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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.: 39336

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.
W05394	F08-031	B1TFT1	J8E060279-1	KMMR21AC	9KMMR210	8128366
		B1TFT1	J8E060279-1	KMMR21AA	9KMMR210	8128368
		B1TFT1	J8E060279-1	KMMR21AD	9KMMR210	8128371
		B1TFT1	J8E060279-1	KMMR21AE	9KMMR210	8128372

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Certificate of Analysis

Fluor Hanford, Inc.
1200 Jadwin Ave.
Richland, WA 99352

June 18, 2008

Attention: Steve Trent

SAF Number	:	F08-031
Date SDG Closed	:	May 6, 2008
Number of Samples	:	One (1)
Sample Type	:	Soil
SDG Number	:	W05394
Data Deliverable	:	45/45 Day

CASE NARRATIVE

I. Introduction

On May 6, 2008 one sample was received at TestAmerica for radiochemical analysis. Upon receipt, the sample was assigned to lot J8E060279 and assigned the following laboratory ID number to correspond with the Fluor Hanford (FH) specific ID:

FH ID#	STLR ID#	MATRIX	DATE OF RECEIPT
B1TFT1	KMMR2	SOIL	5/6/08

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

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 (B1TFT1) results are within contractual requirements.

Liquid Scintillation Counting
Technetium-99 by method RICH-RC-5078:
The LCS, batch blank, sample, sample duplicate (B1TFT1), and sample matrix spike (B1TFT1) results are within contractual requirements.

Tritium by method RICH-RC-5007:
The LCS, batch blank, sample and sample duplicate (B1TFT1) results are within contractual requirements.

Nickel-63 by method RICH-RC-5069:
The LCS, batch blank, sample and sample duplicate (B1TFT1) 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

TestAmerica TARL

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

Date: 18-Jun-08

Report No. : 39336

SDG No: W05394

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
8128366 THISO_IE_PRECIP_AEA									
B1TFT1									
	KMMR21AC	TH-228	7.39E-01 +- 1.77E-01		pCi/g	59%	2.83E-02	1.00E+00	
		TH-230	6.01E-01 +- 1.48E-01		pCi/g	59%	2.99E-02	1.00E+00	
		TH-232	7.57E-01 +- 1.74E-01		pCi/g	59%	2.54E-02	1.00E+00	
B1TFT1 DUP									
	KMMR21AF	TH-228	6.76E-01 +- 1.85E-01		pCi/g	43%	5.24E-02	1.00E+00	8.9
		TH-230	7.88E-01 +- 1.98E-01		pCi/g	43%	3.56E-02	1.00E+00	26.9
		TH-232	8.02E-01 +- 2.01E-01		pCi/g	43%	3.56E-02	1.00E+00	5.8
8128368 NI63_LSC									
B1TFT1									
	KMMR21AA	NI-63	5.31E-01 +- 6.32E+00	U	pCi/g	56%	9.55E+00	3.00E+01	
B1TFT1 DUP									
	KMMR21AG	NI-63	4.51E+00 +- 5.84E+00	U	pCi/g	61%	8.51E+00	3.00E+01	157.9
8128371 TC99_ETVDSK_LSC									
B1TFT1									
	KMMR21AD	TC-99	3.45E-01 +- 3.87E-01	U	pCi/g	100%	6.23E-01	1.50E+01	
B1TFT1 DUP									
	KMMR21AJ	TC-99	2.13E-01 +- 3.80E-01	U	pCi/g	100%	6.22E-01	1.50E+01	47.1
8128372 906.0_H3_LSC									
B1TFT1									
	KMMR21AE	H-3	2.38E-02 +- 1.24E-02		pCi/g	100%	2.34E-02	4.00E+02	
B1TFT1 DUP									
	KMMR21AK	H-3	3.58E-02 +- 1.17E-02		pCi/g	100%	2.10E-02	4.00E+02	40.2

