

Analytical Data Package Prepared For

Radiochemical Analysis By

**STL Richland**

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

Assigned Laboratory Code:

*Data Package Contains 15 Pages*

Report No.: 34118

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
33201		SSFL-offsite(4cont)	J6L060236-1	JK9M71AG	9JK9M710	6353572
		SSFL-offsite(4cont)	J6L060236-1	JK9M71AD	9JK9M710	6353574
		SSFL-offsite(4cont)	J6L060236-1	JK9M71AF	9JK9M710	6353575
		SSFL-offsite(4cont)	J6L060236-1	JK9M71AA	9JK9M710	6353576
		SSFL-offsite(4cont)	J6L060236-1	JK9M71AE	9JK9M710	6353577
		SSFL-offsite(4cont)	J6L060236-1	JK9M71AC	9JK9M710	6353578

## Certificate of Analysis

January 3, 2007

EnviroReporter.Com

Santa Monica, CA 904

Attention: Michael Collins

**STL Richland**  
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Date Received : December 5, 2006  
Sample Number/Matrix : One (1) Aqueous  
SDG Number : 33201  
Project Name : SSFL – Offsite Simi Valley, CA

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### CASE NARRATIVE

#### I. Introduction

On December 5, 2006, one aqueous sample was received at the STL Richland (STLR) laboratory for radiochemical analysis. Upon receipt, the sample was assigned an STLR identification number as described on the cover page of the Analytical Data Package. The sample was assigned to Lot Number J6L060236.

#### 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 uncertainties.

The analyses requested were:

##### **Gas Proportional Detectors**

Gross Alpha by method STL RICH-RC-5014 (EPA 900)  
Gross Beta by method STL RICH-RC-5014 (EPA 900)  
Strontium-90 by method STL RICH-RC-5006 (EPA 905.0)

##### **Gamma Spectroscopy**

Gamma Spec by method RICH-RC-5017

##### **Liquid Scintillation**

Tritium by method RICH-RC-5007 (EPA 906.0)

##### **Alpha Spectroscopy**

Plutonium -238, 239/240 by method RICH-RC-5010

#### **IV. Quality Control**

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

#### **V. Comments**

##### Gross Alpha Analysis:

The sample and duplicate aliquots were reduced due to high dissolved solids in the samples. As a result the CRDL was not met. Except as noted, the LCS, batch blank, sample and sample duplicate results are within acceptance limits.

##### Gross Beta Analysis:

The sample and duplicate aliquots were reduced due to high dissolved solids in the samples. As a result the CRDL was not met. Except as noted, the LCS, batch blank, sample and sample duplicate results are within acceptance limits.

##### Gamma Analysis:

There was insufficient sample for a full QC pour up. The sample was recounted on a different detector for a duplicate. Data is accepted. Except as noted, the LCS, batch blank, sample and sample duplicate results are within acceptance limits.

##### Strontium-90 Analysis:

There was insufficient sample for a duplicate analysis. Except as noted, the LCS, batch blank and sample results are within acceptance limits.

##### Plutonium-238, 239/240 Analysis:

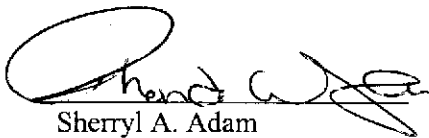
There was insufficient sample for a duplicate analysis. Except as noted, the LCS, batch blank and sample results are within acceptance limits.

##### Tritium Analysis:

The LCS, batch blank, sample and sample duplicate results are within acceptance limits.

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. The Laboratory Manager or a designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Reviewed and approved:



Sherryl A. Adam  
Project Manager

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## 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,  $R = \text{constants} * f(x,y,z, \dots)$ . The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties ( $u_i$ ) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty ( $u_c$ ) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value ( $S/\sqrt{n}$ ), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

