DECEMBER 17, 2012

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.: 53996

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.
W06503	F13-002	B2N855	J2L050465-1	MXHFX1AA	9MXHFX10	2341037

TestAmerica
rptSTLRchTitle v3.73

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

TestAmerica Laboratories, Inc.

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

December 17, 2012

Attention: Scot Fitzgerald

SAF Number	:	F13-002
Date SDG Closed	:	December 5, 2012
Number of Samples	:	One (1)
Sample Type	:	Water
SDG Number	:	W06503
Data Deliverable	:	15 Day / 15 Day Summary

CASE NARRATIVE

I. Introduction

On December 5, 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:

CH2M ID#	TARL ID#	MATRIX	DATE OF RECEIPT
B2N855	MXHFX	WATER	12/05/12

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: SDR13-065) 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

2800 George Washington Way Richland, WA 99354 **tel** 509.375.3131 **fax** 509.375.5590 **www.testamericainc.com**

CH2M Hill Plateau Remediation Company
December 17, 2012

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 (B2N855) 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:

for Sandra Seger
Project Manager

SAMPLE ISSUE RESOLUTION

SIR NUM	SDR13-065
REV NUM	0
DATE INITIATED	12/14/2012

SAMPLE EVENT INFORMATION

SAF NUM(S)	F13-002
OPERABLE UNIT(S)	
PROJECT(S)	200W P&T EXTRAC
SAMPLE EVENT TITLE(S)	200W Pump & Treat Extraction Wells
LABORATORY	TestAmerica Incorporated, Richland

SAMPLING INFORMATION

NUMBER OF SAMPLES	1
SAMPLE NUMBERS	B2N855
SAMPLE MATRIX	WATER
COLLECTION DATE	12/4/2012 - 12/4/2012
SDG NUM	W06503

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 resolution.

SUBMITTED BY: Rhonda Wagar/TARL DATE: 12/14/12
ACCEPTED BY: Susan Puckett/CHPRC DATE: 12/17/12

A-6003-640 (03/30)

PAGE 1 of 1

Drinking Water Method Cross References

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

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

Uncertainty Estimation

TestAmerica Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, R = 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) ***u_c – Combined Uncertainty.***	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, *u_c the combined uncertainty.* The uncertainty is absolute and in the same units as the result.
(#s), Coverage Factor	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
CRDL (RL)	Contractual Required Detection Limit as defined in the Client's Statement Of Work or TestAmerica "default" nominal detection limit. Often referred to the reporting level (RL)
Lc	Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. Lc=(1.645 * Sqrt(2*(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.

TestAmerica
rptGeneralInfo v3.72

Sample Results Summary

TestAmerica TARL

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

Date: 14-Dec-12

Report No. : 53996

SDG No: W06503

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDL	CRDL	RPD
2341037	I129LL_SEP_LEPS_GS								
	B2N855								
	MXHFX1AA	I129	3.92E-01 +- 3.4E-01		pCi/L	108%	3.72E-01	1.00E+00	
	B2N855 DUP								
	MXHFX1AC	I129	2.77E-01 +- 2.1E-01	U	pCi/L	95%	4.07E-01	1.00E+00	34.4

No. of Results: 2

TestAmerica

rptSTLRchSaSummary2 V5.2.22 A2002

RPD - Relative Percent Difference.

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.

QC Results Summary

TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Date: 14-Dec-12

Report No. : 53996

SDG No.: W06503

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDL
I129LL_SEP_LEPS_GS								
2341037 BLANK QC,								
MXHKC1AA	I129	4.02E-02 +- 1.2E-01	U	pCi/L	93%			2.22E-01
2341037 LCS,								
MXHKC1AC	I129	9.74E+00 +- 1.2E+00		pCi/L	91%	99%	0.0	2.75E-01

No. of Results: 2

TestAmerica

rptSTLRchQcSummary V5.2.22 A2002

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

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

SAMPLE RESULTS

Date: 14-Dec-12

Lab Name:	**TestAmerica**	**SDG:**	W06503	**Collection Date:**	12/4/2012 9:37:00 AM
Lot-Sample No.:	**J2L050465-1**	**Report No. :**	53996	**Received Date:**	12/5/2012 12:10:00 PM
Client Sample ID:	**B2N855**	**COC No. :**	F13-002-084	**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: 2341037	I129LL_SEP_LEPS_GS			**Work Order:** MXHFX1AA			**Report DB ID:** 9MXHFX10					
I129	**3.92E-01**		3.4E-01	3.4E-01	3.72E-01	pCi/L	108%	*(1.1)*	12/12/12 09:29 a		2.0013	LEP4$1
						1.87E-01	1.00E+00	*(2.3)*			L	

No. of Results: 1 **Comments:**

TestAmerica
rptSTLRchSample
V5.2.22 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.