No. of Results: 12

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

Date: 18-Jun-08

TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 39336

SDG No.: W05394

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC|MDA
THISO_IE_PRECIP_AEA								
8128366 BLANK QC,								
KMP081AA	TH-228	5.56E-03 +- 1.42E-02	U	pCi/g	81%			3.33E-02
	TH-230	0.00E+00 +- 1.27E-02	U	pCi/g	81%			2.98E-02
	TH-232	6.22E-03 +- 1.27E-02	U	pCi/g	81%			2.98E-02
8128366 LCS,								
KMP081AC	TH-230	1.16E+00 +- 2.50E-01		pCi/g	84%	102%	0.0	3.00E-02
NI63_LSC								
8128368 BLANK QC,								
KMP1H1AA	NI-63	2.75E-01 +- 3.70E+00	U	pCi/g	96%			5.59E+00
8128368 LCS,								
KMP1H1AC	NI-63	4.95E+02 +- 4.65E+01		pCi/g	93%	83%	-0.2	5.88E+00
TC99_ETVDSK_LSC								
8128371 MATRIX SPIKE, B1TFT1								
KMMR21AH	TC-99	2.16E+02 +- 1.34E+01		pCi/g	100%	95%	-0.1	6.23E-01
8128371 BLANK QC,								
KMP1P1AA	TC-99	4.26E-01 +- 3.96E-01	U	pCi/g	100%			6.25E-01
8128371 LCS,								
KMP1P1AC	TC-99	2.15E+02 +- 1.33E+01		pCi/g	100%	95%	-0.1	6.23E-01
906.0_H3_LSC								
8128372 BLANK QC,								
KMP1X1AA	H-3	-4.92E-03 +- 1.23E-01	U	pCi/g	100%			2.52E-01
8128372 LCS,								
KMP1X1AC	H-3	2.19E+00 +- 2.13E-01		pCi/g	100%	80%	-0.2	2.51E-01

No. of Results: 11

TestAmerica
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.

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FORM I

SAMPLE RESULTS

Date: 18-Jun-08

Lab Name:	TestAmerica	**SDG:**	W05394	**Collection Date:**	2/14/2008 1:00:00 PM
Lot-Sample No.:	J8E060279-1	**Report No. :**	39336	**Received Date:**	5/6/2008 1:25:00 PM
Client Sample ID:	B1TFT1	**COC No. :**	F08-031-137	**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: 8128366	THISO_IE_PRECIP_AEA			**Work Order:**	KMMR21AC		**Report DB ID:** 9KMMR210					
TH-228	***7.39E-01***		1.3E-01	1.8E-01	2.83E-02	pCi/g	59%	*(26.1)*	6/4/08 07:25 p		2.01	ALP117
						6.15E-03	1.00E+00	*(8.4)*			G	
TH-230	***6.01E-01***		1.1E-01	1.5E-01	2.99E-02	pCi/g	59%	*(20.1)*	6/4/08 07:25 p		2.01	ALP117
						7.79E-03	1.00E+00	*(8.1)*			G	
TH-232	***7.57E-01***		1.3E-01	1.7E-01	2.54E-02	pCi/g	59%	*(29.8)*	6/4/08 07:25 p		2.01	ALP117
						5.51E-03	1.00E+00	*(8.7)*			G	
Batch: 8128368	NI63_LSC			**Work Order:**	KMMR21AA		**Report DB ID:** 9KMMR210					
NI-63	***5.31E-01***	U	4.0E+00	6.3E+00	9.55E+00	pCi/g	56%	*0.06*	6/6/08 10:36 a		0.25	LSC6
						4.63E+00	3.00E+01	*0.17*			G	
Batch: 8128371	TC99_ETVDSK_LSC			**Work Order:**	KMMR21AD		**Report DB ID:** 9KMMR210					
TC-99	***3.45E-01***	U	2.7E-01	3.9E-01	6.23E-01	pCi/g	100%	*0.55*	6/13/08 03:09 a		2.03	LSC3
						2.99E-01	1.50E+01	*(1.8)*			G	
Batch: 8128372	906.0_H3_LSC			**Work Order:**	KMMR21AE		**Report DB ID:** 9KMMR210					
H-3	***2.38E-02***		1.1E-02	1.2E-02	2.34E-02	pCi/g	100%	*(1.)*	5/13/08 10:07 p		60.6	LSC8
						1.11E-02	4.00E+02	*(3.8)*			G	

No. of Results: 6 **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: 18-Jun-08

