0073517

SEVERN TRENT STL

STL Richland
2800 George Washington Way
Richland, WA 99354

Tel: 509 375 3131 Fax: 509 375 5590
www.stl-inc.com

April 26, 2007

Leasa Hetzer
2430 Stevens Drive
Richland, WA 99354

Reference: Contract 615

Dear Ms. Hetzer:

Accompanying this letter are the Data Package(s) and Invoice(s) for the radiochemical analyses for the following Fluor Sample Delivery Groups:

SDG NUMBER	SAF NUMBER
W05136	F07-028
W05138	F07-028

If you have any questions regarding this data package or require any additional information please contact Sherryl Adam at 375-3131.

Receipt of this letter and the packages are acknowledged by:

Leasa E. Hetzer 4/30/2007
Name Date

XC: File

MAY 2007 RECEIVED

Attempted Delivery 4/26/07 1:38 SKS 4/26/07
4/27/07 1:18 SKS 4/27/07

RECEIVED AUG 01 2007 EDMC

Analytical Data Package Prepared For

Fluor Hanford Inc.

Radiochemical Analysis By

STL Richland

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

Assigned Laboratory Code: STLRL

Data Package Contains 43 ***Pages***

Report No.: 35129

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
W05138	F07-028	B1MRN6	J7C210186-1	JRFJN1AC	9JRFJN10	7081399
		B1MRN6	J7C210186-1	JRFJN1AA	9JRFJN10	7081400
		B1MRN6	J7C210186-1	JRFJN1AE	9JRFJN10	7081402
		B1MRN6	J7C210186-1	JRFJN1AF	9JRFJN10	7081403

MAY 2007
RECEIVED

SEVERN TRENT STL

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2800 George Washington Way
Richland, WA 99354

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Certificate of Analysis

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

April 26, 2007

Attention: Steve Trent

SAF Number	:	F07-028
Date SDG Closed	:	March 21, 2007
Number of Samples	:	One (1)
Sample Type	:	Water
SDG Number	:	W05138
Data Deliverable	:	45/45 Day

CASE NARRATIVE

I. Introduction

On March 21, 2007one water sample was received at STL Riehland (STLR) for radiochemical analysis. Upon receipt, the sample was assigned to lot J7C210186 and assigned the following laboratory ID number to correspond with the Fluor Hanford (FH) specific ID:

FH ID#	STLR ID#	MATRIX	DATE OF RECEIPT
B1MRN6	JRFJN	WATER	3/21/07

II. Sample Receipt

The sample was received in good condition and no anomalies were noted during check-in.

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Gamma Spectroscopy
Gamma Spec by method RICH-RC-5017
Gas Proportional Counting
Gross Beta by method RICH-RC-5014
Strontium-90 by method RICH-RC-5006
Liquid Scintillation Counting
Tritium by method RICH-RC-5007

April 26, 2007

IV. Quality Control

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

QC and sample results are reported in the same units.

V. Comments

Gamma Spectroscopy
Gamma Spec by method RICH-RC-5017:
The LCS, batch blank, samples and sample duplicate (B1MRN6) results are within contractual requirements.

Gas Proportional Counting
Gross Beta by method RICH-RC-5014:
The LCS, batch blank, sample and sample duplicate (B1MRN6) results are within contractual requirements.

Strontium-90 by method RICH-RC-5006
The LCS, batch blank, samples and sample duplicate (B1MRN6) results are within contractual requirements.

Liquid Scintillation Counting
Tritium by method RICH-RC-5007:
The LCS, batch blank, samples and sample duplicate (B1MRN6) 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 Segu

Sherryl A. Adam
Project Manager

Drinking Water Method Cross References

	DRINKING WATER ASTM METHOD CROSS REFERENCES	
Referenced Method	**Isotope(s)**	**STL Richland's SOP number**
EPA 901.1	Cs-134, I-131	RICH-RC-5017
EPA 900.0	Alpha & Beta	RICH-RC-5014
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr89/90	RICH-RC-5006
ASTM D2460	Total Radium	RICH-RC-5027
Standard Method 7500-U-C & ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007
NOTE:		
The Gross Alpha LCS is prepared with Am-241 (unless otherwise specified in the case narrative)		
The Gross Beta LCS is prepared with Sr/Y-90 (unless otherwise specified in the case narrative)		

Uncertainty Estimation

STL 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/vn), 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 STL Richland.
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 STL Richland "default" nominal detection limit. Often referred to the reporting level (RL)
Le	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. Le 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 STL Richland 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

STL Richland STLRL

Ordered by Client Sample ID, Batch No.

Date: 26-Apr-07

Report No. : 35129

SDG No: W05138

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RPD
B1MRN6	JRFJN1AC	H-3	7.29E+01 +- 1.37E+02	U	pCi/L	100%	2.91E+02	
B1MRN6	JRFJN1AA	BETA	2.53E+03 +- 3.28E+02		pCi/L	100%	2.67E+00	
B1MRN6	JRFJN1AE	STRONTIUM	1.25E+03 +- 3.28E+02		pCi/L	78%	1.36E+00	
B1MRN6	JRFJN1AF	CO-60	-4.91E-01 +- 2.31E+00	U	pCi/L		4.36E+00	
		CS-137	8.29E-01 +- 2.16E+00	U	pCi/L		4.24E+00	
		EU-152	-3.85E-01 +- 5.52E+00	U	pCi/L		9.76E+00	
		EU-154	3.30E+00 +- 8.08E+00	U	pCi/L		1.61E+01	
		EU-155	2.32E+00 +- 4.65E+00	U	pCi/L		8.39E+00	
B1MRN6 DUP	JRFJN1AG	H-3	8.84E+01 +- 1.38E+02	U	pCi/L	100%	2.91E+02	19.1
B1MRN6 DUP	JRFJN1AH	BETA	2.60E+03 +- 3.37E+02		pCi/L	100%	2.70E+00	2.9
B1MRN6 DUP	JRFJN1AJ	STRONTIUM	1.30E+03 +- 3.48E+02		pCi/L	71%	1.53E+00	4.5
B1MRN6 DUP	JRFJN1AK	CO-60	6.38E-01 +- 2.50E+00	U	pCi/L		5.18E+00	1536.3
		CS-137	5.14E-01 +- 2.04E+00	U	pCi/L		3.99E+00	46.9
		EU-152	3.45E-01 +- 5.30E+00	U	pCi/L		9.86E+00	-3641.9
		EU-154	-1.31E+00 +- 7.06E+00	U	pCi/L		1.34E+01	461.6
		EU-155	9.10E-01 +- 4.86E+00	U	pCi/L		8.92E+00	87.4

Number of Results: 16

QC Results Summary
STL Richland STLRL
Ordered by QC Type, Batch No.

Date: 26-Apr-07

Report No. : 35129

SDG No.: W05138

QC Type	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	Recovery	Bias	MDC|MDA
BLANK QC	JRKD01AA	H-3	6.07E+01 +- 1.36E+02	U	pCi/L	100%			2.91E+02
BLANK QC	JRKD01AD	H-3	1.28E+02 +- 1.40E+02	U	pCi/L	100%			2.95E+02
BLANK QC	JRKD31AA	BETA	1.74E+00 +- 1.32E+00	U	pCi/L	100%			2.60E+00
BLANK QC	JRKD61AA	STRONTIUM	7.94E-01 +- 6.81E-01	U	pCi/L	81%			1.31E+00
BLANK QC	JRKD91AA	CO-60	1.69E+00 +- 2.35E+00	U	pCi/L				5.32E+00
		CS-137	-5.72E-01 +- 2.33E+00	U	pCi/L				4.15E+00
		EU-152	1.05E+00 +- 5.08E+00	U	pCi/L				9.64E+00
		EU-154	-1.78E+00 +- 6.61E+00	U	pCi/L				1.24E+01
		EU-155	-3.15E+00 +- 3.73E+00	U	pCi/L				6.21E+00
LCS	JRKD01AC	H-3	2.66E+03 +- 2.47E+02		pCi/L	100%	98%	0.0	2.92E+02
LCS	JRKD01AE	H-3	2.48E+03 +- 2.41E+02		pCi/L	100%	91%	-0.1	2.96E+02
LCS	JRKD31AC	BETA	2.44E+01 +- 3.97E+00		pCi/L	100%	107%	0.1	2.47E+00
LCS	JRKD61AC	STRONTIUM	2.83E+01 +- 7.56E+00		pCi/L	76%	104%	0.0	1.52E+00
LCS	JRKD91AC	CO-60	3.65E+01 +- 8.09E+00		pCi/L		94%	-0.1	3.52E+00
		CS-137	2.53E+01 +- 6.18E+00		pCi/L		101%	0.0	4.30E+00
		EU-152	7.79E+01 +- 1.57E+01		pCi/L		99%	0.0	1.05E+01

Number of Results: 16

STL Richland
rptSTLRchQcSum
V5.1 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: 26-Apr-07

Lab Name:	STL Richland	SDG:	W05138	Collection Date:	3/15/2007 9:06:00 AM
Lot-Sample No.:	J7C210186-1	Report No. :	35129	Received Date:	3/21/2007 7:35:00 AM
Client Sample ID:	B1MRN6	COC No. :	F07-027-056	Matrix:	WATER

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	Analy Method, Primary Detector
Batch: 7081399	Work Order: JRFJN1AC			Report DB ID: 9JRFJN10								
H-3	***7.29E+01***	U	1.2E+02	1.4E+02	2.91E+02	pCi/L	100%	*0.25*	3/29/07 04:28 a		0.005	906.0_H3_LSC
						1.38E+02	4.00E+02	*(1.1)*			L	LSC8
Batch: 7081400	Work Order: JRFJN1AA			Report DB ID: 9JRFJN10								
BETA	***2.53E+03***		2.3E+01	3.3E+02	2.67E+00	pCi/L	100%	*(946.5)*	3/30/07 06:35 p		0.1993	BETA_GPC
						1.27E+00	4.00E+00	*(15.4)*			L	GPC27A
Batch: 7081402	Work Order: JRFJN1AE			Report DB ID: 9JRFJN10								
STRONTIUM	***1.25E+03***		1.1E+01	3.3E+02	1.36E+00	pCi/L	78%	*(916.8)*	3/30/07 02:33 p		0.5025	SRTOT_SEP_PRECIP
						6.45E-01		*(7.6)*			L	GPC32A
Batch: 7081403	Work Order: JRFJN1AF			Report DB ID: 9JRFJN10								
CO-60	***-4.91E-01***	U	2.3E+00	2.3E+00	4.36E+00	pCi/L		*-0.11*	3/29/07 09:51 a		2.0059	GAMMA_GS
							2.50E+01	*-0.43*			L	GER6$1
CS-137	***8.29E-01***	U	2.2E+00	2.2E+00	4.24E+00	pCi/L		*0.2*	3/29/07 09:51 a		2.0059	GAMMA_GS
							1.50E+01	*0.77*			L	GER6$1
EU-152	***-3.85E-01***	U	5.5E+00	5.5E+00	9.76E+00	pCi/L		*-0.04*	3/29/07 09:51 a		2.0059	GAMMA_GS
							5.00E+01	*-0.14*			L	GER6$1
EU-154	***3.30E+00***	U	8.1E+00	8.1E+00	1.61E+01	pCi/L		*0.2*	3/29/07 09:51 a		2.0059	GAMMA_GS
							5.00E+01	*0.82*			L	GER6$1
EU-155	***2.32E+00***	U	4.7E+00	4.7E+00	8.39E+00	pCi/L		*0.28*	3/29/07 09:51 a		2.0059	GAMMA_GS
							5.00E+01	*1.*			L	GER6$1

STL Richland
rptSTLRchSample
V5.1 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.

STL RICHLAND

FORM I

SAMPLE RESULTS

Date: 26-Apr-07

Lab Name:	STL Richland	SDG:	W05138	Collection Date:	3/15/2007 9:06:00 AM
Lot-Sample No.:	J7C210186-1	Report No. :	35129	Received Date:	3/21/2007 7:35:00 AM
Client Sample ID:	B1MRN6	COC No. :	F07-027-056	Matrix:	WATER

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	Analy Method, Primary Detector

Number of Results: 8

Comments:

STL Richland
rptSTLRchSample
V5.1 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.

