

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 ___ Pages

Report Nbr: 55834

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W06571	F12-028	B2PDH5	J3F040430-1	M01431AA	9M014310	3155080
		B2PDH9	J3F040430-2	M01461AA	9M014610	3155080
		B2PDJ4	J3F040430-3	M01471AA	9M014710	3155080

Comments:

JUNE 19, 2013

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

June 19, 2013

Attention: Scot Fitzgerald

SAF Number : F12-028
Date SDG Closed : June 4, 2013
Number of Samples : Three (3)
Sample Type : Water
SDG Number : W06571
Data Deliverable : 15 Day / 15 Day Summary

CASE NARRATIVE

I. Introduction

On June 4, 2013, three water samples were received at TestAmerica (TARL). Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the CH2M specific ID:

<u>CH2M ID#</u>	<u>TARL ID#</u>	<u>MATRIX</u>	<u>DATE OF RECEIPT</u>
B2PDH5	M0143	WATER	6/04/13
B2PDH9	M0146	WATER	6/04/13
B2PDJ4	M0147	WATER	6/04/13

II. Sample Receipt

The samples were received in good condition and no 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

JUNE 19, 2013

CH2M Hill Plateau Remediation Company
June 19, 2013

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

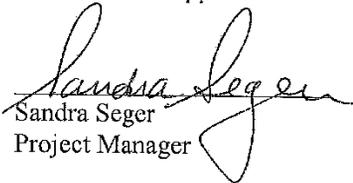
Gamma Spectroscopy

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

The LCS, batch blank, samples and sample duplicate (B2PDH5) 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

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, $R = \text{constants} * f(x,y,z,\dots)$. 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 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%. $Lc = (1.645 * \text{Sqrt}(2 * (\text{BkgrndCnt}/\text{BkgrndCntMin})/\text{SCntMin})) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol}) * \text{IngrFct})$. 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%. $MDC = (4.65 * \text{Sqrt}((\text{BkgrndCnt}/\text{BkgrndCntMin})/\text{SCntMin}) + 2.71/\text{SCntMin}) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol}) * \text{IngrFct})$. 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 = $(S-D)/[\text{sqrt}(\text{TPUs}^2 + \text{TPUd}^2)]$ as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the total uncertainty of the duplicate sample.
SDG	Sample Delivery Group Number assigned by the Client or assigned by TestAmerica upon sample receipt.
Sum Rpt Alpha Spec Rst(s)	The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.
Work Order	The LIMS software assign test specific identifier.
Yield	The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

TestAmerica Report

6/19/2013 8:42:27 AM

Lab Code: TARL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 55834 File Name: h:\Report\bld\Feed\Rad\W06571.Edd, h:\Report\bld\Feed\Rad\55834.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:			
9M014310	B2PDH5	F12-028	MW6-SBB-A1	F12-028	W06571					06/04/2013 08:20			
Batch 3155080	Analyte I-129	CAS# 15046-84-1	Result 3.17E-01	Unit pCi/L	TotU 2S 2.6E-01	Qual 2.6E-01	MDA 1.94E-01	TrcYield 84.1	Method I129LL_SEP_LEPS	Alq Size 3.8427E+00	Unit L	Analy Date/Time 06/17/2013 10:48	Act I

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:			
9M014610	B2PDH9	F12-028	MW6-SBB-A1	F12-028	W06571					06/04/2013 08:35			
Batch 3155080	Analyte I-129	CAS# 15046-84-1	Result 1.32E-01	Unit pCi/L	TotU 2S 1.3E-01	Qual 1.3E-01	MDA 2.40E-01	TrcYield 86.2	Method I129LL_SEP_LEPS	Alq Size 3.8445E+00	Unit L	Analy Date/Time 06/17/2013 14:21	Act I

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/Solids%:	Distilled Volume	Sample On Date:	Collection Date:			
9M014710	B2PDJ4	F12-028	MW6-SBB-A1	F12-028	W06571					06/04/2013 08:45			
Batch 3155080	Analyte I-129	CAS# 15046-84-1	Result 1.80E-01	Unit pCi/L	TotU 2S 1.5E-01	Qual 1.5E-01	MDA 1.63E-01	TrcYield 90.8	Method I129LL_SEP_LEPS	Alq Size 3.8574E+00	Unit L	Analy Date/Time 06/17/2013 14:23	Act I