DUPLICATE RESULTS

Lab Name:	**TestAmerica**	**SDG:**	W05394	**Collection Date:**	2/14/2008 1:00:00 PM
Lot-Sample No.:	**J8E060279-1**	**Report No. :**	39336	**Received Date:**	5/6/2008 1:25:00 PM
Client Sample ID:	**B1TFT1 DUP**	**COC No. :**	F08-031-137	**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: 8128366	THISO_IE_PRECIP_AEA			**Work Order:** KMMR21AF		**Report DB ID:** KMMR21FR			**Orig Sa DB ID:** 9KMMR210			
TH-228	6.76E-01		1.5E-01	1.9E-01	5.24E-02	pCi/g	43%	(12.9)	6/4/08 07:25 p		2.0	ALP118
	7.39E-01		**RPD**	**8.9**		1.00E+00		(7.3)			G	
TH-230	7.88E-01		1.5E-01	2.0E-01	3.56E-02	pCi/g	43%	(22.1)	6/4/08 07:25 p		2.0	ALP118
	6.01E-01		**RPD**	**26.9**		1.00E+00		(7.9)			G	
TH-232	8.02E-01		1.5E-01	2.0E-01	3.56E-02	pCi/g	43%	(22.5)	6/4/08 07:25 p		2.0	ALP118
	7.57E-01		**RPD**	**5.8**		1.00E+00		(8.)			G	
									Alpha Spec Result Sum = 2.3E+00			
Batch: 8128368	NI63_LSC			**Work Order:** KMMR21AG		**Report DB ID:** KMMR21GR			**Orig Sa DB ID:** 9KMMR210			
NI-63	4.51E+00	U	3.7E+00	5.8E+00	8.51E+00	pCi/g	61%	0.53	6/6/08 12:19 p		0.26	LSC6
	5.31E-01	U	**RPD**	**157.9**		3.00E+01		(1.5)			G	
									Alpha Spec Result Sum = 2.3E+00			
Batch: 8128371	TC99_ETVDSK_LSC			**Work Order:** KMMR21AJ		**Report DB ID:** KMMR21JR			**Orig Sa DB ID:** 9KMMR210			
TC-99	2.13E-01	U	2.7E-01	3.8E-01	6.22E-01	pCi/g	100%	0.34	6/13/08 05:15 a		2.03	LSC3
	3.45E-01	U	**RPD**	**47.1**		1.50E+01		(1.1)			G	
									Alpha Spec Result Sum = 2.3E+00			
Batch: 8128372	906.0_H3_LSC			**Work Order:** KMMR21AK		**Report DB ID:** KMMR21KR			**Orig Sa DB ID:** 9KMMR210			
H-3	3.58E-02		1.0E-02	1.2E-02	2.10E-02	pCi/g	100%	(1.7)	5/13/08 11:29 p		60.6	LSC8
	2.38E-02		**RPD**	**40.2**		4.00E+02		(6.1)			G	
									Alpha Spec Result Sum = 2.3E+00			

TestAmerica **RPD** - Relative Percent Difference.

rptSTLRchDupV5.1 .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

BLANK RESULTS

Date: 18-Jun-08

Lab Name: TestAmerica

Matrix: SOIL

SDG: W05394

Report No. : 39336

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: 8128366	THISO_IE_PRECIP_AEA			**Work Order:**	KMP081AA		**Report DB ID:**	KMP081AB				
TH-228	5.56E-03	U	1.4E-02	1.4E-02	3.33E-02	pCi/g	81%	0.17	6/4/08 07:25 p		2.0	ALP119
					7.23E-03	1.00E+00		0.78			G	
TH-230	0.00E+00	U	0.0E+00	1.3E-02	2.98E-02	pCi/g	81%	0.	6/4/08 07:25 p		2.0	ALP119
					6.47E-03	1.00E+00		0.			G	
TH-232	6.22E-03	U	1.3E-02	1.3E-02	2.98E-02	pCi/g	81%	0.21	6/4/08 07:25 p		2.0	ALP119
					6.47E-03	1.00E+00		0.98			G	
Batch: 8128368	NI63_LSC			**Work Order:**	KMP1H1AA		**Report DB ID:**	KMP1H1AB				
NI-63	2.75E-01	U	2.3E+00	3.7E+00	5.59E+00	pCi/g	96%	0.05	6/6/08 02:01 p		0.25	LSC6
					2.71E+00	3.00E+01		0.15			G	
Batch: 8128371	TC99_ETVDSK_LSC			**Work Order:**	KMP1P1AA		**Report DB ID:**	KMP1P1AB				
TC-99	4.26E-01	U	2.7E-01	4.0E-01	6.25E-01	pCi/g	100%	0.68	6/13/08 06:17 a		2.0	LSC3
					3.00E-01	2.00E+01		(2.1)			G	
Batch: 8128372	906.0_H3_LSC			**Work Order:**	KMP1X1AA		**Report DB ID:**	KMP1X1AB				
H-3	-4.92E-03	U	1.0E-01	1.2E-01	2.52E-01	pCi/g	100%	-0.02	5/13/08 07:23 p		5.0	LSC8
					1.20E-01	4.00E+02		-0.08			G	

No. of Results: 6 **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: 18-Jun-08

