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Analytical Data Package Prepared For

Fluor Hanford Inc.

Radiochemical Analysis By

TestAmerica

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

Assigned Laboratory Code: TARL

Data Package Contains _____ Pages

Report No.: 38996

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.
W05364	F08-043	B1TDD5	J8C260317-1	KJ8491AA	9KJ84910	8087347
		B1TDD5	J8C260317-1	KJ8491AD	9KJ84910	8087407
		B1TDD5	J8C260317-1	KJ8491AC	9KJ84910	8087413
		B1TDD5	J8C260317-1	KJ8491AE	9KJ84910	8087415
		B1TDD5	J8C260317-1	KJ8491AF	9KJ84910	8087419

TestAmerica
Certificate of Analysis
THE LEADER IN ENVIRONMENTAL TESTING

Fluor Hanford
1200 Jadwin Ave.
Richland, WA 99352

May 12, 2008

Attention: Steve Trent

SAF Number	:	F08-043
Date SDG Closed	:	March 26, 2008
Number of Samples	:	One (1)
Sample Type	:	Soil
SDG Number	:	W05364
Data Deliverable	:	45-Day / Summary

CASE NARRATIVE

I. Introduction

On March 26, 2008 one soil sample was received at STL Richland (STLR) for radiochemical analysis. Upon receipt, the sample was assigned the following laboratory ID numbers to correspond with the Fluor Hanford specific IDs:

PGW ID#	STLR ID#	DATE OF RECEIPT	MATRIX
B1TDD5	KJ849	3/26/08	SOIL

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:

Alpha Spectroscopy
Thorium-228,230,232 by method RICH-RC-5084
Liquid Scintillation Counting
Technetium-99 by method RICH-RC-5078
Tritium by method RICH-RC-5007
Nickel-63 by method RICH-RC-5069
Chemical Analysis
Hexavalent Chromium by EPA method 7196A

IV. Quality Control

The analytical results for each analysis performed includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

V. Comments

Alpha Spectroscopy
Thorium-228, 230,232 by method RICH-RC-5084:
The LCS, batch blank, sample and sample duplicate (B1TDD5) results are within contractual requirements.

Liquid Scintillation Counting
Technetium-99 by method RICH-RC-5078:
The LCS, batch blank, samples, sample duplicate (B1TDD5), and sample matrix spike (B1TDD5) results are within contractual requirements.

Tritium by method RICH-RC-5007:
The LCS, batch blank, samples and sample duplicate (B1TDD5) results are within contractual requirements.

Nickel-63 by method RICH-RC-5069:
The LCS, batch blank, sample and sample duplicate (B1TDD5) results are within contractual requirements.

Chemical Analysis
Hexavalent Chromium by EPA method 7196A
The matrix spike recovered low at 72%. The PDMS recovered at 109.27%. The insoluble matrix spike recovered at 100.78%. This implies a possible small amount of reducing capacity in the sample, but not enough to exhaust the more copious insoluble matrix spike. Except as noted, the LCS, batch blank, samples, sample duplicate (B1TDD5) and sample matrix spike (B1TDD5) 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.

Sample Results Summary

Date: 12-May-08

TestAmerica TARL

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

Report No. : 38996

SDG No: W05364

Batch / Client Id / Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
8087407 THISO_IE_PRECIP_AEA								
B1TDD5								
KJ8491AD	TH-228	1.05E+00 +- 2.18E-01		pCi/g	69%	2.30E-02	1.00E+00	
	TH-230	7.48E-01 +- 1.66E-01		pCi/g	69%	2.16E-02	1.00E+00	
	TH-232	8.78E-01 +- 1.88E-01		pCi/g	69%	2.16E-02	1.00E+00	
B1TDD5 DUP								
KJ8491AK	TH-228	8.03E-01 +- 1.79E-01		pCi/g	68%	2.35E-02	1.00E+00	26.3
	TH-230	6.76E-01 +- 1.55E-01		pCi/g	68%	2.21E-02	1.00E+00	10.1
	TH-232	8.64E-01 +- 1.87E-01		pCi/g	68%	2.21E-02	1.00E+00	1.6
8087347 7196_CR6								
B1TDD5								
KJ8491AA	HEXCHROME	3.50E-01 +- 0.00E+00	U	mg/kg	N/A	3.50E-01	3.50E-01	
KJ8491AH	HEXCHROME	3.50E-01 +- 0.00E+00	U	mg/kg	N/A	3.50E-01	3.50E-01	0.0
8087413 NI63_LSC								
B1TDD5								
KJ8491AC	NI-63	1.28E+00 +- 5.68E+00	U	pCi/g	67%	8.44E+00	3.00E+01	
B1TDD5 DUP								
KJ8491AL	NI-63	-2.42E-02 +- 5.08E+00	U	pCi/g	74%	7.66E+00	3.00E+01	207.7
8087415 TC99_ETVDSK_LSC								
B1TDD5								
KJ8491AE	TC-99	-3.33E-04 +- 3.90E-01	U	pCi/g	100%	6.57E-01	1.50E+01	
B1TDD5 DUP								
KJ8491AM	TC-99	-1.71E-01 +- 3.82E-01	U	pCi/g	100%	6.60E-01	1.50E+01	-199.2
8087419 906.0_H3_LSC								
B1TDD5								
KJ8491AF	H-3	1.83E-02 +- 3.12E-02	U	pCi/g	100%	6.49E-02	4.00E+02	
B1TDD5 DUP								
KJ8491AP	H-3	5.90E-02 +- 3.15E-02	U	pCi/g	100%	6.12E-02	4.00E+02	105.5

No. of Results: 14

TestAmerica

rptSTLRchSaSummary2 V5.1.6
A2002

RPD - Relative Percent Difference.

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

QC Results Summary

TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Date: 12-May-08

Report No. : 38996

SDG No.: W05364

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC|MDA
THISO_IE_PRECIP_AEA								
8087407 BLANK QC,								
KKCAW1AA	TH-228	3.47E-03 +- 1.20E-02	U	pCi/g	93%			3.27E-02
	TH-230	0.00E+00 +- 1.11E-02	U	pCi/g	93%			2.60E-02
	TH-232	0.00E+00 +- 1.11E-02	U	pCi/g	93%			2.60E-02
8087407 LCS,								
KKCAW1AC	TH-230	1.24E+00 +- 2.60E-01		pCi/g	88%	108%	0.1	2.87E-02
7196_CR6								
8087347 MATRIX SPIKE, B1TDD5								
KJ8491AG	HEXCHROME	7.71E+00 +- 0.00E+00		mg/kg	N/A	72%	-0.3	3.50E-01
8087347 BLANK QC,								
KKA3A1AA	HEXCHROME	3.50E-01 +- 0.00E+00	U	mg/kg	N/A			3.50E-01
8087347 LCS,								
KKA3A1AC	HEXCHROME	1.73E+01 +- 0.00E+00		mg/kg	N/A	87%	-0.1	3.50E-01
NI63_LSC								
8087413 BLANK QC,								
KKCA21AA	NI-63	-9.69E-01 +- 4.27E+00	U	pCi/g	87%			6.52E+00
8087413 LCS,								
KKCA21AC	NI-63	5.34E+02 +- 5.09E+01		pCi/g	68%	88%	-0.1	8.30E+00
TC99_ETVDSK_LSC								
8087415 MATRIX SPIKE, B1TDD5								
KJ8491AN	TC-99	2.06E+02 +- 1.27E+01		pCi/g	100%	91%	-0.1	6.52E-01
8087415 BLANK QC,								
KKCA61AA	TC-99	-1.71E-01 +- 3.82E-01	U	pCi/g	100%			6.59E-01
8087415 LCS,								
KKCA61AC	TC-99	2.14E+02 +- 1.32E+01		pCi/g	100%	93%	-0.1	6.57E-01
906.0_H3_LSC								
8087419 BLANK QC,								
KKCCD1AA	H-3	-1.95E-01 +- 1.71E-01	U	pCi/g	100%			3.92E-01
8087419 LCS,								
KKCCD1AC	H-3	1.98E+00 +- 2.79E-01		pCi/g	100%	73%	-0.3	3.89E-01

No. of Results: 14

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rptSTLRchQcSummary V5.1.6 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 or Total Uncert or not identified by gamma scan software.