FORM II

Date: 26-Apr-07

DUPLICATE RESULTS

Lab Name:	STL Richland	SDG:	W05138	Collection Date:	3/15/2007 9:06:00 AM
Lot-Sample No.:	J7C210186-1	Report No. :	35129	Received Date:	3/21/2007 7:35:00 AM
Client Sample ID:	B1MRN6 DUP	COC No. :	F07-027-056	Matrix:	WATER

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	Analy Method, Primary Detector
Batch: 7081399	Work Order:	JRFJN1AG			Report DB ID:	JRFJN1GR	Orig Sa DB ID:	9JRFJN10					
H-3	8.84E+01	U		1.2E+02	1.4E+02	2.91E+02	pCi/L	100%	0.3	3/29/07 05:50 a		0.005	906.0_H3_LSC
	7.29E+01	U	RPD	19.1			4.00E+02		(1.3)			L	LSC8
Batch: 7081400	Work Order:	JRFJN1AH			Report DB ID:	JRFJN1HR	Orig Sa DB ID:	9JRFJN10					
BETA	2.60E+03			2.3E+01	3.4E+02	2.70E+00	pCi/L	100%	(964.6)	3/30/07 06:35 p		0.1995	BETA_GPC
	2.53E+03		RPD	2.9			4.00E+00		(15.4)			L	GPC27D
Batch: 7081402	Work Order:	JRFJN1AJ			Report DB ID:	JRFJN1JR	Orig Sa DB ID:	9JRFJN10					
STRONTIUM	1.30E+03			1.2E+01	3.5E+02	1.53E+00	pCi/L	71%	(851.9)	3/30/07 02:33 p		0.4951	SRTOT_SEP_PRECIP
	1.25E+03		RPD	4.5					(7.5)			L	GPC32B
Batch: 7081403	Work Order:	JRFJN1AK			Report DB ID:	JRFJN1KR	Orig Sa DB ID:	9JRFJN10					
CO-60	6.38E-01	U		2.5E+00	2.5E+00	5.18E+00	pCi/L		0.12	3/29/07 01:51 p		2.0059	GAMMA_GS
	-4.91E-01	U	RPD	1536.3			2.50E+01		0.51			L	GER7$1
CS-137	5.14E-01	U		2.0E+00	2.0E+00	3.99E+00	pCi/L		0.13	3/29/07 01:51 p		2.0059	GAMMA_GS
	8.29E-01	U	RPD	46.9			1.50E+01		0.5			L	GER7$1
EU-152	3.45E-01	U		5.3E+00	5.3E+00	9.86E+00	pCi/L		0.03	3/29/07 01:51 p		2.0059	GAMMA_GS
	-3.85E-01	U	RPD	-3641.9			5.00E+01		0.13			L	GER7$1
EU-154	-1.31E+00	U		7.1E+00	7.1E+00	1.34E+01	pCi/L		-0.1	3/29/07 01:51 p		2.0059	GAMMA_GS
	3.30E+00	U	RPD	461.6			5.00E+01		-0.37			L	GER7$1
EU-155	9.10E-01	U		4.9E+00	4.9E+00	8.92E+00	pCi/L		0.1	3/29/07 01:51 p		2.0059	GAMMA_GS
	2.32E+00	U	RPD	87.4			5.00E+01		0.37			L	GER7$1

Number of Results: 8

Comments:

STL Richland
rptSTLRchDupV5.1
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.

STL RICHLAND

FORM II

BLANK RESULTS

Date: 26-Apr-07

Lab Name: STL Richland **SDG:** W05138

Lot-Sample No.: J7C220000-399 **Report No. :** 35129 **Matrix:** WATER

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	Analy Method, Primary Detector
Batch: 7081399	**Work Order:** JRKD01AA			**Report DB ID:** JRKD01AB								
H-3	6.07E+01	U	1.2E+02	1.4E+02	2.91E+02	pCi/L	100%	0.21	3/28/07 11:01 p		0.005	906.0_H3_LSC
					1.38E+02	4.00E+02		0.89			L	LSC8
Batch: 7081399	**Work Order:** JRKD01AD			**Report DB ID:** JRKD01DX								
H-3	1.28E+02	U	1.3E+02	1.4E+02	2.95E+02	pCi/L	100%	0.43	3/29/07 01:45 a		0.005	906.0_H3_LSC
					1.41E+02	4.00E+02		(1.8)			L	LSC8

Number of Results: 2

Comments:

STL Richland
rptSTLRchBlank
V5.1 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.

FORM II
BLANK RESULTS

Date: 26-Apr-07

Lab Name: STL Richland SDG: W05138

Lot-Sample No.: J7C220000-400 Report No. : 35129 Matrix: WATER

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	Analy Method, Primary Detector
Batch: 7081400	Work Order: JRKD31AA			Report DB ID: JRKD31AB								
BETA	1.74E+00	U	1.3E+00	1.3E+00	2.60E+00	pCi/L	100%	0.67	3/30/07 06:35 p		0.203	BETA_GPC
					1.24E+00	4.00E+00		(2.6)			L	GPC27B

Number of Results: 1

Comments:

STL Richland
rptSTLRchBlank
V5.1 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.

STL RICHLAND

FORM II

BLANK RESULTS

Date: 26-Apr-07

Lab Name: STL Richland

SDG: W05138

Lot-Sample No.: J7C220000-402

Report No. : 35129

Matrix: WATER

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	Analy Method, Primary Detector
Batch: 7081402	Work Order: JRKD61AA			Report DB ID: JRKD61AB								
STRONTIUM	7.94E-01	U	6.5E-01	6.8E-01	1.31E+00	pCi/L	81%	0.61	3/30/07 02:33 p		0.5042	SRTOT_SEP_PRECIP
					6.19E-01			(2.3)			L	GPC32C

Number of Results: 1

Comments:

STL Richland
rptSTLRchBlank
V5.1 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.

FORM II

BLANK RESULTS

Date: 26-Apr-07

Lab Name: STL Richland SDG: W05138

Lot-Sample No.: J7C220000-403 Report No. : 35129 Matrix: WATER

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	Analy Method, Primary Detector
Batch: 70B1403	Work Order: JRKD91AA			Report DB ID: JRKD91AB								
CO-60	1.69E+00	U	2.4E+00	2.4E+00	5.32E+00	pCi/L		0.32	3/29/07 09:51 a		1.9981	GAMMA_GS
						2.50E+01		(1.4)			L	GER7$1
CS-137	-5.72E-01	U	2.3E+00	2.3E+00	4.15E+00	pCi/L		-0.14	3/29/07 09:51 a		1.9981	GAMMA_GS
						1.50E+01		-0.49			L	GER7$1
EU-152	1.05E+00	U	5.1E+00	5.1E+00	9.64E+00	pCi/L		0.11	3/29/07 09:51 a		1.9981	GAMMA_GS
						5.00E+01		0.41			L	GER7$1
EU-154	-1.78E+00	U	6.6E+00	6.6E+00	1.24E+01	pCi/L		-0.14	3/29/07 09:51 a		1.9981	GAMMA_GS
						5.00E+01		-0.54			L	GER7$1
EU-155	-3.15E+00	U	3.7E+00	3.7E+00	6.21E+00	pCi/L		-0.51	3/29/07 09:51 a		1.9981	GAMMA_GS
						5.00E+01		-(1.7)			L	GER7$1

Number of Results: 5

Comments:

STL Richland
rptSTLRchBlank
V5.1 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.

STL RICHLAND

FORM II

LCS RESULTS

Date: 26-Apr-07

Lab Name: STL Richland

SDG: W05138

Lot-Sample No.: J7C220000-399

Report No. : 35129

Matrix: WATER

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	Analy Method, Primary Detector
Batch: 7081399	Work Order: JRKD01AC			Report DB ID: JRKD01CS									
H-3	2.66E+03		2.0E+02	2.5E+02	2.92E+02	pCi/L	100.00%	2.71E+03	8.14E+01	98%	3/29/07 12:23 a	0.005	906.0_H3_LSC
							Rec Limits:	70.	130.	0.0		L	LSC8
Batch: 7081399	Work Order: JRKD01AE			Report DB ID: JRKD01EM									
H-3	2.48E+03		2.0E+02	2.4E+02	2.96E+02	pCi/L	100.00%	2.71E+03	8.14E+01	91%	3/29/07 03:06 a	0.005	906.0_H3_LSC
							Rec Limits:	70.	130.	-0.1		L	LSC8

Number of Results: 2

Comments:

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

rptSTLRchLcs
V5.1 A2002

STL RICHLAND

FORM II

LCS RESULTS

Date: 26-Apr-07

Lab Name: STL Richland **SDG:** W05138

Lot-Sample No.: J7C220000-400 **Report No. :** 35129 **Matrix:** WATER

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	Analy Method, Primary Detector
Batch: 7081400	Work Order: JRKD31AC			Report DB ID: JRKD31CS									
BETA	2.44E+01		2.4E+00	4.0E+00	2.47E+00	pCi/L	100.00%	2.28E+01	2.63E-01	107%	3/30/07 08:35 p	0.1992	BETA_GPC
							Rec Limits:	70.	130.	0.1		L	GPC27C

Number of Results: 1

Comments:

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

rptSTLRchLcs
V5.1 A2002

FORM II

LCS RESULTS

Date: 26-Apr-07

Lab Name: STL Richland

SDG: W05138

Lot-Sample No.: J7C220000-402

Report No. : 35129

Matrix: WATER

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	Analy Method, Primary Detector
Batch: 7081402	Work Order: JRKD61AC			Report DB ID: JRKD61CS									
STRONTIUM	2.83E+01		1.9E+00	7.6E+00	1.52E+00	pCi/L	75.50%	2.73E+01	5.36E-01	104%	3/30/07 02:33 p	0.5004	SRTOT_SEP_PRECIP
							Rec Limits:	70.	130.	0.0		L	GPC32D

Number of Results: 1

Comments:

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

rptSTLRchLcs
V5.1 A2002

STL RICHLAND

FORM II

LCS RESULTS

Date: 26-Apr-07

Lab Name: STL Richland

SDG: W05138

Lot-Sample No.: J7C220000-403

Report No. : 35129

Matrix: WATER

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	Analy Method, Primary Detector
Batch: 7081403	Work Order: JRKD91AC			Report DB ID: JRKD91CS									
CO-60	3.65E+01		8.1E+00	8.1E+00	3.52E+00	pCi/L		3.88E+01	2.45E-01	94%	3/29/07 09:52 a	2.0005	GAMMA_GS
							Rec Limits:	70.	130.	-0.1		L	GER8$1
CS-137	2.53E+01		6.2E+00	6.2E+00	4.30E+00	pCi/L		2.50E+01	7.76E-01	101%	3/29/07 09:52 a	2.0005	GAMMA_GS
							Rec Limits:	70.	130.	0.0		L	GER8$1
EU-152	7.79E+01		1.6E+01	1.6E+01	1.05E+01	pCi/L		7.83E+01	3.15E+00	99%	3/29/07 09:52 a	2.0005	GAMMA_GS
							Rec Limits:	70.	130.	0.0		L	GER8$1

Number of Results: 3

Comments:

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

rptSTLRchLcs
V5.1 A2002

SEVERN STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

4/17/2007 4:04:02 PM

Lot No., Due Date: J7C210186; 05/05/2007

Client, Site: 108302; FLH HANFORD

QC Batch No., Method Test: 7081403; RGAMMA Gamma by GER

SDG, Matrix: W05~~149~~38; WATER SKS 4/26/07

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 Angela Long **Date** 4/17/07

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 708403
W05143

Review Item	Yes (√)	No (√)	N/A (√)
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 with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other 1. Are all Nonconformances 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: Sheryl R. Allen Date: 4-17-07

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

4/4/2007 7:51:49 AM

Lot No., Due Date: J7C210186; 05/05/2007

Client, Site: 108302; FLH HANFORD

QC Batch No., Method Test: 7081400; RBETA-SR Beta by GPC-Sr/Y

SDG, Matrix: W05148 38; WATER SKS 4/26/07

	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: Lisa Antonson **Date** 4/4/07

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 708400
W02143

Review Item	Yes (√)	No (√)	N/A (√)
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 with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other 1. Are all Nonconformances 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: Sheryl A Adam Date: 4-4-07

