RECEIVED APRIL 28, 2008

Analytical Data Package Prepared For

Fluor Hanford

Radiochemical Analysis By

TestAmerica TARL

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

Data Package Contains _____ Pages

Report Nbr: 38870

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W05286B	X08-015	B1R844	J8D100340-1	KK4C91AA	9KK4C910	8105186
		B1R845	J8D100340-2	KK4DD1AA	9KK4DD10	8105186

Comments:

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

Fluor Hanford
1200 Jadwin Ave.
Richland, WA 99352

April 28, 2008

Attention: Steve Trent

SAF Number	:	X08-015
Date SDG Closed	:	December 14, 2007
Number of Samples	:	Three (3)
Sample Type	:	Water
SDG Number	:	W05286B
Data Deliverable	:	15 Day / Summary

CASE NARRATIVE

On April 9, 2008 a request for reanalysis (Order Number: 080409TARL-R4785) of three water samples was received at TestAmerica for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Fluor Hanford specific IDs:

PGW ID#	STLR ID#	MATRIX	DATE OF RECEIPT
B1R845	KK4DD (KDX29)	WATER	10/24/06
B1R844	KK4C9 (KDX27)	WATER	10/24/06
B1R843	N/A (KDX25)	WATER	10/24/06

II. Sample Receipt

The sample was 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 RICH-RC-5025

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 RICH-RC-5025:

There was no sample volume remaining for sample B1R843. The client was notified on April 10, 2008. The reanalysis results are within RER acceptance criteria. There was insufficient volume for a duplicate. The LCS, batch blank and samples 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	RICH-RC-5017
EPA 900.0	Alpha & Beta	RICH-RC-5014
EPA 00-02	Gross Alpha (Coprecipitation)	RICH-RC-5021
EPA 903.0	Total Alpha Radium (Ra-226)	RICH-RC-5027
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr-89/90	RICH-RC-5006
ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007

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.

4/28/2008 12:58:36 PM

TestAmerica Report

Lab Code: TARL

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 38870 File Name: h:\Reportdb\edd\FeadIV\Rad\W05286B.Edd, h:\Reportdb\edd\FeadIV\Rad\38870.E

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:
9KK4C910	B1R844		MW6-SBB-A1	X08-015	W05286B					12/11/2007 10:00

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
8105186	I-129L	15046-84-1	2.13E+01	pCi/L	2.4E+00	2.4E+00		5.38E-01	102.4	I129LL_SEP_LEPS	3.8939E+00	L	04/17/2008 11:45	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:
9KK4DD10	B1R845		MW6-SBB-A1	X08-015	W05286B					12/11/2007 10:00

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
8105186	I-129L	15046-84-1	2.22E+01	pCi/L	2.5E+00	2.5E+00		4.22E-01	99.5	I129LL_SEP_LEPS	3.8806E+00	L	04/17/2008 11:46	I

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

Monday, April 28, 2008

TestAmerica QC Blank Report

Lab Code: TARL

FormNbr: R **FormatType:** FEAD **VersionNbr:** 05 **File Name:** h:\Reportdb\edd\FeadIV\Rad\W05286B.Edd, h:\Reportdb\edd\FeadIV\Rad\38870.E

Lab Sample Id: KK8WK1AB
Client Id: NA
Moisture/Solids%*:

Sdg/Rept Nbr: W05286B 38870
Matrix: WATER WATER
QC Type: BLK

Collection Date: 12/11/2007 10:00
Sample On Date:
Received Date: 04/09/2008

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 Uncert 2S	Qu-al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
8105186	I-129L	4.70E-02	pCi/L	1.1E-01	U	2.16E-01	103.2		I129LL_SEP_L	3.9733E+00	04/17/2008				D
BLK	15046-84-1			1.1E-01						L	11:47				

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.

1

Monday, April 28, 2008

TestAmerica QC Control Sample Report

Lab Code: TARL

FormNbr: R **FormatType:** FEAD **VersionNbr:** 05 **File Name:** h:\Reportdb\edd\FeadIV\Rad\W05286B.Edd, h:\Reportdb\edd\FeadIV\Rad\38870.E

Lab Sample Id: KK8WK1CS
Client Id: NA
Moisture/Solids%*:

Sdg/Rept Nbr: W05286B 38870
Matrix: WATER WATER
QC Type: BS

Collection Date: 12/11/2007 10:00
Sample On Date:
Received Date: 04/09/2008

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	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
8105186	I-129L	1.10E+01	pCi/L	1.3E+00		3.24E-01	96.6	9.68E+00	I129LL_SEP_L	3.9851E+00	04/17/2008			70	D
BS	15046-84-1			1.3E+00				113.6		L	13:33			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.