DECEMBER 17, 2012

FORM II

Date: 14-Dec-12

DUPLICATE RESULTS

Lab Name:	**TestAmerica**	**SDG:**	W06503	**Collection Date:**	12/4/2012 9:37:00 AM
Lot-Sample No.:	**J2L050465-1**	**Report No. :**	53996	**Received Date:**	12/5/2012 12:10:00 PM
Client Sample ID:	**B2N855 DUP**	**COC No. :**	F13-002-084	**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: 2341037	I129LL_SEP_LEPS_GS			**Work Order:** MXHFX1AC		**Report DB ID:** MXHFX1CR			**Orig Sa DB ID:** 9MXHFX10			
I129	2.77E-01	U	2.1E-01	2.1E-01	4.07E-01	pCi/L	95%	0.68	12/12/12 09:31 a		1.9999	LEP5$1
	3.92E-01		**RPD**	**34.4**		1.00E+00		(2.7)			L	

No. of Results: 1 **Comments:**

TestAmerica
rptSTLRchDupV5.
2.22 A2002

RPD - Relative Percent Difference.
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.

DECEMBER 17, 2012

FORM II

BLANK RESULTS

Date: 14-Dec-12

Lab Name: TestAmerica

Matrix: WATER

SDG: W06503

Report No. : 53996

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: 2341037	I129LL_SEP_LEPS_GS			**Work Order:**	MXHKC1AA	**Report DB ID:**		MXHKC1AB				
I129	4.02E-02	U	1.2E-01	1.2E-01	2.22E-01	pCi/L	93%	0.18	12/12/12 01:00 p		3.872	LEP4$1
					1.04E-01	1.00E+00		0.65			L	

No. of Results: 1 **Comments:**

TestAmerica
rptSTLRchBlank
V5.2.22 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.

DECEMBER 17, 2012

FORM II

LCS RESULTS

Date: 14-Dec-12

Lab Name: TestAmerica

Matrix: WATER

SDG: W06503

Report No. : 53996

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: 2341037	I129LL_SEP_LEPS_GS			**Work Order:**	MXHKC1AC		**Report DB ID:**	MXHKC1CS					
I129	9.74E+00		1.2E+00	1.2E+00	2.75E-01	pCi/L	91%	9.88E+00	1.07E-01	99%	12/12/12 01:02 p	3.9448	LEP5$1
							Rec Limits:	70	130	0.0		L	

No. of Results: 1 **Comments:**

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

rptSTLRchLcs
V5.2.22 A2002

DECEMBER 17, 2012

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

12/13/2012 11:38:29 AM

Lot No., Due Date: J2L050465; 12/20/2012
Client, Site: 108302; FLH HANFORD
QC Batch No., Method Test: 2341037; RGAMLEPS Gamma by LEPS
SDG, Matrix: W06503; 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 Tra Anderson Date 12/13/12

TestAmerica Richland
QAS_RADCALCv4.8.44

Page 1

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 2341037

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

Comments on any "No" response: @ RDL = 0.5 pCi/L

Second Level Review: [signature] Date: 12/14/12

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

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F13-002-084	PAGE 1 OF 1
COLLECTOR F. M. Hall KAUR	COMPANY CONTACT EVANS, RT	TELEPHONE NO. 373-7924	PROJECT COORDINATOR EVANS, RT	PRICE CODE 7C AIR QUALITY ☐	DATA TURNAROUND 15 Days / 15 Days
SAMPLING LOCATION 289-T, 299-W14-74, Valve V05-YE04	PROJECT DESIGNATION 200W Pump & Treat - Extraction Well Water Sampling		SAF NO. F13-002		
ICE CHEST NO. N/A	FIELD LOGBOOK NO. HNF-N- 585-6/62	ACTUAL SAMPLE DEPTH N/A	COA 303111ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO TestAmerica Incorporated, Richland	OFFSITE PROPERTY NO. SEE PTR		BILL OF LADING/AIR BILL NO. SEE PTR		

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.