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

4/3/2007 11:10:08 AM

Lot No., Due Date: J7C210186; 05/05/2007

Client, Site: 108302; FLH HANFORD

QC Batch No., Method Test: 7081402; RSRTOT SrTot by GPC

SDG, Matrix: W05~~143~~38; WATER

SKG 4/26/07

		Yes	No	N/A
8.0	Correction Calculation Protocol Used. OK	✓		
8.01	The Appropriate Methods Were Used To Analyze the Samples OK	✓		
8.02	Final Results Are in the Appropriate Activity Units OK	✓		
8.03	Batch Contains the Required QC Appropriate for the Method OK	✓		
8.04	The Correct Tracer and QC Vials Where Used in the Samples Incorrect Tracer/Vial => JRKD61AC STSC<>SRSC Q:V9 ok KL 4/3/07		✓	
8.05	Sample was Appropriately Traced Before or After Fractionating the Sample OK	✓		
8.06	At Least the Minimum Sample Volume Was Used Analysis Volume => JRFJN1AE 502.50<1000.00 Q:VB ok KL 4/3/07		✓	
8.07	The Correct Count Geometry was Used. OK	✓		
8.08	The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK	✓		
8.09	Method Blank is within Control Limits. OK; No CRDL Found => SR-89/90	✓		
8.1	Comments:			
8.11	Matrix Blank is within Control Limits. No Matrix Blanks (MBlks) found in Batch!			✓
8.12	Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK	✓		
8.13	QAS Specified Duplicate Equation Value within Control Limits. OK (RPD)	✓		
8.14	LCS within Control Limits. OK	✓		
8.15	MLCS within Control Limits. No Matrix Spikes (MLCS) found in Batch!			✓
8.16	MS within Control Limits. No Matrix Spike Samples (MS) found in Batch!			✓
8.17	Tracer within Control Limits. OK	✓		
8.18	Samples are above Minimum Tracer Yield (No Failed Samples) OK	✓		
8.19	Sample Specific MDC <= CRDL. OK; No CRDL Found => SR-89/90	✓		
8.2	Comments:			
8.21	Result < Lc, Activity Not Detected, U Flag. No Limit Specified!			✓
8.22	Result < Mdc, Activity Not Detected, U Flag. Batch Positive Result => JRFJN1AE SR-89/90 1.2E+03 L:1.4E+00		✓	
8.23	Result <= Action Level, when Defined. OK; No Action Level Found => SR-89/90 OK; No Callin Level Found => SR-89/90	✓		
8.24	Result + 3s >=0, Not Too Negative. OK	✓		
8.25	Counting Spectrum are within FWHM Limits. No FWHM found in Batch Data!			✓

8.26 Instruments have Current Calibrations. Yes No N/A

8.27 Correct Count Library Used. Yes No N/A ✓
No Count Library found in Batch Data!

8.28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later versions) Yes No N/A

8.29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later versions) Yes No N/A

8.3 Comments:

8.31 Results Blank Subtracted as Appropriate. Yes ✓ No N/A
OK

First Level Review Angela Long Date 4/3/07

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7081462
W05143

Review Item	Yes (√)	No (√)	N/A (√)
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 with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other 1. Are all Nonconformances 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: Cheryl R. Wilson Date: 4-4-07

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

4/2/2007 1:43:12 PM

Lot No., Due Date: J7C210186; 05/05/2007

Client, Site: 108302; FLH HANFORD

QC Batch No., Method Test: 7081399; RTRITIUM H-3 by LSC

SDG, Matrix: W05143; WATER

38

SKS 4/26/07

	Yes	No	N/A
8.0 Correction Calculation Protocol Used. OK	✓		
8.01 The Appropriate Methods Were Used To Analyze the Samples OK	✓		
8.02 Final Results Are in the Appropriate Activity Units OK	✓		
8.03 Batch Contains the Required QC Appropriate for the Method OK	✓		
8.04 The Correct Tracer and QC Vials Where Used in the Samples OK	✓		
8.05 Sample was Appropriately Traced Before or After Fractionating the Sample OK	✓		
8.06 At Least the Minimum Sample Volume Was Used Analysis Volume => JRFJN1AC 5.00<10.00 Q:VB OK AL 4/2/07		✓	
8.07 The Correct Count Geometry was Used. Count Geometry => JRKD01AF SVP15/5<>SVP10/10 JRKD01AG SVP15/5<>SVP10/10 JRKD01AA SVP15/5<>SVP10/10 JRKD01AC SVP15/5<>SVP10/10 JRKD01AD SVP15/5<>SVP10/10 JRKD01AE SVP15/5<>SVP10/10 JRFJN1AC SVP15/5<>SVP10/10 JRFJN1AG SVP15/5<>SVP10/10 Q:VC OK AL 4/2/07		✓	
8.08 The Sample was Counted for the Minimum Count Time or CRDL was Achieved. OK	✓		
8.09 Method Blank is within Control Limits. OK	✓		
8.1 Comments:			
8.11 Matrix Blank is within Control Limits. OK	✓		
8.12 Method Blank(s) < QAS Limit Value (No B Flag Necessary). OK	✓		
8.13 QAS Specified Duplicate Equation Value within Control Limits. RPD > UCL : 20.0=> JRFJN1AG H-3 38.0 (RPD)		✓	
8.14 LCS within Control Limits. OK	✓		
8.15 MLCS within Control Limits. OK	✓		
8.16 MS within Control Limits. No Matrix Spike Samples (MS) found in Batch!			✓
8.17 Tracer within Control Limits. No Tracers found in Batch!			✓
8.18 Samples are above Minimum Tracer Yield (No Failed Samples) No Tracers found in Batch!			✓
8.19 Sample Specific MDC <= CRDL. OK	✓		
8.2 Comments:			
8.21 Result < Lc, Activity Not Detected, U Flag. No Limit Specified!			✓
8.22 Result < Mdc, Activity Not Detected, U Flag. No Positive Results OK Calc_IDL Not Calculated	✓		
8.23 Result <= Action Level, when Defined. OK; No Action Level Found => H-3	✓		

OK; No Callin Level Found => H-3

8.24 Result + 3s >=0, Not Too Negative. Yes No N/A

OK

8.25 Counting Spectrum are within FWHM Limits. Yes No N/A

No FWHM found in Batch Data!

8.26 Instruments have Current Calibrations. Yes No N/A

8.27 Correct Count Library Used. Yes No N/A

No Count Library found in Batch Data!

8.28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later versions) Yes No N/A

8.29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later versions) Yes No N/A

8.3 Comments:

8.31 Results Blank Subtracted as Appropriate. Yes No N/A

OK

First Level Review Angela Long **Date** 4/2/07

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7081399
W05143

Review Item	Yes (√)	No (√)	N/A (√)
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 with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other 1. Are all Nonconformances 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: Sheryl R Adam Date: 4-4-07

STL RICHLAND

Fluor Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F07-028-056

COLLECTOR: KHUGHES

COMPANY CONTACT: TRENT, SJ

TELEPHONE NO.: 373-5869

PROJECT COORDINATOR: TRENT, SJ

PRICE CODE: 7N

DATA TURNAROUND: 45 Days / 45 Days

SAMPLING LOCATION: Array - 4A

PROJECT DESIGNATION: AQUIFER TUBE SAMPLING ALONG THE 100-N AREA SHORELINE

SAF NO.: F07-028

AIR QUALITY:

ICE CHEST NO.:

FIELD LOGBOOK NO.: HNF-N-451-1

COA: 122543ES10

METHOD OF SHIPMENT: GOVERNMENT VEHICLE

J7C210186 SCS 4/20/07
W05143 38
Due 05.05.07

SHIPPED TO: Severn Trent Incorporated, Richland

OFFSITE PROPERTY NO.: N/A

BILL OF LADING/AIR BILL NO.: N/A

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:

PRESERVATION	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	None	
TYPE OF CONTAINER	P	P	P	P	
NO. OF CONTAINER(S)	3	1	3	1	
VOLUME	1000mL	1000mL	1000mL	1000mL	
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	Gross Beta;	Strontium-89,90 – Total Sr;	Tritium - H3;	

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME						
B1MRN6	WATER	3/15/07	0906	✓	✓	✓	✓	JRFJN	

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
KHUGHES	3-15-07/1600	M0745 Fridge#1	3-15-07/1600
M0745/ Fridge#1	3.21.07 0700	S. Pike/	3.21.07 0700
J. Pike/	3-21-07 0735	S. Smith	03.21.07 0735

SPECIAL INSTRUCTIONS

(1)Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}

LABORATORY SECTION: RECEIVED BY | TITLE | DATE/TIME

FINAL SAMPLE DISPOSITION: DISPOSAL METHOD | DISPOSED BY | DATE/TIME

A-6003-618(01/06)

SEVERN TRENT **STL**

Sample Check-in List

Date/Time Received: 03/31/07 07:35 .38 SKS 4/26/07

Client: FLH SDG #: W05143 NA [ ] SAF #: F07028 NA [ ]

Work Order Number: J7C310186 Chain of Custody # F07-028-056

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? 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 labels
   - 1 appropriate samples labels
9. Samples are:
   - 1 in good condition
   - ____ broken
   - ____ leaking
   - ____ have air bubbles (Only for samples requiring head space)
10. Sample pH taken? NA [ ] pH<2 [✓] pH>2 [✓] adjusted pH [ ]
11. Sample Location, Sample Collector Listed? * Yes [✓] No [ ]
    *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: A. Smith Date: 03-31-07 07:35

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, 12/05, Rev. 6

STL RICHLAND

3/27/2007 3:04:52 PM

Sample Preparation/Analysis

Balance Id:1120482733

108302, Fluor Hanford Inc , Waste Management Federal Servi

AW Gamma PrpRC5017
TA Gamma by HPGE
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 05/01/2007 WO5143 38

Sep1 DT/Tm Tech:

Batch: 7081403 WATER pCi/L
SEQ Batch, Test: None
SKS 4/26/07

PM, Quote: SA , 29754

Sep2 DT/Tm Tech:

Prep Tech: BockJ / APA

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 JRFJN-1-AF J7C210186-1-SAMP 03/15/2007 09:06	AmtRec: 8XLP	2005.90g,in	#Containers: 8		100mL	100 mins	66	1131	3/29/07 r Scr: Alpha: -7.28E-04 uCi/Sa	Beta: 1.54E-03 uCi/Sa
2 JRFJN-1-AK-X See comment box. JB 3-27-07 J7C210186-1-DUP 03/15/2007 09:06	AmtRec: 8XLP		#Containers: 8				67	1531	3/29/07 r Scr: Alpha: -7.28E-04 uCi/Sa	Beta: 1.54E-03 uCi/Sa
3 JRKD9-1-AA-B J7C220000-403-BLK 03/15/2007 09:06	AmtRec:	1998.10g,in	#Containers: 1				67	1131	3/29/07 r Scr: Alpha:	Beta:
4 JRKD9-1-AC-C J7C220000-403-LCS 03/15/2007 09:06	AmtRec:	2000.50g,in	QCAG1347 03/23/07,pd 03/07/05,r #Containers: 1				68	1132	3/29/07 r Scr: Alpha:	Beta:

Comments: JRFJN-SAMP "Comments. No Dup. aliquot due to insufficient sample. Please count on diff. detector. JB 03/27/07"
pH <2.0 JB 3-27-07

All Clients for Batch:
108302, Fluor Hanford Inc Waste Management Federal Servi, SA , 29754

JRFJN1AF-SAMP Constituent List:

Am-241	RDL:--	pCi/L	LCL:	UCL:	RPD:	Ba-140	RDL:--	pCi/L	LCL:	UCL:	RPD:
Cd-141	RDL:--	pCi/L	LCL:	UCL:	RPD:	Co-57	RDL:--	pCi/L	LCL:	UCL:	RPD:
Co-58	RDL:--	pCi/L	LCL:	UCL:	RPD:	Co-60	RDL:25	pCi/L	LCL:	UCL:	RPD:
Cs-134	RDL:6	pCi/L	LCL:	UCL:	RPD:	Cs-137	RDL:15	pCi/L	LCL:70	UCL:130	RPD:20
Cs-137DA	RDL:15	pCi/L	LCL:70	UCL:130	RPD:20	Eu-152	RDL:50	pCi/L	LCL:	UCL:	RPD:
Eu-154	RDL:50	pCi/L	LCL:	UCL:	RPD:	Eu-155	RDL:50	pCi/L	LCL:	UCL:	RPD:

31

STL RICHLAND

3/27/2007 3:04:57 PM

Sample Preparation/Analysis

AW Gamma PrpRC5017
TA Gamma by HPGE
5I CLIENT: HANFORD

Balance Id:1120482733

Pipet #: _____

AnalyDueDate: 05/01/2007

Sep1 DT/Tm Tech:

Batch: 7081403 pCi/L

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,BockJ

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:

Fe-59	RDL:--	pCi/L	LCL:	UCL:	RPD:	I-131	RDL:--	pCi/L	LCL:	UCL:	RPD:	
K-40	RDL:6	pCi/L	LCL:	UCL:	RPD:	Mn-54	RDL:--	pCi/L	LCL:	UCL:	RPD:	
Na-22	RDL:--	pCi/L	LCL:	UCL:	RPD:	Na-24	RDL:--	pCi/L	LCL:	UCL:	RPD:	
Np-239	RDL:--	pCi/L	LCL:	UCL:	RPD:	Ra-226	RDL:--	pCi/L	LCL:70	UCL:130	RPD:20	
RA-228	RDL:--	pCi/L	LCL:70	UCL:130	RPD:20	RA-228DA	RDL:--	pCi/L	LCL:70	UCL:130	RPD:20	
Sb-125	RDL:6	pCi/L	LCL:	UCL:	RPD:	Th-232	RDL:--	pCi/L	LCL:	UCL:	RPD:	
Th-234	RDL:--	pCi/L	LCL:	UCL:	RPD:	U-235	RDL:--	pCi/L	LCL:	UCL:	RPD:	
U-238	RDL:--	pCi/L	LCL:70	UCL:130	RPD:20	Zn-65	RDL:--	pCi/L	LCL:	UCL:	RPD:	
Zr-95	RDL:--	pCi/L	LCL:	UCL:	RPD:							
JRKD91AA-BLK:												
Am-241	RDL:--	pCi/L	LCL:	UCL:	RPD:	Ba-140	RDL:--	pCi/L	LCL:	UCL:	RPD:	
Cd-141	RDL:--	pCi/L	LCL:	UCL:	RPD:	Co-57	RDL:--	pCi/L	LCL:	UCL:	RPD:	
Co-58	RDL:--	pCi/L	LCL:	UCL:	RPD:	Co-60	RDL:25	pCi/L	LCL:	UCL:	RPD:	
Cs-134	RDL:6	pCi/L	LCL:	UCL:	RPD:	Cs-137	RDL:15	pCi/L	LCL:	UCL:	RPD:	
Cs-137DA	RDL:15	pCi/L	LCL:	UCL:	RPD:	Eu-152	RDL:50	pCi/L	LCL:	UCL:	RPD:	
Eu-154	RDL:50	pCi/L	LCL:	UCL:	RPD:	Eu-155	RDL:50	pCi/L	LCL:	UCL:	RPD:	
Fe-59	RDL:--	pCi/L	LCL:	UCL:	RPD:	I-131	RDL:--	pCi/L	LCL:	UCL:	RPD:	
K-40	RDL:6	pCi/L	LCL:	UCL:	RPD:	Mn-54	RDL:--	pCi/L	LCL:	UCL:	RPD:	
Na-22	RDL:--	pCi/L	LCL:	UCL:	RPD:	Na-24	RDL:--	pCi/L	LCL:	UCL:	RPD:	
Np-239	RDL:--	pCi/L	LCL:	UCL:	RPD:	Ra-226	RDL:--	pCi/L	LCL:	UCL:	RPD:	
RA-228	RDL:--	pCi/L	LCL:	UCL:	RPD:	RA-228DA	RDL:--	pCi/L	LCL:	UCL:	RPD:	
Sb-125	RDL:6	pCi/L	LCL:	UCL:	RPD:	Th-232	RDL:--	pCi/L	LCL:	UCL:	RPD:	
Th-234	RDL:--	pCi/L	LCL:	UCL:	RPD:	U-235	RDL:--	pCi/L	LCL:	UCL:	RPD:	
U-238	RDL:--	pCi/L	LCL:	UCL:	RPD:	Zn-65	RDL:--	pCi/L	LCL:	UCL:	RPD:	
Zr-95	RDL:--	pCi/L	LCL:	UCL:	RPD:							
JRKD91AC-LCS:												
Cs-137	RDL:15	pCi/L	LCL:70	UCL:130	RPD:20	Cs-137DA	RDL:15	pCi/L	LCL:70	UCL:130	RPD:20	
K-40	RDL:6	pCi/L	LCL:70	UCL:130	RPD:20	Ra-226	RDL:--	pCi/L	LCL:70	UCL:130	RPD:20	
RA-228	RDL:--	pCi/L	LCL:70	UCL:130	RPD:20	RA-228DA	RDL:--	pCi/L	LCL:70	UCL:130	RPD:20	
U-238	RDL:--	pCi/L	LCL:70	UCL:130	RPD:20							

JRFJN1AF-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

JRKD91AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

JRKD91AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ _____ Date: _____

4/17/2007 4:03:25 PM

ICOC Fraction Transfer/Status Report

ByDate: 4/17/2006, 4/22/2007, Batch: '7081403', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting				Comments
7081403							
AC		CalcC	BockJ	3/27/2007 2:53:30 PM			
SC			wagarr	IsBatched	3/22/2007 2:42:40 PM		ICOC_RADCALC v4.8.26
SC			BockJ	InPrep	3/27/2007 2:53:30 PM		RICH-RC-5014 Revision 6
SC			BockJ	Prep1C	3/27/2007 3:05:03 PM		RICH-RC-5017 REVISION 5
SC			AshworthA	InPrep2	3/28/2007 8:31:23 AM		RICH-RC-5017 REVISION 4
SC			AshworthA	Prep2C	3/29/2007 9:25:00 AM		RICH-RC-5017 REVISION 4
SC			StringerR	InCnt1	3/29/2007 9:40:32 AM		RICH-RD-0003 REVISION 4
SC			DAWKINSO	CalcC	3/29/2007 7:42:35 PM		RICH-RD-0007 REVISION 5
AC			BockJ	3/27/2007 3:05:03 PM			
AC			AshworthA	3/28/2007 8:31:23			
AC			AshworthA	3/29/2007 9:25:00			
AC			StringerR	3/29/2007 9:40:32			
AC			DAWKINSO	3/29/2007 7:42:35 PM			

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 6

ICOCFractions v4.8.26

STL RICHLAND

3/30/2007 10:30:36 AM

Sample Preparation/Analysis

Balance Id:1120482733

108302, Fluor Hanford Inc , Waste Management Federal Servi

38

BC Gross Beta PrpRC5014
S8 Gross Beta by GPC using Sr/Y-90 curve
5I CLIENT: HANFORD

Pipet #: 235

AnalyDueDate: 05/01/2007 W05143

Sep1 DT/Tm Tech:

Batch: 7081400 WATER pCi/L
SEQ Batch, Test: None

SKS 4/27/06

PM, Quote: SA , 29754

Sep2 DT/Tm Tech:

Prep Tech: BockJ / APA

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 JRFJN-1-AA J7C210186-1-SAMP 03/15/2007 09:06		199.30g,in AmtRec: 8XLP	#Containers: 8	1.5	37.0	100	27A Scr:	1925 Alpha: -7.28E-04 uCi/Sa	3/30/2007 Beta: 1.54E-03 uCi/Sa	
2 JRFJN-1-AH-X J7C210186-1-DUP 03/15/2007 09:06		199.50g,in AmtRec: 8XLP	#Containers: 8		42.4		27D Scr:	Alpha: -7.28E-04 uCi/Sa	Beta: 1.54E-03 uCi/Sa	
3 JRKD3-1-AA-B J7C220000-400-BLK 03/15/2007 09:06		203.00g,in AmtRec:	#Containers: 1		Ø		~~28~~ 27B ~~3/30/2007~~ Scr:	Alpha:	Beta:	
4 JRKD3-1-AC-C J7C220000-400-LCS 03/15/2007 09:06		199.20g,in AmtRec:	BESB3038 02/26/07,pd 08/08/06,r #Containers: 1		0.4		27C Scr:	Alpha:	Beta:	

Comments: ~~JRFJN-SAMP Comments.~~

PH < 2.0 SB 3-30-07

All Clients for Batch:
108302, Fluor Hanford Inc Waste Management Federal Servi, SA , 29754

JRFJN1AA-SAMP Constituent List:

BETA	RDL:4	pCi/L	LCL:	UCL:	RPD:
JRKD31AA-BLK:					
BETA	RDL:4	pCi/L	LCL:	UCL:	RPD:
JRKD31AC-LCS:					
Sr-90	RDL:	pCi/L	LCL:70	UCL:130	RPD:20

STL RICHLAND

3/30/2007 10:30:42 AM

Sample Preparation/Analysis

BC Gross Beta PrpRC5014
S8 Gross Beta by GPC using Sr/Y-90 curve
5I CLIENT: HANFORD

Balance Id:1120482733
Pipet #: _____
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech: ,BockJ

AnalyDueDate: 05/01/2007

Batch: 7081400 pCi/L
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:

```
URFJN1AA-SAMP Calc Info:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
URKD31AA-BLK:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
URKD31AC-LCS:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
```

Approved By _____ Date: _____

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4/4/2007 7:50:39 AM

ICOC Fraction Transfer/Status Report

ByDate: 4/4/2006, 4/9/2007, Batch: '7081400', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7081400						
AC		CalcC	BockJ	3/30/2007 10:30:42		
SC			wagarr	IsBatched	3/22/2007 2:42:40 PM	ICOC_RADCALC v4.8.26
SC			BockJ	Prep1C	3/30/2007 10:30:42 AM	RICH-RC-5014 REVISION 6
SC			AshworthA	InPrep2	3/30/2007 11:01:12 AM	RICH-RC-5014 REVISION 6
SC			ArmstrongT	Prep2C	3/30/2007 5:06:28 PM	RICH-RC-5014 REVISION 6
SC			DAWKINSO	InCnt1	3/30/2007 5:52:19 PM	RICH-RD-0003 REVISION 4
SC			DAWKINSO	CalcC	3/30/2007 8:26:45 PM	RICH-RD-0003 REVISION 4
AC			AshworthA	3/30/2007 11:01:12		
AC			ArmstrongT	3/30/2007 5:06:28 PM		
AC			DAWKINSO	3/30/2007 5:52:19 PM		
AC			DAWKINSO	3/30/2007 8:26:45 PM		

AC: Accepting Entry; SC: Status Change

STL RICHLAND

3/30/2007 11:43:00 AM

Sample Preparation/Analysis

Balance Id:1120482733

108302, Fluor Hanford Inc Management Federal Servi , Waste

CG Sr-Total Prp/SepRC5006
TH Total Strontium by GPC
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 05/01/2007

Sep1 DT/Tm Tech: 03/30/2007 10:20,ManisD

Batch: 7081402 WATER pCi/L PM, Quote: SA , 29754

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: BockJ

Work Ord, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	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 JRFJN-1-AE J7C210186-1-SAMP 03/15/2007 09:06			502.50g,in	502.50g	srta16658 03/15/07,pd 09/11/06,r	1.5	78	100	32a	1523	3/30/07 R	
			AmtRec: 8XLP	#Containers: 8		03/30/2007 10:20,s1			Scr:	Alpha: -7.28E-04 uCi/Sa		Beta: 1.54E-03 uCi/Sa
2 JRFJN-1-AJ-X J7C210186-1-DUP 03/15/2007 09:06			495.10g,in	495.10g	srta16659 03/15/07,pd 09/11/06,r	1.5	70.5	100	32b			
			AmtRec: 8XLP	#Containers: 8		03/30/2007 10:20,s1			Scr:	Alpha: -7.28E-04 uCi/Sa		Beta: 1.54E-03 uCi/Sa
3 JRKD6-1-AA-B J7C220000-402-BLK 03/15/2007 09:06			504.20g,in	504.20g	srta16660 03/15/07,pd 09/11/06,r	1.5	80.5	100	32c			
			AmtRec:	#Containers: 1		03/30/2007 10:20,s1			Scr:	Alpha:		Beta:
4 JRKD6-1-AC-C J7C220000-402-LCS 03/15/2007 09:06			500.40g,in	500.40g	stsc1838 03/06/07,pd 09/11/06,r	1.5	75.5	100	32d			
			AmtRec:	#Containers: 1		03/30/2007 10:20,s1			Scr:	Alpha:		Beta:

Comments: JRFJN-SAMP Comments.