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Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

4/24/2008 1:44:18 PM

Lot No., Due Date: J8D100340; 04/24/2008
Client, Site: 384868; PGW 615HANFORD HANFORD
QC Batch No., Method Test: 8105186; RGAMLEPS Gamma by LEPS
SDG, Matrix: W05286B; 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:
10-12189

First Level Review Lisa Anderson **Date** 4/24/08

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 8105186

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: NOT ENOUGH VOLUME FOR DUPLICATE SAMPLE. PLEASE, SEE NCM

Second Level Review: [illegible] Date: 04-28-08

Clouseau Nonconformance Memo

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

NCM #: **10-12189**
NCM Initiated By: Lisa Antonson
Date Opened: 04/24/2008
Date Closed:

Classification: **Anomaly**
Status: **QAREVIEW**
Production Area: Environmental - Prep
Tests: Gamma by LEPS
Lot #'s (Sample #'s): J8D100340 (1,2), J8D140000 (186),
QC Batches: 8105186,

Nonconformance: Insufficient sample volume for QC
Subcategory: Insufficient sample volume to prepare MS/MSD or duplicate

Problem Description / Root Cause

Name	Date	Description
Lisa Antonson	04/24/2008	There was insufficient sample volume provided to prepare a project-specific duplicate.

Corrective Action

Name	Date	Corrective Action
Lisa Antonson	04/24/2008	NA

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note	Response	Response Note

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position

Date Printed: 4/24/2008

J8D100340
W05286B
Rec'd 4/9/08
Due 4/24/08

04/09/2008

RECHECK, RECOUNT, OR REANALYSIS ORDER
CONTRACT NO MW6-SBB-A19981

TestAmerica Incorporated,
2800 George Washington Way
Richland, WA 99354

Battelle PNNL Order Number: 080409TARL-R4785

Sample Delivery Group: W05286

Special Instructions None

Samples(s)

	Lab Sample ID	PNNL Sample	Action	TAT	METHOD_NAME:
KK4DD	9KDX2910	B1R845	Reanalysis	15/15	I129LL_SEP_LEPS_G
KK4C9	9KDX2710	B1R844	Reanalysis	15/15	I129LL_SEP_LEPS_G
No more — sample	9KDX2510	B1R843	Reanalysis	15/15	I129LL_SEP_LEPS_G

Deliver Report Results to: Fluor Hanford, Inc.
1200 Jadwin Ave.
Richland, WA 99352
C/O Mr. Steve Trent

The report results must reference the Battelle PNNL-order number, SDG number, and the Battelle PNNL sample identification number shown above.

Seger, Sandra

From: Hampt, Heidi [Heidi_Hampt@RL.gov]
Sent: Wednesday, April 09, 2008 4:59 PM
To: Seger, Sandra; Jordan, Erika
Cc: Trent, Stephen J; Ayres, Doris E
Subject: Request for Recheck, Recount, or Reanalysis Order

Attachments: 080409TARLR4785.rtf

080409TARLR4785.rtf (3 KB)

See Attached

Seger, Sandra

From: Hampt, Heidi [Heidi_Hampt@RL.gov]
Sent: Thursday, April 10, 2008 3:24 PM
To: Seger, Sandra
Subject: RE: Request for Recheck, Recount, or Reanalysis Order

Thanks. I'll remove this one from my list.

Heidi

-----Original Message-----
From: Seger, Sandra [mailto:Sandra.Seger@testamericainc.com]
Sent: Thursday, April 10, 2008 3:14 PM
To: Hampt, Heidi
Cc: Trent, Stephen J; Ayres, Doris E
Subject: RE: Request for Recheck, Recount, or Reanalysis Order

The is no sample remaining for B1R843. There was a duplicate analyzed on this sample. Both of the 4000 ml sample bottles were used on the original analysis.

Sandra

-----Original Message-----
From: Hampt, Heidi [mailto:Heidi_Hampt@RL.gov]
Sent: Wednesday, April 09, 2008 4:59 PM
To: Seger, Sandra; Jordan, Erika
Cc: Trent, Stephen J; Ayres, Doris E
Subject: Request for Recheck, Recount, or Reanalysis Order

See Attached

Confidentiality Notice: The information contained in this message is intended only for the use of the addressee, and may be confidential and/or privileged. If the reader of this message is not the intended recipient, or the employee or agent responsible to deliver it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify the sender immediately.

TESTAMERICA

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

JTL120111 W05286 DUE 1-25-08 KDX25

C.O.C. # X08-015-15

Page 1 of 1

Collector: Fluor Hanford K. B. HULSE

Contact/Requester: Steve Trent

Telephone No.: 509-373-5869 MSIN FAX

SAF No.: X08-015

Sampling Origin: Hanford Site

Purchase Order/Charge Code

Project Title: SPECIAL SAMPLING NOVEMBER 2007

Ice Chest No.: GW1 Temp.