Lab Name: TestAmerica

Matrix: SOIL

SDG: W05394

Report No. : 39336

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: 8128366	THISO_IE_PRECIP_AEA			**Work Order:**	KMP081AC		**Report DB ID:**	KMP081CS					
TH-230	1.16E+00		1.7E-01	2.5E-01	3.00E-02	pCi/g	84%	1.14E+00	3.41E-02	102%	6/4/08 07:26 p	2.01	ALP120
							Rec Limits:	70	130	0.0		G	
Batch: 8128368	NI63_LSC			**Work Order:**	KMP1H1AC		**Report DB ID:**	KMP1H1CS					
NI-63	4.95E+02		8.3E+00	4.7E+01	5.88E+00	pCi/g	93%	5.99E+02	1.99E+01	83%	6/6/08 03:44 p	0.25	LSC6
							Rec Limits:	70	130	-0.2		G	
Batch: 8128371	TC99_ETVDSK_LSC			**Work Order:**	KMP1P1AC		**Report DB ID:**	KMP1P1CS					
TC-99	2.15E+02		2.0E+00	1.3E+01	6.23E-01	pCi/g	100%	2.26E+02	2.28E-01	95%	6/13/08 07:20 a	2.0	LSC3
							Rec Limits:	70	130	-0.1		G	
Batch: 8128372	906.0_H3_LSC			**Work Order:**	KMP1X1AC		**Report DB ID:**	KMP1X1CS					
H-3	2.19E+00		1.7E-01	2.1E-01	2.51E-01	pCi/g	100%	2.74E+00	8.22E-02	80%	5/13/08 08:45 p	5.0	LSC8
							Rec Limits:	70	130	-0.2		G	

No. of Results: 4 **Comments:**

TESTAMERICA

FORM II

MATRIX SPIKE RESULTS

Date: 18-Jun-08

Lab Name: TestAmerica **SDG:** W05394

Lot-Sample No.: J8E060279-1, B1TFT1 **Report No. :** 39336 **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: 8128371	Work Order: KMMR21AH			Report DB ID: KMMR21HW			Orig Sa DB ID: 9KMMR210						
TC-99	2.16E+02		2.0E+00	1.3E+01	6.23E-01	pCi/g	100%	94.72%	2.28E+02	2.28E-0	6/13/08 04:12 a	2.0	TC99_ETVDSK_LSC
	3.45E-01											G	LSC3

Number of Results: 1

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

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

6/6/2008 10:24:31 AM

Lot No., Due Date: J8E060279; 06/20/2008

Client, Site: 108302; FLUOR- SOILS Hanford Site

QC Batch No., Method Test: 8128366; RTHISO Thiso by ALP

SDG, Matrix: W05394; 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 John Norton **Date** 6 6 8

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 8128306

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: 6/9/18

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

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

6/16/2008 3:01:37 PM

Lot No., Due Date: J8E060279; 06/20/2008

Client, Site: 108302; FLUOR- SOILS Hanford Site

QC Batch No., Method Test: 8128371; RTC99 Tc-99 by LSC

SDG, Matrix: W05394; SOIL

	Yes	No	N/A
1.0 COC			
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	✓		
2.0 QC Batch			
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			
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			
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			
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 John Vorster **Date** 6-16-8

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist

RADIOCHEMISTRY

Second Level Review

Batch Number: 8128371

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: 6/16/17

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

5/20/2008 9:43:38 AM

Lot No., Due Date: J8E060279; 06/20/2008

Client, Site: 108302; FLUOR- SOILS Hanford Site

QC Batch No., Method Test: 8128372; RTRITIUM H-3 by LSC

SDG, Matrix: W05394; SOIL

	Yes	No	N/A
1.0 COC			
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	✓		
2.0 QC Batch			
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			
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			
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			
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 [signature] **Date** 5-20-8

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist

RADIOCHEMISTRY

Second Level Review

Batch Number: 8128372

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: [signature] Date: 5/21/11

TestAmerica

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

6/10/2008 11:47:02 AM

Lot No., Due Date: J8E060279; 06/20/2008

Client, Site: 108302; FLUOR- SOILS Hanford Site

QC Batch No., Method Test: 8128368; RNI63 Ni-63 by LSC

SDG, Matrix: W05394; 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 John Morton **Date** 6-10-8

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist

RADIOCHEMISTRY

Second Level Review

Batch Number: 8128368

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: 6/10/18

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

TESTAMERICA

Fluor Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F08-031-137 PAGE 1 OF 1

COLLECTOR NCO Sampler	**COMPANY CONTACT** TRENT, SJ	**TELEPHONE NO.** 373-5869	**PROJECT COORDINATOR** WIDRIG, DL	**PRICE CODE** 8N	**DATA TURNAROUND** 45 Days / 45 Days
SAMPLING LOCATION C5942, ~~1-2~~ 2-Split I-4 27.5'-30.0'	**PROJECT DESIGNATION** 216-B-55 Supplemental Characterization		**SAF NO.** F08-031	**AIR QUALITY** ☐	
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**ACTUAL SAMPLE DEPTH**	**COA** 123055ES20	**METHOD OF SHIPMENT** FEDERAL EXPRESS	
SHIPPED TO TestAmerica Incorporated, Richland	**OFFSITE PROPERTY NO.** SEE PTR		**BILL OF LADING/AIR BILL NO.** SEE PTR		