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

Wednesday, June 19, 2013

TestAmerica QC Blank Report

Lab Code: TARL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\Rad\W06571.Edd, h:\Reportdb\edd\Fead\Rad\55834.Ed

Lab Sample Id: M016N1AB

Client Id: NA

Moisture/Solids%*:

Sdgs/Rept Nbr: W06571

Matrix: Water

QC Type: BLK

Collection Date: 06/04/2013 08:20

Sample On Date:

Received Date: 06/04/2013

SAF Nbr	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	Fsuffix	RType				
3155080	I-129	3.37E-02	pCi/L	1.3E-01	U	2.36E-01		MDC	Tracer Yield	Spk Concl %Rec	Analy Method	Aliq Size/ Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R D
BLK	15046-84-1			1.3E-01				1129LL_SEP_L	3.9285E+00	L		06/17/2013 19:37				

TestAmerica

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.

Wednesday, June 19, 2013

TestAmerica QC Control Sample Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Report\b\edd\Fead\IVRad\W06671.Edd, h:\Report\b\edd\Fead\IVRad\55834.Ed

Lab Sample Id: M016N1CS Sdg/Rept Nbr: W06571 55834 Collection Date: 06/04/2013 08:20
 Client Id: NA Matrix: Water WATER Sample On Date:
 Moisture/Solids%*: QC Type: BS Received Date: 06/04/2013

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RType
	MW6-SBB-A19981								AF	H
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tracer Yield	Spk Concl/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RER/ UCL	LCS LCL/UCL
3155080	I-129	1.10E+01	pCi/L	88.5	9.98E+00	1129LL_SEP_L	3.914E+00	06/17/2013	UCL	70
BS	15046-84-1	1.3E+00			110.4		L	19:39		130

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
 rptfEadRadEdd v3.68

Wednesday, June 19, 2013

TestAmerica QC Duplicate Report

Lab Code: TARL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportable\d\Fead\Rad\W06571.Edd, h:\Reportable\d\Fead\Rad\55834.Eg

Lab Sample Id: M01431CR Sdg/Rept Nbr: W06571 Collection Date: 06/04/2013 08:20
 Client Id: B2PDH5 Matrix: WATER Decant: WATER Sample On Date:
 Moisture/Solids%*: QC Type: DUP Received Date: 06/04/2013

Batch # / Qc Type	Analyt / CAS#	Result / Orig Rst	Unit	Tot/Cnt	Qu- al	MDC	Tracer Yield	Spk Concl / %Rec	Analy Method	Aliq Size /	Date/Time Analyzed	RPD / UCL	RER / UCL	LCS / LCL/UCL	RTyp
3155080	I-129	3.77E-01	pCi/L	1.2E-01		1.60E-01	84.6		1129LL_SEP_L	3.8789E+00	06/17/2013 10:49	17.1	0.7		D
DUP	15046-84-1	3.17E-01		1.2E-01						L		20.0	3		H

TestAmerica
 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.

Lot No., Due Date: J3F040430; 06/19/2013
 Client, Site: 108302; FLH HANFORD
 QC Batch No., Method Test: 3155080; RGAMLEPS Gamma by LEPS
 SDG, Matrix: W06571; WATER

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

Thomas OME
 First Level _____ Date 6/18/13

JUNE 19, 2013



THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 3155080

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: _____

Second Level Review: *Sandra Segee* Date: 6-19-13

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

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F12-028-532	PAGE 1 OF 1
COLLECTOR <i>M. White Kavan</i>	COMPANY CONTACT EVANS, RT	TELEPHONE NO. 373-7924	PROJECT COORDINATOR EVANS, RT	PRICE CODE 7C	DATA TURNAROUND 15 Days / 15 Days
SAMPLING LOCATION 289-TA, Pre-Resin Tanks, Valve V05-Y20	PROJECT DESIGNATION 200W Pump & Treat - Treatment Plant Water Sampling	SAF NO. F12-028		AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-491-9 Pg. 82	ACTUAL SAMPLE DEPTH N/A	COA 303110ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE ORIGINAL	
SHIPPED TO TestAmerica Incorporated, Richland	OFFSITE PROPERTY NO. SEE PTR	BILL OF LADING/AIR BILL NO. SEE PTR			


 J3F040430
33F040430
W065N1
Due 6-19-13
M0143

MATRIX*	PRESERVATION	None
DL=Drum	HOLDING TIME	6 Months
L=Liquid	TYPE OF CONTAINER	G/P
O=Oil	NO. OF CONTAINER(S)	2
S=Soil	VOLUME	4L
SE=Sediment	SAMPLE ANALYSIS	TABLET SEPTILE PS, SS, LL COMPOUND
T=Tissue	SAMPLE DATE	6/4/13
V=Vegetation	SAMPLE TIME	0820
W=Water		
WI=Wipe		
X=Other		