TESTAMERICA

FORM I

SAMPLE RESULTS

Date: 12-May-08

Lab Name:	TestAmerica	SDG:	W05364	Collection Date:	3/6/2008 10:45:00 AM
Lot-Sample No.:	J8C260317-1	Report No. :	38996	Received Date:	3/26/2008 2:20:00 PM
Client Sample ID:	B1TDD5	COC No. :	F08-043-136	Matrix:	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8087347	7196_CR6			**Work Order:** KJ8491AA			**Report DB ID:** 9KJ84910					
HEXCHROME	***3.50E-01***	U		0.0E+00	3.50E-01	mg/kg	N/A	*(1.)*	3/27/08		2.5	
							3.50E-01	*N/A*			G	
Batch: 8087407	THISO_IE_PRECIP_AEA			**Work Order:** KJ8491AD			**Report DB ID:** 9KJ84910					
TH-228	***1.05E+00***		1.4E-01	2.2E-01	2.30E-02	pCi/g	69%	*(45.5)*	5/8/08 04:03 p		2.01	ALP117
						5.00E-03	1.00E+00	*(9.6)*			G	
TH-230	***7.48E-01***		1.2E-01	1.7E-01	2.16E-02	pCi/g	69%	*(34.6)*	5/8/08 04:03 p		2.01	ALP117
						4.69E-03	1.00E+00	*(9.)*			G	
TH-232	***8.78E-01***		1.3E-01	1.9E-01	2.16E-02	pCi/g	69%	*(40.7)*	5/8/08 04:03 p		2.01	ALP117
						4.69E-03	1.00E+00	*(9.3)*			G	
Batch: 8087413	NI63_LSC			**Work Order:** KJ8491AC			**Report DB ID:** 9KJ84910					
NI-63	***1.28E+00***	U	3.5E+00	5.7E+00	8.44E+00	pCi/g	67%	*0.15*	5/8/08 05:03 p		0.25	LSC4
						4.10E+00	3.00E+01	*0.45*			G	
Batch: 8087415	TC99_ETVDSK_LSC			**Work Order:** KJ8491AE			**Report DB ID:** 9KJ84910					
TC-99	***-3.33E-04***	U	2.7E-01	3.9E-01	6.57E-01	pCi/g	100%	*0.*	4/29/08 07:24 p		2.01	LSC6
						3.16E-01	1.50E+01	*0.*			G	
Batch: 8087419	906.0_H3_LSC			**Work Order:** KJ8491AF			**Report DB ID:** 9KJ84910					
H-3	***1.83E-02***	U	2.7E-02	3.1E-02	6.49E-02	pCi/g	100%	*0.28*	4/2/08 07:02 p		35.1	LSC8
						3.05E-02	4.00E+02	*(1.2)*			G	

No. of Results: 7 **Comments:**

TestAmerica
rptSTLRchSample
V5.1.6 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 or Total Uncert or not identified by gamma scan software.

TESTAMERICA

FORM II

Date: 12-May-08

DUPLICATE RESULTS

Lab Name:	TestAmerica	**SDG:**	W05364	**Collection Date:**	3/6/2008 10:45:00 AM
Lot-Sample No.:	J8C260317-1	**Report No. :**	38996	**Received Date:**	3/26/2008 2:20:00 PM
Client Sample ID:	B1TDD5	**COC No. :**	F08-043-136	**Matrix:**	SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8087347	7196_CR6			**Work Order:** KJ8491AH		**Report DB ID:** KJ8491HR			**Orig Sa DB ID:** 9KJ84910			
HEXCHROME	3.50E-01	U		0.0E+00	3.50E-01	mg/kg	N/A	(1.)	3/27/08		2.5	
	3.50E-01	U	**RPD**	**0.0**		3.50E-01		N/A			G	

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

TestAmerica
rptSTLRchDupV5.1
.6 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 or Total Uncert or not identified by gamma scan software.

TESTAMERICA

FORM II

Date: 12-May-08

DUPLICATE RESULTS

Lab Name:	**TestAmerica**	**SDG:**	W05364	**Collection Date:**	3/6/2008 10:45:00 AM
Lot-Sample No.:	**J8C260317-1**	**Report No. :**	38996	**Received Date:**	3/26/2008 2:20:00 PM
Client Sample ID:	**B1TDD5 DUP**	**COC No. :**	F08-043-136	**Matrix:**	SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8087407	THISO_IE_PRECIP_AEA			**Work Order:** KJ8491AK		**Report DB ID:** KJ8491KR			**Orig Sa DB ID:** 9KJ84910			
TH-228	8.03E-01		1.3E-01	1.8E-01	2.35E-02	pCi/g	68%	(34.2)	5/8/08 04:03 p		2.02	ALP118
	1.05E+00		**RPD**	**26.3**		1.00E+00		(9.)			G	
TH-230	6.76E-01		1.1E-01	1.5E-01	2.21E-02	pCi/g	68%	(30.6)	5/8/08 04:03 p		2.02	ALP118
	7.48E-01		**RPD**	**10.1**		1.00E+00		(8.7)			G	
TH-232	8.64E-01		1.3E-01	1.9E-01	2.21E-02	pCi/g	68%	(39.2)	5/8/08 04:03 p		2.02	ALP118
	8.78E-01		**RPD**	**1.6**		1.00E+00		(9.3)			G	
									Alpha Spec Result Sum = 2.3E+00			
Batch: 8087413	NI63_LSC			**Work Order:** KJ8491AL		**Report DB ID:** KJ8491LR			**Orig Sa DB ID:** 9KJ84910			
NI-63	-2.42E-02	U	3.2E+00	5.1E+00	7.66E+00	pCi/g	74%	0.	5/8/08 06:46 p		0.25	LSC4
	1.28E+00	U	**RPD**	**207.7**		3.00E+01		-0.01			G	
									Alpha Spec Result Sum = 2.3E+00			
Batch: 8087415	TC99_ETVDSK_LSC			**Work Order:** KJ8491AM		**Report DB ID:** KJ8491MR			**Orig Sa DB ID:** 9KJ84910			
TC-99	-1.71E-01	U	2.7E-01	3.8E-01	6.60E-01	pCi/g	100%	-0.26	4/29/08 08:26 p		2.0	LSC6
	-3.33E-04	U	**RPD**	**-199.2**		1.50E+01		-0.9			G	
									Alpha Spec Result Sum = 2.3E+00			
Batch: 8087419	906.0_H3_LSC			**Work Order:** KJ8491AP		**Report DB ID:** KJ8491PR			**Orig Sa DB ID:** 9KJ84910			
H-3	5.90E-02	U	2.8E-02	3.2E-02	6.12E-02	pCi/g	100%	0.96	4/2/08 07:44 p		34.8	LSC8
	1.83E-02	U	**RPD**	**105.5**		4.00E+02		(3.7)			G	
									Alpha Spec Result Sum = 2.3E+00			

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.6 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 or Total Uncert or not identified by gamma scan software.