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None
HOLDING TIME	6 Months
TYPE OF CONTAINER	G/P
NO. OF CONTAINER(S)	2
VOLUME	4L
SAMPLE ANALYSIS	I129LL_SEP_LEPS_GS: COMMON;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2N855	WATER	12-4-12	0937	✓

MXHFY

J2L050465
W06503

J2L050465

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM F. M. Hall	DATE/TIME 12-4-12 1230	RECEIVED BY/STORED IN SSU #1	DATE/TIME 12-4-12 1230
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME 12-5-12 0700	RECEIVED BY/STORED IN O. Wachly	DATE/TIME 12-5-12 0700
RELINQUISHED BY/REMOVED FROM O. Wachly	DATE/TIME 12-5-12 1210	RECEIVED BY/STORED IN J. Tack TALL	DATE/TIME 12-5-12 1210
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- 12

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

PRINTED ON 11/26/2012

A-6003-618 (REV 2)

DECEMBER 17, 2012

DECEMBER 17, 2012

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 12-5-12 / 1210 Container GM Screen Result: (Airlock) .06 Initials [JB]
Sample GM Screen Result (Sample Receiving) .04 Initials [JB]

Client: PGW (FLH) JB 12-5-12 SDG #: W06503 NA [ ] SAF #: F13-002 NA [ ]

Lot Number: J2L050465

Chain of Custody # F13-002-084

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

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

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes [JB] No [ ]
6. Number of samples received (Each sample may contain multiple bottles): 1
7. Containers received: 2 x 4L
8. Sample holding times exceeded? NA [ ] Yes [ ] No [JB]
9. Samples have:
   - ____ tape
   - [JB] custody seals
   - ____ hazard labels
   - [JB] appropriate sample labels
10. Matrix:
    - ____ A (FLT, Wipe, Solid, Soil)
    - ____ S (Air, Niosh 7400)
    - [JB] I (Water)
    - ____ T (Biological, Ni-63)
11. Samples:
    - [JB] are in good condition
    - ____ are broken
    - ____ Other N/A
    - ____ are leaking
    - ____ have air bubbles (Only for samples requiring no head space)
12. Sample pH appropriate for analysis requested Yes [JB] No [ ] NA [ ]
    (If acidification is necessary, then document sample ID, initial pH, amount of HNO_3 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 [JB]
14. Description of anomalies (include sample numbers): NA [JB]

LS-023, Rev. 15, 07/11

See over for additional information.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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 Custodian: [signature] Date: 12-5-12

Client Informed on N/A by N/A Person contacted N/A

[X] No action necessary; process as is

Project Manager [signature] Date 12/6/12

SAMPLE ID	Initial pH	Acid Amt	Final pH	SAMPLE ID	Initial pH	Acid Amt	Final pH

[table struck through, initialed] 12-5-12

J2L050465 [initials] 12/6/12

LS-023, Rev. 15, 07/11

See over for additional information.

FLHJ129

12/12/2012 8:50:57 AM

Sample Preparation/Analysis

Priority

108302, CH2M Hill Plateau Remediation DOE RL
, Waste Management Federal Servi

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

Balance Id:1120482733

Pipet #: _____

AnalyDueDate: 12/20/2012

Sep1 DT/Tm Tech:

Batch: 2341037 WATER pCi/L PM, Quote: SS , 29754

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: HoganH

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 MXHFX-1-AA J2L050465-1-SAMP			2001.30g,in	2001.30g	ITA12440 09/18/12			40.1mg		L4	1249	12/12/12 ajH	
12/04/2012 09:37			AmtRec: 2X4LP	#Containers: 2					Scr:	Alpha: 3.95E-04 uCi/Sa		Beta: 4.25E-03 uCi/Sa	1.7E-01L
2 MXHFX-1-AC-X J2L050465-1-DUP			1999.90g,in	1999.90g	ITA12441 09/18/12			35.0mg		L5	1251		
12/04/2012 09:37			AmtRec: 2X4LP	#Containers: 2					Scr:	Alpha: 3.95E-04 uCi/Sa		Beta: 4.25E-03 uCi/Sa	1.7E-01L
3 MXHKC-1-AA-B J2L060000-37-BLK			3872.00g,in	3872.00g	ITA12442 09/18/12			34.5mg		L4	1620		
12/06/2012 13:11 pd			AmtRec:	#Containers: 1					Scr:	Alpha:		Beta:	
4 MXHKC-1-AC-C J2L060000-37-LCS			3944.80g,in	3944.80g	ISD1489 10/08/12			34.8mg		L5	1622		
12/06/2012 13:11 pd			AmtRec:	#Containers: 1					Scr:	Alpha:		Beta:	

Comments: MXHKC-BLK P-12-00228,S-12-00193,P-12-00237,P-12-00570,S-12-00139,S-12-00188,S-12-00141,P-12-00569,P-12-00540,S-12-00228,P-12-00540,"hh 12/12/12",

```
All Clients for Batch:
   108302, CH2M Hill Plateau Remediation DOE RL      Waste Management Federal Servi,  SS , 29754

MXHFX1AA-SAMP Constituent List:
  I-129       RDL:5.00E-01    pCi/L    LCL:       UCL:       RPD:
MXHKC1AA-BLK:
  I-129       RDL:5.00E-01    pCi/L    LCL:       UCL:       RPD:
MXHKC1AC-LCS:
  I-129       RDL:5           pCi/L    LCL:70     UCL:130    RPD:20
```

TestAmerica Richland Wa. Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1 ISV - Insufficient Volume for Analysis WO Cnt: 4
pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Prep_SamplePrep v4.8.60

DECEMBER 17, 2012

12/12/2012 8:50:58 AM

Sample Preparation/Analysis

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

Balance Id:1120482733

Pipet #: _____

AnalyDueDate: 12/20/2012

Sep1 DT/Tm Tech:

Batch: 2341037 pCi/L

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: HoganH

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:

```
MXHFX1AA-SAMP Calc Info:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
MXHKC1AA-BLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
MXHKC1AC-LCS:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```


TestAmerica Laboratories, Inc.

DECEMBER 17, 2012

12/13/2012 11:20:44 AM

ICOC Fraction Transfer/Status Report

ByDate: 12/14/2011, 12/18/2012, Batch: '2341037', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting				Comments
2341037							
AC		Rev1C	HoganH	12/7/2012 7:12:03			
SC			davilan	IsBatched	12/6/2012 1:12:57 PM		ICOC_RADCALC v4.8.49
SC			HoganH	InPrep	12/7/2012 7:12:03 AM		RL-PRP-004 REVISION 2
SC			HoganH	Prep1C	12/7/2012 7:46:31 AM		RL-PRP-004 REVISION 2
SC			HoganH	InPrep2	12/11/2012 10:15:45 AM		RL-GAM-002 REVISION 3
SC			HoganH	Prep2C	12/11/2012 12:56:33 PM		RL-GAM-002 REVISION 3
SC			HoganH	Sep2C	12/12/2012 8:49:16 AM		RL-GAM-002 REVISION 3
SC			HiattC	InCnt1	12/12/2012 9:17:08 AM		RL-CI-007 REV. 2
SC			DawkinsO	CalcC	12/12/2012 7:14:45 PM		RL-CI-007 REV. 2
SC			antonsonl	Rev1C	12/13/2012 11:20:38 AM		RL-DR-001 Rev 2
AC			HoganH	12/7/2012 7:46:31			
AC			HoganH	12/11/2012 10:15:45			
AC			HoganH	12/11/2012 12:56:33			
AC			HoganH	12/12/2012 8:49:16			
AC			HiattC	12/12/2012 9:17:08			
AC			DawkinsO	12/12/2012 7:14:45			
AC			antonsonl	12/13/2012 11:20:38			

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

Page 1

Grp Rec Cnt: 8

ICOCFractions v4.8.44