client Sample ID: B2MTB5  
 SDG: W06513  
 Report No.: 54333  
 COC No.: F13-001-010  
 Collection Date: 12/19/2012 12:01:00 PM  
 Received Date: 12/20/2012 10:15:00 AM  
 Matrix: WATER

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 2356039	I129LL_SEP_LEPS_GS				Work Order: MXPEC1AA	Report DB ID: 9MXPEC10						
1129	-8.42E-02	U	1.1E-01	1.1E-01	1.87E-01 pCi/L	8.66E-02	92%	-0.45	1/18/13 08:03 p		3.8156	LEP4\$1
						1.00E+00		-(1.5)			L	

No. of Results: 1  
Comments:

TestAmerica  
 rpiSTLRchSample  
 V5.2.23 A2002  
 MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
 U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

FORM II

Date: 22-Jan-13

DUPLICATE RESULTS

Lab Name: TestAmerica  
 Lot-Sample No.: J2L200463-1  
 Client Sample ID: B2MTB5 DUP

SDG: W06513  
 Report No.: 54333  
 COC No.: F13-001-010

Collection Date: 12/19/2012 12:01:00 PM  
 Received Date: 12/20/2012 10:15:00 AM  
 Matrix: WATER

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert( 2 s)	MDL, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 2356039	I129LL_SEP_LEPS_GS				Work Order: MXPEC1AC	Report DB ID: MXPEC1CR			Orig Sa DB ID: 9MXPEC10			
1129	-4.09E-02	U	9.0E-02	9.0E-02	1.55E-01	pCi/L	90%	-0.26	1/18/13 08:05 p		3.8494	LEP5\$1
	-8.42E-02	U	RPD	-69.3		1.00E+00		-0.91			L	

No. of Results: 1    Comments:

TestAmerica    RPD - Relative Percent Difference.  
 MDC\MDA, L.c - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
 rpl\STLRchDupV5.    U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
 2.23 A2002

FORM II  
BLANK RESULTS

Date: 22-Jan-13

Lab Name: TestAmerica SDG: W06513  
Matrix: WATER Report No.: 54333

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Lc	Rpt Unit, CRDL	Yield	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 2356039	1129LL_SEP_LEPS_GS											
1129	-7.19E-03	U	1.2E-01	1.2E-01	2.14E-01	pCi/L	85%	-0.03	1/21/13 02:16 p		3.8019	LEP4\$1
					9.10E-02	1.00E+00		-0.12			L	

No. of Results: 1 Comments:

TestAmerica MDC(IMDA).Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
rptSTLRechBlank U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.  
V5.2.23 A2002

Date: 22-Jan-13

FORM II

LCS RESULTS

Lab Name: TestAmerica      SDG: W06513  
 Matrix: WATER              Report No.: 54333

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 2356039	1129LL_SEP_LEPS_GS		1.5E+00	1.5E+00	2.81E-01	pCi/L	79%	1.02E+01	1.10E-01	124%	1/21/13 02:17 p	3.8133	LEP5\$1
	1129	1.27E+01	1.5E+00	1.5E+00	2.81E-01	pCi/L	79%	1.02E+01	1.10E-01	124%	1/21/13 02:17 p	3.8133	LEP5\$1
Work Order: MXPQT1AC							Report DB ID: MXPQT1CS						
Rec Limits:							70    130    0.2    L						

No. of Results: 1      Comments:

TestAmerica Bias - (Result/Expected)-1 as defined by ANSI N13.30.

rptSTLRchLcs  
 V5.2.23 A2002



**Lot No., Due Date:** J2L200463; 01/21/2013  
**Client, Site:** 108302; FLH HANFORD  
**QC Batch No., Method Test:** 2356039; RGAMLEPS Gamma by LEPS  
**SDG, Matrix:** W06513; WATER