DUP 5-1-08

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 B1TFM3

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}

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B1TFT1	SOIL	2-14-08	13:00

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Ed Kaver/[illegible] 2-14-08	13:50	B-55 Safe Frig 2-14-08	1350
B-55 Ref #1	5-1-08 1100	D. Parch [illegible]	5-1-08 1100
D. Parch [illegible]	5-1-08 1300	MO 745 Ref #1	5-1-08 1300
MO-745 / Ref #1	5-6-08 1300	J. Poll	5-6-08 1300
J. Poll / [illegible]	5-6-08 1325	[illegible] LULANE TAL	5608 1325

SPECIAL INSTRUCTIONS
** Analytical batch QC must be run on a sample associated with this SAF.
** 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;

J8E060279
W05394
DUE ~~62308~~ 6-20-08
KMMR2 RW 5/7/08

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

A-6003-618(01/06)

TESTAMERICA

B-55, C5442
I-4

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-031
Sample # W08GR00306
Client ID: B1TFM5 GPP TRENT WSCF
Matrix: SOIL

Group #: WSCF20080283
Department: Radiochemistry
Sampled: 02/14/08
Received: 02/14/08

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	U	0.800	pCi/g	+-1.42	pCi/g	1.00	2.4		02/14/08
Gross beta	12587-47-2	LA-508-421		8.10	pCi/g	+-2.59	pCi/g	1.00	3.2		02/14/08

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

Report WGPP/ver. 5.2
Groundwater Remediation Program

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 5 6 08 1325 GM Screen Result 0.1 K

Client: FLH SDG #: W05394 NA[ ] SAF #: F08-031 NA [ ]

Work Order Number: J8E060279 Chain of Custody # F08-031-137

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
   - ✓ 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 [✓] SOIL pH<2 [ ] pH>2 [ ] pH>9 [ ] Amount HNO_3 Added _____
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: 5 6 08

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____

TESTAMERICA

5/21/2008 9:51:12 PM

Sample Preparation/Analysis

Balance Id:1120373922,I4 A

108302, Fluor Hanford Inc , Flour
Hanford Inc

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

Pipet #: _____

AnalyDueDate: 06/20/2008

Sep1 DT/Tm Tech:

Batch: 8128366 SOIL pCi/g PM, Quote: SS , 50639

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:
1 KMMR2-1-AC J8E060279-1-SAMP 02/14/2008 13:00	AmtRec: 120G	2.01g,in	THTC12582 05/14/08,pd 05/12/08,r #Containers: 1	2.0		Scr:	Alpha:	Beta:
2 KMMR2-1-AF-X J8E060279-1-DUP 02/14/2008 13:00	AmtRec: 120G	2.00g,in	THTC12583 05/14/08,pd 05/12/08,r #Containers: 1			Scr:	Alpha:	Beta:
3 KMP08-1-AA-B J8E070000-366-BLK 02/14/2008 13:00	AmtRec:	2.00g,in	THTC12584 05/14/08,pd 05/12/08,r #Containers: 1			Scr:	Alpha:	Beta:
4 KMP08-1-AC-C J8E070000-366-LCS 02/14/2008 13:00	AmtRec:	2.01g,in	THSI1216 05/14/08,pd 05/12/08,r #Containers: 1			Scr:	Alpha:	Beta:

Comments:

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

KMMR21AC-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

KMP081AA-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

24

5/21/2008 9:51:14 PM

Sample Preparation/Analysis

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

Balance Id:1120373922,1120373922,1120

Pipet #: _____

AnalyDueDate: 06/20/2008

Sep1 DT/Tm Tech:

Batch: 8128366 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:

```
KMP081AC-LCS:
  Th-230      RDL:1          pCi/g     LCL:70     UCL:130     RPD:35      Th-234      RDL:          pCi/g     LCL:20     UCL:105     RPD:35

KMMR21AC-SAMP Calc Info:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
KMP081AA-BLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
KMP081AC-LCS:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```

Approved By _____ Date: _____

6/6/2008 10:23:52 AM

ICOC Fraction Transfer/Status Report

ByDate: 6/7/2007, 6/11/2008, Batch: '8128366', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
8128366						
AC		Rev1C	Barcotl	5/16/2008 1:25:08 PM		
SC			wagarr	IsBatched	5/7/2008 1:08:34 PM	ICOC_RADCALC v4.8.32
SC			Barcotl	InPrep	5/16/2008 1:25:08 PM	RICH-RC-5013 REVISION 7
SC			Barcotl	Prep1C	5/16/2008 1:25:26 PM	RICH-RC-5013 REVISION 7
SC			WoodT	InPrep	5/21/2008 9:49:07 PM	RICH-RC-5013 Revision 7
SC			WoodT	InPrep	5/21/2008 9:49:21 PM	RICH-RC-5019 REVISION 6
SC			WoodT	Prep1C	5/21/2008 9:49:40 PM	RICH-RC-5019 REVISION 6
SC			AshworthA	Sep1C	6/4/2008 9:48:09 AM	RICH-RC-5087 REV1
SC			AshworthA	Sep2C	6/4/2008 5:13:28 PM	RICH-RC-5003 REVISION 6
SC			DAWKINSO	InCnt1	6/4/2008 5:31:03 PM	RICH-RD-0008 REVISION 4
SC			DAWKINSO	CalcC	6/4/2008 9:55:44 PM	RICH-RD-0008 REVISION 4
SC			nortonj	Rev1C	6/6/2008 10:23:47 AM	RICH-RC-0002 REV 8
AC			Barcotl	5/16/2008 1:25:26 PM		
AC			WoodT	5/21/2008 9:49:07 PM		
AC			WoodT	5/21/2008 9:49:21 PM		
AC			WoodT	5/21/2008 9:49:40 PM		
AC			AshworthA	6/4/2008 9:48:09 AM		
AC			AshworthA	6/4/2008 5:13:28 PM		
AC			DAWKINSO	6/4/2008 5:31:03 PM		
AC			DAWKINSO	6/4/2008 9:55:44 PM		
AC			nortonj	6/6/2008 10:23:47		

AC: Accepting Entry; SC: Status Change

TAL Richland

Richland Wa.

Grp Rec Cnt: 10

ICOCFractions v4.8.33

TESTAMERICA

5/14/2008 9:54:08 AM

Sample Preparation/Analysis

Balance Id:1120373922

108302, Fluor Hanford Inc , Flour
Hanford Inc

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

Pipet #: _____

AnalyDueDate: 06/20/2008

Sep1 DT/Tm Tech:

Batch: 8128371 SOIL pCi/g PM, Quote: SS , 50639

Sep2 DT/Tm Tech:

SEQ Batch, Test: None All Tests: 8128366 9RS1, 8128368 AFS4, 8128371 ANS5, 8128372 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 KMMR2-1-AD J8E060279-1-SAMP 02/14/2008 13:00		2.03g,in AmtRec: 120G	#Containers: 1	10		Scr:	Alpha:	Beta:
2 KMMR2-1-AH-S J8E060279-1-MS 02/14/2008 13:00		2.00g,in AmtRec: 120G	TCSG2048 05/08/08,pd 01/10/06,r #Containers: 1			Scr:	Alpha:	Beta:
3 KMMR2-1-AJ-X J8E060279-1-DUP 02/14/2008 13:00		2.03g,in AmtRec: 120G	#Containers: 1			Scr:	Alpha:	Beta:
4 KMP1P-1-AA-B J8E070000-371-BLK 02/14/2008 13:00		2.00g,in AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
5 KMP1P-1-AC-C J8E070000-371-LCS 02/14/2008 13:00		2.00g,in AmtRec:	TCSG2049 05/08/08,pd 01/10/06,r #Containers: 1			Scr:	Alpha:	Beta:
6 KMP1P-1-AD-BN J8E070000-371-IBLK 02/14/2008 13:00		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:

TESTAMERICA

5/14/2008 9:54:09 AM

Sample Preparation/Analysis

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

Balance Id:

Pipet #: _____

AnalyDueDate: 06/20/2008

Sep1 DT/Tm Tech:

Batch: 8128371 pCi/g

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

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

KMMR21AD-SAMP Constituent List:
Tc-99 RDL:15 pCi/g LCL:70 UCL:130 RPD:35
KMMR21AH-MS Constituent List:

KMP1P1AA-BLK:
Tc-99 RDL:15 pCi/g LCL: UCL: RPD:
KMP1P1AC-LCS:
Tc-99 RDL:15 pCi/g LCL:70 UCL:130 RPD:35
KMP1P1AD-IBLK:
Tc-99 RDL:15 pCi/g LCL: UCL: RPD:

KMMR21AD-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
KMMR21AH-MS Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
KMP1P1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
KMP1P1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
KMP1P1AD-IBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

6/16/2008 3:00:52 PM

ICOC Fraction Transfer/Status Report

ByDate: 6/17/2007, 6/21/2008, Batch: '8128371', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
8128371						
AC		**Rev1C**	**WoodT**	5/14/2008 9:53:55		
SC			wagarr	IsBatched	5/7/2008 1:08:34 PM	ICOC_RADCALC v4.8.32
SC			WoodT	InPrep	5/14/2008 9:53:55 AM	rich-rc-5013 REV 6
SC			WoodT	Prep1C	5/14/2008 9:54:25 AM	RICH-RC-5013 REVISION 7
SC			WoodT	InPrep2	5/14/2008 9:55:17 AM	RICH-RC-5078 REVISION 4
SC			WoodT	Prep2C	5/14/2008 9:55:28 AM	RICH-RC-5078 REVISION 4
SC			Barcotl	InPrep2	6/12/2008 9:08:28 AM	RICH-RC-5078 REVISION 4