## Report Definitions

<b>Action Lev</b>	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.
<b>Batch</b>	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
<b>Bias</b>	Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.
<b>COC No</b>	Chain of Custody Number assigned by the Client or STL Richland.
<b>Count Error (#s)</b>	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.
<b>Total Uncert (#s) <i>u<sub>c</sub> - Combined Uncertainty.</i></b>	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, <i>u<sub>c</sub> the combined uncertainty</i> . The uncertainty is absolute and in the same units as the result.
<b>(#s), Coverage Factor</b>	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
<b>CRDL (RL)</b>	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)
<b>Lc</b>	Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. $Lc = (1.645 * \text{Sqrt}(2 * (\text{BkgndCnt}/\text{BkgndCntMin})/\text{SCntMin})) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol}) * \text{IngrFct})$ . For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero.
<b>Lot-Sample No</b>	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.
<b>MDC MDA</b>	Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. $MDC = (4.65 * \text{Sqrt}((\text{BkgndCnt}/\text{BkgndCntMin})/\text{SCntMin}) + 2.71/\text{SCntMin}) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol}) * \text{IngrFct})$ . For LSC methods the batch blank is used as a measure of the background variability.
<b>Primary Detector</b>	The instrument identifier associated with the analysis of the sample aliquot.
<b>Ratio U-234/U-238</b>	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.
<b>Rst/MDC</b>	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.
<b>Rst/TotUcert</b>	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.
<b>Report DB No</b>	Sample Identifier used by the report system. The number is based upon the first five digits of the <b>Work Order</b> Number.
<b>RER</b>	The equation Replicate Error Ratio = $(S-D)/[\text{sqrt}(\text{TPUs}^2 + \text{TPUd}^2)]$ as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the total uncertainty of the duplicate sample.
<b>SDG</b>	Sample Delivery Group Number assigned by the Client or assigned by STL Richland upon sample receipt.
<b>Sum Rpt Alpha Spec Rst(s)</b>	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.
<b>Work Order</b>	The LIMS software assign test specific identifier.
<b>Yield</b>	The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

### Sample Results Summary

Date: 03-Jan-07

#### STL Richland

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

Report No. : 34118

SDG No: 33201

Batch	Client Id Work Order	Parameter	Result +- Uncertainty ( 2s)	Qual	Units	Yield	MDC or MDA	CRDL	RER2
6353578 RICHRC5006									
	SSFL-offsite(4cont)								
	JK9M71AC	STRONTIUM	2.30E-01 +- 4.54E-01	U	pCi/L	69%	1.01E+00	5.00E+00	
6353572 RICHRC5010									
	SSFL-offsite(4cont)								
	JK9M71AG	PU-238	-4.24E-03 +- 2.25E-02	U	pCi/L	32%	7.13E-02	1.00E-01	
		PU239/40	4.24E-03 +- 1.90E-02	U	pCi/L	32%	5.09E-02	1.00E-01	
6353577 RICHRC5017									
	SSFL-offsite(4cont)								
	JK9M71AE	K-40	-5.64E+00 +- 9.75E+01	U	pCi/L		2.14E+02	4.00E+02	
	SSFL-offsite(4cont) DUP								
	JK9M71AM	K-40	-6.20E+01 +- 9.01E+01	U	pCi/L		1.94E+02	4.00E+02	
6353575 RICHRC5014									
	SSFL-offsite(4cont)								
	JK9M71AF	ALPHA	1.47E+00 +- 2.34E+00	U	pCi/L	100%	4.80E+00	3.00E+00	
	SSFL-offsite(4cont) DUP								
	JK9M71AK	ALPHA	6.88E-01 +- 2.38E+00	U	pCi/L	100%	6.01E+00	3.00E+00	0.5
6353576 RICHRC5014									
	SSFL-offsite(4cont)								
	JK9M71AA	BETA	6.99E+00 +- 3.11E+00		pCi/L	100%	5.48E+00	4.00E+00	
	SSFL-offsite(4cont) DUP								
	JK9M71AL	BETA	4.72E+00 +- 2.86E+00	U	pCi/L	100%	5.43E+00	4.00E+00	
6353574 RICHRC5007									
	SSFL-offsite(4cont)								
	JK9M71AD	H-3	-1.09E+02 +- 1.47E+02	U	pCi/L	100%	3.27E+02	5.00E+02	
	SSFL-offsite(4cont) DUP								
	JK9M71AJ	H-3	3.46E+01 +- 1.53E+02	U	pCi/L	100%	3.26E+02	5.00E+02	1.4
No. of Results: 11									

STL Richland RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUD))] as defined by ICPT BOA.  
 rptSTLRchSaSum 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  
 mary2 V5.1 A2002 gamma scan software.

QC Results Summary

Date: 03-Jan-07

STL Richland

Ordered by Method, Batch No, QC Type,.