Shipped To (Lab): TestAmerica Incorporated Richland

Method of Shipment: Govt. Vehicle

Bill of Lading/Air Bill No.: N/A

Protocol: SURV

Priority: 45 Days

Offsite Property No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

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

SPECIAL INSTRUCTIONS Hold Time

Total Activity Exemption: Yes ☑ No ☐

Do not combine X SAF samples with other sets. Need SDG to be stand alone.
All labs except WSCF: Do not exceed SDG closure of 14 days.
WSCF: SDG will close on a daily basis; X SAF samples into own SDG.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1R843		W	12/11/07	1000	2x4000-mL G/P	I129LL_SEP_LEPS_GS_LL: I-129 (1)	None
B1R843		W	12/11/07	1000	1x20-mL P	Activity Scan	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Fluor Hanford K. B. HULSE			12/11/07 1415		LJ LANE	TAL-R	12/11/07 1415
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

Disposed By

Date/Time

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FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

JTL120111 W05286 DUE 1-25-08 KDX27

C.O.C. # X08-015-16

Collector: Fluor Hanford K. B. HULSE	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: X08-015	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: SPECIAL SAMPLING, NOVEMBER 2007		Ice Chest No.: GW-1 Temp.
Shipped To (Lab): TestAmerica Incorporated, Richland	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.: N/A
Protocol: SURV	Priority: 45 Days	Offsite Property No.: N/A

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

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Do not combine X SAF samples with other sets. Need SDG to be stand alone.
All labs except WSCF: Do not exceed SDG closure of 14 days.
WSCF: SDG will close on a daily basis; X SAF samples into own SDG.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1R844		W	12/11/07	1000	2x4000-mL G/P	I129LL_SEP_LEPS_GS_LL: I-129 (1)	None
B1R844		W	12/11/07	1000	1x20-mL P	Activity Scan	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Fluor Hanford K. B. HULSE			12/11/07 1415		LVLANE	TAL-R	12/11/07 1415
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

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TESTAMERICA

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FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

J7L120111 W05286 DUE 1-25-08 KDX29

C.O.C. # X08-015-17

Page 1 of 1

Collector Fluor Hanford K. B. HULSE	Contact/Requester Steve Trent	Telephone No. 509-373-5869 MSIN FAX
SAF No. X08-015	Sampling Origin Hanford Site	Purchase Order/Charge Code
Project Title SPECIAL SAMPLING NOVEMBER 2007		Ice Chest No. GW1 Temp.
Shipped To (Lab) TestAmerica Incorporated, Richland	Method of Shipment Govt Vehicle	Bill of Lading/Air Bill No. N/A
Protocol SURV	Priority: 45 Days	Offsite Property No. N/A

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

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Do not combine X SAF samples with other sets. Need SDG to be stand alone.
All labs except WSCF: Do not exceed SDG closure of 14 days.
WSCF: SDG will close on a daily basis; X SAF samples into own SDG.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1R845		W	12/11/07	1000	2x4000-mL G/P	I129LL_SEP_LEPS_GS_LL: I-129 (1)	None
B1R845		W	12/11/07	2000	1x20-mL P	Activity Scan	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Fluor Hanford K. B. HULSE			12/11/07 1415		L. LANE	TAL-R	12/11/07 1415
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

estAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

DUE 1-25-08

Date/Time Received: 12 11 07 1415

Client: PGW SDG#: W05286 NA[ ] SAF#: X08-015 NA [ ]

Work Order Number: J7L120111 Chain of Custody # X08-015-15,-16,-17,-21,-22,-23,-14,-13,-12,-24,-25,-26,-20,-19,-18,-10,-9,-11

Shipping Container ID: _____ Air Bill # _____

1. Custody Seals on shipping container intact? NA [ ] Yes [✓] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [✓] No [ ]
3. Chain of Custody record present? NA [ ] Yes [✓] No [ ]
4. Cooler Temperature: _____ NA [✓] 5. Vermiculite/packing materials is NA [✓] Wet [ ] Dry [ ]
6. Number of samples in shipping container: 18
7. Sample holding times exceeded? NA [✓] Yes [ ] No [ ]
8. Samples have:
   - ___ Tape
   - ✓ Custody Seals
   - ✓ Hazard Lables
   - ✓ Appropriate Sample Lables
9. Samples are:
   - ✓ In Good Condition
   - ___ Broken
   - ___ Leaking
   - ___ Have Air Bubbles (Only for samples requiring no head space.)
10. Sample pH taken? NA [ ] pH<2 [✓] pH>2 [✓] pH>9 [ ]
11. Sample Location, Sample Collector Listed? *
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [✓]
13. Description of anomalies (include sample numbers): _____