SC			Barcotl	Prep2C	6/12/2008 9:08:41 AM	RICH-RC-5078 REVISION 4
SC			ClarkR	InCnt1	6/12/2008 9:14:33 AM	RICH-RD-0001 REVISION 4
SC			DAWKINSO	CalcC	6/13/2008 5:07:55 PM	RICH-RD-0001 REVISION 4
SC			nortonj	Rev1C	6/16/2008 3:00:45 PM	RICH-RC-0002 REV 8
AC			**WoodT**	5/14/2008 9:54:25		
AC			**WoodT**	5/14/2008 9:54:25		RICH-RC-5087
AC			**WoodT**	5/14/2008 9:55:17		
AC			**WoodT**	5/14/2008 9:55:28		
AC			**Barcotl**	6/12/2008 9:08:28		
AC			**Barcotl**	6/12/2008 9:08:41		
AC			**ClarkR**	6/12/2008 9:14:33		
AC			**DAWKINSO**	6/13/2008 5:07:55 PM		
AC			**nortonj**	6/16/2008 3:00:45 PM		

AC: Accepting Entry; SC: Status Change

TAL Richland

Richland Wa.

Grp Rec Cnt: 10

ICOCFractions v4.8.33

TESTAMERICA

5/7/2008 1:07:35 PM

Sample Preparation/Analysis

108302, Fluor Hanford Inc , Flour
Hanford Inc

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

W05394

AnalyDueDate: 06/20/2008

Batch: 8128372 **SOIL** **pCi/g** **PM, Quote: SS , 50639**
SEQ Batch, Test: None

Balance Id: 12445
Pipet #:
Sep1 DT/Tm Tech: 5-12-08 Am
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 KMMR2-1-AE								
J8E060279-1-SAMP								
02/14/2008 13:00		AmtRec: 120G	#Containers: 1			Scr:	Alpha:	Beta:
2 KMMR2-1-AK-X								
J8E060279-1-DUP								
02/14/2008 13:00		AmtRec: 120G	#Containers: 1			Scr:	Alpha:	Beta:
3 KMP1X-1-AA-B								
J8E070000-372-BLK								
02/14/2008 13:00		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
4 KMP1X-1-AC-C								
J8E070000-372-LCS								
02/14/2008 13:00		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
5 KMP1X-1-AD-B								
J8E070000-372-BLK								
02/14/2008 13:00		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:

Comments:

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

KMMR21AE-SAMP Constituent List:
H-3 RDL:400 pCi/g LCL:70 UCL:130 RPD:35

5/7/2008 1:07:35 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: 5-12-08 am
Sep2 DT/Tm Tech:
Prep Tech:

AnalyDueDate: 06/20/2008

Batch: 8128372 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:

KMP1X1AA-BLK:

KMP1X1AC-LCS:

KMP1X1AD-BLK:

KMMR21AE-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
KMP1X1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
KMP1X1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
KMP1X1AD-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

TESTAMERICA

5/20/2008 9:43:01 AM

ICOC Fraction Transfer/Status Report

ByDate: 5/21/2007, 5/25/2008, Batch: '8128372', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
8128372						
AC		**Rev1C**	**McDowellD**	5/12/2008 9:45:20		
SC			wagarr	IsBatched	5/7/2008 1:08:34 PM	ICOC_RADCALC v4.8.32
SC			McDowellD	InSep1	5/12/2008 9:45:20 AM	RICH-RC-5037 REVISION 3
SC			McDowellD	Sep1C	5/13/2008 10:55:34 AM	RICH-RC-5004 REVISION 3
SC			BlackCL	InCnt1	5/13/2008 11:09:39 AM	RICH-RD-0001 REVISION 4
SC			BlackCL	CalcC	5/14/2008 6:47:47 AM	RICH-RD-0001 REVISION 4
SC			nortonj	Rev1C	5/20/2008 9:42:56 AM	RICH-RC-0002 REV 8
AC			**McDowellD**	5/13/2008 10:55:34		
AC			**BlackCL**	5/13/2008 11:09:39		
AC			**BlackCL**	5/14/2008 6:47:47		
AC			**nortonj**	5/20/2008 9:42:56		

AC: Accepting Entry; SC: Status Change

TAL Richland

Richland Wa.

Grp Rec Cnt: 5

ICOCFractions v4.8.33

TESTAMERICA

6/3/2008 8:08:59 PM

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: 06/20/2008

Sep1 DT/Tm Tech:

Batch: 8128368 SOIL pCi/g PM, Quote: SS , 50639

Sep2 DT/Tm Tech:

SEQ Batch, Test: None All Tests: 8128366 9RS1, 8128368 AFS4, 8128371 ANS5, 8128372 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 KMMR2-1-AA J8E060279-1-SAMP 02/14/2008 13:00		AmtRec: 120G	0.25g,in	0.25g #Containers: 1	NITA2511 05/14/08	100		Scr:	Alpha:	Beta:
2 KMMR2-1-AG-X J8E060279-1-DUP 02/14/2008 13:00		AmtRec: 120G	0.26g,in	0.26g #Containers: 1	NITA2512 05/14/08			Scr:	Alpha:	Beta:
3 KMP1H-1-AA-B J8E070000-368-BLK 02/14/2008 13:00		AmtRec:	0.25g,in	0.25g #Containers: 1	NITA2513 05/14/08			Scr:	Alpha:	Beta:
4 KMP1H-1-AC-C J8E070000-368-LCS 02/14/2008 13:00		AmtRec:	0.25g,in	0.25g #Containers: 1	NISA0802 03/20/08			Scr:	Alpha:	Beta:
5 KMP1H-1-AD-BN J8E070000-368-IBLK 02/14/2008 13:00		AmtRec:		#Containers: 1	NITA2518			Scr:	Alpha:	Beta:

Comments: Samples have been bomed 6/3/08 JSN

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

KMMR21AA-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

6/3/2008 8:09:02 PM

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: 06/20/2008

Batch: 8128368 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:

```
KMP1H1AA-BLK:
  Ni-63        RDL:30          pCi/g     LCL:        UCL:        RPD:
KMP1H1AC-LCS:
  Ni-63        RDL:30          pCi/g     LCL:70      UCL:130     RPD:35
KMP1H1AD-IBLK:
  Ni-63        RDL:30          pCi/g     LCL:        UCL:        RPD:
KMMR21AA-SAMP Calc Info:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
KMP1H1AA-BLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
KMP1H1AC-LCS:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
KMP1H1AD-IBLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```

Approved By _____ Date: _____

6/10/2008 11:46:16 AM

ICOC Fraction Transfer/Status Report

ByDate: 6/11/2007, 6/15/2008, Batch: '8128368', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
8128368						
AC		**Rev1C**	**WoodT**	5/28/2008 9:46:59		
SC			wagarr	IsBatched	5/7/2008 1:08:34 PM	ICOC_RADCALC v4.8.32
SC			WoodT	InPrep	5/28/2008 9:46:59 AM	RICH-RC-5013 Revision 7
SC			WoodT	Prep1C	6/3/2008 8:10:45 PM	RICH-RC-5013 REVISION 7
SC			WoodT	InPrep2	6/3/2008 8:10:58 PM	RICH-RC-5019 REVISION 6
SC			WoodT	Prep2C	6/3/2008 8:11:13 PM	RICH-RC-5019 REVISION 6
SC			ManisD	InSep1	6/4/2008 7:55:39 AM	RICH-RC-5009 REV 5
SC			ManisD	Sep1C	6/5/2008 4:22:07 PM	RICH-RC-5069 REV 6
SC			DAWKINSO	InCnt1	6/5/2008 5:09:07 PM	RICH-RD-0001 REVISION 4
SC			BlackCL	CalcC	6/9/2008 1:23:58 PM	RICH-RD-0001 REVISION 4
SC			nortonj	Rev1C	6/10/2008 11:46:10 AM	RICH-RC-0002 REV 8
AC			**WoodT**	6/3/2008 8:10:45 PM		
AC			**WoodT**	6/3/2008 8:10:58 PM		
AC			**WoodT**	6/3/2008 8:11:13 PM		
AC			**ManisD**	6/4/2008 7:55:39 AM		
AC			**ManisD**	6/5/2008 4:22:07 PM		
AC			**DAWKINSO**	6/5/2008 5:09:07 PM		
AC			**BlackCL**	6/9/2008 1:23:58 PM		
AC			**nortonj**	6/10/2008 11:46:10		

AC: Accepting Entry; SC: Status Change

TAL Richland

Richland Wa.

Grp Rec Cnt: 9

ICOCFractions v4.8.33