TESTAMERICA

FORM II

Date: 12-May-08

DUPLICATE RESULTS

Lab Name:	TestAmerica	SDG:	W05364	Collection Date:	3/6/2008 10:45:00 AM
Lot-Sample No.:	J8C260317-1	Report No. :	38996	Received Date:	3/26/2008 2:20:00 PM
Client Sample ID:	B1TDD5 DUP	COC No. :	F08-043-136	Matrix:	SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector

No. of Results: 6 Comments:

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TestAmerica
rptSTLRchDupV5.1
.6 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.

TESTAMERICA

FORM II
BLANK RESULTS

Date: 12-May-08

Lab Name: TestAmerica
Matrix: SOIL

SDG: W05364
Report No. : 38996

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8087347	7196_CR6			**Work Order:**	KKA3A1AA		**Report DB ID:**	KKA3A1AB				
HEXCHROME	3.50E-01	U		0.0E+00	3.50E-01	mg/kg	N/A	(1.)	3/27/08		2.5	
						3.50E-01		N/A			G	
Batch: 8087407	THISO_IE_PRECIP_AEA			**Work Order:**	KKCAW1AA		**Report DB ID:**	KKCAW1AB				
TH-228	3.47E-03	U	1.2E-02	1.2E-02	3.27E-02	pCi/g	93%	0.11	5/8/08 04:04 p		2.0	ALP119
					8.51E-03	1.00E+00		0.58			G	
TH-230	0.00E+00	U	0.0E+00	1.1E-02	2.60E-02	pCi/g	93%	0.	5/8/08 04:04 p		2.0	ALP119
					5.65E-03	1.00E+00		0.			G	
TH-232	0.00E+00	U	0.0E+00	1.1E-02	2.60E-02	pCi/g	93%	0.	5/8/08 04:04 p		2.0	ALP119
					5.65E-03	1.00E+00		0.			G	
Batch: 8087413	NI63_LSC			**Work Order:**	KKCA21AA		**Report DB ID:**	KKCA21AB				
NI-63	-9.69E-01	U	2.7E+00	4.3E+00	6.52E+00	pCi/g	87%	-0.15	5/8/08 08:28 p		0.25	LSC4
					3.17E+00	3.00E+01		-0.45			G	
Batch: 8087415	TC99_ETVDSK_LSC			**Work Order:**	KKCA61AA		**Report DB ID:**	KKCA61AB				
TC-99	-1.71E-01	U	2.7E-01	3.8E-01	6.59E-01	pCi/g	100%	-0.26	4/29/08 10:31 p		2.0	LSC6
					3.17E-01	2.00E+01		-0.9			G	
Batch: 8087419	906.0_H3_LSC			**Work Order:**	KKCCD1AA		**Report DB ID:**	KKCCD1AB				
H-3	-1.95E-01	U	1.5E-01	1.7E-01	3.92E-01	pCi/g	100%	-0.5	4/2/08 05:39 p		5.0	LSC8
					1.84E-01	4.00E+02		-(2.3)			G	

No. of Results: 7 **Comments:**

TestAmerica
rptSTLRchBlank
V5.1.6 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 or Total Uncert or not identified by gamma scan software.

TESTAMERICA

FORM II

LCS RESULTS

Date: 12-May-08

Lab Name: TestAmerica

Matrix: SOIL

SDG: W05364

Report No. : 38996

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 8087347	7196_CR6			**Work Order:**	KKA3A1AC		**Report DB ID:**	KKA3A1AS					
HEXCHROME	1.73E+01			0.0E+00	3.50E-01	mg/kg	N/A	2.00E+01		87%	3/27/08	2.5	
							Rec Limits:	80	120	-0.1		G	
Batch: 8087407	THISO_IE_PRECIP_AEA			**Work Order:**	KKCAW1AC		**Report DB ID:**	KKCAW1CS					
TH-230	1.24E+00		1.7E-01	2.6E-01	2.87E-02	pCi/g	88%	1.14E+00	3.42E-02	108%	5/8/08 04:04 p	2.0	ALP120
							Rec Limits:	70	130	0.1		G	
Batch: 8087413	NI63_LSC			**Work Order:**	KKCA21AC		**Report DB ID:**	KKCA21CS					
NI-63	5.34E+02		1.0E+01	5.1E+01	8.30E+00	pCi/g	68%	6.04E+02	2.01E+01	88%	5/8/08 10:11 p	0.25	LSC4
							Rec Limits:	70	130	-0.1		G	
Batch: 8087415	TC99_ETVDSK_LSC			**Work Order:**	KKCA61AC		**Report DB ID:**	KKCA61CS					
TC-99	2.14E+02		2.0E+00	1.3E+01	6.57E-01	pCi/g	100%	2.29E+02	2.28E-01	93%	4/29/08 11:34 p	2.0	LSC6
							Rec Limits:	70	130	-0.1		G	
Batch: 8087419	906.0_H3_LSC			**Work Order:**	KKCCD1AC		**Report DB ID:**	KKCCD1CS					
H-3	1.98E+00		2.4E-01	2.8E-01	3.89E-01	pCi/g	100%	2.72E+00	8.15E-02	73%	4/2/08 06:21 p	5.0	LSC8
							Rec Limits:	70	130	-0.3		G	

No. of Results: 5 **Comments:**

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

rptSTLRchLcs
V5.1.6 A2002

TESTAMERICA

FORM II

MATRIX SPIKE RESULTS

Date: 12-May-08

Lab Name: TestAmerica **SDG:** W05364

Lot-Sample No.: J8C260317-1, B1TDD5 **Report No. :** 38996 **Matrix:** SOIL

Parameter	SpikeResult, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC | MDA	Rpt Unit, CRDL	Yield	Rec-overy	Exp-ected	Exp Uncert	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 8087347	Work Order:	KJ8491AG		Report DB ID:	KJ8491GW		Orig Sa DB ID:	9KJ84910					
HEXCHROME	7.71E+00			0.0E+00	3.50E-01	mg/kg	N/A	71.99%	1.07E+01		3/27/08	2.5	7196_CR6
	3.50E-01											G	
Batch: 8087415	Work Order:	KJ8491AN		Report DB ID:	KJ8491NW		Orig Sa DB ID:	9KJ84910					
TC-99	2.06E+02		2.0E+00	1.3E+01	6.52E-01	pCi/g	100%	90.70%	2.27E+02	2.26E-0	4/29/08 09:29 p	2.02	TC99_ETVDSK_LSC
	-3.33E-04											G	LSC6

Number of Results: 2

Comments:

TestAmerica
rptSTLRchMs
V5.1.6 A2002

RER - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.
Bias - (Result/Expected)-1 as defined by ANSI N13.30.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

5/9/2008 8:12:28 AM

Lot No., Due Date: J8C260317; 05/12/2008

Client, Site: 108302; FLUOR- SOILS Hanford Site

QC Batch No., Method Test: 8087407; RTHISO Thiso by ALP

SDG, Matrix: W05364; SOIL

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 Review [signature] **Date** 5.9.8

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist

RADIOCHEMISTRY

Second Level Review

Batch Number: 8087407

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: Jodie C. Date: 5/12/08

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

4/30/2008 4:29:18 PM

Lot No., Due Date: J8C260317; 05/12/2008

Client, Site: 108302; FLUOR- SOILS Hanford Site

QC Batch No., Method Test: 8087415; RTC99 Tc-99 by LSC

SDG, Matrix: W05364; SOIL

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 Review Tina Anderson **Date** 4/30/08

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist

RADIOCHEMISTRY

Second Level Review

Batch Number: 808 7415

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: Erika [illegible] Date: 5/2/15

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

4/28/2008 4:30:16 PM

Lot No., Due Date: J8C260317; 05/12/2008

Client, Site: 108302; FLUOR- SOILS Hanford Site

QC Batch No., Method Test: 8087419; RTRITIUM H-3 by LSC

SDG, Matrix: W05364; SOIL

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

5.0 Comments on any No response:

First Level Review Eric Anderson **Date** 4/28/08

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 808 7419

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: Erika Ford Date: 4/28/8

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

5/12/2008 1:22:27 PM

Lot No., Due Date: J8C260317; 05/12/2008

Client, Site: 108302; FLUOR- SOILS Hanford Site

QC Batch No., Method Test: 8087413; RNI63 Ni-63 by LSC

SDG, Matrix: W05364; SOIL

1.0 COC

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

2.0 QC Batch

	Yes	No	N/A
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2.2 Are the QC appropriate for the analysis included in the batch?	✓		
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	✓		
2.4 Does the Worksheets include a Tracer Vial label for each sample?	✓		

3.0 QC & Samples

	Yes	No	N/A
3.1 Is the blank results, yield, and MDA within contract limits?	✓		
3.2 Is the LCS result, yield, and MDA within contract limits?	✓		
3.3 Are the MS/MSD results, yields, and MDA within contract limits?			✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?	✓		
3.5 Are the sample yields and MDAs within contract limits?	✓		

4.0 Raw Data

	Yes	No	N/A
4.1 Were results calculated in the correct units?	✓		
4.2 Were analysis volumes entered correctly?	✓		
4.3 Were Yields entered correctly?			✓
4.4 Were spectra reviewed/meet contractual requirements?			✓
4.5 Were raw counts reviewed for anomalies?	✓		

5.0 Other

	Yes	No	N/A
5.1 Are all nonconformances included and noted?			✓
5.2 Are all required forms filled out?	✓		
5.3 Was the correct methodology used?	✓		
5.4 Was transcription checked?	✓		
5.5 Were all calculations checked at a minimum frequency?	✓		
5.6 Are worksheet entries complete and correct?	✓		

6.0 Comments on any No response:

First Level Review Lisa Anderson **Date** 5/12/08

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist

RADIOCHEMISTRY

Second Level Review

Batch Number: 8087413

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: Jodie C. Date: 5/12/08

ENTERED 5/8/08
SKS

TestAmerica

Richland Laboratory
Data Review Check List
Hexavalent Chromium

Batch Number(s): 8087347 J8C260317

Lab Sample Numbers or SDG: ~~J00159~~ WØ5364 SKS 3/31/08

Method/Test/Parameter: **Cr+6 in SOLID / RICH-WC-5005, Rev 8**

Review Item	Yes (✓)	No (✓)	N/A (✓)	2nd Level Review (✓)
A. Initial Calibration				
1. Performed at required frequency with required number of levels?	✓			✓
2. Correlation coefficient within QC limits?	✓			✓
3. Initial calibration verification (ICV) analyzed immediately after calibration and results within QC limits?	✓			✓
4. Initial calibration blank (ICB) analyzed immediately after ICV and concentrations of all parameters ≤ reporting limit?	✓			✓
B. Continuing Calibration				✓
1. CCV analyzed at required frequency and all parameters within QC limits?	✓			
2. CCB analyzed at required frequency and all results ≤ reporting limit?	✓			✓
C. Sample Analysis	✓			
1. Were any samples with concentrations above the linear range for any parameter diluted and reanalyzed?				✓
2. Were all sample holding times met?	✓			✓
D. QC Samples				
1. All results for the preparation blank below limits?	✓			✓
2. MS or MS/MSD recoveries within QC limits and %RPD (for MSD) acceptable?		✓		✓
3. LCS percent recovery within QC limits and %RPD (for LCSD) acceptable?	✓			✓
4. Analytical spikes within QC limits where applicable?			✓	✓
5. ICP only: One serial dilution performed per SDG?			✓	✓
6. ICP only: CRDL standard (CRI or CRA) analyzed at required frequency?			✓	✓
7. ICP only: Interference check samples (ICSA, ICSAB) and IICAL analyzed at the required frequencies and within QC limits?			✓	✓

Review Item	Yes (✓)	No (✓)	N/A (✓)	2nd Level Review (✓)
E. Other 1. Are all nonconformances included and noted?	✓			✓
2. Is the correct date and time of analysis shown?	✓			✓
3. Did the analyst sign and date the front page of the analytical run?	✓			✓
4. Correct methodology used?	✓			✓
5. Transcriptions checked?	✓			✓
6. Calculations checked at minimum frequency?	✓			✓
7. Units checked?	✓			✓

Comments on any "No" response: The MS recovered low at 72.02%. The LCS and the insoluble MS recovered within limits. The PDMS recovered at 100.8%. See NCM

Analyst: [signature] Date: 2/28/08

Second-Level Review: [signature] Date: 5/8/08

Clouseau
Nonconformance Memo

TestAmerica

NCM #:	10-12040		
NCM Initiated By:	Don Petty	Classification:	**Anomaly**
Date Opened:	03/28/2008	Status:	**GLREVIEW**
Date Closed:		Production Area:	Classical Chemistry
		Tests:	7196A
		Lot #'s (Sample #'s):	J8C260317 (1), J8C270000 (347),
		QC Batches:	8087347,
Nonconformance:	Other (describe in detail)		
Subcategory:	Other (explanation required)		

Problem Description / Root Cause

Name	Date	Description
Don Petty	03/28/2008	The MS recovered low at 72%. The PDMS recovered at 109.27%. On the other hand the insoluble MS recovered at 100.78%. This implies a possible small amount of reducing capacity in the sample, but not enough to exhaust the more copious insoluble MS.

Corrective Action

Name	Date	Corrective Action
Don Petty	03/28/2008	report data

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: 3/28/2008

TESTAMERICA

26

Fluor Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F08-043-136 PAGE 1 OF 1

COLLECTOR: NCO Sampler Fulton	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: WIDRIG, DL
PRICE CODE: 8N	DATA TURNAROUND: 45 Days / 45 Days	AIR QUALITY: ☐	
SAMPLING LOCATION: C5941, I-004-SP	PROJECT DESIGNATION: 216-A-30 Crib Sampling	SAF NO.: F08-043	
ICE CHEST NO.: GUSS-6	FIELD LOGBOOK NO.:	ACTUAL SAMPLE DEPTH: 15.6'-18.1'	COA: 123215ES20
METHOD OF SHIPMENT: FEDERAL EXPRESS	SHIPPED TO: TestAmerica Incorporated, Richland	OFFSITE PROPERTY NO.: See PTR SEE RSR H0022000	BILL OF LADING/AIR BILL NO.: See PTR SEE RSR H0022000

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

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 HANDLING AND/OR STORAGE
Radioactive tie to B1TDB6

PRESERVATION	None	Cool~4C
TYPE OF CONTAINER	G/P	G/P
NO. OF CONTAINER(S)	1	1
VOLUME	120mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196 {Hexavalent Chromium}

JSC060317
W05364
Due 05 ~~04~~ 12 08
Rw 3/27/08

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B1TDD5	SOIL	3-6-08	1045	✓	✓	KJ849

Lot# 024825 076336

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Chris Fulton	3-6-08 1150	MO 509 Fridge	3-6-08 1150
MO 509 FRIDGE	3-19-08 0705	Widrig/Widrig	3-19-08 0705
DL-1238/Widrig	3-25-08 0820	Ed Kawa Kawa	3-25-08 0820
Ed Kawa/Kawa	3-25-08 0944	MO 745 Refridge #3	3-25-08 0944
MO 745 REF #3	3-26-08 1105	RIPFISTER/Ripfister	3-26-08 1105
RIPFISTER/Ripfister	3-26-08 1420 ~~1105~~	~~FED EX~~ S. Smith S. Smith	3-26-08 1420
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.
(1)Tritium - H3; Isotopic Thorium {Thorium-232} Technetium-99 {Technetium-99} Nickel-63;

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

A-6003-618(01/06)

A-30, C5941
I-004, 15.6-18.1

TESTAMERICA

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-043
Sample # W08GR00500
Client ID: B1TDB6 TRENT WSCF

Matrix: SOIL

Group #: WSCF20080467
Department: Radiochemistry
Sampled: 03/06/08
Received: 03/06/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
A/B by Liquid Scintillation											
Gross alpha	12587-46-1	LA-508-421		460	pCi/g	+-92.0	pCi/g	1.00	2.4		03/06/08
Gross beta	12587-47-2	LA-508-421		1.20e+03	pCi/g	+-240	pCi/g	1.00	2.9		03/06/08
Gamma Energy Analysis-grd H2O											
Americium-241	14596-10-2	LA-508-481	U	-0.151	pCi/g	+-1.23	pCi/g	1.00	2.1		03/11/08
Antimony-125	14234-35-6	LA-508-481	U	-0.106	pCi/g	+-0.199	pCi/g	1.00	0.33		03/11/08
Ba-133 by GEA	13981-41-4	LA-508-481	U	-0.0575	pCi/g	+-0.121	pCi/g	1.00	0.18		03/11/08
Cerium-144	14762-78-8	LA-508-481	U	0.621	pCi/g	+-1.14	pCi/g	1.00	1.9		03/11/08
Cerium/Praseodymium-144	CE/PR-144	LA-508-481	U	1.24	pCi/g	+-2.28	pCi/g	1.00	3.8		03/11/08
Cobalt-60	10198-40-0	LA-508-481	U	0.0235	pCi/g	+-0.0357	pCi/g	1.00	0.075		03/11/08
Cesium-134	13967-70-9	LA-508-481	U	0.0219	pCi/g	+-0.0599	pCi/g	1.00	0.11		03/11/08
Cesium-137	10045-97-3	LA-508-481		1.83	pCi/g	+-0.367	pCi/g	1.00	0.11		03/11/08
Europium-152	14683-23-9	LA-508-481	U	0.150	pCi/g	+-0.273	pCi/g	1.00	0.44		03/11/08
Europium-154	15585-10-1	LA-508-481	U	0.292	pCi/g	+-0.226	pCi/g	1.00	0.30		03/11/08
Europium-155	14391-16-3	LA-508-481	U	-0.0734	pCi/g	+-0.696	pCi/g	1.00	1.2		03/11/08
Potassium-40	13966-00-2	LA-508-481		11.9	pCi/g	+-2.17	pCi/g	1.00	0.60		03/11/08
Niobium-94	14681-63-1	LA-508-481	U	-0.0243	pCi/g	+-0.0516	pCi/g	1.00	0.086		03/11/08
Radium-226	13982-63-3	LA-508-481		0.416	pCi/g	+-0.198	pCi/g	1.00	0.18		03/11/08
Radium-228	15262-20-1	LA-508-481		0.650	pCi/g	+-0.250	pCi/g	1.00	0.46		03/11/08
Ruthenium-106	13967-48-1	LA-508-481	U	-0.0546	pCi/g	+-0.542	pCi/g	1.00	0.93		03/11/08
Tin-126	15832-50-5	LA-508-481	U	-0.170	pCi/g	+-0.516	pCi/g	1.00	0.85		03/11/08
Thorium-234	15065-10-8	LA-508-481	U	-0.918	pCi/g	+-9.18	pCi/g	1.00	16		03/11/08
Uranium-235	15117-96-1	LA-508-481	U	0.486	pCi/g	+-1.10	pCi/g	1.00	1.8		03/11/08
Zinc-65	13982-39-3	LA-508-481	U	-3.48e-03	pCi/g	+-0.0348	pCi/g	1.00	0.15		03/11/08
Actinium-228	14331-83-0	LA-508-481		0.650	pCi/g	+-0.250	pCi/g	1.00	0.46		03/11/08

MDL=Minimum Detection Limit U - Analyzed for but not detected above limiting criteria(inorg)
RQ=Result Qualifier
TP Err=Total Propagated Error
DF=Dilution Factor

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

Assume: Alpha = Pu-239
Beta = Sr-90

Report WGPP/ver. 5.2
Groundwater Remediation Program

27

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-043
Sample # W08GR00500
Client ID: B1TDB6 TRENT WSCF

Matrix: SOIL

Group #: WSCF20080467
Department: Radiochemistry
Sampled: 03/06/08
Received: 03/06/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Bismuth-212	14913-49-6	LA-508-481		0.776	pCi/g	+-0.644	pCi/g	1.00	0.73		03/11/08
Bismuth-214	14733-03-0	LA-508-481		0.666	pCi/g	+-0.339	pCi/g	1.00	0.18		03/11/08
Lead-212	15092-94-1	LA-508-481	U	0.273	pCi/g	+-0.214	pCi/g	1.00	0.36		03/11/08
Lead-214	15067-28-4	LA-508-481		0.414	pCi/g	+-0.260	pCi/g	1.00	0.30		03/11/08
Ruthenium-103	13968-53-1	LA-508-481	U	-0.0198	pCi/g	+-0.0692	pCi/g	1.00	0.12		03/11/08
Tin-113	13966-06-8	LA-508-481	U	0.0169	pCi/g	+-0.0971	pCi/g	1.00	0.17		03/11/08
Thallium-208	14913-50-9	LA-508-481		0.152	pCi/g	+-0.110	pCi/g	1.00	0.11		03/11/08

MDL = Minimum Detection Limit
RQ = Result Qualifier
TP Err = Total Propagated Error
DF = Dilution Factor

U - Analyzed for but not detected above limiting criteria(inorg)

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2
Groundwater Remediation Program

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 03-26-08 1420 **GM Screen Result** .2

Client: FLH **SDG #:** W05364 NA[ ] **SAF #:** F08-043 NA [ ]