All Clients for Batch:
108302, Fluor Hanford Inc Waste Management Federal Servi, SA , 29754

JRFJN1AE-SAMP Constituent List:

Sr-90	RDL:2	pCi/L	LCL:70	UCL:130	RPD:20

JRKD61AA-BLK:

Sr-90	RDL:2	pCi/L	LCL:	UCL:	RPD:

JRKD61AC-LCS:

Sr-90	RDL:2	pCi/L	LCL:70	UCL:130	RPD:20

37

STL RICHLAND

3/30/2007 11:43:05 AM

Sample Preparation/Analysis

CG Sr-Total Prp/SepRC5006
TH Total Strontium by GPC
5I CLIENT: HANFORD

Balance Id:1120482733

Pipet #: _____

AnalyDueDate: 05/01/2007

Sep1 DT/Tm Tech: 03/30/2007 10:20,ManisD

Batch: 7081402 pCi/L

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,BockJ

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

JRFJN1AE-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JRKD61AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JRKD61AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

4/3/2007 11:09:25 AM

ICOC Fraction Transfer/Status Report

ByDate: 4/3/2006, 4/8/2007, Batch: '7081402', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus		Accepting		Comments
7081402						
AC		CalcC	BockJ	3/27/2007 2:00:08 PM		
SC			wagarr	IsBatched	3/22/2007 2:42:40 PM	ICOC_RADCALC v4.8.26
SC			BockJ	InPrep	3/27/2007 2:00:08 PM	RICH-RC-5014 Revision 6
SC			BockJ	Prep1C	3/27/2007 2:15:08 PM	RICH-RC-5016 REVISION 6
SC			ManisD	InSep1	3/28/2007 10:14:06 AM	RICH-RC-5006 REV 6
SC			McDowellD	Sep1C	3/30/2007 11:20:14 AM	RICH-RC-5006 REV 6
SC			ManisD	Sep1C	3/30/2007 11:27:11 AM	RICH-RC-5006 REV 6
SC			StringerR	InCnt1	3/30/2007 11:55:18 AM	RICH-RD-0003 REVISION 4
SC			DAWKINSO	CalcC	3/30/2007 6:05:30 PM	RICH-RD-0003 REVISION 4
AC			BockJ	3/27/2007 2:15:08 PM		
AC			ManisD	3/28/2007 10:14:06		
AC			McDowellD	3/30/2007 11:20:14		
AC			ManisD	3/30/2007 11:27:11		
AC			StringerR	3/30/2007 11:55:18		
AC			DAWKINSO	3/30/2007 6:05:30 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 7

ICOCFractions v4.8.26

STL RICHLAND

3/22/2007 2:40:16 PM

Sample Preparation/Analysis

108302, Fluor Hanford Inc Management Federal Servi , Waste 38

AR H-3 Prp/SepRC5007
S6 Tritium by Liquid Scint
5I CLIENT: HANFORD

AnalyDueDate: 05/01/2007 100543

Batch: 7081399 WATER pCi/L 5/4/26/07 PM, Quote: SA , 29754
SEQ Batch, Test: None

Balance Id: 5445
Pipet #:
Sep1 DT/Tm Tech: 3-28 <57 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 JRFJN-1-AC J7C210186-1-SAMP 03/15/2007 09:06		AmtRec: 8XLP	#Containers: 8			Scr:	Alpha:	Beta:
2 JRFJN-1-AG-X J7C210186-1-DUP 03/15/2007 09:06		AmtRec: 8XLP	#Containers: 8			Scr:	Alpha:	Beta:
3 JRKD0-1-AA-B J7C220000-399-BLK 03/15/2007 09:06		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
4 JRKD0-1-AC-C J7C220000-399-LCS 03/15/2007 09:06		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
5 JRKD0-1-AD-BX J7C220000-399-MBLK 03/15/2007 09:06		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
6 JRKD0-1-AE-CM J7C220000-399-MLCS 03/15/2007 09:06		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
7 JRKD0-1-AF-BN J7C220000-399-IBLK 03/15/2007 09:06		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:

STL Richland Richland Wa.

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

Page 1

ISV - Insufficient Volume for Analysis

WO Cnt: 7

ICOC v4.8.26

40

STL RICHLAND

3/22/2007 2:40:27 PM

Sample Preparation/Analysis

AR H-3 Prp/SepRC5007
S6 Tritium by Liquid Scint
5I CLIENT: HANFORD

Balance Id: 10445
Pipet #:
Sep1 DT/Tm Tech: 3-28-07 Tam
Sep2 DT/Tm Tech:
Prep Tech:

AnalyDueDate: 05/01/2007

Batch: 7081399 pCi/L
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:
8 JRKD0-1-AG-BN J7C220000-399-IBLK 03/15/2007 09:06	AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:

Comments:

All Clients for Batch:
108302, Fluor Hanford Inc Waste Management Federal Servi, SA , 29754

JRFJN1AC-SAMP Constituent List:
H-3 RDL:400 pCi/L LCL:70 UCL:130 RPD:20
JRKD01AA-BLK:
H-3 RDL:400 pCi/L LCL: UCL: RPD:
JRKD01AC-LCS:
H-3 RDL:400 pCi/L LCL:70 UCL:130 RPD:20
JRKD01AD-MBLK:
H-3 RDL:400 pCi/L LCL: UCL: RPD:
JRKD01AE-MLCS:
H-3 RDL:400 pCi/L LCL:70 UCL:130 RPD:20
JRKD01AF-IBLK:
H-3 RDL:400 pCi/L LCL: UCL: RPD:
JRKD01AG-IBLK:
H-3 RDL:400 pCi/L LCL: UCL: RPD:

JRFJN1AC-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JRKD01AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JRKD01AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JRKD01AD-MBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JRKD01AE-MLCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JRKD01AF-IBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

STL RICHLAND

3/22/2007 2:40:28 PM

Sample Preparation/Analysis

AR H-3 Prp/SepRC5007
S6 Tritium by Liquid Scint
5I CLIENT: HANFORD

Balance Id: 17445
Pipet #:
Sep1 DT/Tm Tech: 3-28-07 6am
Sep2 DT/Tm Tech:
Prep Tech:

AnalyDueDate: 05/01/2007

Batch: 7081399 pCI/L
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:

URKD01AG-IBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

4/2/2007 1:42:42 PM

ICOC Fraction Transfer/Status Report

ByDate: 4/2/2006, 4/7/2007, Batch: '7081399', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
7081399						
AC		CalcC	McDowellD	3/28/2007 10:06:45		
SC			wagarr	IsBatched	3/22/2007 2:42:40 PM	ICOC_RADCALC v4.8.26
SC			McDowellD	InSep1	3/28/2007 10:06:45 AM	RICH-RC-5007 REVISION 6
SC			McDowellD	Sep1C	3/28/2007 1:01:40 PM	RICH-RC-5007 REVISION 6
SC			BlackCL	InCnt1	3/28/2007 1:04:06 PM	RICH-RD-0001 REVISION 3
SC			StringerR	InCnt1	3/28/2007 1:10:44 PM	RICH-RD-0001 REVISION 3
SC			StringerR	CalcC	3/28/2007 10:25:22 AM	RICH-RD-0001 REVISION 3
AC			McDowellD	3/28/2007 1:01:40 PM		
AC			BlackCL	3/28/2007 1:04:06 PM		
AC			StringerR	3/28/2007 1:10:44 PM		
AC			StringerR	3/29/2007 10:25:22		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Page 1

Grp Rec Cnt: 5

ICOCFractions v4.8.26

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STL St. Louis
13715 Rider Trail North
Earth City, MO 63045

Tel: 314 298 8566 Fax: 314 298 8757
www.stl-inc.com

ANALYTICAL REPORT

F07-028

Lot #: F7C160147
SDG #: W05138

Steve Trent

Fluor Hanford Inc
PO Box 1000 T6-03
Richland, WA 99352

SEVERN TRENT LABORATORIES, INC.

APR 2007
RECEIVED

for
Brian O'Donnell
Project Manager

April 17, 2007

Case Narrative
Lot Number: F7C160147
SDG: W05138

This report contains the analytical results for the sample received under chain of custody by STL St. Louis on March 16, 2007. This sample is associated with your F07-028 project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted below.

The test results in this report meet all NELAP requirements for parameters in which accreditations are held by STL St. Louis. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of this report.

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

Observations/Nonconformances
Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

ICP Metals by SW846 6010B

The MS and/or MSD recovery for Iron is outside the established QC limits. The analyte concentration in the original sample is greater than four times the amount spiked, making percent recovery information ineffective. Method performance is demonstrated by acceptable LCS recovery.
Affected Samples:
F7C160147 (1): B1MRN9

Ion Chromatography by SW846 300.0A

The anion matrix spike solution contains all routine anions. Spiking technique, sample preparation and method compliance is demonstrated by the remaining acceptable MS recoveries. Poor matrix spike recovery for Orthophosphate in batch 7078188 is attributed to matrix interference.
Affected Samples:
F7C160147 (1): B1MRN9

There were no observations or nonconformances to report for the following analyses:

Alkalinity by EPA 310.1

METHODS SUMMARY

F7C160147

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Alkalinity	MCAWW 310.1	MCAWW 310.1
Bromide	MCAWW 300.0A	MCAWW 300.0A
Chloride	MCAWW 300.0A	MCAWW 300.0A
Fluoride	MCAWW 300.0A	MCAWW 300.0A
Inductively Coupled Plasma (ICP) Metals	SW846 6010B	
Nitrate as NO3	MCAWW 300.0A	
Nitrite as N	MCAWW 300.0A	MCAWW 300.0A
Phosphate as P, Ortho	MCAWW 300.0A	MCAWW 300.0A
Sulfate	MCAWW 300.0A	MCAWW 300.0A

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

F7C160147

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
JQ667	001	B1MRN9	03/15/07	09:06

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Fluor Hanford Inc

Client Sample ID: B1MRN9

TOTAL Metals

Lot-Sample #...: F7C160147-001 **Matrix.....:** WATER
Date Sampled...: 03/15/07 09:06 **Date Received..:** 03/16/07

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 7078207						
Arsenic	ND	200	ug/L	SW846 6010B	03/19-03/22/07	JQ6671AC
		Dilution Factor: 1		Analysis Time..: 19:02		
Antimony	ND	60.0	ug/L	SW846 6010B	03/19-03/22/07	JQ6671AD
		Dilution Factor: 1		Analysis Time..: 19:02		
Barium	**73.2 B**	**200**	**ug/L**	**SW846 6010B**	**03/19-03/22/07**	**JQ6671AE**
		Dilution Factor: 1		Analysis Time..: 19:02		
Beryllium	ND	5.0	ug/L	SW846 6010B	03/19-03/22/07	JQ6671AF
		Dilution Factor: 1		Analysis Time..: 19:02		
Cadmium	ND	5.0	ug/L	SW846 6010B	03/19-03/22/07	JQ6671AG
		Dilution Factor: 1		Analysis Time..: 19:02		
Calcium	**33400**	**5000**	**ug/L**	**SW846 6010B**	**03/19-03/22/07**	**JQ6671AH**
		Dilution Factor: 1		Analysis Time..: 19:02		
Chromium	**9.0 B**	**10.0**	**ug/L**	**SW846 6010B**	**03/19-03/22/07**	**JQ6671AJ**
		Dilution Factor: 1		Analysis Time..: 19:02		
Cobalt	ND	50.0	ug/L	SW846 6010B	03/19-03/22/07	JQ6671AK
		Dilution Factor: 1		Analysis Time..: 19:02		
Iron	**4820**	**100**	**ug/L**	**SW846 6010B**	**03/19-03/21/07**	**JQ6671AL**
		Dilution Factor: 1		Analysis Time..: 15:30		
Magnesium	**6720**	**5000**	**ug/L**	**SW846 6010B**	**03/19-03/22/07**	**JQ6671AM**
		Dilution Factor: 1		Analysis Time..: 19:02		
Manganese	**151**	**15.0**	**ug/L**	**SW846 6010B**	**03/19-03/22/07**	**JQ6671AN**
		Dilution Factor: 1		Analysis Time..: 19:02		
Nickel	ND	40.0	ug/L	SW846 6010B	03/19-03/22/07	JQ6671AP
		Dilution Factor: 1		Analysis Time..: 19:02		
Potassium	**1720 B**	**5000**	**ug/L**	**SW846 6010B**	**03/19-03/21/07**	**JQ6671AQ**
		Dilution Factor: 1		Analysis Time..: 15:30		

(Continued on next page)

Fluor Hanford Inc

Client Sample ID: B1MRN9

TOTAL Metals

Lot-Sample #...: F7C160147-001 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Silver	ND	10.0	ug/L	SW846 6010B	03/19-03/22/07	JQ6671AR
		Dilution Factor: 1		Analysis Time..: 19:02		
Sodium	**3360 B**	**5000**	**ug/L**	**SW846 6010B**	**03/19-03/21/07**	**JQ6671AT**
		Dilution Factor: 1		Analysis Time..: 15:30		
Strontium	**131**	**50.0**	**ug/L**	**SW846 6010B**	**03/19-03/22/07**	**JQ6671AU**
		Dilution Factor: 1		Analysis Time..: 19:02		
Vanadium	**11.7 B**	**50.0**	**ug/L**	**SW846 6010B**	**03/19-03/22/07**	**JQ6671AV**
		Dilution Factor: 1		Analysis Time..: 19:02		
Zinc	**57.2**	**20.0**	**ug/L**	**SW846 6010B**	**03/19-03/22/07**	**JQ6671AW**
		Dilution Factor: 1		Analysis Time..: 19:02		

NOTE(S):

B Estimated result. Result is less than RL.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F7C160147 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: F7C190000-207 **Prep Batch #...:** 7078207						
Arsenic	ND	200	ug/L	SW846 6010B	03/19-03/22/07	JRA0X1AA
		Dilution Factor: 1				
		Analysis Time..: 18:53				
Antimony	ND	60.0	ug/L	SW846 6010B	03/19-03/22/07	JRA0X1AC
		Dilution Factor: 1				
		Analysis Time..: 18:53				
Barium	ND	200	ug/L	SW846 6010B	03/19-03/22/07	JRA0X1AD
		Dilution Factor: 1				
		Analysis Time..: 18:53				
Beryllium	ND	5.0	ug/L	SW846 6010B	03/19-03/22/07	JRA0X1AE
		Dilution Factor: 1				
		Analysis Time..: 18:53				
Cadmium	ND	5.0	ug/L	SW846 6010B	03/19-03/22/07	JRA0X1AF
		Dilution Factor: 1				
		Analysis Time..: 18:53				
Calcium	ND	5000	ug/L	SW846 6010B	03/19-03/22/07	JRA0X1AG
		Dilution Factor: 1				
		Analysis Time..: 18:53				
Chromium	ND	10.0	ug/L	SW846 6010B	03/19-03/22/07	JRA0X1AH
		Dilution Factor: 1				
		Analysis Time..: 18:53				
Cobalt	ND	50.0	ug/L	SW846 6010B	03/19-03/22/07	JRA0X1AJ
		Dilution Factor: 1				
		Analysis Time..: 18:53				
Iron	ND	100	ug/L	SW846 6010B	03/19-03/21/07	JRA0X1AK
		Dilution Factor: 1				
		Analysis Time..: 15:19				
Magnesium	ND	5000	ug/L	SW846 6010B	03/19-03/22/07	JRA0X1AL
		Dilution Factor: 1				
		Analysis Time..: 18:53				
Manganese	ND	15.0	ug/L	SW846 6010B	03/19-03/22/07	JRA0X1AM
		Dilution Factor: 1				
		Analysis Time..: 18:53				

(Continued on next page)

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F7C160147 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Nickel	ND	40.0	ug/L	SW846 6010B	03/19-03/22/07	JRA0X1AN
		Dilution Factor: 1				
		Analysis Time..: 18:53				
Potassium	ND	5000	ug/L	SW846 6010B	03/19-03/21/07	JRA0X1AP
		Dilution Factor: 1				
		Analysis Time..: 15:19				
Silver	ND	10.0	ug/L	SW846 6010B	03/19-03/22/07	JRA0X1AQ
		Dilution Factor: 1				
		Analysis Time..: 18:53				
Sodium	ND	5000	ug/L	SW846 6010B	03/19-03/21/07	JRA0X1AR
		Dilution Factor: 1				
		Analysis Time..: 15:19				
Strontium	ND	50.0	ug/L	SW846 6010B	03/19-03/22/07	JRA0X1AT
		Dilution Factor: 1				
		Analysis Time..: 18:53				
Vanadium	ND	50.0	ug/L	SW846 6010B	03/19-03/22/07	JRA0X1AU
		Dilution Factor: 1				
		Analysis Time..: 18:53				
Zinc	ND	20.0	ug/L	SW846 6010B	03/19-03/22/07	JRA0X1AV
		Dilution Factor: 1				
		Analysis Time..: 18:53				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F7C160147 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: F7C190000-207 **Prep Batch #...:** 7078207					
Arsenic	103	(80 - 120)	SW846 6010B	03/19-03/22/07	JRA0X1AW
		Dilution Factor: 1	Analysis Time..: 18:57		
Antimony	103	(80 - 120)	SW846 6010B	03/19-03/22/07	JRA0X1AX
		Dilution Factor: 1	Analysis Time..: 18:57		
Barium	100	(80 - 120)	SW846 6010B	03/19-03/22/07	JRA0X1A0
		Dilution Factor: 1	Analysis Time..: 18:57		
Beryllium	106	(80 - 120)	SW846 6010B	03/19-03/22/07	JRA0X1A1
		Dilution Factor: 1	Analysis Time..: 18:57		
Cadmium	103	(80 - 120)	SW846 6010B	03/19-03/22/07	JRA0X1A2
		Dilution Factor: 1	Analysis Time..: 18:57		
Calcium	106	(80 - 120)	SW846 6010B	03/19-03/22/07	JRA0X1A3
		Dilution Factor: 1	Analysis Time..: 18:57		
Chromium	101	(80 - 120)	SW846 6010B	03/19-03/22/07	JRA0X1A4
		Dilution Factor: 1	Analysis Time..: 18:57		
Cobalt	101	(80 - 120)	SW846 6010B	03/19-03/22/07	JRA0X1A5
		Dilution Factor: 1	Analysis Time..: 18:57		
Iron	106	(80 - 120)	SW846 6010B	03/19-03/21/07	JRA0X1A6
		Dilution Factor: 1	Analysis Time..: 15:25		
Magnesium	105	(80 - 120)	SW846 6010B	03/19-03/22/07	JRA0X1A7
		Dilution Factor: 1	Analysis Time..: 18:57		
Manganese	102	(80 - 120)	SW846 6010B	03/19-03/22/07	JRA0X1A8
		Dilution Factor: 1	Analysis Time..: 18:57		
Nickel	100	(80 - 120)	SW846 6010B	03/19-03/22/07	JRA0X1A9
		Dilution Factor: 1	Analysis Time..: 18:57		
Potassium	92	(80 - 120)	SW846 6010B	03/19-03/21/07	JRA0X1CA
		Dilution Factor: 1	Analysis Time..: 15:25		
Silver	101	(80 - 120)	SW846 6010B	03/19-03/22/07	JRA0X1CC
		Dilution Factor: 1	Analysis Time..: 18:57		

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F7C160147 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Sodium	104	(80 - 120)	SW846 6010B	03/19-03/21/07	JRA0X1CD
		Dilution Factor: 1	Analysis Time..: 15:25		
Strontium	103	(80 - 120)	SW846 6010B	03/19-03/22/07	JRA0X1CE
		Dilution Factor: 1	Analysis Time..: 18:57		
Vanadium	101	(80 - 120)	SW846 6010B	03/19-03/22/07	JRA0X1CF
		Dilution Factor: 1	Analysis Time..: 18:57		
Zinc	96	(80 - 120)	SW846 6010B	03/19-03/22/07	JRA0X1CG
		Dilution Factor: 1	Analysis Time..: 18:57		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F7C160147 **Matrix.....:** WATER
Date Sampled...: 03/15/07 09:06 **Date Received..:** 03/16/07

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: F7C160147-001 **Prep Batch #...:** 7078207							
Arsenic	103	(75 - 125)			SW846 6010B	03/19-03/22/07	JQ6671CD
	100	(75 - 125)	3.8	(0-20)	SW846 6010B	03/19-03/22/07	JQ6671CE
		Dilution Factor: 1					
		Analysis Time..: 19:21					
Antimony	96	(75 - 125)			SW846 6010B	03/19-03/22/07	JQ6671CF
	96	(75 - 125)	0.0	(0-20)	SW846 6010B	03/19-03/22/07	JQ6671CG
		Dilution Factor: 1					
		Analysis Time..: 19:21					
Barium	99	(75 - 125)			SW846 6010B	03/19-03/22/07	JQ6671CH
	95	(75 - 125)	3.4	(0-20)	SW846 6010B	03/19-03/22/07	JQ6671CJ
		Dilution Factor: 1					
		Analysis Time..: 19:21					
Beryllium	106	(75 - 125)			SW846 6010B	03/19-03/22/07	JQ6671CK
	103	(75 - 125)	3.6	(0-20)	SW846 6010B	03/19-03/22/07	JQ6671CL
		Dilution Factor: 1					
		Analysis Time..: 19:21					
Cadmium	100	(75 - 125)			SW846 6010B	03/19-03/22/07	JQ6671CM
	96	(75 - 125)	4.4	(0-20)	SW846 6010B	03/19-03/22/07	JQ6671CN
		Dilution Factor: 1					
		Analysis Time..: 19:21					
Calcium	98	(75 - 125)			SW846 6010B	03/19-03/22/07	JQ6671CP
	94	(75 - 125)	1.5	(0-20)	SW846 6010B	03/19-03/22/07	JQ6671CQ
		Dilution Factor: 1					
		Analysis Time..: 19:21					
Chromium	99	(75 - 125)			SW846 6010B	03/19-03/22/07	JQ6671CR
	97	(75 - 125)	2.7	(0-20)	SW846 6010B	03/19-03/22/07	JQ6671CT
		Dilution Factor: 1					
		Analysis Time..: 19:21					
Cobalt	98	(75 - 125)			SW846 6010B	03/19-03/22/07	JQ6671CU
	95	(75 - 125)	3.2	(0-20)	SW846 6010B	03/19-03/22/07	JQ6671CV
		Dilution Factor: 1					
		Analysis Time..: 19:21					

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F7C160147 **Matrix.....:** WATER
Date Sampled...: 03/15/07 09:06 **Date Received..:** 03/16/07

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Iron	46 N	(75 - 125)			SW846 6010B	03/19-03/21/07	JQ6671CW
	11 N	(75 - 125)	3.5	(0-20)	SW846 6010B	03/19-03/21/07	JQ6671CX
		Dilution Factor: 1					
		Analysis Time..: 15:52					
Magnesium	101	(75 - 125)			SW846 6010B	03/19-03/22/07	JQ6671C0
	97	(75 - 125)	2.8	(0-20)	SW846 6010B	03/19-03/22/07	JQ6671C1
		Dilution Factor: 1					
		Analysis Time..: 19:21					
Manganese	97	(75 - 125)			SW846 6010B	03/19-03/22/07	JQ6671C2
	93	(75 - 125)	2.2	(0-20)	SW846 6010B	03/19-03/22/07	JQ6671C3
		Dilution Factor: 1					
		Analysis Time..: 19:21					
Nickel	98	(75 - 125)			SW846 6010B	03/19-03/22/07	JQ6671C4
	95	(75 - 125)	3.5	(0-20)	SW846 6010B	03/19-03/22/07	JQ6671C5
		Dilution Factor: 1					
		Analysis Time..: 19:21					
Potassium	99	(75 - 125)			SW846 6010B	03/19-03/21/07	JQ6671C6
	97	(75 - 125)	1.7	(0-20)	SW846 6010B	03/19-03/21/07	JQ6671C7
		Dilution Factor: 1					
		Analysis Time..: 15:52					
Silver	102	(75 - 125)			SW846 6010B	03/19-03/22/07	JQ6671C8
	97	(75 - 125)	5.2	(0-20)	SW846 6010B	03/19-03/22/07	JQ6671C9
		Dilution Factor: 1					
		Analysis Time..: 19:21					
Sodium	103	(75 - 125)			SW846 6010B	03/19-03/21/07	JQ6671DA
	99	(75 - 125)	3.9	(0-20)	SW846 6010B	03/19-03/21/07	JQ6671DC
		Dilution Factor: 1					
		Analysis Time..: 15:52					
Strontium	102	(75 - 125)			SW846 6010B	03/19-03/22/07	JQ6671DD
	98	(75 - 125)	2.9	(0-20)	SW846 6010B	03/19-03/22/07	JQ6671DE
		Dilution Factor: 1					
		Analysis Time..: 19:21					
Vanadium	98	(75 - 125)			SW846 6010B	03/19-03/22/07	JQ6671DF
	95	(75 - 125)	3.1	(0-20)	SW846 6010B	03/19-03/22/07	JQ6671DG
		Dilution Factor: 1					
		Analysis Time..: 19:21					

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F7C160147 **Matrix.....:** WATER
Date Sampled...: 03/15/07 09:06 **Date Received..:** 03/16/07

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Zinc	89	(75 - 125)			SW846 6010B	03/19-03/22/07	JQ6671DH
	86	(75 - 125)	2.6	(0-20)	SW846 6010B	03/19-03/22/07	JQ6671DJ

Dilution Factor: 1
Analysis Time..: 19:21

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

Fluor Hanford Inc

Client Sample ID: B1MRN9

General Chemistry

Lot-Sample #...: F7C160147-001 **Work Order #...:** JQ667 **Matrix.....:** WATER
Date Sampled...: 03/15/07 09:06 **Date Received..:** 03/16/07

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Bromide	**4.0**	**0.25**	**mg/L**	**MCAWW 300.0A**	**03/16/07**	**7078187**
		Dilution Factor: 1		Analysis Time..: 11:46		
Chloride	**9.8 C**	**2.0**	**mg/L**	**MCAWW 300.0A**	**03/16/07**	**7078182**
		Dilution Factor: 10		Analysis Time..: 12:42		
Fluoride	**0.053 B**	**0.10**	**mg/L**	**MCAWW 300.0A**	**03/16/07**	**7078183**
		Dilution Factor: 1		Analysis Time..: 11:46		
Nitrate	**0.25**	**0.020**	**mg/L**	**MCAWW 300.0A**	**03/16/07**	**7078186**
		Dilution Factor: 1		Analysis Time..: 11:46		
Nitrite	ND	0.020	mg/L	MCAWW 300.0A	03/16/07	7078185
		Dilution Factor: 1		Analysis Time..: 11:46		
Phosphate as P, Ortho	**0.36 B,C**	**0.50**	**mg/L**	**MCAWW 300.0A**	**03/16/07**	**7078188**
		Dilution Factor: 1		Analysis Time..: 11:46		
Sulfate	**10.3 C**	**0.50**	**mg/L**	**MCAWW 300.0A**	**03/16/07**	**7078184**
		Dilution Factor: 1		Analysis Time..: 11:46		
Total Alkalinity	**73.0**	**5.0**	**mg/L**	**MCAWW 310.1**	**03/22/07**	**7081123**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

C Analyte detected in method blank above the MDL/IDL.

B Estimated result. Result is less than RL.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: F7C160147 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Bromide		Work Order #: JRAW21AA		MB Lot-Sample #:	F7C190000-187	
	ND	0.25	mg/L	MCAWW 300.0A	03/16/07	7078187
		Dilution Factor: 1				
		Analysis Time..: 07:45				
Chloride		Work Order #: JRAVV1AA		MB Lot-Sample #:	F7C190000-182	
	0.058 B	**0.20**	**mg/L**	**MCAWW 300.0A**	**03/16/07**	**7078182**
		Dilution Factor: 1				
		Analysis Time..: 07:45				
Fluoride		Work Order #: JRAWF1AA		MB Lot-Sample #:	F7C190000-183	
	ND	0.10	mg/L	MCAWW 300.0A	03/16/07	7078183
		Dilution Factor: 1				
		Analysis Time..: 07:45				
Nitrate		Work Order #: JRAW01AA		MB Lot-Sample #:	F7C190000-186	
	ND	0.020	mg/L	MCAWW 300.0A	03/16/07	7078186
		Dilution Factor: 1				
		Analysis Time..: 07:45				
Nitrite		Work Order #: JRAWR1AA		MB Lot-Sample #:	F7C190000-185	
	ND	0.020	mg/L	MCAWW 300.0A	03/16/07	7078185
		Dilution Factor: 1				
		Analysis Time..: 07:45				
Phosphate as P, Ortho		Work Order #: JRAW71AA		MB Lot-Sample #:	F7C190000-188	
	0.17 B	**0.50**	**mg/L**	**MCAWW 300.0A**	**03/16/07**	**7078188**
		Dilution Factor: 1				
		Analysis Time..: 07:45				
Sulfate		Work Order #: JRAWJ1AA		MB Lot-Sample #:	F7C190000-184	
	0.16 B	**0.50**	**mg/L**	**MCAWW 300.0A**	**03/16/07**	**7078184**
		Dilution Factor: 1				
		Analysis Time..: 07:45				
Total Alkalinity		Work Order #: JRHJ71AA		MB Lot-Sample #:	F7C220000-123	
	ND	5.0	mg/L	MCAWW 310.1	03/22/07	7081123
		Dilution Factor: 1				
		Analysis Time..: 00:00				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Lot-Sample #...: F7C160147 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Bromide		WO#:JRAW21AC-LCS/JRAW21AD-LCSD LCS Lot-Sample#: F7C190000-187					
	104	(90 - 110)			MCAWW 300.0A	03/16/07	7078187
	98	(90 - 110)	5.8	(0-20)	MCAWW 300.0A	03/16/07	7078187
		Dilution Factor: 1			Analysis Time..: 07:26		
Chloride		WO#:JRAVV1AC-LCS/JRAVV1AD-LCSD LCS Lot-Sample#: F7C190000-182					
	97	(90 - 110)			MCAWW 300.0A	03/16/07	7078182
	97	(90 - 110)	0.72	(0-20)	MCAWW 300.0A	03/16/07	7078182
		Dilution Factor: 1			Analysis Time..: 07:26		
Fluoride		WO#:JRAWF1AC-LCS/JRAWF1AD-LCSD LCS Lot-Sample#: F7C190000-183					
	97	(90 - 110)			MCAWW 300.0A	03/16/07	7078183
	99	(90 - 110)	2.4	(0-20)	MCAWW 300.0A	03/16/07	7078183
		Dilution Factor: 1			Analysis Time..: 07:26		
Nitrate		WO#:JRAW01AC-LCS/JRAW01AD-LCSD LCS Lot-Sample#: F7C190000-186					
	101	(90 - 110)			MCAWW 300.0A	03/16/07	7078186
	108	(90 - 110)	7.2	(0-20)	MCAWW 300.0A	03/16/07	7078186
		Dilution Factor: 1			Analysis Time..: 07:26		
Nitrite		WO#:JRAWR1AC-LCS/JRAWR1AD-LCSD LCS Lot-Sample#: F7C190000-185					
	101	(90 - 110)			MCAWW 300.0A	03/16/07	7078185
	96	(90 - 110)	5.5	(0-20)	MCAWW 300.0A	03/16/07	7078185
		Dilution Factor: 1			Analysis Time..: 07:26		
Phosphate as P, Ortho		WO#:JRAW71AC-LCS/JRAW71AD-LCSD LCS Lot-Sample#: F7C190000-188					
	101	(90 - 110)			MCAWW 300.0A	03/16/07	7078188
	103	(90 - 110)	1.5	(0-20)	MCAWW 300.0A	03/16/07	7078188
		Dilution Factor: 1			Analysis Time..: 07:26		
Sulfate		WO#:JRAWJ1AC-LCS/JRAWJ1AD-LCSD LCS Lot-Sample#: F7C190000-184					
	96	(90 - 110)			MCAWW 300.0A	03/16/07	7078184
	96	(90 - 110)	0.05	(0-20)	MCAWW 300.0A	03/16/07	7078184
		Dilution Factor: 1			Analysis Time..: 07:26		
Total Alkalinity		WO#:JRHJ71AC-LCS/JRHJ71AD-LCSD LCS Lot-Sample#: F7C220000-123					
	98	(90 - 110)			MCAWW 310.1	03/22/07	7081123
	98	(90 - 110)	0.50	(0-15)	MCAWW 310.1	03/22/07	7081123
		Dilution Factor: 1			Analysis Time..: 00:00		

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Lot-Sample #...: F7C160147 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F7C160147 **Matrix.....:** WATER
Date Sampled...: 03/15/07 09:06 **Date Received..:** 03/16/07

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Bromide		Work Order #...: JQ6671CA		MS Lot-Sample #: F7C160147-001	
	93	(90 - 110)	MCAWW 300.0A	03/16/07	7078187
		Dilution Factor: 1	Analysis Time..: 11:46		
Chloride		Work Order #...: JQ6671DK		MS Lot-Sample #: F7C160147-001	
	98	(90 - 110)	MCAWW 300.0A	03/16/07	7078182
		Dilution Factor: 10	Analysis Time..: 12:42		
Fluoride		Work Order #...: JQ6671A6		MS Lot-Sample #: F7C160147-001	
	92	(90 - 110)	MCAWW 300.0A	03/16/07	7078183
		Dilution Factor: 1	Analysis Time..: 11:46		
Nitrate		Work Order #...: JQ6671A9		MS Lot-Sample #: F7C160147-001	
	107	(90 - 110)	MCAWW 300.0A	03/16/07	7078186
		Dilution Factor: 1	Analysis Time..: 11:46		
Nitrite		Work Order #...: JQ6671A8		MS Lot-Sample #: F7C160147-001	
	93	(90 - 110)	MCAWW 300.0A	03/16/07	7078185
		Dilution Factor: 1	Analysis Time..: 11:46		
Phosphate as P, Ortho		Work Order #...: JQ6671CC		MS Lot-Sample #: F7C160147-001	
	111 N	(90 - 110)	MCAWW 300.0A	03/16/07	7078188
		Dilution Factor: 1	Analysis Time..: 11:46		
Sulfate		Work Order #...: JQ6671A7		MS Lot-Sample #: F7C160147-001	
	91	(90 - 110)	MCAWW 300.0A	03/16/07	7078184
		Dilution Factor: 1	Analysis Time..: 11:46		
Total Alkalinity		Work Order #...: JQ6671DW		MS Lot-Sample #: F7C160147-001	
	92	(50 - 121)	MCAWW 310.1	03/22/07	7081123
		Dilution Factor: 1	Analysis Time..: 00:00		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F7C160147 **Work Order #...:** JQ667-SMP JQ667-DUP **Matrix.....:** WATER

Date Sampled...: 03/15/07 09:06 **Date Received..:** 03/16/07

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Alkalinity						SD Lot-Sample #:	F7C160147-001	
	73.0	72.0	mg/L	1.4	(0-20)	MCAWW 310.1	03/22/07	7081123
			Dilution Factor: 1			Analysis Time..: 00:00		
Chloride						SD Lot-Sample #:	F7C160147-001	
	9.8 C	10.1	mg/L	2.6	(0-20)	MCAWW 300.0A	03/16/07	7078182
			Dilution Factor: 10			Analysis Time..: 12:42		
Fluoride						SD Lot-Sample #:	F7C160147-001	
	0.053 B	0.057 B	mg/L	6.6	(0-20)	MCAWW 300.0A	03/16/07	7078183
			Dilution Factor: 1			Analysis Time..: 11:46		
Sulfate						SD Lot-Sample #:	F7C160147-001	
	10.3 C	10.2	mg/L	1.1	(0-20)	MCAWW 300.0A	03/16/07	7078184
			Dilution Factor: 1			Analysis Time..: 11:46		
Nitrite						SD Lot-Sample #:	F7C160147-001	
	ND	ND	mg/L	0	(0-20)	MCAWW 300.0A	03/16/07	7078185
			Dilution Factor: 1			Analysis Time..: 11:46		
Nitrate						SD Lot-Sample #:	F7C160147-001	
	0.25	0.24	mg/L	1.6	(0-20)	MCAWW 300.0A	03/16/07	7078186
			Dilution Factor: 1			Analysis Time..: 11:46		
Bromide						SD Lot-Sample #:	F7C160147-001	
	4.0	3.9	mg/L	2.8	(0-20)	MCAWW 300.0A	03/16/07	7078187
			Dilution Factor: 1			Analysis Time..: 11:46		
Phosphate as P, Ortho						SD Lot-Sample #:	F7C160147-001	
	0.36 B,C	0.26 B	mg/L	32	(0-20)	MCAWW 300.0A	03/16/07	7078188
			Dilution Factor: 1			Analysis Time..: 11:46		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

C Analyte detected in method blank above the MDL/IDL.

B Estimated result. Result is less than RL.

LOT# F7C160147

SDG# W05138

STL ST. LOUIS

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F07-028-057	PAGE 1 OF 1
COLLECTOR: K H Vughes, J Pope (cust 6340)	COMPANY CONTACT: TRENT, SJ — TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 7N — DATA TURNAROUND: 45 Days / 45 Days
SAMPLING LOCATION: Array - 4A	PROJECT DESIGNATION: AQUIFER TUBE SAMPLING ALONG THE 100-N AREA SHORELINE	SAF NO.: F07-028	AIR QUALITY: ☐
ICE CHEST NO.: GRP-07-012	FIELD LOGBOOK NO.: HNF-N-451-1 — COA: 122543ES10	METHOD OF SHIPMENT: FEDERAL EXPRESS	
SHIPPED TO: Severn Trent St. Louis	OFFSITE PROPERTY NO.: ~~N/A~~ @ 2u PTR 19204	BILL OF LADING/AIR BILL NO.: ~~N/A~~ @ 2u PTR 19204	

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: No activity scan req.

PRESERVATION	HNO3 to pH <2	Cool 4C	Cool 4C
TYPE OF CONTAINER	P	P	P
NO. OF CONTAINER(S)	1	1	1
VOLUME	500mL	500mL	500mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Alkalinity - 310.1;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B1MRN9	WATER	3/15/07	0906	✓	✓	✓

CHAIN OF POSSESSION	DATE/TIME	SIGN/ PRINT NAMES: RECEIVED BY/STORED IN	DATE/TIME
J. Pope / [signature] 3-15-07	1000	MO-745 / Ref #1 3-15-07	1000
MO-745 KHV 3/15/07	1015	M.H. Bouchier / M.G. Bouchier	3/15/07 1015
M.H. Bouchier / M.G. Bouchier	3/15/07 1015	[signature]	
		[signature] 03-16-07	0900

SPECIAL INSTRUCTIONS

(1)ICP Metals - 6010B (TAL) {Antimony, Barium, Cadmium, Calcium, Chromium, Cobalt, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc} ICP Metals - 6010B (Add-On) {Arsenic, Beryllium, Strontium}
(2)IC Anions - 300.0 {Bromide, Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphate, Sulfate}

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

A-6083-618(01/06)

STL ST. LOUIS STL St. Louis

Lot #(s): F7C160147

- 6340 -

Condition Upon Receipt Form

Client: Fluor Hanford
Quote No: 74530
COC/RFA No: N/A
Initiated By: [illegible]
Date: 03-16-07
Time: 0900

Shipping Information

Shipper Name: FedX
Shipping # (s):*
1. 7981 2957 7369
2.
3.
4.
5.
6.
7.
8.
9.
10.

Multiple Packages Y (N) N/A
Sample Temperature (s):**
1. 3°
2.
3.
4.
5.
6.
7.
8.
9.
10.

*Numbered shipping lines correspond to Numbered Sample Temp lines

**Sample must be received at 4°C ± 2°C- If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

Condition (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

1.	Y (N)	Was sample received broken?	8.	(Y) N	Sample received with Chain of Custody?
2.	(Y) N N/A	Was sample received with proper pH[1] ? (If not, make note below)	9.	(Y) N	Chain of Custody matches sample ID's on container(s)?
3.	Y N	If N/A-Was pH taken by original STL Lab?	10.	(Y) N	Are there custody seals present on cooler?
4.	(Y) N	Sample received in proper containers?	11.	Y (N) N/A	Do custody seals on cooler appear to be tampered with?
5.	(Y) N	Sample volume sufficient for analysis?	12.	(Y) N	Are there custody seals present on bottles?
6.	Y N (N/A)	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)	13.	Y (N) N/A	Do custody seals on bottles appear to be tampered with?
7.	(Y) N	Were contents of the cooler frisked after opening	14.	Y N	Was Internal COC/Workshare received?

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes:

Corrective Action:
- ☐ Client Contact Name: Informed by:
- ☐ Sample(s) processed "as is"
- ☐ Sample(s) on hold until: If released, notify:

Project Management Review: [signature] Date: 3/16/07

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

ADMIN-0004, REVISED 03/01/06\\Slsvr01\QA\FORMS\ST-LOUIS\ADMIN\Admin004030106.doc

F7C160147

CLIENT ANALYSIS SUMMARY

Storage Loc: METS,2-142

Date Received: 2007-03-16

Analytical Due Date: 2007-03-30

Report Due Date: 2007-04-03

Project Manager: BTO

Quote #: 74530 SDG: W05138

Project: F07-028

PO#:

Report to: Steve Trent

Client: 108302 Fluor Hanford Inc

#SMPS in LOT: 1

Report Type: B Standard Report

EDD Code: FEADII

Sample Receipt Confirmation Required **** RUN LCS/ LCSD's if insufficien volume*******

Anions: CCV/CCB criteria +/-10% Anions/Metals: CRDL standard required +/-25% pH needs to be done within 24 hours of receipt

Report = RO2 all raw data to reporting group

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	I
1	B1MRN9			2007-03-15 / 906	JQ667	WATER

SAMPLE COMMENTS:

	KX	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06	
	ZN	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06	
	AG	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06	
	VX	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06	
	SR	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06	
	SB	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06	
	NI	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06	
	NA	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06	
	MG	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06	
	FE	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06	
	CR	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06	
	CO	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06	
	CD	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06	
	CA	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06	
	BE	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06	
	BA	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06	
	AS	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06	
	MN	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06	
	XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06	
	XX	25	MCAW W	300.0A	Nitrate as NO3 (300.0, Ion Chromatography)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	5I	CLIENT: HANFORD	PROT: W	WRK LOC	06	
	XX	C8	MCAW W	300.0A	Fluoride (300.0A, Ion Chromatography)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	5I	CLIENT: HANFORD	PROT: W	WRK LOC	06	
	XX	CX	MCAW W	300.0A	Chloride (300.0A, Ion Chromatography)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	5I	CLIENT: HANFORD	PROT: W	WRK LOC	06	
	XX	CY	MCAW W	300.0A	Sulfate (300.0A, Ion Chromatography)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	5I	CLIENT: HANFORD	PROT: W	WRK LOC	06	
	XX	DO	MCAW W	300.0A	Phosphate as P, Ortho (300.0A, Ion Chromatography)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	5I	CLIENT: HANFORD	PROT: W	WRK LOC	06	
	XX	GM	MCAW W	300.0A	Bromide (300.0A, Ion Chromatography)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	5I	CLIENT: HANFORD	PROT: W	WRK LOC	06	
	XX	GO	MCAW W	300.0A	Nitrite as N (300.0A, Ion Chromatography)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	5I	CLIENT: HANFORD	PROT: W	WRK LOC	06	
	XX	VC	MCAW W	310.1	Alkalinity, Total (310.1)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	5I	CLIENT: HANFORD	PROT: W	WRK LOC	06	
D	BA	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06	
D	NA	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06	
D	KX	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06	
D	FE	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06	
D	CR	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06	
D	CO	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06	
D	CD	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06	

F7C160147

CLIENT ANALYSIS SUMMARY

Storage Loc: METS,2-142

Date Received: 2007-03-16

Analytical Due Date: 2007-03-30

Report Due Date: 2007-04-03

Report Type: B Standard Report

EDD Code: FEADII

Project Manager: BTO

Quote #: 74530 SDG: W05138

Project: F07-028

PO#:

Report to: Steve Trent

Client: 108302 Fluor Hanford Inc

#SMPS in LOT: 1

Sample Receipt Confirmation Required **** RUN LCS/ LCSD's if insufficien volume*****

Anions: CCV/CCB criteria +/-10% Anions/Metals: CRDL standard required +/-25% pH needs to be done within 24 hours of receipt

Report = RO2 all raw data to reporting group

D	BE	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06
D	AS	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06
D	AG	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06
D	MN	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06
D	CA	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06
D	NI	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06
D	SB	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06
D	SR	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06
D	VX	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06
D	ZN	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06
D	MG	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06
S	NA	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06
S	ZN	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06
S	VX	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06
S	SR	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06
S	NI	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06
S	MN	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06
S	MG	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06
S	KX	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06
S	CR	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06
S	CO	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06
S	CD	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06
S	AG	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06
S	CA	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06
S	BE	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06
S	BA	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06
S	AS	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06
S	FE	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06
S	SB	QO	SW846	6010B	Inductively Coupled Plasma (6010B)	GJ	METALS, TOTAL - 2% HCL	5I	CLIENT: HANFORD	PROT: N	WRK LOC	06
S	XX	25	MCAW W	300.0A	Nitrate as NO3 (300.0, Ion Chromatography)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	5I	CLIENT: HANFORD	PROT: W	WRK LOC	06
S	XX	C8	MCAW W	300.0A	Fluoride (300.0A, Ion Chromatography)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	5I	CLIENT: HANFORD	PROT: W	WRK LOC	06
S	XX	CX	MCAW W	300.0A	Chloride (300.0A, Ion Chromatography)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	5I	CLIENT: HANFORD	PROT: W	WRK LOC	06
S	XX	CY	MCAW W	300.0A	Sulfate (300.0A, Ion Chromatography)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	5I	CLIENT: HANFORD	PROT: W	WRK LOC	06
S	XX	DO	MCAW W	300.0A	Phosphate as P, Ortho (300.0A, Ion Chromatography)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	5I	CLIENT: HANFORD	PROT: W	WRK LOC	06
S	XX	GM	MCAW W	300.0A	Bromide (300.0A, Ion Chromatography)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	5I	CLIENT: HANFORD	PROT: W	WRK LOC	06
S	XX	GO	MCAW W	300.0A	Nitrite as N (300.0A, Ion Chromatography)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	5I	CLIENT: HANFORD	PROT: W	WRK LOC	06
X	XX	25	MCAW W	300.0A	Nitrate as NO3 (300.0, Ion Chromatography)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	5I	CLIENT: HANFORD	PROT: W	WRK LOC	06

F7C160147

CLIENT ANALYSIS SUMMARY

Storage Loc: METS,2-142

Project Manager: BTO
Quote #: 74530
SDG: W05138
Date Received: 2007-03-16
Analytical Due Date: 2007-03-30
Project: F07-02B
Report Due Date: 2007-04-03
PO#:
Report to: Steve Trent
Client: 108302 Fluor Hanford Inc
Report Type: B Standard Report
#SMPS In LOT: 1
EDD Code: FEADII

Sample Receipt Confirmation Required **** RUN LCS/ LCSD's if insufficien volume*******

Anions: CCV/CCB criteria +/-10% Anions/Metals: CRDL standard required +/-25% pH needs to be done within 24 hours of receipt

Report = RO2 all raw data to reporting group

X	XX	C8	MCAW W	300.0A	Fluoride (300.0A, Ion Chromatography)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	5I	CLIENT: HANFORD	PROT: W	WRK LOC	06	
X	XX	CX	MCAW W	300.0A	Chloride (300.0A, Ion Chromatography)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	5I	CLIENT: HANFORD	PROT: W	WRK LOC	06	
X	XX	CY	MCAW W	300.0A	Sulfate (300.0A, Ion Chromatography)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	5I	CLIENT: HANFORD	PROT: W	WRK LOC	06	
X	XX	DO	MCAW W	300.0A	Phosphate as P, Ortho (300.0A, Ion Chromatography)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	5I	CLIENT: HANFORD	PROT: W	WRK LOC	06	
X	XX	GM	MCAW W	300.0A	Bromide (300.0A, Ion Chromatography)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	5I	CLIENT: HANFORD	PROT: W	WRK LOC	06	
X	XX	GO	MCAW W	300.0A	Nitrite as N (300.0A, Ion Chromatography)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	5I	CLIENT: HANFORD	PROT: W	WRK LOC	06	
X	XX	VC	MCAW W	310.1	Alkalinity, Total (310.1)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	5I	CLIENT: HANFORD	PROT: W	WRK LOC	06	