**1.0 COC**

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

**2.0 QC Batch**

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

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

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

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

**3.0 QC & Samples**

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

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

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

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

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

**4.0 Raw Data**

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

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

4.3 Were Yields entered correctly? Yes No N/A

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

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

**5.0 Other**

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

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

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

5.4 Was transcription checked? Yes No N/A

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

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

6.0 Comments on any No response:

**First Level** *John [Signature]* **Date** 1-22-13



THE LEADER IN ENVIRONMENTAL TESTING

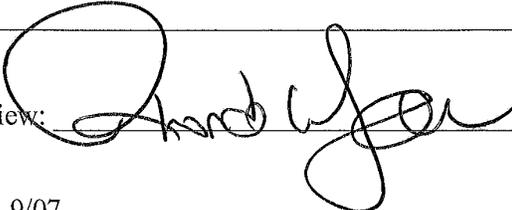
**Data Review Checklist**  
**RADIOCHEMISTRY**  
 Second Level Review

Batch Number: 2356039

Review Item	Yes (✓)	No (✓)	NA (✓)
<b>A. Sample Analysis</b>			
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>B. QC Samples</b>			
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?	✓		
<b>C. Other</b>			
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: 1/22/13

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

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F13-001-010	PAGE 1 OF 1
COLLECTOR <i>Crow Kava</i>	COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 7H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION C70307, I-004	PROJECT DESIGNATION FY2013 200-ZP-1 Remedial Action Wells Sampling and Analysis - Water	SAF NO. F13-001	COA 302938ES10	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT GOVERNMENT VEHICLE
ICE CHEST NO.	FIELD LOGBOOK NO. <i>HNF-N-507-26/S-</i>	ACTUAL SAMPLE DEPTH <i>380.0 ft</i>	BILL OF LADING/AIR BILL NO. SEE PTR	<b>ORIGINAL</b>	

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS **Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.**	PRESERVATION None	HOLDING TIME 6 Months	TYPE OF CONTAINER G/P	NO. OF CONTAINER(S) 2	VOLUME 4L	SAMPLE ANALYSIS I29LL_SRP_LE PS_GS: COMMON;
SPECIAL HANDLING AND/OR STORAGE							
SAMPLE NO. B2MTB5	MATRIX* WATER	SAMPLE DATE <i>12-19-12</i>	SAMPLE TIME <i>1201</i>				



*Saladino 1/21/13*  
*wousis*  
*Due: 1/21/13*  
*mtrec*

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM <i>Ed Kava</i>	DATE/TIME <i>12-19-12</i>	RECEIVED BY/STORED IN <i>SSC #1</i>	DATE/TIME <i>12-19-12</i>
RELINQUISHED BY/REMOVED FROM <i>SSC #1</i>	DATE/TIME <i>DEC 20 2012</i>	RECEIVED BY/STORED IN <i>KC Patterson</i>	DATE/TIME <i>DEC 20 2012</i>
RELINQUISHED BY/REMOVED FROM <i>KC Patterson</i>	DATE/TIME <i>DEC 20 2012</i>	RECEIVED BY/STORED IN <i>Lucas Velazquez</i>	DATE/TIME <i>DEC 20 2012</i>
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

**SPECIAL INSTRUCTIONS**  
The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.

*TRVL-12-098*

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME



Sample Check-in List

Date/Time Received: 12-20-12/1015 Container GM Screen Result: (Airlock) .04 Initials [B]
Sample GM Screen Result (Sample Receiving) .03 Initials [B]

Client: FLH SDG #: W06513 NA [] SAF #: F13-001 NA []

Lot Number: J2L200463

Chain of Custody # F13-001-010

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

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

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

Item 5 through 16 for samples. Initial appropriate response.

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



FLH

1/18/2013 6:44:47 PM		Sample Preparation/Analysis		Balance Id: 1120482733									
108302, CH2M Hill Plateau Remediation DOE RL Waste Management Federal Servi		BN I-129 Prp/Sep GAM002 TB Gamma by LEPD 5I CLIENT: HANFORD		Pipet #:									
AnalytDueDate: 01/21/2013		PM, Quote: SS, 29754		Sep1 DT/Tm Tech:									
Batch: 2356039 WATER pCi/L		Prep Tech: SannoHS		Sep2 DT/Tm Tech:									
SEQ Batch, Test: None													
Work Ord, Lot, Sample Date	Total Amt/Unit	Total Amt/Unit Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 MXPEC-1-AA J2L200463-1-SAMP 12/19/2012 12:01	3815.80g.in	3815.80g	3815.80g.in	3815.80g	ITA12560 12/27/12				200	L4	2323	1/18/13 oml	
2 MXPEC-1-AC-X J2L200463-1-DUP 12/19/2012 12:01	3849.40g.in	3849.40g	3849.40g.in	3849.40g	ITA12561 12/27/12				33.4mg	L5	2325		Beta: 3.87E-04 uCi/Sa
3 MXPGT-1-AA-B J2L210000-39-BLK 12/21/2012 12:01 pd	3801.90g.in	3801.90g	3801.90g.in	3801.90g	ITA12562 12/27/12				31.3mg	64	1736	1/19/13 ml	Beta: 3.87E-04 uCi/Sa
4 MXPGT-1-AC-C J2L210000-39-LCS 12/21/2012 12:01 pd	3813.30g.in	3813.30g	3813.30g.in	3813.30g	ISD1507 10/08/12				30.0mg	65	1777		Beta:

1/18/2013 6:44:48 PM		<b>Sample Preparation/Analysis</b>		Balance Id: 1120482733									
BN I-129 Prp/Sep GAM002 TB Gamma by LEPD 5I CLIENT: HANFORD		Pipet #:											
AnalytDueDate: 01/21/2013		Sep1 DT/Tm Tech:											
Batch: 2356039		Sep2 DT/Tm Tech:											
SEQ Batch, Test: None		Prep Tech: JorgensonD,SannohS											
pCi/L													
Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acified)	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:
<b>Comments:</b> MXPGT-BLK "Comments pH > 2 PUN/SES 01/16/13 S-12-00228", S-12-00193, P-12-00571, P-12-00672, DJS-12-00188, S-12-00141, S-12-00228, P-12-00548													
<b>All Clients for Batch:</b> 108302, CH2M Hill Plateau Remediation DOE RL Waste Management Federal Servi, SS , 29754													
<b>MXPFC1AA-SAMP Constituent List:</b> I-129 RDL: 5.00E-01 pCi/L ICL: UCL: RPD: MXPFT1AA-BLK: I-129 RDL: 5.00E-01 pCi/L UCL: RPD: MXPFT1AC-LCS: I-129 RDL: 5 pCi/L LCL: 70 UCL: 130 RPD: 20 MXPFC1AA-SAMP Calc Info: Uncert Level (#): 2 Decay to Sadt: Y Blk Subt.: N Sci. Not.: Y ODRs: B MXPFT1AA-BLK: Uncert Level (#): 2 Decay to Sadt: Y Blk Subt.: N Sci. Not.: Y ODRs: B MXPFT1AC-LCS: Uncert Level (#): 2 Decay to Sadt: 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 pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added	ISV - Insufficient Volume for Analysis		WO Cnt: 4		Prep_SamplePrep v4.8.61							

1/22/2013 10:39:25 AM

## ICOC Fraction Transfer/Status Report

ByDate: 1/23/2012, 1/27/2013, Batch: '2356039', User: \*ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
<b>2356039</b>				
AC	<b>Rev1C</b>	<b>NyeP</b>	1/16/2013 12:06:31	
SC		davilan	IsBatched	12/21/2012 12:04:21 PM
SC		NyeP	InPrep	1/16/2013 12:06:31 PM
SC		SannohS	InPrep	1/16/2013 12:06:53 PM
SC		JorgensonD	Sep2C	1/18/2013 6:38:21 PM
SC		DawkinsO	InCnt1	1/18/2013 7:55:46 PM
SC		ClarkR	CalcC	1/21/2013 6:48:52 PM
SC		nortonj	Rev1C	1/22/2013 10:39:19 AM
AC		<b>SannohS</b>	1/16/2013 12:06:53	ICOC_RADCALC v4.8.49
AC		<b>JorgensonD</b>	1/18/2013 6:37:58 PM	RL-PRP-004 REVISION 2
AC		<b>JorgensonD</b>	1/18/2013 6:38:21 PM	RL-PRP-004 REVISION 2
AC		<b>DawkinsO</b>	1/18/2013 7:55:46 PM	RL-GAM-002 REVISION 3
AC		<b>ClarkR</b>	1/21/2013 6:48:52 PM	RL-CI-007 REV. 2
AC		<b>nortonj</b>	1/22/2013 10:39:19	RL-CI-007 REVISION 3
				RL-DR-001 Rev 2

AC: Accepting Entry; SC: Status Change

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