SPECIAL INSTRUCTIONS		TITLE	
The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. TRVL-13-052		TRVL-13-062	
SIGN/ PRINT NAMES		DATE/TIME	
RECEIVED BY/STORED IN	<i>[Signature]</i>	DATE/TIME	6-4-13 11:0
RECEIVED BY/STORED IN		DATE/TIME	
RECEIVED BY/STORED IN		DATE/TIME	
RECEIVED BY/STORED IN		DATE/TIME	
RECEIVED BY/STORED IN		DATE/TIME	
RECEIVED BY/STORED IN		DATE/TIME	
RECEIVED BY/STORED IN		DATE/TIME	
RECEIVED BY		DATE/TIME	
DISPOSAL METHOD		DATE/TIME	
LABORATORY SECTION		DATE/TIME	
FINAL SAMPLE DISPOSITION		DATE/TIME	

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F12-028-536	PAGE 1 OF 1
COLLECTOR <i>M. White</i>	COMPANY CONTACT EVANS, RT	TELEPHONE NO. 373-7924	PROJECT COORDINATOR EVANS, RT	PRICE CODE 7C	DATA TURNAROUND 15 Days / 15 Days
SAMPLING LOCATION 289-TA, Post Resin Tank A1, Valve V03-Y21A1	PROJECT DESIGNATION 200W Pump & Treat - Treatment Plant Water Sampling	SAF NO. F12-028		AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-4919 B82	ACTUAL SAMPLE DEPTH N/A	COA 303110ES10	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*	PRESERVATION	None
A=Air	HOLDING TIME	6 Months
D=Drum	TYPE OF CONTAINER	G/P
L=Liquid	NO. OF CONTAINER(S)	2
O=Oil	VOLUME	4L
S=Soil	SAMPLE ANALYSIS	139L SEP LE KCS ALL COMMON
SE=Sediment	SAMPLE DATE	6/4/13
T=Tissue	SAMPLE TIME	0835
V=Vegetation		
W=Water		
WI=Wipe		
X=Other		

JSF 040430
WDESN
Due 6-19-13
MO146

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. TRVL-13-062	
<i>Ed. K. Baker</i>	6/13 11:10	<i>Steve Taylor</i>	6/13 11:10	TRVL-13-062	
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		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F12-028-541	PAGE 1 OF 1
COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	DATA TURNAROUND
<i>M. White Hawk</i>	EVANS, RT	373-7924	EVANS, RT	7C	15 Days / 15 Days
SAMPLING LOCATION	PROJECT DESIGNATION	SAF NO.		AIR QUALITY	
289-TA, Post-Resin Tanks, Valve V06-Y22	200W Pump & Treat - Treatment Plant Water Sampling	F12-028		<input type="checkbox"/>	
ICE CHEST NO.	FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA	METHOD OF SHIPMENT	
	HNF-N-4979 Pg. 82	N/A	303110ES10	GOVERNMENT VEHICLE	
SHIPPED TO	OFFSITE PROPERTY NO.	BILL OF LADING/AIR BILL NO.			
TestAmerica Incorporated, Richland	SEE PTR	SEE PTR			

MATRIX*	PRESERVATION	None
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	HOLDING TIME	6 Months
POSSIBLE SAMPLE HAZARDS/REMARKS **Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR/DATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.**	TYPE OF CONTAINER	G/P
	NO. OF CONTAINER(S)	2
	VOLUME	4L
SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	120L SEP_LIE K202L COMMON
SAMPLE NO.	MATRIX*	
B2PDJ4	WATER	
	SAMPLE DATE	6/4/13
	SAMPLE TIME	0845

33F010430
W00571
Due 6-19-13
MO/UN

CHAIN OF POSSESSION		SIGN/PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. TRVL-13-062	
<i>[Signature]</i>	6/4/13 1110	<i>[Signature]</i>	6/4/13 1110	TRVL-13-062	
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		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		

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

JUNE 19, 2013

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 6-4-13/1110 Container GM Screen Result: (Airlock) 80 cpm Initials [B]
Sample GM Screen Result (Sample Receiving) 40 cpm Initials [B]