Work Order Number: J8C260317 **Chain of Custody #** F08-043-136

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: 1
7. Sample holding times exceeded? NA [✓] Yes [ ] No [ ]
8. Samples have:
   - _____ Tape
   - _____ Custody Seals
   - _____ Hazard Lables
   - 1 Appropriate Sample Lables
9. Samples are:
   - 1 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 [ ] **Amount HNO_3 Added** _____ Soil
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: S. Smith **Date:** 03-26-08

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____

LS-023, Rev. 7, 1/08

TESTAMERICA

4/30/2008 7:27:08 AM

Sample Preparation/Analysis

Balance Id:1120373922

108302, Fluor Hanford Inc , Flour
Hanford Inc

9R Thlso PrpRC5013/RC5019, SepRC5084(5003)
S1 Thorium-228,230,232 by Alpha Spec
5I CLIENT: HANFORD

Pipet #:

AnalyDueDate: 05/09/2008

Sep1 DT/Tm Tech:

Batch: 8087407 SOIL pCi/g PM, Quote: SS , 50639

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,WoodT

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 KJ849-1-AD J8C260317-1-SAMP 03/06/2008 10:45	AmtRec: 60ML,120ML	2.01g,in	THTC12512 04/08/08,pd 02/27/08,r #Containers: 2	900		Scr:	Alpha:	Beta:
2 KJ849-1-AK-X J8C260317-1-DUP 03/06/2008 10:45	AmtRec: 60ML,120ML	2.02g,in	THTC12513 04/08/08,pd 02/27/08,r #Containers: 2			Scr:	Alpha:	Beta:
3 KKCAW-1-AA-B J8C270000-407-BLK 03/06/2008 10:45	AmtRec:	2.00g,in	THTC12514 04/08/08,pd 02/27/08,r #Containers: 1			Scr:	Alpha:	Beta:
4 KKCAW-1-AC-C J8C270000-407-LCS 03/06/2008 10:45	AmtRec:	2.00g,in	THSI1209 04/11/08,pd 02/27/08,r #Containers: 1			Scr:	Alpha:	Beta:

Comments: Samples have been bombed 4/30/08 JSW

All Clients for Batch:
108302, Fluor Hanford Inc Flour Hanford Inc , SS , 50639

KJ8491AD-SAMP Constituent List:

Th-228	RDL:1	pCi/g	LCL:	UCL:	RPD:	Th-230	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35
Th-232	RDL:1	pCi/g	LCL:	UCL:	RPD:	Th-234	RDL:	pCi/g	LCL:20	UCL:105	RPD:35

KKCAW1AA-BLK:

Th-228	RDL:1	pCi/g	LCL:	UCL:	RPD:	Th-230	RDL:1	pCi/g	LCL:	UCL:	RPD:
Th-232	RDL:1	pCi/g	LCL:	UCL:	RPD:	Th-234	RDL:	pCi/g	LCL:20	UCL:105	RPD:35

4/30/2008 7:27:09 AM

Sample Preparation/Analysis

9R ThIso PrpRC5013/RC5019, SepRC5084(5003)
S1 Thorium-228,230,232 by Alpha Spec
5I CLIENT: HANFORD

Balance Id:1120373922

Pipet #: _____

AnalyDueDate: 05/09/2008

Sep1 DT/Tm Tech:

Batch: 8087407 pCi/g

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,WoodT

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

KKCAW1AC-LCS:
Th-230 RDL:1 pCi/g LCL:70 UCL:130 RPD:35 Th-234 RDL: pCi/g LCL:20 UCL:105 RPD:35

KJ8491AD-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
KKCAW1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
KKCAW1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

5/9/2008 8:11:40 AM

ICOC Fraction Transfer/Status Report

ByDate: 5/10/2007, 5/14/2008, Batch: '8087407', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
8087407						
AC		Rev1C	WoodT	4/21/2008 10:31:54		
SC			wagarr	IsBatched	3/27/2008 3:18:12 PM	ICOC_RADCALC v4.8.32
SC			WoodT	InPrep	4/21/2008 10:31:54 AM	RICH-RC-5013 Revision 7
SC			WoodT	Prep1C	4/30/2008 7:27:54 AM	RICH-RC5013 REVISION 7
SC			WoodT	InPrep2	4/30/2008 7:28:20 AM	RICH-RC5019 REVISION 6
SC			WoodT	Prep2C	4/30/2008 7:28:32 AM	RICH-RC5019 REVISION 6
SC			AshworthA	Sep1C	5/6/2008 6:50:15 PM	RICH-RC-5087 REV1
SC			AshworthA	Sep2C	5/8/2008 1:46:47 PM	RICH-RC-5003 REVISION 6
SC			ClarkR	InCnt1	5/8/2008 1:48:19 PM	RICH-RD-0008 REVISION 4
SC			DAWKINSO	CalcC	5/8/2008 10:38:38 PM	RICH-RD-0008 REVISION 4
SC			nortonj	Rev1C	5/9/2008 8:11:32 AM	RICH-RC-0002 REV 8
AC			**WoodT**	4/30/2008 7:27:54		
AC			**WoodT**	4/30/2008 7:28:20		
AC			**WoodT**	4/30/2008 7:28:32		
AC			**AshworthA**	5/6/2008 6:50:15 PM		
AC			**AshworthA**	5/8/2008 1:46:47 PM		
AC			**ClarkR**	5/8/2008 1:48:19 PM		
AC			**DAWKINSO**	5/8/2008 10:38:38 PM		
AC			**nortonj**	5/9/2008 8:11:32 AM		

AC: Accepting Entry; SC: Status Change

TAL Richland

Richland Wa.

Grp Rec Cnt: 9

ICOCFractions v4.8.33

TESTAMERICA

4/23/2008 10:40:34 AM

Sample Preparation/Analysis

Balance Id:1120373922

108302, Fluor Hanford Inc , Flour
Hanford Inc

AN Tc-99 Prp/SepRC5013/5078 RH
S5 Technetium-99 by Liquid Scint
5I CLIENT: HANFORD

Pipet #: SDN

AnalyDueDate: 05/09/2008

Sep1 DT/Tm Tech:

Batch: 8087415 SOIL pCi/g PM, Quote: SS , 50639

Sep2 DT/Tm Tech:

SEQ Batch, Test: None All Tests: 8087347 DWEA, 8087407 9RS1, 8087413 AFS4, 8087415 ANS5, 8087419 ATS6,

Prep Tech: ,WoodT

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 KJ849-1-AE J8C260317-1-SAMP 03/06/2008 10:45	AmtRec: 60ML,120ML	2.01g,in	#Containers: 2	100		Scr:	Alpha:	Beta:
2 KJ849-1-AM-X J8C260317-1-DUP 03/06/2008 10:45	AmtRec: 60ML,120ML	2.00g,in	#Containers: 2			Scr:	Alpha:	Beta:
3 KJ849-1-AN-S J8C260317-1-MS 03/06/2008 10:45	AmtRec: 60ML,120ML	2.02g,in	TCSG2021 04/11/08,pd 01/10/06,r #Containers: 2			Scr:	Alpha:	Beta:
4 KKCA6-1-AA-B J8C270000-415-BLK 03/06/2008 10:45	AmtRec:	2.00g,in	#Containers: 1			Scr:	Alpha:	Beta:
5 KKCA6-1-AC-C J8C270000-415-LCS 03/06/2008 10:45	AmtRec:	2.00g,in	TCSG2022 04/11/08,pd 01/10/06,r #Containers: 1			Scr:	Alpha:	Beta:
6 KKCA6-1-AD-BN J8C270000-415-IBLK 03/06/2008 10:45	AmtRec:		#Containers: 1			Scr:	Alpha:	Beta:

33

4/23/2008 10:40:34 AM

Sample Preparation/Analysis

AN Tc-99 Prp/SepRC5013/5078
S5 Technetium-99 by Liquid Scint
5I CLIENT: HANFORD

Balance Id:
Pipet #:

AnalyDueDate: 05/09/2008

Sep1 DT/Tm Tech:

Batch: 8087415 pCi/g
SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech:

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

Comments:

All Clients for Batch:
108302, Fluor Hanford Inc Flour Hanford Inc , SS , 50639

KJ8491AE-SAMP Constituent List:
Tc-99 RDL:15 pCi/g LCL:70 UCL:130 RPD:35
KJ8491AN-MS:

KKCA61AA-BLK:
Tc-99 RDL:15 pCi/g LCL: UCL: RPD:
KKCA61AC-LCS:
Tc-99 RDL:15 pCi/g LCL:70 UCL:130 RPD:35
KKCA61AD-IBLK:
Tc-99 RDL:15 pCi/g LCL: UCL: RPD:

KJ8491AE-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
KJ8491AN-MS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
KKCA61AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
KKCA61AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
KKCA61AD-IBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

4/30/2008 4:28:48 PM

ICOC Fraction Transfer/Status Report

ByDate: 5/1/2007, 5/5/2008, Batch: '8087415', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
8087415						
AC		Rev1C	**WoodT**	4/21/2008 11:11:11		
SC			wagarr	IsBatched	3/27/2008 3:18:12 PM	ICOC_RADCALC v4.8.32
SC			WoodT	InPrep	4/21/2008 11:11:11 AM	RICH-RC-5013 Revision 7
SC			WoodT	Prep1C	4/23/2008 10:38:45 AM	RICH-RC-5013 REVISION 7
SC			WoodT	InPrep2	4/23/2008 10:39:05 AM	RICH-RC-5078 REVISION 4
SC			WoodT	Prep2C	4/23/2008 10:39:22 AM	RICH-RC-5078 REVISION 4
SC			ManisD	InSep1	4/24/2008 7:19:47 AM	RICH-RC-5078 REV 4
SC			ManisD	Sep1C	4/29/2008 12:30:38 PM	RICH-RC-5078 REV 4
SC			ClarkR	InCnt1	4/29/2008 12:35:39 PM	RICH-RD-0001 REVISION 4
SC			BlackCL	CalcC	4/30/2008 7:26:43 AM	RICH-RD-0001 REVISION 4
SC			antonsonl	Rev1C	4/30/2008 4:28:40 PM	RICH-RC-0002 REV 8
AC			**WoodT**	4/23/2008 10:36:44		
AC			**WoodT**	4/23/2008 10:38:45		
AC			**WoodT**	4/23/2008 10:39:05		
AC			**WoodT**	4/23/2008 10:39:22		
AC			**ManisD**	4/24/2008 7:19:47		
AC			**ManisD**	4/29/2008 12:30:38		
AC			**ClarkR**	4/29/2008 12:35:39		
AC			**BlackCL**	4/30/2008 7:26:43		
AC			**antonsonl**	4/30/2008 4:28:40 PM		

AC: Accepting Entry; SC: Status Change

TESTAMERICA

3/27/2008 3:11:51 PM

Sample Preparation/Analysis

108302, Fluor Hanford Inc , Flour
Hanford Inc

AT H-3 Prp/SepRC5037
S6 Tritium by Liquid Scint
5I CLIENT: HANFORD

AnalyDueDate: 05/09/2008 W053L04

Batch: 8087419 SOIL pCi/g PM, Quote: SS , 50639
SEQ Batch, Test: None

Balance Id: 12445
Pipet #:
Sep1 DT/Tm Tech: 4-1-08 DM
Sep2 DT/Tm Tech:
Prep Tech:

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 KJ849-1-AF								
J8C260317-1-SAMP								
03/06/2008 10:45		AmtRec: 60ML,120ML	#Containers: 2			Scr:	Alpha:	Beta:
2 KJ849-1-AP-X								
J8C260317-1-DUP								
03/06/2008 10:45		AmtRec: 60ML,120ML	#Containers: 2			Scr:	Alpha:	Beta:
3 KKCCD-1-AA-B								
J8C270000-419-BLK								
03/06/2008 10:45		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
4 KKCCD-1-AC-C								
J8C270000-419-LCS								
03/06/2008 10:45		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
5 KKCCD-1-AD-B								
J8C270000-419-BLK								
03/06/2008 10:45		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:

Comments:

All Clients for Batch:
108302, Fluor Hanford Inc Flour Hanford Inc , SS , 50639

KJ8491AF-SAMP Constituent List:
H-3 RDL:400 pCi/g LCL:70 UCL:130 RPD:35

3/27/2008 3:11:51 PM

Sample Preparation/Analysis

AT H-3 Prp/SepRC5037
S6 Tritium by Liquid Scint
5I CLIENT: HANFORD

Balance Id: 12445
Pipet #:
Sep1 DT/Tm Tech: 4-1-08 am
Sep2 DT/Tm Tech:
Prep Tech:

AnalyDueDate: 05/09/2008

Batch: 8087419 pCi/g
SEQ Batch, Test: None

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

KKCCD1AA-BLK:

KKCCD1AC-LCS:

KKCCD1AD-BLK:

KJ8491AF-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
KKCCD1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
KKCCD1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
KKCCD1AD-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

4/28/2008 4:29:42 PM

ICOC Fraction Transfer/Status Report

ByDate: 4/29/2007, 5/3/2008, Batch: '8087419', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
8087419						
AC		**Rev1C**	**McDowellD**	4/1/2008 3:32:04 PM		
SC			wagarr	IsBatched	3/27/2008 3:18:12 PM	ICOC_RADCALC v4.8.32
SC			McDowellD	InSep1	4/1/2008 3:32:04 PM	RICH-RC-5037 REVISION 3
SC			McDowellD	Sep1C	4/2/2008 10:34:05 AM	RICH-RC-5037 REVISION 3
SC			BlackCL	InCnt1	4/2/2008 10:36:35 AM	RICH-RD-0001 REVISION 4
SC			ClarkR	CalcC	4/3/2008 8:39:39 AM	RICH-RD-0001 REVISION 4
SC			antonsonl	Rev1C	4/28/2008 4:29:30 PM	RICH-RC-0002 REV 8
AC			**McDowellD**	4/2/2008 10:34:05		
AC			**BlackCL**	4/2/2008 10:36:35		
AC			**ClarkR**	4/3/2008 8:39:39 AM		
AC			**antonsonl**	4/28/2008 4:29:30 PM		

AC: Accepting Entry; SC: Status Change

TAL Richland

Richland Wa.

Grp Rec Cnt: 5

ICOCFractions v4.8.33

TESTAMERICA

4/30/2008 7:26:56 AM

Sample Preparation/Analysis

Balance Id:1120373922

108302, Fluor Hanford Inc , Flour
Hanford Inc

AF Ni-63 PrpRC5013/5019, SepRC5069
S4 Nickel by ICP and Nickel-63 by Liquid Scint
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 05/09/2008

Sep1 DT/Tm Tech:

Batch: 8087413 **SOIL** **pCi/g** **PM, Quote: SS , 50639**

Sep2 DT/Tm Tech:

SEQ Batch, Test: None All Tests: 8087347 DWEA, 8087407 9RS1, 8087413 AFS4, 8087415 ANS5, 8087419 ATS6,

Prep Tech: ,WoodT

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 KJ849-1-AC J8C260317-1-SAMP 03/06/2008 10:45		AmtRec: 60ML,120ML	0.25g,in	0.25g #Containers: 2	NITA2505 03/20/08	150		Scr:	Alpha:	Beta:
2 KJ849-1-AL-X J8C260317-1-DUP 03/06/2008 10:45		AmtRec: 60ML,120ML	0.25g,in	0.25g #Containers: 2	NITA2506 03/20/08			Scr:	Alpha:	Beta:
3 KKCA2-1-AA-B J8C270000-413-BLK 03/06/2008 10:45		AmtRec:	0.25g,in	0.25g #Containers: 1	NITA2507 03/20/08			Scr:	Alpha:	Beta:
4 KKCA2-1-AC-C J8C270000-413-LCS 03/06/2008 10:45		AmtRec:	0.25g,in	0.25g #Containers: 1	NISA0795 12/12/07,pd 05/16/05,r			Scr:	Alpha:	Beta:
5 KKCA2-1-AD-BN J8C270000-413-IBLK 03/06/2008 10:45		AmtRec:		#Containers: 1				Scr:	Alpha:	Beta:

Comments: Samples have been bombed 4/30/08 JKW

All Clients for Batch:
108302, Fluor Hanford Inc Flour Hanford Inc , SS , 50639

KJ8491AC-SAMP Constituent List:
Ni-63 RDL:30 pCi/g LCL:70 UCL:130 RPD:35

TAL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1 ISV - Insufficient Volume for Analysis WO Cnt: 5
Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Prep_SamplePrep v4.8.32

4/30/2008 7:26:57 AM

Sample Preparation/Analysis

AF Ni-63 PrpRC5013/5019, SepRC5069
S4 Nickel by ICP and Nickel-63 by Liquid Scint
5I CLIENT: HANFORD

Balance Id:
Pipet #:
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech:

AnalyDueDate: 05/09/2008

Batch: 8087413 pCi/g
SEQ Batch, Test: None

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:

```
KKCA21AA-BLK:
  Ni-63        RDL:30          pCi/g     LCL:        UCL:        RPD:
KKCA21AC-LCS:
  Ni-63        RDL:30          pCi/g     LCL:70      UCL:130     RPD:35
KKCA21AD-IBLK:
  Ni-63        RDL:30          pCi/g     LCL:        UCL:        RPD:
KJ8491AC-SAMP Calc Info:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
KKCA21AA-BLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
KKCA21AC-LCS:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
KKCA21AD-IBLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```

Approved By _____ Date: _____

5/12/2008 1:17:49 PM

ICOC Fraction Transfer/Status Report

ByDate: 5/13/2007, 5/17/2008, Batch: '8087413', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
8087413						
AC		**Rev1C**	**WoodT**	4/21/2008 10:36:14		
SC			wagarr	IsBatched	3/27/2008 3:18:12 PM	ICOC_RADCALC v4.8.32
SC			WoodT	InPrep	4/21/2008 10:36:14 AM	RICH-RC-5013 Revision 7
SC			WoodT	Prep1C	4/30/2008 7:29:00 AM	RICH-RC5013 REVISION 7
SC			WoodT	InPrep2	4/30/2008 7:29:12 AM	RICH-RC5019 REVISION 6
SC			WoodT	Prep2C	4/30/2008 7:29:23 AM	RICH-RC5019 REVISION 6
SC			ManisD	Sep1C	5/8/2008 9:03:04 AM	RICH-RC-5069 REV 6
SC			BlackCL	InCnt1	5/8/2008 9:03:52 AM	RICH-RD-0001 REVISION 4
SC			BlackCL	CalcC	5/9/2008 7:15:43 AM	RICH-RD-0001 REVISION 4
SC			antonsonl	Rev1C	5/12/2008 1:17:06 PM	RICH-RC-0002 REV 8
AC			**WoodT**	4/30/2008 7:29:00		
AC			**WoodT**	4/30/2008 7:29:12		
AC			**WoodT**	4/30/2008 7:29:23		
AC			**ManisD**	5/8/2008 9:03:04 AM		
AC			**BlackCL**	5/8/2008 9:03:52 AM		
AC			**BlackCL**	5/9/2008 7:15:43 AM		
AC			**antonsonl**	5/12/2008 1:17:06 PM		

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland Wa.

Grp Rec Cnt: 8

ICOCFractions v4.8.34

TESTAMERICA

3/27/2008 2:32:12 PM

Sample Preparation/Analysis

108302, Fluor Hanford Inc , Flour
Hanford Inc

DW Alkaline Digestion by method 3060A
EA Chromium, Hexavalent (7196A)

AnalyDueDate: 05/09/2008 WO53604 **5I CLIENT: HANFORD**

Batch: 8087347 SOIL mg/kg PM, Quote: SS , 50639
SEQ Batch, Test: None

Balance Id:
Pipet #:
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech:

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 KJ849-1-AA J8C260317-1-SAMP 03/06/2008 10:45		AmtRec: 60ML,120ML	#Containers: 2		2.5228			Scr:	Alpha:	Beta:
2 KJ849-1-AG-S J8C260317-1-MS 03/06/2008 10:45		AmtRec: 60ML,120ML	#Containers: 2		2.5134			Scr:	Alpha:	Beta:
3 KJ849-1-AH-X J8C260317-1-DUP 03/06/2008 10:45		AmtRec: 60ML,120ML	#Containers: 2		2.5137			Scr:	Alpha:	Beta:
4 KJ849-1-AJ-S J8C260317-1-MS P6G604 03/06/2008 10:45		11.1 mg AmtRec: 60ML,120ML	#Containers: 2		2.5328			Scr:	Alpha:	Beta:
5 KKA3A-1-AA-B J8C270000-347-BLK 03/06/2008 10:45		AmtRec:	#Containers: 1					Scr:	Alpha:	Beta:
6 KKA3A-1-AC-C J8C270000-347-LCS 03/06/2008 10:45		AmtRec:	#Containers: 1					Scr:	Alpha:	Beta:

TAL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1 ISV - Insufficient Volume for Analysis WO Cnt: 6
Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added ICOC v4.8.32

3/27/2008 2:32:12 PM

Sample Preparation/Analysis

DW Alkaline Digestion by method 3060A
EA Chromium, Hexavalent (7196A)
5I CLIENT: HANFORD

Balance Id:
Pipet #:
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech:

AnalyDueDate: 05/09/2008

Batch: 8087347 mg/kg
SEQ Batch, Test: None

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:

Comments:

```
All Clients for Batch:
   108302, Fluor Hanford Inc                    Flour Hanford Inc          ,  SS , 50639

KJ8491AA-SAMP Constituent List:
  HEXCHROME   RDL:0.35        mg/kg     LCL:80      UCL:120     RPD:20
KJ8491AG-MS Constituent List:

KJ8491AJ-MS:

KKA3A1AA-BLK:

KKA3A1AC-LCS:

KJ8491AA-SAMP Calc Info:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
KJ8491AG-MS Calc Info:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
KJ8491AJ-MS:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
KKA3A1AA-BLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
KKA3A1AC-LCS:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```

Approved By _____ Date: _____