Sample Custodian: [signature] Date: 121107

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____

SKS 12/10/08

TESTAMERICA

4/15/2008 3:22:46 PM

Sample Preparation/Analysis

384868, Pacific Northwest National Laboratory ,
Pacific Northwest National Lab

BN I-129 Prp/SepRC5025
TB Gamma by LEPD
5I CLIENT: HANFORD

PRIORITY

Balance Id:1120482733

Pipet #:

AnalyDueDate: 04/24/2008 W052861B

Batch: 8105186 **WATER** **pCi/L**

SEQ Batch, Test: None

PM, Quote: SS , 57671

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: HarrisD

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 KK4C9-1-AA J8D100340-1-SAMP 12/11/2007 10:00		3893.90g,in AmtRec: 4LP	ITA7105 04/09/08 #Containers: 1		37.9	100	L2	1325	4/17/08 M	
								Scr:	Alpha:	Beta:
2 ~~KK4C9-1-AC-X~~ ~~J8D100340-1-DUP~~ 12/11/2007 10:00		AmtRec: 4LP	#Containers: 1		N/A					
								Scr:	Alpha:	Beta:
3 KK4DD-1-AA J8D100340-2-SAMP 12/11/2007 10:00		3880.60g,in AmtRec: 4LP	ITA7106 04/09/08 #Containers: 1		36.8		L4	1326	4/17/08 M	
								Scr:	Alpha:	Beta:
4 KK8WK-1-AA-B J8D140000-186-BLK 12/11/2007 10:00		3973.30g,in AmtRec:	ITA7107 04/09/08 #Containers: 1		38.2		L5	1327		
								Scr:	Alpha:	Beta:
5 KK8WK-1-AC-C J8D140000-186-LCS 12/11/2007 10:00		3985.10g,in AmtRec:	ISD0837 03/03/08 #Containers: 1		36.6		L2	1513	4/17/08 M	
								Scr:	Alpha:	Beta:

Comments: KK4C9-SAMP "Comments: ISV for dup. DLH 4/15/08"

DLH 4/15/08

All Clients for Batch:
384868, Pacific Northwest National Laboratory Pacific Northwest National Lab, SS , 57671

KK4C91AA-SAMP Constituent List:

TAL Richland
Richland Wa.

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

Page 1

ISV - Insufficient Volume for Analysis

WO Cnt: 5

Prep_SamplePrep v4.8.32

4/15/2008 3:22:47 PM

Sample Preparation/Analysis

BN I-129 Prp/SepRC5025
TB Gamma by LEPD
5I CLIENT: HANFORD

Balance Id:1120482733
Pipet #:

AnalyDueDate: 04/24/2008

Sep1 DT/Tm Tech:

Batch: 8105186 pCi/L
SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,HarrisD

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:

```
 I-129        RDL:1.00E+00    pCi/L     LCL:        UCL:        RPD:
KK8WK1AA-BLK:
 I-129        RDL:1.00E+00    pCi/L     LCL:        UCL:        RPD:
KK8WK1AC-LCS:
 I-129        RDL:5           pCi/L     LCL:70      UCL:130     RPD:20
KK4C91AA-SAMP Calc Info:
    Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
KK8WK1AA-BLK:
    Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
KK8WK1AC-LCS:
    Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```

Approved By _____ Date: _____

4/24/2008 1:43:07 PM

ICOC Fraction Transfer/Status Report

ByDate: 4/25/2007, 4/29/2008, Batch: '8105186', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus		Accepting		Comments
8105186						
AC		**Rev1C**	**HarrisD**	4/15/2008 3:16:10 PM		
SC			wagarr	IsBatched	4/14/2008 9:08:47 AM	ICOC_RADCALC v4.8.32
SC			HarrisD	InPrep	4/15/2008 3:16:10 PM	RICH-RC-5016 Revision 7
SC			HarrisD	Prep1C	4/15/2008 3:22:51 PM	RICH-RC-5017 REVISION 6
SC			BostedD	InPrep2	4/16/2008 8:24:53 AM	RICHRC5025 REVISION 4
SC			BostedD	Prep2C	4/17/2008 11:38:29 AM	RICHRC5025 REVISION 4
SC			DAWKINSO	CalcC	4/17/2008 6:56:21 PM	RICH-RD-0007 REVISION 6
SC			antonsonl	Rev1C	4/24/2008 1:43:00 PM	RICH-RC-0002 REV 8
AC			**HarrisD**	4/15/2008 3:22:51 PM		
AC			**BostedD**	4/16/2008 8:24:53		
AC			**BostedD**	4/17/2008 11:38:29		
AC			**DAWKINSO**	4/17/2008 6:56:21 PM		
AC			**antonsonl**	4/24/2008 1:43:00 PM		

AC: Accepting Entry; SC: Status Change

TAL Richland

Richland Wa.

Grp Rec Cnt: 6

ICOCFractions v4.8.33