Report No. : 34118

SDG No.: 33201

Batch	Work Order	Parameter	Result +- Uncertainty ( 2s)	Qual	Units	Yield	Recovery	Bias	MDC MDA
<b>RICHRC5006</b>									
6353578 BLANK QC									
	JLTDW1AA	STRONTIUM	3.70E-01 +- 4.23E-01	U	pCi/L	89%			8.75E-01
6353578 LCS									
	JLTDW1AC	STRONTIUM	1.32E+01 +- 3.69E+00		pCi/L	91%	97%	0.0	8.98E-01
<b>RICHRC5010</b>									
6353572 BLANK QC									
	JLTDE1AA	PU-238	2.90E-03 +- 1.30E-02	U	pCi/L	45%			3.48E-02
		PU239/40	5.79E-03 +- 1.83E-02	U	pCi/L	45%			4.26E-02
6353572 LCS									
	JLTDE1AC	PU239/40	5.06E-01 +- 1.24E-01	J	pCi/L	56%	110%	0.1	3.96E-02
<b>RICHRC5017</b>									
6353577 BLANK QC									
	JLTDV1AA	K-40	-5.98E+00 +- 9.28E+01	U	pCi/L				2.07E+02
6353577 LCS									
	JLTDV1AC	CS-137	1.37E+02 +- 2.26E+01		pCi/L		111%	0.1	8.19E+00
<b>RICHRC5014</b>									
6353575 BLANK QC									
	JLTDP1AA	ALPHA	3.84E-02 +- 3.77E-01	U	pCi/L	100%			1.12E+00
6353575 LCS									
	JLTDP1AC	ALPHA	3.94E+01 +- 8.80E+00		pCi/L	100%	98%	0.0	1.10E+00
<b>RICHRC5014</b>									
6353576 BLANK QC									
	JLTDR1AA	BETA	1.31E+00 +- 1.21E+00	U	pCi/L	100%			2.44E+00
6353576 LCS									
	JLTDR1AC	BETA	3.79E+01 +- 5.70E+00		pCi/L	100%	93%	-0.1	2.55E+00
<b>RICHRC5007</b>									
6353574 BLANK QC									
	JLTDK1AA	H-3	-5.61E+01 +- 1.50E+02	U	pCi/L	100%			3.28E+02
	JLTDK1AD	H-3	-2.84E+01 +- 1.52E+02	U	pCi/L	100%			3.34E+02
6353574 LCS									
	JLTDK1AE	H-3	2.45E+03 +- 2.56E+02		pCi/L	100%	90%	-0.1	3.34E+02
	JLTDK1AC	H-3	2.57E+03 +- 2.60E+02		pCi/L	100%	94%	-0.1	3.28E+02
No. of Results: 15									

STL Richland Bias - (Result/Expected)-1 as defined by ANSI N13.30.  
 rptSTLRchQcSummary V5.1 A2002 J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.  
 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 I

Date: 03-Jan-07

**SAMPLE RESULTS**

Lab Name: STL Richland  
 Lot-Sample No.: J6L060236-1  
 Client Sample ID: **SSFL-offsite**(4cont)

SDG: 33201  
 Report No.: 34118  
 COC No.:

**Collection Date:** 11/23/2006 4:00:00 PM  
**Received Date:** 12/6/2006 10:00:00 AM  
**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	Primary Detector
Batch: 6353572	RICHRC5010				Work Order: JK9M71AG		Report DB ID: 9JK9M710					
PU-238	<b>-4.24E-03</b>	U	2.2E-02	2.2E-02	7.13E-02	pCi/L	32%	-0.06	12/27/06 07:58 p		1.0005	ALP37
							2.42E-02	1.00E-01			L	
<b>PU239/40</b>	<b>4.24E-03</b>	U	1.9E-02	1.9E-02	5.09E-02	pCi/L	32%	0.08	12/27/06 07:58 p		1.0005	ALP37
							1.40E-02	1.00E-01			L	
Batch: 6353574	RICHRC5007				Work Order: JK9M71AD		Report DB ID: 9JK9M710					
H-3	<b>-1.09E+02</b>	U	1.3E+02	1.5E+02	3.27E+02	pCi/L	100%	-0.33	12/29/06 07:15 a		0.005	LSC4
							1.56E+02	5.00E+02			L	
Batch: 6353575	RICHRC5014				Work Order: JK9M71AF		Report DB ID: 9JK9M710					
<b>ALPHA</b>	<b>1.47E+00</b>	U	2.3E+00	2.3E+00	4.80E+00	pCi/L	100%	0.31	12/27/06 12:59 p		0.08	GPC10D
							1.71E+00	3.00E+00			L	
Batch: 6353576	RICHRC5014				Work Order: JK9M71AA		Report DB ID: 9JK9M710					
<b>BETA</b>	<b>6.99E+00</b>		3.0E+00	3.1E+00	5.48E+00	pCi/L	100%	(1.3)	12/27/06 11:54 a		0.1063	GPC27A
							2.60E+00	4.00E+00			L	
Batch: 6353577	RICHRC5017				Work Order: JK9M71AE		Report DB ID: 9JK9M710					
K-40	<b>-5.64E+00</b>	U	9.8E+01	9.8E+01	2.14E+02	pCi/L		-0.03	12/26/06 10:04 a		1.0057	GER6\$1
							1.08E+02	4.00E+02			L	
Batch: 6353578	RICHRC5006				Work Order: JK9M71AC		Report DB ID: 9JK9M710					
<b>STRONTIUM</b>	<b>2.30E-01</b>	U	4.5E-01	4.5E-01	1.01E+00	pCi/L	69%	0.23	12/22/06 06:16 p		1.0014	GPC31B
							4.65E-01	5.00E+00			L	