Client: FLH SDG #: W26571 SAF #: F12-028 NA []

Lot Number: J3F040430

Chain of Custody # F12-028-532; 536; 541

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): 3
7. Containers received: 6 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: NA

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

Sample Check-in List completed by Sample Custodian:
Signature: [Signature] Date: 6-4-13

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

[B] No action necessary; process as is
Project Manager [Signature] Date 6-4-13

6/17/2013 10:18:27 AM **Sample Preparation/Analysis** Balance Id: 1120482733

108302, CH2M Hill Plateau Remediation DOE RL **BN I-129 Prp/Sep GAM002** Pipet #:

Waste Management Federal Serv **TB Gamma by LEPD**

Analyte Due Date: 06/19/2013 **5I CLIENT: HANFORD** **Sep1 DT/Tm Tech:**

Batch: 3155080 WATER pCi/L **PM, Quote: SS, 29754** **Sep2 DT/Tm Tech:**

SEQ Batch, Test: None All Tests: 3155080 BNTB, Prep Tech: SannoHS

Work Ord, Lot, Sample Date	Total Amt/Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Ur-Acidified)	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments
1 M0143-1-AA	3842.70g	3842.70g	3842.70g	3842.70g	ITA13010			31.1mg	200	L4	14:08	206-17-13	
J3F040430-1-SAMP					05/22/13								
06/04/2013 08:20					#Containers: 2					Alpha: 7.04E-04 uCi/Sa		Beta: 8.53E-05 uCi/Sa	
2 M0143-1-AC-X	3878.90g	3878.90g	3878.90g	3878.90g	ITA13011			31.3mg	200	L5	14:09		
J3F040430-1-DJUP					05/22/13								
06/04/2013 08:20					#Containers: 2					Alpha: 7.04E-04 uCi/Sa		Beta: 8.53E-05 uCi/Sa	
3 M0146-1-AA	3844.50g	3844.50g	3844.50g	3844.50g	ITA13012			31.9mg	200	L4	17:43		
J3F040430-2-SAMP					05/22/13								
06/04/2013 08:35					#Containers: 2					Alpha: 5.36E-04 uCi/Sa		Beta: -5.97E-04 uCi/Sa	
4 M0147-1-AA	3857.40g	3857.40g	3857.40g	3857.40g	ITA13013			33.6mg	200	L5			
J3F040430-3-SAMP					05/22/13								
06/04/2013 08:45					#Containers: 2					Alpha: 7.57E-04 uCi/Sa		Beta: 1.79E-03 uCi/Sa	
5 M016N-1-AA-B	3928.50g	3928.50g	3928.50g	3928.50g	ITA13014			32.9mg	200	L4	2259	6/17/13 MS	
J3F040000-80-BLK					05/22/13								
06/05/2013 12:11 pd					#Containers: 1					Alpha:		Beta:	
6 M016N-1-AC-C	3914.00g	3914.00g	3914.00g	3914.00g	ISD1562			33.3mg	200	L5	2259		
J3F040000-80-LCS					03/26/13								
06/05/2013 12:11 pd					#Containers: 1					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 Celi, ct-Cocktailed Added

ISV - Insufficient Volume for Analysis

WO Cnt: 6

Prep_SamplePrep v4.8.61

JUNE 19, 2013

6/18/2013 3:07:53 PM

ICOC Fraction Transfer/Status Report

ByDate: 6/18/2012, 6/23/2013, Batch: '3155080', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
3155080				
AC		Rev1C	SannohS 6/5/2013 12:59:51 PM	
SC		mcginnist	IsBatched 6/5/2013 12:22:25 PM	ICOC_RADCALC v4.8.49
SC		SannohS	InPrep 6/5/2013 12:59:51 PM	RL-GAM-002 REVISION 3
SC		HarbinsonD	Sep2C 6/17/2013 10:20:00 AM	RL-GAM-002 REVISION 3
SC		NortonJ	InCnt1 6/17/2013 10:41:47 AM	RL-CI-007 REVISION 3
SC		DawkinsO	CalcC 6/18/2013 4:17:17 AM	RL-CI-007 REVISION 3
SC		carnesj	Rev1C 6/18/2013 2:55:45 PM	RL-DR-001 Rev 2
AC		HarbinsonD	6/17/2013 10:20:00	
AC		NortonJ	6/17/2013 10:41:47	
AC		DawkinsO	6/18/2013 4:17:17	
AC		carnesj	6/18/2013 2:55:45 PM	

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.