No. of Results: 7      Comments:

STL Richland      MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
 rptSTLRchSample      J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.  
 V5.1 A2002      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: 03-Jan-07

DUPLICATE RESULTS

Lab Name: STL Richland

SDG: 33201

Collection Date: 11/23/2006 4:00:00 PM

Lot-Sample No.: J6L060236-1

Report No.: 34118

Received Date: 12/6/2006 10:00:00 AM

Client Sample ID: SSFL-offsite(4cont) DUP

COC No.:

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	Primary Detector
Batch: 6353574	RICHRC5007				Work Order: JK9M71AJ	Report DB ID: JK9M71JR			Orig Sa DB ID: 9JK9M710			
H-3	3.46E+01	U	1.4E+02	1.5E+02	3.26E+02	pCi/L	100%	0.11	12/29/06 08:38 a		0.005	LSC4
	-1.09E+02	U		RER2 1.4		5.00E+02		0.45			L	
Batch: 6353575	RICHRC5014				Work Order: JK9M71AK	Report DB ID: JK9M71KR			Orig Sa DB ID: 9JK9M710			
ALPHA	6.88E-01	U	2.4E+00	2.4E+00	6.01E+00	pCi/L	100%	0.11	12/27/06 12:59 p		0.0811	GPC10C
	1.47E+00	U		RER2 0.5		3.00E+00		0.58			L	
Batch: 6353576	RICHRC5014				Work Order: JK9M71AL	Report DB ID: JK9M71LR			Orig Sa DB ID:			
BETA	4.72E+00	U	2.8E+00	2.9E+00	5.43E+00	pCi/L	100%	0.87	12/27/06 11:54 a		0.1084	GPC27B
				RER2		4.00E+00		(3.3)			L	
Batch: 6353577	RICHRC5017				Work Order: JK9M71AM	Report DB ID: JK9M71MR			Orig Sa DB ID: 9JK9M710			
K-40	-6.20E+01	U	9.0E+01	9.0E+01	1.94E+02	pCi/L		-0.32	12/26/06 11:57 a		1.0057	GER7\$1
	-5.64E+00	U		RER2 0.8		4.00E+02		-(1.4)			L	

No. of Results: 4    Comments:

STL Richland    RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUD))] as defined by ICPT BOA.  
 rptSTLRchDupV5.1    MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
 A2002    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: 03-Jan-07

Lab Name: **STL Richland**  
Matrix: **WATER**

SDG: 33201  
Report No.: 34118

Parameter	Result	Qual	Count Error (2 s)	Total Uncert( 2 s)	MDC MDA	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6353572	RICHRC5010		Work Order: JLTDE1AA		Report DB ID: JLTDE1AB							
PU-238	2.90E-03	U	1.3E-02	1.3E-02	3.48E-02	pCi/L	45%	0.08	12/27/06 07:58 p		1.0027	ALP39
					9.53E-03	1.00E+00		0.45			L	
PU239/40	5.79E-03	U	1.8E-02	1.8E-02	4.26E-02	pCi/L	45%	0.14	12/27/06 07:58 p		1.0027	ALP39
					1.35E-02	1.00E+00		0.63			L	
Batch: 6353574	RICHRC5007		Work Order: JLTDK1AA		Report DB ID: JLTDK1AB							
H-3	-5.61E+01	U	1.3E+02	1.5E+02	3.28E+02	pCi/L	100%	-0.17	12/29/06 01:44 a		0.005	LSC4
					1.57E+02	5.00E+02		-0.75			L	
Batch: 6353574	RICHRC5007		Work Order: JLTDK1AD		Report DB ID: JLTDK1DX							
H-3	-2.84E+01	U	1.3E+02	1.5E+02	3.34E+02	pCi/L	100%	-0.09	12/29/06 04:29 a		0.005	LSC4
					1.60E+02	5.00E+02		-0.37			L	
Batch: 6353577	RICHRC5017		Work Order: JLTDV1AA		Report DB ID: JLTDV1AB							
K-40	-5.98E+00	U	9.3E+01	9.3E+01	2.07E+02	pCi/L		-0.03	12/26/06 10:04 a		1.0049	GER7\$1
					1.04E+02	4.00E+02		-0.13			L	
Batch: 6353575	RICHRC5014		Work Order: JLTDP1AA		Report DB ID: JLTDP1AB							
ALPHA	3.84E-02	U	3.8E-01	3.8E-01	1.12E+00	pCi/L	100%	0.03	12/27/06 12:59 p		0.2028	GPC10B
					3.88E-01	3.00E+00		0.2			L	
Batch: 6353576	RICHRC5014		Work Order: JLTDR1AA		Report DB ID: JLTDR1AB							
BETA	1.31E+00	U	1.2E+00	1.2E+00	2.44E+00	pCi/L	100%	0.54	12/27/06 11:54 a		0.2021	GPC27C
					1.15E+00	4.00E+00		(2.2)			L	
Batch: 6353578	RICHRC5006		Work Order: JLTDW1AA		Report DB ID: JLTDW1AB							

STL Richland MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
 rptSTLRchBlank 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.  
 V5.1 A2002

**FORM II**  
**BLANK RESULTS**

Date: 03-Jan-07

Lab Name: STL Richland

SDG: 33201

Matrix: WATER

Report No. : 34118

Parameter	Result	Qual	Count Error ( 2 s)	Total Uncert( 2 s)	MDC MDA	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
STRONTIUM	3.70E-01	U	4.1E-01	4.2E-01	8.75E-01 4.05E-01	pCi/L 5.00E+00	89%	0.42 (1.8)	12/22/06 06:16 p		0.9999 L	GPC31C

No. of Results: 8      Comments:

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**FORM II**  
**LCS RESULTS**

Date: 03-Jan-07

Lab Name: STL Richland

SDG: 33201

Matrix: WATER

Report No. : 34118

Parameter	Result	Qual	Count Error (2 s)	Total Uncert( 2 s)	MDC MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 6353572 PU239/40	RICHRC5010 5.06E-01		9.9E-02	1.2E-01	3.96E-02	pCi/L	56%	4.58E-01	1.4E-02	110%	12/27/06 07:58 p	1.005	ALP40
										0.1		L	
Batch: 6353574 H-3	RICHRC5007 2.57E+03		2.1E+02	2.6E+02	3.28E+02	pCi/L	100%	2.72E+03	8.2E+01	94%	12/29/06 03:07 a	0.005	LSC4
										-0.1		L	
Batch: 6353574 H-3	RICHRC5007 2.45E+03		2.1E+02	2.6E+02	3.34E+02	pCi/L	100%	2.72E+03	8.2E+01	90%	12/29/06 05:52 a	0.005	LSC4
										-0.1		L	
Batch: 6353577 CS-137	RICHRC5017 1.37E+02		2.3E+01	2.3E+01	8.19E+00	pCi/L		1.23E+02	2.5E+00	111%	12/26/06 11:58 a	1.0027	GER6\$1
										0.1		L	
Batch: 6353575 ALPHA	RICHRC5014 3.94E+01		4.3E+00	8.8E+00	1.10E+00	pCi/L	100%	4.03E+01	1.3E+00	98%	12/27/06 12:59 p	0.2022	GPC10A
										0.0		L	
Batch: 6353576 BETA	RICHRC5014 3.79E+01		2.9E+00	5.7E+00	2.55E+00	pCi/L	100%	4.06E+01	8.1E-01	93%	12/27/06 11:54 a	0.2006	GPC27D
										-0.1		L	
Batch: 6353578 STRONTIUM	RICHRC5006 1.32E+01		1.2E+00	3.7E+00	8.98E-01	pCi/L	91%	1.36E+01	2.7E-01	97%	12/22/06 06:16 p	1.0014	GPC31D
										0.0		L	

No. of Results: 7      Comments: