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Analytical Data Package Prepared For

Brown and Caldwell

Yerington Air Quality - Event #77

Radiochemical Analysis By

STL Richland

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

Assigned Laboratory Code: STLR

Data Package Contains _____ Pages

Report No.: 32442

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
31683		000443	J6E170306-1	H5KQR1AG	9H5KQR10	6143227
		000443	J6E170306-1	H5KQR1AA	9H5KQR10	6143229
		000443	J6E170306-1	H5KQR1AE	9H5KQR10	6143237
		000443	J6E170306-1	H5KQR1AF	9H5KQR10	6143240
		000443	J6E170306-1	H5KQR1AC	9H5KQR10	6143242
		000443	J6E170306-1	H5KQR1AD	9H5KQR10	6143287
		000444	J6E170306-2	H5KQ41AG	9H5KQ410	6143227
		000444	J6E170306-2	H5KQ41AA	9H5KQ410	6143229
		000444	J6E170306-2	H5KQ41AE	9H5KQ410	6143237
		000444	J6E170306-2	H5KQ41AF	9H5KQ410	6143240
		000444	J6E170306-2	H5KQ41AC	9H5KQ410	6143242
		000444	J6E170306-2	H5KQ41AD	9H5KQ410	6143287
		000445	J6E170306-3	H5KQ81AG	9H5KQ810	6143227
		000445	J6E170306-3	H5KQ81AA	9H5KQ810	6143229
		000445	J6E170306-3	H5KQ81AE	9H5KQ810	6143237
		000445	J6E170306-3	H5KQ81AF	9H5KQ810	6143240
		000445	J6E170306-3	H5KQ81AC	9H5KQ810	6143242
		000445	J6E170306-3	H5KQ81AD	9H5KQ810	6143287
		000446	J6E170306-4	H5KRC1AG	9H5KRC10	6143227
		000446	J6E170306-4	H5KRC1AA	9H5KRC10	6143229
		000446	J6E170306-4	H5KRC1AE	9H5KRC10	6143237
		000446	J6E170306-4	H5KRC1AF	9H5KRC10	6143240
		000446	J6E170306-4	H5KRC1AC	9H5KRC10	6143242
		000446	J6E170306-4	H5KRC1AD	9H5KRC10	6143287
		000447	J6E170306-5	H5KRF1AG	9H5KRF10	6143227
		000447	J6E170306-5	H5KRF1AA	9H5KRF10	6143229

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
31683		000447	J6E170306-5	H5KRF1AE	9H5KRF10	6143237
		000447	J6E170306-5	H5KRF1AF	9H5KRF10	6143240
		000447	J6E170306-5	H5KRF1AC	9H5KRF10	6143242
		000447	J6E170306-5	H5KRF1AD	9H5KRF10	6143287
		000448	J6E170306-6	H5KRG1AG	9H5KRG10	6143227
		000448	J6E170306-6	H5KRG1AA	9H5KRG10	6143229
		000448	J6E170306-6	H5KRG1AE	9H5KRG10	6143237
		000448	J6E170306-6	H5KRG1AF	9H5KRG10	6143240
		000448	J6E170306-6	H5KRG1AC	9H5KRG10	6143242
		000448	J6E170306-6	H5KRG1AD	9H5KRG10	6143287
		000449	J6E170306-7	H5KRJ1AG	9H5KRJ10	6143227
		000449	J6E170306-7	H5KRJ1AA	9H5KRJ10	6143229
		000449	J6E170306-7	H5KRJ1AE	9H5KRJ10	6143237
		000449	J6E170306-7	H5KRJ1AF	9H5KRJ10	6143240
		000449	J6E170306-7	H5KRJ1AC	9H5KRJ10	6143242
		000449	J6E170306-7	H5KRJ1AD	9H5KRJ10	6143287
		P-0614	J6E170306-8	H5KRL1AG	9H5KRL10	6143227
		P-0614	J6E170306-8	H5KRL1AA	9H5KRL10	6143229
		P-0614	J6E170306-8	H5KRL1AE	9H5KRL10	6143237
		P-0614	J6E170306-8	H5KRL1AF	9H5KRL10	6143240
		P-0614	J6E170306-8	H5KRL1AC	9H5KRL10	6143242
		P-0614	J6E170306-8	H5KRL1AD	9H5KRL10	6143287
		P-0615	J6E170306-9	H5KRR1AG	9H5KRR10	6143227
		P-0615	J6E170306-9	H5KRR1AA	9H5KRR10	6143229
		P-0615	J6E170306-9	H5KRR1AE	9H5KRR10	6143237
		P-0615	J6E170306-9	H5KRR1AF	9H5KRR10	6143240
		P-0615	J6E170306-9	H5KRR1AC	9H5KRR10	6143242
		P-0615	J6E170306-9	H5KRR1AD	9H5KRR10	6143287
		P-0616	J6E170306-10	H5KRV1AG	9H5KRV10	6143227
		P-0616	J6E170306-10	H5KRV1AA	9H5KRV10	6143229
		P-0616	J6E170306-10	H5KRV1AE	9H5KRV10	6143237
		P-0616	J6E170306-10	H5KRV1AF	9H5KRV10	6143240
		P-0616	J6E170306-10	H5KRV1AC	9H5KRV10	6143242
		P-0616	J6E170306-10	H5KRV1AD	9H5KRV10	6143287
		P-0617	J6E170306-11	H5KRX1AG	9H5KRX10	6143227
		P-0617	J6E170306-11	H5KRX1AA	9H5KRX10	6143229
		P-0617	J6E170306-11	H5KRX1AE	9H5KRX10	6143237
		P-0617	J6E170306-11	H5KRX1AF	9H5KRX10	6143240
		P-0617	J6E170306-11	H5KRX1AC	9H5KRX10	6143242

Report No.: 32442

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
31683		P-0617	J6E170306-11	H5KRX1AD	9H5KRX10	6143287
		P-0618	J6E170306-12	H5KR21AG	9H5KR210	6143227
		P-0618	J6E170306-12	H5KR21AA	9H5KR210	6143229
		P-0618	J6E170306-12	H5KR21AE	9H5KR210	6143237
		P-0618	J6E170306-12	H5KR21AF	9H5KR210	6143240
		P-0618	J6E170306-12	H5KR21AC	9H5KR210	6143242
		P-0618	J6E170306-12	H5KR21AD	9H5KR210	6143287
		P-0619	J6E170306-13	H5KR41AG	9H5KR410	6143227
		P-0619	J6E170306-13	H5KR41AA	9H5KR410	6143229
		P-0619	J6E170306-13	H5KR41AE	9H5KR410	6143237
		P-0619	J6E170306-13	H5KR41AF	9H5KR410	6143240
		P-0619	J6E170306-13	H5KR41AC	9H5KR410	6143242
		P-0619	J6E170306-13	H5KR41AD	9H5KR410	6143287
		P-0620	J6E170306-14	H5KR61AG	9H5KR610	6143227
		P-0620	J6E170306-14	H5KR61AA	9H5KR610	6143229
		P-0620	J6E170306-14	H5KR61AE	9H5KR610	6143237
		P-0620	J6E170306-14	H5KR61AF	9H5KR610	6143240
		P-0620	J6E170306-14	H5KR61AC	9H5KR610	6143242
		P-0620	J6E170306-14	H5KR61AD	9H5KR610	6143287

SEVERN TRENT STL

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Certificate of Analysis

June 22, 2006

Brown & Caldwell
2701 Prospect Park Drive
Rancho Cordova, CA 95670

Attention: Guy Graening

Date Received at Lab	:	May 17, 2006
Project Name	:	Air Quality Monitoring Yerington Mine
Project Number	:	121243
Event Number	:	77
PO Number	:	129682.001
Sample Type	:	Fourteen (14) Filters
SDG Number	:	31683

CASE NARRATIVE

I. Introduction

On May 17, 2006, fourteen filter samples were received at the STL Richland (STLR) laboratory for radiochemical analysis. Upon receipt, the samples were assigned the STLR identification numbers as described on the cover page of the Analytical Data Package report form. The samples were assigned to Lot Number J6E170306.

II. Sample Receipt

The samples were 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 analysis requested was:

Alpha Spectroscopy
Thorium-228, -230, -232 by method RICH-RC-5087
Uranium-234, -235, -238 by method RICH-RC-5067
Gas Proportional Counters
Gross Alpha by method STL-RICHRC5016/5014
Gross Beta by method STL-RICHRC5016/5014
Radium-228 by method STL RICH-RC-5005
Alpha Scintillation Counter
Radium-226 by method STL RICH-RC-5005

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

Thorium-228, -230, -232:
The LCS, batch blank and sample results are within analytical requirements.

Uranium-234, -235, -238:
The LCS, batch blank and sample results are within analytical requirements.

Gross Alpha Analysis:
The LCS, batch blank and sample results are within analytical requirements.

Gross Beta Analysis:
All of the samples do not meet CRDL. The results of the samples are >MDA>CRDL except P-0617. Data is accepted. Except as noted, the LCS, batch blank and sample results are within acceptance limits.

Radium-228 Analysis:
The LCS, batch blank and sample results are within analytical requirements.

Radium-226 Analysis:
The LCS, batch blank and sample results are within analytical 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. 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

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)
Lc	Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. Lc=(1.645 * Sqrt(2*(BkgrndCnt/BkgrndCntMin)/SCntMin)) * (ConvFct/(Eff*Yld*Abn*Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero.
Lot-Sample No	The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.
MDC|MDA	Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. MDC = (4.65 * Sqrt((BkgrndCnt/BkgrndCntMin)/SCntMin) + 2.71/SCntMin) * (ConvFct/(Eff * Yld * Abn * Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability.
Primary Detector	The instrument identifier associated with the analysis of the sample aliquot.
Ratio U-234/U-238	The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.
Rst/MDC	Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Rst/TotUcert	Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Report DB No	Sample Identifier used by the report system. The number is based upon the first five digits of the **Work Order** Number.
RER	The equation Replicate Error Ratio = (S-D)/[sqrt($TPUs^2$ + $TPUd^2$)] as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the total uncertainty of the duplicate sample.
SDG	Sample Delivery Group Number assigned by the Client or assigned by 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 STLR

Ordered by Client Sample ID, Batch No.

Date: 22-Jun-06

Report No. : 32442

SDG No: 31683

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RER2
000443	H5KQR1AG	U-234	-0.0439 +- 0.0625	ND	pCi/sample	91%	0.621	
		U-235	-0.0220 +- 0.0441	ND	pCi/sample	91%	0.526	
		U-238	0.0659 +- 0.228	ND	pCi/sample	91%	0.621	
000443	H5KQR1AA	TH-228	0.276 +- 0.323	ND	pCi/sample	65%	0.516	
		TH-230	0.174 +- 0.204	ND	pCi/sample	65%	0.158	
		TH-232	0.0291 +- 0.130	ND	pCi/sample	65%	0.349	
000443	H5KQR1AE	ALPHA	2.96 +- 3.26	ND	pCi/sample	100%	5.59	
000443	H5KQR1AF	BETA	18.6 +- 4.97	=	pCi/sample	100%	6.55	
000443	H5KQR1AC	RA-226	0.379 +- 0.319	ND	pCi/sample	94%	0.451	
000443	H5KQR1AD	RA-228	1.45 +- 1.23	ND	pCi/sample	82%	2.62	
000444	H5KQ41AG	U-234	0.00000 +- 0.273	ND	pCi/sample	90%	0.302	
		U-235	-0.0223 +- 0.0447	ND	pCi/sample	90%	0.533	
		U-238	-0.0000185 +- 0.244	ND	pCi/sample	90%	0.819	
000444	H5KQ41AA	TH-228	-0.0486 +- 0.138	ND	pCi/sample	79%	0.451	
		TH-230	0.345 +- 0.272	=	pCi/sample	79%	0.276	
		TH-232	0.0920 +- 0.131	ND	pCi/sample	79%	0.125	
000444	H5KQ41AE	ALPHA	-0.8870 +- 1.38	ND	pCi/sample	100%	5.66	
000444	H5KQ41AF	BETA	18.4 +- 4.91	=	pCi/sample	100%	6.37	
000444	H5KQ41AC	RA-226	0.134 +- 0.427	ND	pCi/sample	98%	0.785	
000444	H5KQ41AD	RA-228	3.13 +- 1.25	=	pCi/sample	89%	2.25	
000445	H5KQ81AG	U-234	-0.0000525 +- 0.230	ND	pCi/sample	91%	0.773	
		U-235	0.0420 +- 0.222	ND	pCi/sample	91%	0.663	
		U-238	-0.0211 +- 0.234	ND	pCi/sample	91%	0.82	
000445	H5KQ81AA	TH-228	0.178 +- 0.259	ND	pCi/sample	63%	0.427	
		TH-230	0.169 +- 0.246	ND	pCi/sample	63%	0.405	
		TH-232	0.0338 +- 0.151	ND	pCi/sample	63%	0.405	
000445	H5KQ81AE	ALPHA	1.03 +- 3.32	ND	pCi/sample	100%	7.71	
000445	H5KQ81AF	BETA	14.5 +- 4.39	=	pCi/sample	100%	6.35	
000445	H5KQ81AC	RA-226	0.156 +- 0.446	ND	pCi/sample	109%	0.809	
000445	H5KQ81AD	RA-228	2.77 +- 1.03	=	pCi/sample	97%	1.74	

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V4.15.0 A97

RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.

= ERPIMS - Equal To, Analyte Detected

ND 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.

Sample Results Summary

STL Richland STLR

Ordered by Client Sample ID, Batch No.

Date: 22-Jun-06

Report No. : 32442

SDG No: 31683

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RER2
000446	H5KRC1AG	U-234	0.154 +- 0.321	ND	pCi/sample	86%	0.693	
		U-235	0.0659 +- 0.228	ND	pCi/sample	86%	0.62	
		U-238	-0.0878 +- 0.0890	ND	pCi/sample	86%	0.754	
000446	H5KRC1AA	TH-228	0.0279 +- 0.125	ND	pCi/sample	83%	0.334	
		TH-230	0.264 +- 0.241	=	pCi/sample	83%	0.143	
		TH-232	0.0792 +- 0.159	ND	pCi/sample	83%	0.317	
000446	H5KRC1AE	ALPHA	1.79 +- 3.13	ND	pCi/sample	100%	6.57	
000446	H5KRC1AF	BETA	15.3 +- 4.43	=	pCi/sample	100%	6.15	
000446	H5KRC1AC	RA-226	-0.0779 +- 0.339	ND	pCi/sample	99%	0.69	
000446	H5KRC1AD	RA-228	2.42 +- 1.02	=	pCi/sample	88%	1.81	
000447	H5KRF1AG	U-234	-0.0838 +- 0.245	ND	pCi/sample	88%	0.937	
		U-235	-0.0209 +- 0.0420	ND	pCi/sample	88%	0.502	
		U-238	0.0209 +- 0.226	ND	pCi/sample	88%	0.719	
000447	H5KRF1AA	TH-228	0.160 +- 0.190	ND	pCi/sample	97%	0.294	
		TH-230	0.227 +- 0.211	ND	pCi/sample	97%	0.279	
		TH-232	0.0757 +- 0.108	ND	pCi/sample	97%	0.103	
000447	H5KRF1AE	ALPHA	2.07 +- 3.68	ND	pCi/sample	100%	7.79	
000447	H5KRF1AF	BETA	24.1 +- 5.98	=	pCi/sample	100%	6.54	
000447	H5KRF1AC	RA-226	-0.0273 +- 0.279	ND	pCi/sample	110%	0.603	
000447	H5KRF1AD	RA-228	2.48 +- 0.915	=	pCi/sample	98%	1.4	
000448	H5KRG1AG	U-234	0.107 +- 0.214	ND	pCi/sample	90%	0.289	
		U-235	-0.0427 +- 0.0608	ND	pCi/sample	90%	0.604	
		U-238	0.0854 +- 0.218	ND	pCi/sample	90%	0.512	
000448	H5KRG1AA	TH-228	0.00000065 +- 0.0959	ND	pCi/sample	107%	0.288	
		TH-230	0.315 +- 0.232	=	pCi/sample	107%	0.223	
		TH-232	-0.0186 +- 0.0372	ND	pCi/sample	107%	0.223	
000448	H5KRG1AE	ALPHA	1.28 +- 2.52	ND	pCi/sample	100%	5.45	
000448	H5KRG1AF	BETA	16.7 +- 4.98	=	pCi/sample	100%	6.57	
000448	H5KRG1AC	RA-226	0.504 +- 0.512	ND	pCi/sample	112%	0.827	
000448	H5KRG1AD	RA-228	3.37 +- 1.04	=	pCi/sample	100%	1.48	

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RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.
= ERPIMS - Equal To, Analyte Detected
ND 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.

Sample Results Summary

STL Richland STLR

Ordered by Client Sample ID, Batch No.

Date: 22-Jun-06

Report No. : 32442

SDG No: 31683

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RER2
000449	H5KRJ1AG	U-234	0.00000 +- 0.243	ND	pCi/sample	104%	0.269	
		U-235	0.00000 +- 0.243	ND	pCi/sample	104%	0.269	
		U-238	0.0993 +- 0.199	ND	pCi/sample	104%	0.269	
000449	H5KRJ1AA	TH-228	0.00000 +- 0.134	ND	pCi/sample	80%	0.148	
		TH-230	0.00000 +- 0.127	ND	pCi/sample	80%	0.14	
		TH-232	-0.0259 +- 0.0520	ND	pCi/sample	80%	0.311	
000449	H5KRJ1AE	ALPHA	1.89 +- 2.86	ND	pCi/sample	100%	5.66	
000449	H5KRJ1AF	BETA	14.7 +- 4.46	=	pCi/sample	100%	6.45	
000449	H5KRJ1AC	RA-226	0.177 +- 0.239	ND	pCi/sample	106%	0.401	
000449	H5KRJ1AD	RA-228	3.70 +- 1.13	=	pCi/sample	95%	1.59	
P-0614	H5KRL1AG	U-234	-0.0593 +- 0.0692	ND	pCi/sample	94%	0.624	
		U-235	-0.0198 +- 0.0397	ND	pCi/sample	94%	0.473	
		U-238	0.00000 +- 0.242	ND	pCi/sample	94%	0.268	
P-0614	H5KRL1AA	TH-228	0.148 +- 0.211	ND	pCi/sample	50%	0.2	
		TH-230	0.140 +- 0.199	ND	pCi/sample	50%	0.189	
		TH-232	0.140 +- 0.199	ND	pCi/sample	50%	0.189	
P-0614	H5KRL1AE	ALPHA	0.528 +- 3.24	ND	pCi/sample	100%	7.93	
P-0614	H5KRL1AF	BETA	14.5 +- 4.61	=	pCi/sample	100%	6.34	
P-0614	H5KRL1AC	RA-226	0.164 +- 0.320	ND	pCi/sample	104%	0.571	
P-0614	H5KRL1AD	RA-228	5.81 +- 1.42	=	pCi/sample	93%	1.54	
P-0615	H5KRR1AG	U-234	0.0844 +- 0.216	ND	pCi/sample	93%	0.506	
		U-235	0.00000 +- 0.259	ND	pCi/sample	93%	0.286	
		U-238	0.00000 +- 0.259	ND	pCi/sample	93%	0.286	
P-0615	H5KRR1AA	TH-228	-0.0273 +- 0.239	ND	pCi/sample	63%	0.624	
		TH-230	0.155 +- 0.182	ND	pCi/sample	63%	0.14	
		TH-232	0.00000 +- 0.127	ND	pCi/sample	63%	0.14	
P-0615	H5KRR1AE	ALPHA	1.77 +- 3.11	ND	pCi/sample	100%	6.53	
P-0615	H5KRR1AF	BETA	15.9 +- 4.56	=	pCi/sample	100%	6.45	
P-0615	H5KRR1AC	RA-226	0.300 +- 0.350	ND	pCi/sample	95%	0.561	
P-0615	H5KRR1AD	RA-228	3.54 +- 1.11	=	pCi/sample	84%	1.56	

STL Richland

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RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.

= ERPIMS - Equal To, Analyte Detected

ND 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.

Sample Results Summary

STL Richland STLR

Ordered by Client Sample ID, Batch No.

Date: 22-Jun-06

Report No. : 32442

SDG No: 31683

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RER2
P-0616	H5KRV1AG	U-234	0.0791 +- 0.202	ND	pCi/sample	99%	0.474	
		U-235	0.00000 +- 0.242	ND	pCi/sample	99%	0.268	
		U-238	0.0593 +- 0.206	ND	pCi/sample	99%	0.559	
P-0616	H5KRV1AA	TH-228	0.206 +- 0.245	ND	pCi/sample	86%	0.379	
		TH-230	0.147 +- 0.171	ND	pCi/sample	86%	0.132	
		TH-232	0.0488 +- 0.0981	ND	pCi/sample	86%	0.132	
P-0616	H5KRV1AE	ALPHA	3.66 +- 4.13	ND	pCi/sample	100%	7.68	
P-0616	H5KRV1AF	BETA	15.5 +- 4.48	=	pCi/sample	100%	6.19	
P-0616	H5KRV1AC	RA-226	0.294 +- 0.390	ND	pCi/sample	100%	0.656	
P-0616	H5KRV1AD	RA-228	3.63 +- 1.08	=	pCi/sample	89%	1.45	
P-0617	H5KRX1AG	U-234	-0.0394 +- 0.0561	ND	pCi/sample	91%	0.557	
		U-235	0.0789 +- 0.201	ND	pCi/sample	91%	0.472	
		U-238	0.0789 +- 0.201	ND	pCi/sample	91%	0.472	
P-0617	H5KRX1AA	TH-228	0.144 +- 0.181	ND	pCi/sample	67%	0.247	
		TH-230	0.0293 +- 0.102	ND	pCi/sample	67%	0.276	
		TH-232	0.0390 +- 0.0997	ND	pCi/sample	67%	0.234	
P-0617	H5KRX1AE	ALPHA	2.92 +- 3.22	ND	pCi/sample	100%	5.53	
P-0617	H5KRX1AF	BETA	-0.4580 +- 3.01	ND	pCi/sample	100%	6.81	
P-0617	H5KRX1AC	RA-226	0.523 +- 0.405	ND	pCi/sample	86%	0.554	
P-0617	H5KRX1AD	RA-228	4.14 +- 1.27	=	pCi/sample	77%	1.75	
P-0618	H5KR21AG	U-234	-0.0223 +- 0.0447	ND	pCi/sample	88%	0.533	
		U-235	0.00000 +- 0.273	ND	pCi/sample	88%	0.302	
		U-238	0.00000 +- 0.273	ND	pCi/sample	88%	0.302	
P-0618	H5KR21AA	TH-228	0.147 +- 0.189	ND	pCi/sample	68%	0.315	
		TH-230	0.582 +- 0.343	=	pCi/sample	68%	0.274	
		TH-232	0.00000 +- 0.106	ND	pCi/sample	68%	0.118	
P-0618	H5KR21AE	ALPHA	1.33 +- 2.63	ND	pCi/sample	100%	5.68	
P-0618	H5KR21AF	BETA	19.5 +- 4.93	=	pCi/sample	100%	6.12	
P-0618	H5KR21AC	RA-226	0.206 +- 0.271	ND	pCi/sample	97%	0.45	
P-0618	H5KR21AD	RA-228	2.19 +- 0.895	=	pCi/sample	87%	1.46	

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RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.

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ND 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.

Sample Results Summary

STL Richland STLR

Ordered by Client Sample ID, Batch No.

Date: 22-Jun-06

Report No. : 32442

SDG No: 31683

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RER2
P-0619	H5KR41AG	U-234	0.239 +- 0.427	ND	pCi/sample	93%	0.843	
		U-235	-0.0119 +- 0.0240	ND	pCi/sample	93%	0.601	
		U-238	0.298 +- 0.425	ND	pCi/sample	93%	0.404	
P-0619	H5KR41AA	TH-228	0.0771 +- 0.244	ND	pCi/sample	59%	0.568	
		TH-230	0.365 +- 0.334	=	pCi/sample	59%	0.198	
		TH-232	0.0731 +- 0.147	ND	pCi/sample	59%	0.198	
P-0619	H5KR41AE	ALPHA	2.59 +- 3.83	ND	pCi/sample	100%	7.79	
P-0619	H5KR41AF	BETA	12.8 +- 4.35	=	pCi/sample	100%	6.1	
P-0619	H5KR41AC	RA-226	0.286 +- 0.309	ND	pCi/sample	99%	0.498	
P-0619	H5KR41AD	RA-228	3.74 +- 1.16	=	pCi/sample	86%	1.69	
P-0620	H5KR61AG	U-234	-0.0462 +- 0.0658	ND	pCi/sample	93%	0.653	
		U-235	0.00000 +- 0.283	ND	pCi/sample	93%	0.313	
		U-238	0.00000 +- 0.283	ND	pCi/sample	93%	0.313	
P-0620	H5KR61AA	TH-228	0.363 +- 0.309	ND	pCi/sample	93%	0.381	
		TH-230	0.0982 +- 0.140	ND	pCi/sample	93%	0.133	
		TH-232	0.0491 +- 0.0986	ND	pCi/sample	93%	0.133	
P-0620	H5KR61AE	ALPHA	2.93 +- 3.58	ND	pCi/sample	100%	6.64	
P-0620	H5KR61AF	BETA	11.6 +- 4.31	=	pCi/sample	100%	7.04	
P-0620	H5KR61AC	RA-226	-0.0545 +- 0.253	ND	pCi/sample	96%	0.535	
P-0620	H5KR61AD	RA-228	2.10 +- 0.935	=	pCi/sample	84%	1.61	

Number of Results: 140

STL Richland

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RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.

= ERPIMS - Equal To, Analyte Detected

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

QC Results Summary
STL Richland STLR

Ordered by QC Type, Batch No.

Date: 22-Jun-06

Report No. : 32442

SDG No.: 31683

QC Type	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	Recovery	Bias	MDC|MDA
BLANK QC	H50N81AA	U-234	-0.0010 +- 0.00143	N	pCi/sample	96%			0.0286
		U-235	0.00527 +- 0.0126	N	pCi/sample	96%			0.0286
		U-238	-0.00301 +- 0.00250	N	pCi/sample	96%			0.0372
BLANK QC	H50PC1AA	TH-228	0.0195 +- 0.0278	N	pCi/sample	58%			0.0478
		TH-230	0.00616 +- 0.0124	N	pCi/sample	58%			0.0167
		TH-232	0.00616 +- 0.0124	N	pCi/sample	58%			0.0167
BLANK QC	H50PG1AA	ALPHA	0.0500 +- 0.0805	N	pCi/sample	100%			0.167
BLANK QC	H50PP1AA	BETA	0.265 +- 0.261	N	pCi/sample	100%			0.528
BLANK QC	H50P11AA	RA-226	0.00436 +- 0.0845	N	pCi/sample	97%			0.167
BLANK QC	H50TF1AA	RA-228	0.546 +- 0.233	=	pCi/sample	87%			0.399
LCS	H50N81AC	U-234	0.935 +- 0.221	=	pCi/sample	102%	96%	0.0	0.0307
		U-238	1.04 +- 0.239	=	pCi/sample	102%	102%	0.0	0.0329
LCS	H50PC1AC	TH-230	1.57 +- 0.320	=	pCi/sample	91%	85%	-0.1	0.0112
LCS	H50PG1AC	ALPHA	1.91 +- 0.489	=	pCi/sample	100%	81%	-0.2	0.108
LCS	H50PP1AC	BETA	3.80 +- 0.674	=	pCi/sample	100%	83%	-0.2	0.528
LCS	H50P11AC	RA-226	1.57 +- 0.441	=	pCi/sample	93%	113%	0.1	0.186
LCS	H50TF1AC	RA-228	4.75 +- 0.745	=	pCi/sample	85%	92%	-0.1	0.414

Number of Results: 17

STL Richland

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

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FORM I

SAMPLE RESULTS

Date: 22-Jun-06

Lab Name: STL Richland | **SDG:** 31683 | **Collection Date:** 5/4/2006 12:10:00 PM

Lot-Sample No.: J6E170306-1 | **Report No. :** 32442 | **Received Date:** 5/17/2006 10:00:00 AM

Client Sample ID: 000443 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #77

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: 6143227	**Work Order:** H5KQR1AG			**Report DB ID:** 9H5KQR10								
U-234	**-0.0439**	ND	0.062	0.063	0.621	pCi/sample	91%	*-0.07*	6/20/06 11:34 p	1.0	0.06158	E908.0
						0.162	1.0	*-(1.4)*		Sample	Sample	ALP1
U-235	**-0.0220**	ND	0.044	0.044	0.526	pCi/sample	91%	*-0.04*	6/20/06 11:34 p	1.0	0.06158	E908.0
						0.114	1.0	*-1.*		Sample	Sample	ALP1
U-238	**0.0659**	ND	0.23	0.23	0.621	pCi/sample	91%	*0.11*	6/20/06 11:34 p	1.0	0.06158	E908.0
						0.162	1.0	*0.58*		Sample	Sample	ALP1
								Ratio U-234/238 = -0.7				
Batch: 6143229	**Work Order:** H5KQR1AA			**Report DB ID:** 9H5KQR10								
TH-228	**0.276**	ND	0.32	0.32	0.516	pCi/sample	65%	*0.54*	6/21/06 02:01 a	1.0	0.08207	ISOTH
						0.175	1.0	*(1.7)*		Sample	Sample	ALP171
TH-230	**0.174**	ND	0.20	0.20	0.158	pCi/sample	65%	*(1.1)*	6/21/06 02:01 a	1.0	0.08207	ISOTH
							1.0	*(1.7)*		Sample	Sample	ALP171
TH-232	**0.0291**	ND	0.13	0.13	0.349	pCi/sample	65%	*0.08*	6/21/06 02:01 a	1.0	0.08207	ISOTH
						0.0957	1.0	*0.45*		Sample	Sample	ALP171
Batch: 6143237	**Work Order:** H5KQR1AE			**Report DB ID:** 9H5KQR10								
ALPHA	**2.96**	ND	3.2	3.3	5.59	pCi/sample	100%	*0.53*	6/10/06 08:56 a	1.0	0.02049	E900.0
						2.06	20.0	*(1.8)*		Sample	Sample	GPC10B
Batch: 6143240	**Work Order:** H5KQR1AF			**Report DB ID:** 9H5KQR10								
BETA	**18.6**	=	4.2	5.0	6.55	pCi/sample	100%	*(2.8)*	6/9/06 02:07 p	1.0	0.08219	E900.0
						3.11	5.0	*(7.5)*		Sample	Sample	GPC26B
Batch: 6143242	**Work Order:** H5KQR1AC			**Report DB ID:** 9H5KQR10								

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

SAMPLE RESULTS

Date: 22-Jun-06

Lab Name: STL Richland
SDG: 31683
Collection Date: 5/4/2006 12:10:00 PM
Lot-Sample No.: J6E170306-1
Report No. : 32442
Received Date: 5/17/2006 10:00:00 AM
Client Sample ID: 000443
COC No. :
Matrix: FILTER AIR

Yerington Air Quality - Event #77

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
RA-226	0.379	ND	0.31	0.32	0.451	pCi/sample	94%	*0.84*	6/18/06 05:06 p	0.833	0.24618	E903.1
						0.179	1.0	*(2.4)*		Sample	Sample	ASC3RC
Batch: 6143287	**Work Order:** H5KQR1AD			**Report DB ID:** 9H5KQR10								
RA-228	1.45	ND	1.1	1.2	2.62	pCi/sample	82%	*0.55*	6/21/06 06:29 a	1.0	0.24618	E904.0
						1.2	3.1	*(2.4)*		Sample	Sample	GPC7A

Number of Results: 10

Comments:

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

SAMPLE RESULTS

Date: 22-Jun-06

Lab Name: STL Richland | **SDG:** 31683 | **Collection Date:** 5/4/2006 12:15:00 PM

Lot-Sample No.: J6E170306-2 | **Report No. :** 32442 | **Received Date:** 5/17/2006 10:00:00 AM

Client Sample ID: 000444 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #77

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: 6143227	**Work Order:** H5KQ41AG			**Report DB ID:** 9H5KQ410								
U-234	0.00000	ND	0.0000	0.27	0.302	pCi/sample	90%	0.	6/20/06 11:35 p	1.0	0.06232	E908.0
							1.0	0.		Sample	Sample	ALP2
U-235	-0.0223	ND	0.045	0.045	0.533	pCi/sample	90%	-0.04	6/20/06 11:35 p	1.0	0.06232	E908.0
						0.116	1.0	-1.		Sample	Sample	ALP2
U-238	-0.0000185	ND	0.24	0.24	0.819	pCi/sample	90%	0.	6/20/06 11:35 p	1.0	0.06232	E908.0
						0.259	1.0	0.		Sample	Sample	ALP2
Batch: 6143229	**Work Order:** H5KQ41AA			**Report DB ID:** 9H5KQ410								
TH-228	-0.0486	ND	0.14	0.14	0.451	pCi/sample	79%	-0.11	6/21/06 02:01 a	1.0	0.08287	ISOTH
						0.16	1.0	-0.71		Sample	Sample	ALP172
TH-230	0.345	=	0.26	0.27	0.276	pCi/sample	79%	(1.3)	6/21/06 02:01 a	1.0	0.08287	ISOTH
						0.0757	1.0	(2.5)		Sample	Sample	ALP172
TH-232	0.0920	ND	0.13	0.13	0.125	pCi/sample	79%	0.74	6/21/06 02:01 a	1.0	0.08287	ISOTH
							1.0	(1.4)		Sample	Sample	ALP172
Batch: 6143237	**Work Order:** H5KQ41AE			**Report DB ID:** 9H5KQ410								
ALPHA	-0.8870	ND	1.4	1.4	5.66	pCi/sample	100%	-0.16	6/10/06 08:56 a	1.0	0.02094	E900.0
						2.08	20.0	-(1.3)		Sample	Sample	GPC10C
Batch: 6143240	**Work Order:** H5KQ41AF			**Report DB ID:** 9H5KQ410								
BETA	18.4	=	4.2	4.9	6.37	pCi/sample	100%	(2.9)	6/9/06 02:07 p	1.0	0.08309	E900.0
						3.01	5.0	(7.5)		Sample	Sample	GPC26C
Batch: 6143242	**Work Order:** H5KQ41AC			**Report DB ID:** 9H5KQ410								

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FORM I

SAMPLE RESULTS

Date: 22-Jun-06

Lab Name: STL Richland **SDG:** 31683 **Collection Date:** 5/4/2006 12:15:00 PM

Lot-Sample No.: J6E170306-2 **Report No. :** 32442 **Received Date:** 5/17/2006 10:00:00 AM

Client Sample ID: 000444 **COC No. :** **Matrix:** FILTER AIR

Yerington Air Quality - Event #77

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
RA-226	**0.134**	ND	0.43	0.43	0.785	pCi/sample	98%	*0.17*	6/18/06 05:03 p	0.833	0.24852	E903.1
						0.347	1.0	*0.63*		Sample	Sample	ASC4UA
Batch: 6143287	**Work Order:** H5KQ41AD			**Report DB ID:** 9H5KQ410								
RA-228	**3.13**	=	1.1	1.2	2.25	pCi/sample	89%	*(1.4)*	6/21/06 06:29 a	1.0	0.24852	E904.0
						1.03	3.1	*(5.)*		Sample	Sample	GPC7B

Number of Results: 10

Comments:

STL Richland
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= ERPIMS - Equal To, Analyte Detected
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FORM I

SAMPLE RESULTS

Date: 22-Jun-06

Lab Name: STL Richland | **SDG:** 31683 | **Collection Date:** 5/4/2006 11:10:00 PM

Lot-Sample No.: J6E170306-3 | **Report No. :** 32442 | **Received Date:** 5/17/2006 10:00:00 AM

Client Sample ID: 000445 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #77

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: 6143227	**Work Order:** H5KQ81AG			**Report DB ID:** 9H5KQ810								
U-234	-0.0000525	ND	0.23	0.23	0.773	pCi/sample	91%	*0.*	6/20/06 11:35 p	1.0	0.06243	E908.0
						0.244	1.0	*0.*		Sample	Sample	ALP3
U-235	0.0420	ND	0.22	0.22	0.663	pCi/sample	91%	*0.06*	6/20/06 11:35 p	1.0	0.06243	E908.0
						0.189	1.0	*0.38*		Sample	Sample	ALP3
U-238	-0.0211	ND	0.23	0.23	0.82	pCi/sample	91%	*-0.03*	6/20/06 11:35 p	1.0	0.06243	E908.0
						0.268	1.0	*-0.18*		Sample	Sample	ALP3
								Ratio U-234/238 = 0.0				
Batch: 6143229	**Work Order:** H5KQ81AA			**Report DB ID:** 9H5KQ810								
TH-228	0.178	ND	0.26	0.26	0.427	pCi/sample	63%	*0.42*	6/21/06 02:01 a	1.0	0.08362	ISOTH
						0.117	1.0	*(1.4)*		Sample	Sample	ALP173
TH-230	0.169	ND	0.24	0.25	0.405	pCi/sample	63%	*0.42*	6/21/06 02:01 a	1.0	0.08362	ISOTH
						0.111	1.0	*(1.4)*		Sample	Sample	ALP173
TH-232	0.0338	ND	0.15	0.15	0.405	pCi/sample	63%	*0.08*	6/21/06 02:01 a	1.0	0.08362	ISOTH
						0.111	1.0	*0.45*		Sample	Sample	ALP173
Batch: 6143237	**Work Order:** H5KQ81AE			**Report DB ID:** 9H5KQ810								
ALPHA	1.03	ND	3.3	3.3	7.71	pCi/sample	100%	*0.13*	6/10/06 08:56 a	1.0	0.02119	E900.0
						3.16	20.0	*0.62*		Sample	Sample	GPC10D
Batch: 6143240	**Work Order:** H5KQ81AF			**Report DB ID:** 9H5KQ810								
BETA	14.5	=	3.9	4.4	6.35	pCi/sample	100%	*(2.3)*	6/9/06 02:07 p	1.0	0.08332	E900.0
						3.01	5.0	*(6.6)*		Sample	Sample	GPC26D
Batch: 6143242	**Work Order:** H5KQ81AC			**Report DB ID:** 9H5KQ810								

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MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND 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

SAMPLE RESULTS

Date: 22-Jun-06

Lab Name: STL Richland
Lot-Sample No.: J6E170306-3
Client Sample ID: 000445
Yerington Air Quality - Event #77

SDG: 31683
Report No. : 32442
COC No. :

Collection Date: 5/4/2006 11:10:00 PM
Received Date: 5/17/2006 10:00:00 AM
Matrix: FILTER AIR

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
RA-226	0.156	ND	0.44	0.45	0.809	pCi/sample	109%	*0.19*	6/18/06 05:06 p	0.833	0.25036	E903.1
						0.363	1.0	*0.7*		Sample	Sample	ASC7RH
Batch: 6143287	**Work Order:** H5KQ81AD			**Report DB ID:** 9H5KQ810								
RA-228	2.77	=	0.92	1.0	1.74	pCi/sample	97%	*(1.6)*	6/21/06 06:29 a	1.0	0.25036	E904.0
						0.781	3.1	*(5.4)*		Sample	Sample	GPC1C

Number of Results: 10

Comments:

STL Richland
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V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND 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

SAMPLE RESULTS

Date: 22-Jun-06

Lab Name: STL Richland | **SDG:** 31683 | **Collection Date:** 5/4/2006 11:25:00 PM

Lot-Sample No.: J6E170306-4 | **Report No. :** 32442 | **Received Date:** 5/17/2006 10:00:00 AM

Client Sample ID: 000446 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #77

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: 6143227	**Work Order:** H5KRC1AG			**Report DB ID:** 9H5KRC10								
U-234	**0.154**	ND	0.32	0.32	0.693	pCi/sample	86%	*0.22*	6/20/06 11:35 p	1.0	0.06253	E908.0
						0.198	1.0	*0.96*		Sample	Sample	ALP4
U-235	**0.0659**	ND	0.23	0.23	0.62	pCi/sample	86%	*0.11*	6/20/06 11:35 p	1.0	0.06253	E908.0
						0.162	1.0	*0.58*		Sample	Sample	ALP4
U-238	**-0.0878**	ND	0.088	0.089	0.754	pCi/sample	86%	*-0.12*	6/20/06 11:35 p	1.0	0.06253	E908.0
						0.228	1.0	*-(2.)*		Sample	Sample	ALP4
								Ratio U-234/238 = -1.7				
Batch: 6143229	**Work Order:** H5KRC1AA			**Report DB ID:** 9H5KRC10								
TH-228	**0.0279**	ND	0.12	0.12	0.334	pCi/sample	83%	*0.08*	6/21/06 02:01 a	1.0	0.0833	ISOTH
						0.0916	1.0	*0.45*		Sample	Sample	ALP174
TH-230	**0.264**	=	0.24	0.24	0.143	pCi/sample	83%	*(1.8)*	6/21/06 02:01 a	1.0	0.0833	ISOTH
							1.0	*(2.2)*		Sample	Sample	ALP174
TH-232	**0.0792**	ND	0.16	0.16	0.317	pCi/sample	83%	*0.25*	6/21/06 02:01 a	1.0	0.0833	ISOTH
						0.0868	1.0	*1.*		Sample	Sample	ALP174
Batch: 6143237	**Work Order:** H5KRC1AE			**Report DB ID:** 9H5KRC10								
ALPHA	**1.79**	ND	3.1	3.1	6.57	pCi/sample	100%	*0.27*	6/10/06 08:56 a	1.0	0.02092	E900.0
						2.53	20.0	*(1.1)*		Sample	Sample	GPC10E
Batch: 6143240	**Work Order:** H5KRC1AF			**Report DB ID:** 9H5KRC10								
BETA	**15.3**	=	3.9	4.4	6.15	pCi/sample	100%	*(2.5)*	6/9/06 02:07 p	1.0	0.0843	E900.0
						2.91	5.0	*(6.9)*		Sample	Sample	GPC28B
Batch: 6143242	**Work Order:** H5KRC1AC			**Report DB ID:** 9H5KRC10								

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FORM I

SAMPLE RESULTS

Date: 22-Jun-06

Lab Name: STL Richland
SDG: 31683
Collection Date: 5/4/2006 11:25:00 PM
Lot-Sample No.: J6E170306-4
Report No. : 32442
Received Date: 5/17/2006 10:00:00 AM
Client Sample ID: 000446
COC No. :
Matrix: FILTER AIR

Yerington Air Quality - Event #77

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
RA-226	-0.0779	ND	0.34	0.34	0.69	pCi/sample	99%	*-0.11*	6/18/06 05:04 p	0.833	0.24993	E903.1
						0.303	1.0	*-0.46*		Sample	Sample	ASC9RA
Batch: 6143287	**Work Order:** H5KRC1AD			**Report DB ID:** 9H5KRC10								
RA-228	2.42	=	0.98	1.0	1.81	pCi/sample	88%	*(1.3)*	6/21/06 06:29 a	1.0	0.24993	E904.0
						0.81	3.1	*(4.7)*		Sample	Sample	GPC1D

Number of Results: 10

Comments:

STL Richland
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FORM I

SAMPLE RESULTS

Date: 22-Jun-06

Lab Name: STL Richland | **SDG:** 31683 | **Collection Date:** 5/4/2006 10:30:00 AM

Lot-Sample No.: J6E170306-5 | **Report No. :** 32442 | **Received Date:** 5/17/2006 10:00:00 AM

Client Sample ID: 000447 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #77

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: 6143227	**Work Order:** H5KRF1AG			**Report DB ID:** 9H5KRF10								
U-234	**-0.0838**	ND	0.24	0.24	0.937	pCi/sample	88%	*-0.09*	6/20/06 11:35 p	1.0	0.06225	E908.0
						0.327	1.0	*-0.68*		Sample	Sample	ALP5
U-235	**-0.0209**	ND	0.042	0.042	0.502	pCi/sample	88%	*-0.04*	6/20/06 11:35 p	1.0	0.06225	E908.0
						0.109	1.0	*-1.*		Sample	Sample	ALP5
U-238	**0.0209**	ND	0.23	0.23	0.719	pCi/sample	88%	*0.03*	6/20/06 11:35 p	1.0	0.06225	E908.0
						0.218	1.0	*0.19*		Sample	Sample	ALP5
								Ratio U-234/238 = -4.0				
Batch: 6143229	**Work Order:** H5KRF1AA			**Report DB ID:** 9H5KRF10								
TH-228	**0.160**	ND	0.19	0.19	0.294	pCi/sample	97%	*0.54*	6/21/06 02:01 a	1.0	0.08327	ISOTH
						0.093	1.0	*(1.7)*		Sample	Sample	ALP175
TH-230	**0.227**	ND	0.21	0.21	0.279	pCi/sample	97%	*0.82*	6/21/06 02:01 a	1.0	0.08327	ISOTH
						0.0881	1.0	*(2.2)*		Sample	Sample	ALP175
TH-232	**0.0757**	ND	0.11	0.11	0.103	pCi/sample	97%	*0.74*	6/21/06 02:01 a	1.0	0.08327	ISOTH
							1.0	*(1.4)*		Sample	Sample	ALP175
Batch: 6143237	**Work Order:** H5KRF1AE			**Report DB ID:** 9H5KRF10								
ALPHA	**2.07**	ND	3.7	3.7	7.79	pCi/sample	100%	*0.27*	6/10/06 10:49 a	1.0	0.02087	E900.0
						3.16	20.0	*(1.1)*		Sample	Sample	GPC10A
Batch: 6143240	**Work Order:** H5KRF1AF			**Report DB ID:** 9H5KRF10								
BETA	**24.1**	=	4.5	6.0	6.54	pCi/sample	100%	*(3.7)*	6/9/06 02:07 p	1.0	0.08362	E900.0
						3.11	5.0	*(8.1)*		Sample	Sample	GPC28C
Batch: 6143242	**Work Order:** H5KRF1AC			**Report DB ID:** 9H5KRF10								

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MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
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FORM I

SAMPLE RESULTS

Date: 22-Jun-06

Lab Name: STL Richland
SDG: 31683
Collection Date: 5/4/2006 10:30:00 AM
Lot-Sample No.: J6E170306-5
Report No. : 32442
Received Date: 5/17/2006 10:00:00 AM
Client Sample ID: 000447
COC No. :
Matrix: FILTER AIR

Yerington Air Quality - Event #77

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
RA-226	-0.0273	ND	0.28	0.28	0.603	pCi/sample	110%	*-0.05*	6/18/06 05:04 p	0.833	0.24949	E903.1
						0.246	1.0	*-0.2*		Sample	Sample	ASCASC
Batch: 6143287	**Work Order:** H5KRF1AD			**Report DB ID:** 9H5KRF10								
RA-228	2.48	=	0.85	0.91	1.4	pCi/sample	98%	*(1.8)*	6/21/06 07:25 a	1.0	0.24949	E904.0
						0.593	3.1	*(5.4)*		Sample	Sample	GPC2A

Number of Results: 10

Comments:

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MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
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FORM I

SAMPLE RESULTS

Date: 22-Jun-06

Lab Name: STL Richland | **SDG:** 31683 | **Collection Date:** 5/4/2006 10:50:00 AM

Lot-Sample No.: J6E170306-6 | **Report No. :** 32442 | **Received Date:** 5/17/2006 10:00:00 AM

Client Sample ID: 000448 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #77

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: 6143227	**Work Order:** H5KRG1AG			**Report DB ID:** 9H5KRG10								
U-234	**0.107**	ND	0.21	0.21	0.289	pCi/sample	90%	*0.37*	6/20/06 11:35 p	1.0	0.06236	E908.0
							1.0	*1.*		Sample	Sample	ALP6
U-235	**-0.0427**	ND	0.060	0.061	0.604	pCi/sample	90%	*-0.07*	6/20/06 11:35 p	1.0	0.06236	E908.0
						0.157	1.0	*-(1.4)*		Sample	Sample	ALP6
U-238	**0.0854**	ND	0.22	0.22	0.512	pCi/sample	90%	*0.17*	6/20/06 11:35 p	1.0	0.06236	E908.0
						0.111	1.0	*0.78*		Sample	Sample	ALP6
								Ratio U-234/238 = 1.3				
Batch: 6143229	**Work Order:** H5KRG1AA			**Report DB ID:** 9H5KRG10								
TH-228	**0.00000065**	ND	0.096	0.096	0.288	pCi/sample	107%	*0.*	6/21/06 02:01 a	1.0	0.0834	ISOTH
						0.0911	1.0	*0.*		Sample	Sample	ALP176
TH-230	**0.315**	=	0.23	0.23	0.223	pCi/sample	107%	*(1.4)*	6/21/06 02:01 a	1.0	0.0834	ISOTH
						0.061	1.0	*(2.7)*		Sample	Sample	ALP176
TH-232	**-0.0186**	ND	0.037	0.037	0.223	pCi/sample	107%	*-0.08*	6/21/06 02:01 a	1.0	0.0834	ISOTH
						0.061	1.0	*-1.*		Sample	Sample	ALP176
Batch: 6143237	**Work Order:** H5KRG1AE			**Report DB ID:** 9H5KRG10								
ALPHA	**1.28**	ND	2.5	2.5	5.45	pCi/sample	100%	*0.24*	6/10/06 10:49 a	1.0	0.02105	E900.0
						2.0	20.0	*(1.)*		Sample	Sample	GPC10B
Batch: 6143240	**Work Order:** H5KRG1AF			**Report DB ID:** 9H5KRG10								
BETA	**16.7**	=	4.1	5.0	6.57	pCi/sample	100%	*(2.5)*	6/9/06 02:07 p	1.0	0.08373	E900.0
						3.12	5.0	*(6.7)*		Sample	Sample	GPC28D
Batch: 6143242	**Work Order:** H5KRG1AC			**Report DB ID:** 9H5KRG10								

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FORM I

SAMPLE RESULTS

Date: 22-Jun-06

Lab Name: STL Richland **SDG:** 31683 **Collection Date:** 5/4/2006 10:50:00 AM

Lot-Sample No.: J6E170306-6 **Report No. :** 32442 **Received Date:** 5/17/2006 10:00:00 AM

Client Sample ID: 000448 **COC No. :** **Matrix:** FILTER AIR

Yerington Air Quality - Event #77

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
RA-226	**0.504**	ND	0.50	0.51	0.827	pCi/sample	112%	*0.61*	6/18/06 05:05 p	0.833	0.24963	E903.1
						0.373	1.0	*(2.)*		Sample	Sample	ASC1HA
Batch: 6143287	**Work Order:** H5KRG1AD			**Report DB ID:** 9H5KRG10								
RA-228	**3.37**	=	0.95	1.0	1.48	pCi/sample	100%	*(2.3)*	6/21/06 07:25 a	1.0	0.24963	E904.0
						0.637	3.1	*(6.5)*		Sample	Sample	GPC2B

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
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FORM I

SAMPLE RESULTS

Date: 22-Jun-06

Lab Name: STL Richland
Lot-Sample No.: J6E170306-7
Client Sample ID: 000449
Yerington Air Quality - Event #77

SDG: 31683
Report No. : 32442
COC No. :

Collection Date: 5/4/2006 11:30:00 AM
Received Date: 5/17/2006 10:00:00 AM
Matrix: FILTER AIR

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: 6143227	**Work Order:** H5KRJ1AG			**Report DB ID:** 9H5KRJ10								
U-234	0.00000	ND	0.0000	0.24	0.269	pCi/sample	104%	0.	6/20/06 11:35 p	1.0	0.0624	E908.0
							1.0	0.		Sample	Sample	ALP7
U-235	0.00000	ND	0.0000	0.24	0.269	pCi/sample	104%	0.	6/20/06 11:35 p	1.0	0.0624	E908.0
							1.0	0.		Sample	Sample	ALP7
U-238	0.0993	ND	0.20	0.20	0.269	pCi/sample	104%	0.37	6/20/06 11:35 p	1.0	0.0624	E908.0
							1.0	1.		Sample	Sample	ALP7
Batch: 6143229	**Work Order:** H5KRJ1AA			**Report DB ID:** 9H5KRJ10								
TH-228	0.00000	ND	0.0000	0.13	0.148	pCi/sample	80%	0.	6/21/06 02:01 a	1.0	0.08297	ISOTH
							1.0	0.		Sample	Sample	ALP177
TH-230	0.00000	ND	0.0000	0.13	0.14	pCi/sample	80%	0.	6/21/06 02:01 a	1.0	0.08297	ISOTH
							1.0	0.		Sample	Sample	ALP177
TH-232	-0.0259	ND	0.052	0.052	0.311	pCi/sample	80%	-0.08	6/21/06 02:01 a	1.0	0.08297	ISOTH
						0.0852	1.0	-1.		Sample	Sample	ALP177
Batch: 6143237	**Work Order:** H5KRJ1AE			**Report DB ID:** 9H5KRJ10								
ALPHA	1.89	ND	2.8	2.9	5.66	pCi/sample	100%	0.33	6/10/06 10:49 a	1.0	0.0209	E900.0
						2.08	20.0	(1.3)		Sample	Sample	GPC10C
Batch: 6143240	**Work Order:** H5KRJ1AF			**Report DB ID:** 9H5KRJ10								
BETA	14.7	=	3.9	4.5	6.45	pCi/sample	100%	(2.3)	6/9/06 02:07 p	1.0	0.08301	E900.0
						3.06	5.0	(6.6)		Sample	Sample	GPC31A
Batch: 6143242	**Work Order:** H5KRJ1AC			**Report DB ID:** 9H5KRJ10								

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= ERPIMS - Equal To, Analyte Detected
ND 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

SAMPLE RESULTS

Date: 22-Jun-06

Lab Name: STL Richland | **SDG:** 31683 | **Collection Date:** 5/4/2006 11:30:00 AM

Lot-Sample No.: J6E170306-7 | **Report No. :** 32442 | **Received Date:** 5/17/2006 10:00:00 AM

Client Sample ID: 000449 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #77

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
RA-226	**0.177**	ND	0.24	0.24	0.401	pCi/sample	106%	*0.44*	6/18/06 05:03 p	0.833	0.24885	E903.1
						0.162	1.0	*(1.5)*		Sample	Sample	ASC2MA
Batch: 6143287	**Work Order:** H5KRJ1AD			**Report DB ID:** 9H5KRJ10								
RA-228	**3.70**	=	1.0	1.1	1.59	pCi/sample	95%	*(2.3)*	6/21/06 07:25 a	1.0	0.24885	E904.0
						0.687	3.1	*(6.6)*		Sample	Sample	GPC2C

Number of Results: 10

Comments:

STL Richland

rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND 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

SAMPLE RESULTS

Date: 22-Jun-06

Lab Name: STL Richland **SDG:** 31683 **Collection Date:** 5/4/2006 12:00:00 PM

Lot-Sample No.: J6E170306-8 **Report No. :** 32442 **Received Date:** 5/17/2006 10:00:00 AM

Client Sample ID: P-0614 **COC No. :** **Matrix:** FILTER AIR

Yerington Air Quality - Event #77

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: 6143227	**Work Order:** H5KRL1AG			**Report DB ID:** 9H5KRL10								
U-234	-0.0593	ND	0.069	0.069	0.624	pCi/sample	94%	-0.1	6/20/06 11:36 p	1.0	0.06192	E908.0
						0.178	1.0	-(1.7)		Sample	Sample	ALP8
U-235	-0.0198	ND	0.040	0.040	0.473	pCi/sample	94%	-0.04	6/20/06 11:36 p	1.0	0.06192	E908.0
						0.103	1.0	-1.		Sample	Sample	ALP8
U-238	0.00000	ND	0.0000	0.24	0.268	pCi/sample	94%	0.	6/20/06 11:36 p	1.0	0.06192	E908.0
							1.0	0.		Sample	Sample	ALP8
Batch: 6143229	**Work Order:** H5KRL1AA			**Report DB ID:** 9H5KRL10								
TH-228	0.148	ND	0.21	0.21	0.2	pCi/sample	50%	0.74	6/21/06 02:01 a	1.0	0.08259	ISOTH
							1.0	(1.4)		Sample	Sample	ALP178
TH-230	0.140	ND	0.20	0.20	0.189	pCi/sample	50%	0.74	6/21/06 02:01 a	1.0	0.08259	ISOTH
							1.0	(1.4)		Sample	Sample	ALP178
TH-232	0.140	ND	0.20	0.20	0.189	pCi/sample	50%	0.74	6/21/06 02:01 a	1.0	0.08259	ISOTH
							1.0	(1.4)		Sample	Sample	ALP178
Batch: 6143237	**Work Order:** H5KRL1AE			**Report DB ID:** 9H5KRL10								
ALPHA	0.528	ND	3.2	3.2	7.93	pCi/sample	100%	0.07	6/10/06 10:49 a	1.0	0.02062	E900.0
						3.25	20.0	0.33		Sample	Sample	GPC10D
Batch: 6143240	**Work Order:** H5KRL1AF			**Report DB ID:** 9H5KRL10								
BETA	14.5	=	3.9	4.6	6.34	pCi/sample	100%	(2.3)	6/9/06 02:07 p	1.0	0.08271	E900.0
						3.01	5.0	(6.3)		Sample	Sample	GPC31B
Batch: 6143242	**Work Order:** H5KRL1AC			**Report DB ID:** 9H5KRL10								

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MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
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ND 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

SAMPLE RESULTS

Date: 22-Jun-06

Lab Name: STL Richland **SDG:** 31683 **Collection Date:** 5/4/2006 12:00:00 PM

Lot-Sample No.: J6E170306-8 **Report No. :** 32442 **Received Date:** 5/17/2006 10:00:00 AM

Client Sample ID: P-0614 **COC No. :** **Matrix:** FILTER AIR

Yerington Air Quality - Event #77

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
RA-226	0.164	ND	0.32	0.32	0.571	pCi/sample	104%	*0.29*	6/18/06 05:02 p	0.833	0.2466	E903.1
						0.246	1.0	*(1.)*		Sample	Sample	ASC8HC
Batch: 6143287	**Work Order:** H5KRL1AD			**Report DB ID:** 9H5KRL10								
RA-228	5.81	=	1.2	1.4	1.54	pCi/sample	93%	*(3.8)*	6/21/06 07:20 a	1.0	0.2466	E904.0
						0.656	3.1	*(8.2)*		Sample	Sample	GPC2D

Number of Results: 10

Comments:

STL Richland
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V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
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FORM I

SAMPLE RESULTS

Date: 22-Jun-06

Lab Name: STL Richland **SDG:** 31683 **Collection Date:** 5/4/2006 12:20:00 PM

Lot-Sample No.: J6E170306-9 **Report No. :** 32442 **Received Date:** 5/17/2006 10:00:00 AM

Client Sample ID: P-0615 **COC No. :** **Matrix:** FILTER AIR

Yerington Air Quality - Event #77

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: 6143227	**Work Order:** H5KRR1AG			**Report DB ID:** 9H5KRR10								
U-234	0.0844	ND	0.22	0.22	0.506	pCi/sample	93%	*0.17*	6/20/06 11:36 p	1.0	0.06244	E908.0
						0.11	1.0	*0.78*		Sample	Sample	ALP9
U-235	0.00000	ND	0.0000	0.26	0.286	pCi/sample	93%	*0.*	6/20/06 11:36 p	1.0	0.06244	E908.0
							1.0	*0.*		Sample	Sample	ALP9
U-238	0.00000	ND	0.0000	0.26	0.286	pCi/sample	93%	*0.*	6/20/06 11:36 p	1.0	0.06244	E908.0
							1.0	*0.*		Sample	Sample	ALP9
Batch: 6143229	**Work Order:** H5KRR1AA			**Report DB ID:** 9H5KRR10								
TH-228	-0.0273	ND	0.24	0.24	0.624	pCi/sample	63%	*-0.04*	6/21/06 02:01 a	1.0	0.08344	ISOTH
						0.238	1.0	*-0.23*		Sample	Sample	ALP114
TH-230	0.155	ND	0.18	0.18	0.14	pCi/sample	63%	*(1.1)*	6/21/06 02:01 a	1.0	0.08344	ISOTH
							1.0	*(1.7)*		Sample	Sample	ALP114
TH-232	0.00000	ND	0.0000	0.13	0.14	pCi/sample	63%	*0.*	6/21/06 02:01 a	1.0	0.08344	ISOTH
							1.0	*0.*		Sample	Sample	ALP114
Batch: 6143237	**Work Order:** H5KRR1AE			**Report DB ID:** 9H5KRR10								
ALPHA	1.77	ND	3.1	3.1	6.53	pCi/sample	100%	*0.27*	6/10/06 10:49 a	1.0	0.02103	E900.0
						2.52	20.0	*(1.1)*		Sample	Sample	GPC10E
Batch: 6143240	**Work Order:** H5KRR1AF			**Report DB ID:** 9H5KRR10								
BETA	15.9	=	4.0	4.6	6.45	pCi/sample	100%	*(2.5)*	6/9/06 02:07 p	1.0	0.0839	E900.0
						3.06	5.0	*(7.)*		Sample	Sample	GPC31C
Batch: 6143242	**Work Order:** H5KRR1AC			**Report DB ID:** 9H5KRR10								

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FORM I

SAMPLE RESULTS

Date: 22-Jun-06

Lab Name: STL Richland
Lot-Sample No.: J6E170306-9
Client Sample ID: P-0615
Yerington Air Quality - Event #77

SDG: 31683
Report No. : 32442
COC No. :

Collection Date: 5/4/2006 12:20:00 PM
Received Date: 5/17/2006 10:00:00 AM
Matrix: FILTER AIR

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
RA-226	**0.300**	ND	0.34	0.35	0.561	pCi/sample	95%	*0.53*	6/18/06 05:46 p	0.833	0.24935	E903.1
						0.223	1.0	*(1.7)*		Sample	Sample	ASCCSD
Batch: 6143287	**Work Order:** H5KRR1AD			**Report DB ID:** 9H5KRR10								
RA-228	**3.54**	=	1.0	1.1	1.56	pCi/sample	84%	*(2.3)*	6/21/06 07:20 a	1.0	0.24935	E904.0
						0.667	3.1	*(6.4)*		Sample	Sample	GPC3A

Number of Results: 10

Comments:

STL Richland
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FORM I

SAMPLE RESULTS

Date: 22-Jun-06

Lab Name: STL Richland | **SDG:** 31683 | **Collection Date:** 5/4/2006 11:05:00 AM

Lot-Sample No.: J6E170306-10 | **Report No. :** 32442 | **Received Date:** 5/17/2006 10:00:00 AM

Client Sample ID: P-0616 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #77

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: 6143227	**Work Order:** H5KRV1AG			**Report DB ID:** 9H5KRV10								
U-234	0.0791	ND	0.20	0.20	0.474	pCi/sample	99%	*0.17*	6/20/06 11:36 p	1.0	0.06251	E908.0
						0.103	1.0	*0.78*		Sample	Sample	ALP10
U-235	0.00000	ND	0.0000	0.24	0.268	pCi/sample	99%	*0.*	6/20/06 11:36 p	1.0	0.06251	E908.0
							1.0	*0.*		Sample	Sample	ALP10
U-238	0.0593	ND	0.21	0.21	0.559	pCi/sample	99%	*0.11*	6/20/06 11:36 p	1.0	0.06251	E908.0
						0.145	1.0	*0.58*		Sample	Sample	ALP10
								Ratio U-234/238 = 1.3				
Batch: 6143229	**Work Order:** H5KRV1AA			**Report DB ID:** 9H5KRV10								
TH-228	0.206	ND	0.24	0.24	0.379	pCi/sample	86%	*0.54*	6/21/06 02:01 a	1.0	0.08393	ISOTH
						0.12	1.0	*(1.7)*		Sample	Sample	ALP116
TH-230	0.147	ND	0.17	0.17	0.132	pCi/sample	86%	*(1.1)*	6/21/06 02:01 a	1.0	0.08393	ISOTH
							1.0	*(1.7)*		Sample	Sample	ALP116
TH-232	0.0488	ND	0.098	0.098	0.132	pCi/sample	86%	*0.37*	6/21/06 02:01 a	1.0	0.08393	ISOTH
							1.0	*1.*		Sample	Sample	ALP116
Batch: 6143237	**Work Order:** H5KRV1AE			**Report DB ID:** 9H5KRV10								
ALPHA	3.66	ND	4.1	4.1	7.68	pCi/sample	100%	*0.48*	6/10/06 12:41 p	1.0	0.02117	E900.0
						3.11	20.0	*(1.8)*		Sample	Sample	GPC10A
Batch: 6143240	**Work Order:** H5KRV1AF			**Report DB ID:** 9H5KRV10								
BETA	15.5	=	3.9	4.5	6.19	pCi/sample	100%	*(2.5)*	6/9/06 02:07 p	1.0	0.08325	E900.0
						2.93	5.0	*(6.9)*		Sample	Sample	GPC31D
Batch: 6143242	**Work Order:** H5KRV1AC			**Report DB ID:** 9H5KRV10								

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V4.15.0 A97

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FORM I

SAMPLE RESULTS

Date: 22-Jun-06

Lab Name: STL Richland
SDG: 31683
Collection Date: 5/4/2006 11:05:00 AM
Lot-Sample No.: J6E170306-10
Report No. : 32442
Received Date: 5/17/2006 10:00:00 AM
Client Sample ID: P-0616
COC No. :
Matrix: FILTER AIR

Yerington Air Quality - Event #77

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
RA-226	**0.294**	ND	0.38	0.39	0.656	pCi/sample	100%	*0.45*	6/18/06 05:44 p	0.833	0.24985	E903.1
						0.28	1.0	*(1.5)*		Sample	Sample	ASCGSB
Batch: 6143287	**Work Order:** H5KRV1AD			**Report DB ID:** 9H5KRV10								
RA-228	**3.63**	=	0.97	1.1	1.45	pCi/sample	89%	*(2.5)*	6/21/06 07:20 a	1.0	0.24985	E904.0
						0.62	3.1	*(6.7)*		Sample	Sample	GPC3B

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

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FORM I

SAMPLE RESULTS

Date: 22-Jun-06

Lab Name: STL Richland | **SDG:** 31683 | **Collection Date:** 5/4/2006 11:20:00 AM

Lot-Sample No.: J6E170306-11 | **Report No. :** 32442 | **Received Date:** 5/17/2006 10:00:00 AM

Client Sample ID: P-0617 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #77

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: 6143227	**Work Order:** H5KRX1AG			**Report DB ID:** 9H5KRX10								
U-234	-0.0394	ND	0.056	0.056	0.557	pCi/sample	91%	*-0.07*	6/20/06 11:36 p	1.0	0.06165	E908.0
						0.145	1.0	*-(1.4)*		Sample	Sample	ALP11
U-235	0.0789	ND	0.20	0.20	0.472	pCi/sample	91%	*0.17*	6/20/06 11:36 p	1.0	0.06165	E908.0
						0.103	1.0	*0.78*		Sample	Sample	ALP11
U-238	0.0789	ND	0.20	0.20	0.472	pCi/sample	91%	*0.17*	6/20/06 11:36 p	1.0	0.06165	E908.0
						0.103	1.0	*0.78*		Sample	Sample	ALP11
								Ratio U-234/238 = -0.5				
Batch: 6143229	**Work Order:** H5KRX1AA			**Report DB ID:** 9H5KRX10								
TH-228	0.144	ND	0.18	0.18	0.247	pCi/sample	67%	*0.58*	6/21/06 02:02 a	1.0	0.08239	ISOTH
						0.0536	1.0	*(1.6)*		Sample	Sample	ALP117
TH-230	0.0293	ND	0.10	0.10	0.276	pCi/sample	67%	*0.11*	6/21/06 02:02 a	1.0	0.08239	ISOTH
						0.0718	1.0	*0.58*		Sample	Sample	ALP117
TH-232	0.0390	ND	0.099	0.10	0.234	pCi/sample	67%	*0.17*	6/21/06 02:02 a	1.0	0.08239	ISOTH
						0.0508	1.0	*0.78*		Sample	Sample	ALP117
Batch: 6143237	**Work Order:** H5KRX1AE			**Report DB ID:** 9H5KRX10								
ALPHA	2.92	ND	3.2	3.2	5.53	pCi/sample	100%	*0.53*	6/10/06 12:41 p	1.0	0.02071	E900.0
						2.03	20.0	*(1.8)*		Sample	Sample	GPC10B
Batch: 6143240	**Work Order:** H5KRX1AF			**Report DB ID:** 9H5KRX10								
BETA	-0.4580	ND	3.0	3.0	6.81	pCi/sample	100%	*-0.07*	6/9/06 02:08 p	1.0	0.08233	E900.0
						3.23	5.0	*-0.3*		Sample	Sample	GPC32A
Batch: 6143242	**Work Order:** H5KRX1AC			**Report DB ID:** 9H5KRX10								

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ND 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

SAMPLE RESULTS

Date: 22-Jun-06

Lab Name: STL Richland **SDG:** 31683 **Collection Date:** 5/4/2006 11:20:00 AM

Lot-Sample No.: J6E170306-11 **Report No. :** 32442 **Received Date:** 5/17/2006 10:00:00 AM

Client Sample ID: P-0617 **COC No. :** **Matrix:** FILTER AIR

Yerington Air Quality - Event #77

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
RA-226	**0.523**	ND	0.39	0.40	0.554	pCi/sample	86%	*0.94*	6/18/06 05:45 p	0.833	0.24761	E903.1
						0.223	1.0	*(2.6)*		Sample	Sample	ASCKMD
Batch: 6143287	**Work Order:** H5KRX1AD			**Report DB ID:** 9H5KRX10								
RA-228	**4.14**	=	1.2	1.3	1.75	pCi/sample	77%	*(2.4)*	6/21/06 07:26 a	1.0	0.24761	E904.0
						0.75	3.1	*(6.5)*		Sample	Sample	GPC3C

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

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= ERPIMS - Equal To, Analyte Detected
ND 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

SAMPLE RESULTS

Date: 22-Jun-06

Lab Name: STL Richland
Lot-Sample No.: J6E170306-12
Client Sample ID: P-0618
Yerington Air Quality - Event #77

SDG: 31683
Report No. : 32442
COC No. :

Collection Date: 5/4/2006 10:35:00 AM
Received Date: 5/17/2006 10:00:00 AM
Matrix: FILTER AIR

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: 6143227	**Work Order:** H5KR21AG			**Report DB ID:** 9H5KR210								
U-234	-0.0223	ND	0.045	0.045	0.533	pCi/sample	88%	-0.04	6/20/06 11:37 p	1.0	0.06252	E908.0
						0.116	1.0	-1.		Sample	Sample	ALP12
U-235	0.00000	ND	0.0000	0.27	0.302	pCi/sample	88%	0.	6/20/06 11:37 p	1.0	0.06252	E908.0
							1.0	0.		Sample	Sample	ALP12
U-238	0.00000	ND	0.0000	0.27	0.302	pCi/sample	88%	0.	6/20/06 11:37 p	1.0	0.06252	E908.0
							1.0	0.		Sample	Sample	ALP12
Batch: 6143229	**Work Order:** H5KR21AA			**Report DB ID:** 9H5KR210								
TH-228	0.147	ND	0.19	0.19	0.315	pCi/sample	68%	0.47	6/21/06 02:02 a	1.0	0.08358	ISOTH
						0.0955	1.0	(1.6)		Sample	Sample	ALP118
TH-230	0.582	=	0.33	0.34	0.274	pCi/sample	68%	(2.1)	6/21/06 02:02 a	1.0	0.08358	ISOTH
						0.0783	1.0	(3.4)		Sample	Sample	ALP118
TH-232	0.00000	ND	0.0000	0.11	0.118	pCi/sample	68%	0.	6/21/06 02:02 a	1.0	0.08358	ISOTH
							1.0	0.		Sample	Sample	ALP118
Batch: 6143237	**Work Order:** H5KR21AE			**Report DB ID:** 9H5KR210								
ALPHA	1.33	ND	2.6	2.6	5.68	pCi/sample	100%	0.24	6/10/06 12:41 p	1.0	0.02084	E900.0
						2.09	20.0	(1.)		Sample	Sample	GPC10C
Batch: 6143240	**Work Order:** H5KR21AF			**Report DB ID:** 9H5KR210								
BETA	19.5	=	4.1	4.9	6.12	pCi/sample	100%	(3.2)	6/9/06 02:08 p	1.0	0.08344	E900.0
						2.89	5.0	(7.9)		Sample	Sample	GPC32B
Batch: 6143242	**Work Order:** H5KR21AC			**Report DB ID:** 9H5KR210								

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND 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

SAMPLE RESULTS

Date: 22-Jun-06

Lab Name: STL Richland **SDG:** 31683 **Collection Date:** 5/4/2006 10:35:00 AM

Lot-Sample No.: J6E170306-12 **Report No. :** 32442 **Received Date:** 5/17/2006 10:00:00 AM

Client Sample ID: P-0618 **COC No. :** **Matrix:** FILTER AIR

Yerington Air Quality - Event #77

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
RA-226	**0.206**	ND	0.27	0.27	0.45	pCi/sample	97%	*0.46*	6/18/06 05:45 p	0.833	0.25018	E903.1
						0.179	1.0	*(1.5)*		Sample	Sample	ASCJSB
Batch: 6143287	**Work Order:** H5KR21AD			**Report DB ID:** 9H5KR210								
RA-228	**2.19**	=	0.83	0.90	1.46	pCi/sample	87%	*(1.5)*	6/21/06 07:26 a	1.0	0.25018	E904.0
						0.622	3.1	*(4.9)*		Sample	Sample	GPC3D

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND 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

SAMPLE RESULTS

Date: 22-Jun-06

Lab Name: STL Richland
Lot-Sample No.: J6E170306-13
Client Sample ID: P-0619
Yerington Air Quality - Event #77

SDG: 31683
Report No. : 32442
COC No. :

Collection Date: 5/4/2006 10:45:00 AM
Received Date: 5/17/2006 10:00:00 AM
Matrix: FILTER AIR

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: 6143227	**Work Order:** H5KR41AG			**Report DB ID:** 9H5KR410								
U-234	0.239	ND	0.43	0.43	0.843	pCi/sample	93%	*0.28*	6/20/06 11:37 p	1.0	0.06274	E908.0
						0.22	1.0	*(1.1)*		Sample	Sample	ALP85
U-235	-0.0119	ND	0.024	0.024	0.601	pCi/sample	93%	*-0.02*	6/20/06 11:37 p	1.0	0.06274	E908.0
						0.0982	1.0	*-1.*		Sample	Sample	ALP85
U-238	0.298	ND	0.42	0.43	0.404	pCi/sample	93%	*0.74*	6/20/06 11:37 p	1.0	0.06274	E908.0
							1.0	*(1.4)*		Sample	Sample	ALP85
								Ratio U-234/238 = 0.8				
Batch: 6143229	**Work Order:** H5KR41AA			**Report DB ID:** 9H5KR410								
TH-228	0.0771	ND	0.24	0.24	0.568	pCi/sample	59%	*0.14*	6/21/06 02:02 a	1.0	0.08373	ISOTH
						0.179	1.0	*0.63*		Sample	Sample	ALP119
TH-230	0.365	=	0.33	0.33	0.198	pCi/sample	59%	*(1.8)*	6/21/06 02:02 a	1.0	0.08373	ISOTH
							1.0	*(2.2)*		Sample	Sample	ALP119
TH-232	0.0731	ND	0.15	0.15	0.198	pCi/sample	59%	*0.37*	6/21/06 02:02 a	1.0	0.08373	ISOTH
							1.0	*1.*		Sample	Sample	ALP119
Batch: 6143237	**Work Order:** H5KR41AE			**Report DB ID:** 9H5KR410								
ALPHA	2.59	ND	3.8	3.8	7.79	pCi/sample	100%	*0.33*	6/10/06 12:41 p	1.0	0.02097	E900.0
						3.19	20.0	*(1.4)*		Sample	Sample	GPC10D
Batch: 6143240	**Work Order:** H5KR41AF			**Report DB ID:** 9H5KR410								
BETA	12.8	=	3.7	4.3	6.1	pCi/sample	100%	*(2.1)*	6/9/06 02:08 p	1.0	0.08333	E900.0
						2.89	5.0	*(5.9)*		Sample	Sample	GPC32C
Batch: 6143242	**Work Order:** H5KR41AC			**Report DB ID:** 9H5KR410								

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND 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

SAMPLE RESULTS

Date: 22-Jun-06

Lab Name: STL Richland **SDG:** 31683 **Collection Date:** 5/4/2006 10:45:00 AM

Lot-Sample No.: J6E170306-13 **Report No. :** 32442 **Received Date:** 5/17/2006 10:00:00 AM

Client Sample ID: P-0619 **COC No. :** **Matrix:** FILTER AIR

Yerington Air Quality - Event #77

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
RA-226	**0.286**	ND	0.30	0.31	0.498	pCi/sample	99%	*0.57*	6/18/06 05:42 p	0.833	0.25061	E903.1
						0.21	1.0	*(1.8)*		Sample	Sample	ASCBMB
Batch: 6143287	**Work Order:** H5KR41AD			**Report DB ID:** 9H5KR410								
RA-228	**3.74**	=	1.0	1.2	1.69	pCi/sample	86%	*(2.2)*	6/21/06 07:26 a	1.0	0.25061	E904.0
						0.738	3.1	*(6.4)*		Sample	Sample	GPC4A

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND 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

SAMPLE RESULTS

Date: 22-Jun-06

Lab Name: STL Richland | **SDG:** 31683 | **Collection Date:** 5/4/2006 12:05:00 PM

Lot-Sample No.: J6E170306-14 | **Report No. :** 32442 | **Received Date:** 5/17/2006 10:00:00 AM

Client Sample ID: P-0620 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #77

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: 6143227	**Work Order:** H5KR61AG			**Report DB ID:** 9H5KR610								
U-234	-0.0462	ND	0.065	0.066	0.653	pCi/sample	93%	-0.07	6/20/06 11:37 p	1.0	0.06157	E908.0
						0.17	1.0	-(1.4)		Sample	Sample	ALP87
U-235	0.00000	ND	0.0000	0.28	0.313	pCi/sample	93%	0.	6/20/06 11:37 p	1.0	0.06157	E908.0
							1.0	0.		Sample	Sample	ALP87
U-238	0.00000	ND	0.0000	0.28	0.313	pCi/sample	93%	0.	6/20/06 11:37 p	1.0	0.06157	E908.0
							1.0	0.		Sample	Sample	ALP87
Batch: 6143229	**Work Order:** H5KR61AA			**Report DB ID:** 9H5KR610								
TH-228	0.363	ND	0.30	0.31	0.381	pCi/sample	93%	0.95	6/21/06 02:02 a	1.0	0.08218	ISOTH
						0.121	1.0	(2.3)		Sample	Sample	ALP120
TH-230	0.0982	ND	0.14	0.14	0.133	pCi/sample	93%	0.74	6/21/06 02:02 a	1.0	0.08218	ISOTH
							1.0	(1.4)		Sample	Sample	ALP120
TH-232	0.0491	ND	0.098	0.099	0.133	pCi/sample	93%	0.37	6/21/06 02:02 a	1.0	0.08218	ISOTH
							1.0	1.		Sample	Sample	ALP120
Batch: 6143237	**Work Order:** H5KR61AE			**Report DB ID:** 9H5KR610								
ALPHA	2.93	ND	3.5	3.6	6.64	pCi/sample	100%	0.44	6/10/06 12:41 p	1.0	0.02069	E900.0
						2.56	20.0	(1.6)		Sample	Sample	GPC10E
Batch: 6143240	**Work Order:** H5KR61AF			**Report DB ID:** 9H5KR610								
BETA	11.6	=	4.0	4.3	7.04	pCi/sample	100%	(1.6)	6/9/06 02:08 p	1.0	0.08254	E900.0
						3.35	5.0	(5.4)		Sample	Sample	GPC32D
Batch: 6143242	**Work Order:** H5KR61AC			**Report DB ID:** 9H5KR610								

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND 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

SAMPLE RESULTS

Date: 22-Jun-06

Lab Name: STL Richland | **SDG:** 31683 | **Collection Date:** 5/4/2006 12:05:00 PM

Lot-Sample No.: J6E170306-14 | **Report No. :** 32442 | **Received Date:** 5/17/2006 10:00:00 AM

Client Sample ID: P-0620 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #77

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
RA-226	-0.0545	ND	0.25	0.25	0.535	pCi/sample	96%	*-0.1*	6/18/06 05:43 p	0.833	0.2467	E903.1
						0.228	1.0	*-0.43*		Sample	Sample	ASCHAC
Batch: 6143287	**Work Order:** H5KR61AD			**Report DB ID:** 9H5KR610								
RA-228	2.10	=	0.89	0.93	1.61	pCi/sample	84%	*(1.3)*	6/21/06 07:26 a	1.0	0.2467	E904.0
						0.691	3.1	*(4.5)*		Sample	Sample	GPC4B

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND 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: 22-Jun-06

Lab Name: STL Richland

SDG: 31683

Lot-Sample No.: J6E230000-227

Report No. : 32442

Matrix: FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6143227	Work Order: H50N81AA			Report DB ID: H50N81AB								
U-234	-0.0010	ND	0.0014	0.0014	0.0286	pCi/sample	96%	-0.04	6/20/06 11:38 p	1.0	1.0	E908.0
					0.00583	1.0		-(1.4)		Sample	Sample	ALP69
U-235	0.00527	ND	0.013	0.013	0.0286	pCi/sample	96%	0.18	6/20/06 11:38 p	1.0	1.0	E908.0
					0.00583	1.0		0.83		Sample	Sample	ALP69
U-238	-0.00301	ND	0.0025	0.0025	0.0372	pCi/sample	96%	-0.08	6/20/06 11:38 p	1.0	1.0	E908.0
					0.0101	1.0		-(2.4)		Sample	Sample	ALP69

Ratio U-234/238 = 0.3

Number of Results: 3

Comments:

STL Richland

rptSTLRchBlank
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
ND 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: 22-Jun-06

Lab Name: STL Richland

SDG: 31683

Lot-Sample No.: J6E230000-229

Report No. : 32442

Matrix: FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6143229	Work Order: H50PC1AA			Report DB ID: H50PC1AB								
TH-228	0.0195	ND	0.028	0.028	0.0478	pCi/sample	58%	0.41	6/21/06 10:41 a	1.0	1.0	ISOTH
					0.0151	1.0		(1.4)		Sample	Sample	ALP119
TH-230	0.00616	ND	0.012	0.012	0.0167	pCi/sample	58%	0.37	6/21/06 10:41 a	1.0	1.0	ISOTH
						1.0		1.		Sample	Sample	ALP119
TH-232	0.00616	ND	0.012	0.012	0.0167	pCi/sample	58%	0.37	6/21/06 10:41 a	1.0	1.0	ISOTH
						1.0		1.		Sample	Sample	ALP119

Number of Results: 3

Comments:

STL Richland

rptSTLRchBlank
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
ND 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: 22-Jun-06

Lab Name: STL Richland

SDG: 31683

Lot-Sample No.: J6E230000-237

Report No. : 32442

Matrix: FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6143237	Work Order:	H50PG1AA		Report DB ID:	H50PG1AB							
ALPHA	0.0500	ND	0.080	0.080	0.167	pCi/sample	100%	0.3	6/11/06 01:34 p	1.0	1.0	E900.0
					0.068	20.0		(1.2)		Sample	Sample	GPC10A

Number of Results: 1

Comments:

STL Richland

rptSTLRchBlank
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
ND 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: 22-Jun-06

Lab Name: STL Richland

SDG: 31683

Lot-Sample No.: J6E230000-240

Report No. : 32442

Matrix: FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6143240	Work Order: H50PP1AA			Report DB ID: H50PP1AB								
BETA	0.265	ND	0.26	0.26	0.528	pCi/sample	100%	0.5	6/9/06 04:09 p	1.0	1.0	E900.0
					0.25	5.0		(2.)		Sample	Sample	GPC26C

Number of Results: 1

Comments:

STL Richland

rptSTLRchBlank
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
ND 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: 22-Jun-06

Lab Name: STL Richland

SDG: 31683

Lot-Sample No.: J6E230000-242

Report No. : 32442

Matrix: FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6143242	Work Order: H50P11AA			Report DB ID: H50P11AB								
RA-226	0.00436	ND	0.084	0.084	0.167	pCi/sample	97%	0.03	6/18/06 05:42 p	1.0	1.0	E903.1
					0.0718	1.0		0.1		Sample	Sample	ASCLMD

Number of Results: 1

Comments:

STL Richland

rptSTLRchBlank
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
ND 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: 22-Jun-06

Lab Name: STL Richland

SDG: 31683

Lot-Sample No.: J6E230000-287

Report No. : 32442

Matrix: FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6143287	Work Order:	H50TF1AA		Report DB ID:	H50TF1AB							
RA-228	0.546	=	0.22	0.23	0.399	pCi/sample	87%	(1.4)	6/21/06 07:21 a	1.0	1.0	E904.0
					0.172	3.1		(4.7)		Sample	Sample	GPC4C

Number of Results: 1

Comments:

STL Richland
rptSTLRchBlank
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected

FORM II

LCS RESULTS

Date: 22-Jun-06

Lab Name: STL Richland

SDG: 31683

Lot-Sample No.: J6E230000-227

Report No. : 32442

Matrix: FILTER

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: 6143227	Work Order: H50N81AC			Report DB ID: H50N81CS									
U-234	0.935	=	0.15	0.22	0.0307	pCi/sample	102.37%	0.973	0.0058	96%	6/20/06 11:38 p	1.0	E908.0
							Rec Limits:			0.0		Sample	ALP71
U-238	1.04	=	0.16	0.24	0.0329	pCi/sample	102.37%	1.02	0.0061	102%	6/20/06 11:38 p	1.0	E908.0
							Rec Limits:			0.0		Sample	ALP71

Number of Results: 2

Comments:

STL Richland
rptSTLRchLcs
V4.15.0 A97

Bias - (Result/Expected)-1 as defined by ANSI N13.30.
= ERPIMS - Equal To, Analyte Detected

FORM II

LCS RESULTS

Date: 22-Jun-06

Lab Name: STL Richland

SDG: 31683

Lot-Sample No.: J6E230000-229

Report No. : 32442

Matrix: FILTER

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: 6143229	Work Order: H50PC1AC			Report DB ID: H50PC1CS									
TH-230	1.57	=	0.16	0.32	0.0112	pCi/sample	90.69%	1.85	0.061	85%	6/21/06 10:42 a	1.0	ISOTH
							Rec Limits:	70.	130.	-0.1		Sample	ALP120

Number of Results: 1

Comments:

STL Richland

rptSTLRchLcs
V4.15.0 A97

Bias - (Result/Expected)-1 as defined by ANSI N13.30.
= ERPIMS - Equal To, Analyte Detected

FORM II

LCS RESULTS

Date: 22-Jun-06

Lab Name: STL Richland

SDG: 31683

Lot-Sample No.: J6E230000-237

Report No. : 32442

Matrix: FILTER

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: 6143237	Work Order: H50PG1AC			Report DB ID: H50PG1CS									
ALPHA	1.91	=	0.30	0.49	0.108	pCi/sample	100.00%	2.38	0.075	81%	6/11/06 01:34 p	1.0	E900.0
						Rec Limits:				-0.2		Sample	GPC10B

Number of Results: 1

Comments:

STL Richland
rptSTLRchLcs
V4.15.0 A97

Bias - (Result/Expected)-1 as defined by ANSI N13.30.
= ERPIMS - Equal To, Analyte Detected

FORM II

LCS RESULTS

Date: 22-Jun-06

Lab Name: STL Richland

SDG: 31683

Lot-Sample No.: J6E230000-240

Report No. : 32442

Matrix: FILTER

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: 6143240	Work Order: H50PP1AC			Report DB ID: H50PP1CS									
BETA	3.80	=	0.46	0.67	0.528	pCi/sample	100.00%	4.59	0.037	83%	6/9/06 04:09 p	1.0	E900.0
						Rec Limits:				-0.2		Sample	GPC26D

Number of Results: 1

Comments:

STL Richland
rptSTLRchLcs
V4.15.0 A97

Bias - (Result/Expected)-1 as defined by ANSI N13.30.
= ERPIMS - Equal To, Analyte Detected

FORM II

LCS RESULTS

Date: 22-Jun-06

Lab Name: STL Richland

SDG: 31683

Lot-Sample No.: J6E230000-242

Report No. : 32442

Matrix: FILTER

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: 6143242	Work Order: H50P11AC			Report DB ID: H50P11CS									
RA-226	1.57	=	0.28	0.44	0.186	pCi/sample	93.29%	1.39	0.021	113%	6/18/06 08:06 p	1.0	E903.1
							Rec Limits:	70.	130.	0.1		Sample	ASCQMA

Number of Results: 1

Comments:

STL Richland

rptSTLRchLcs
V4.15.0 A97

Bias - (Result/Expected)-1 as defined by ANSI N13.30.
= ERPIMS - Equal To, Analyte Detected

FORM II

LCS RESULTS

Date: 22-Jun-06

Lab Name: STL Richland

SDG: 31683

Lot-Sample No.: J6E230000-287

Report No. : 32442

Matrix: FILTER

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: 6143287	Work Order: H50TF1AC			Report DB ID: H50TF1CS									
RA-228	4.75	=	0.51	0.74	0.414	pCi/sample	84.61%	5.15	0.021	92%	6/21/06 07:21 a	1.0	E904.0
							Rec Limits:	70.	130.	-0.1		Sample	GPC4D

Number of Results: 1

Comments:

STL Richland
rptSTLRchLcs
V4.15.0 A97

Bias - (Result/Expected)-1 as defined by ANSI N13.30.
= ERPIMS - Equal To, Analyte Detected

CHAIN OF CUSTODY

BROWN AND CALDWELL

CHAIN OF CUSTODY RECORD

COC No._____

J6E170306
31683
Due 6.14.06

☐ 3264 Goni Road / Suite 153
Carson City, NV 89706
775-883-4118 / FAX 775-883-5108

☐ 4425 W. Spring Mountain Road / Suite 225
Las Vegas, NV 89102
702-938-4080 / FAX 702-938-4082

☐ 201 East Washington Street / Suite 500
Phoenix, AZ 85004
602-567-4000 / FAX 602-567-4001

PROJECT NAME: Yerington Air City

LABORATORY NAME & ADDRESS: SEVERN TRENT LABS. WEST SACRAMENTO,

PROJECT NUMBER: 121243

1/6 OF THE EXPOSED FILTER WAS UTILIZED FOR THE METALS ANALYSIS. SACRAMENTO LOT # G6E080132

LINE NO.	SAMPLE – I.D.	COLLECTION DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF CONTAINERS	CONTAINER SIZE AND TYPE	PRESER-VATIVE	MATRIX CODE	ANALYSES REQUESTED	FIELD FILTERED	QC – REQ	TAT	SAMPLING METHOD	DEPTH (FT.) BEGIN ---- END	PID READING (ppm)
01	000443	5/4/06	12:10	MS	1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H5KQR					----	
02	000444		12:15		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H5KQ4					----	
03	000445		11:10		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H5KQ8					----	
04	000446		11:25		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H5KRC					----	
05	000447		10:30		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H5KRF					----	
06	000448		10:50		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H5KRG					----	
07	000449		11:30		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H5KRJ					----	
08														----	
09														----	
10														----	

COLLECTED & RELEASED BY:	DATE	TIME	COOLER I.D.:	DATE	TIME	COMMENTS (see note on back):
[illegible]	5/5/06	16:00				
RECEIVED BY:	DATE	TIME	RELINQUISHED BY:	DATE	TIME	
[illegible]	5/8/06	10:15	Steve Valmoy	5/16/06	1600	RECEIVED IN GOOD CONDITION UNDER COC
S. Welch	5-17-06	10:00				MAY - 8 2006
RECORD RETURNED BY:	DATE / /	TIME :				
COURIER: FED EX			SHIPPING NUMBER: [illegible]			INT: [illegible]

DISTRIBUTION: WHITE – PROJECT FILE • CANARY – LAB RECEIPT • PINK – DATA MANAGEMENT • GOLDENROD – FIELD

USE A BALLPOINT PEN, BLACK INK, AND PRESS FIRMLY. INSTRUCTIONS ARE ON THE BACK.

STL RICHLAND

55

BROWN AND CALDWELL

CHAIN OF CUSTODY RECORD

COC No._____

56

[illegible]
3/6/83
Dec 6 14:06

☒ 3264 Goni Road / Suite 153
Carson City, NV 89706
775-883-4118 / FAX 775-883-5108

☐ 4425 W. Spring Mountain Road / Suite 225
Las Vegas, NV 89102
702-938-4080 / FAX 702-938-4082

☐ 201 East Washington Street / Suite 500
Phoenix, AZ 85004
602-567-4000 / FAX 602-567-4001

PROJECT NAME: Yerington Air Qty	LABORATORY NAME & ADDRESS: SEVERN TRENT LABS, WEST SACRAMENTO
PROJECT NUMBER: 121243	

1/6 OF THE EXPOSED FILTER WAS UTILIZED FOR THE METALS ANALYSIS. SACRAMENTO LOT # G6E080132

LINE NO.	SAMPLE – I.D.	COLLECTION DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF CONTAINERS	CONTAINER SIZE AND TYPE	PRESER-VATIVE	MATRIX CODE	ANALYSES REQUESTED	FIELD FILTERED	QC – REQ	~~TAT~~	SAMPLING METHOD	DEPTH (FT.) BEGIN END	PID READING (ppm)
01	P-0614	5/4/06	12:00	MS	1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H5KRL					----	
02	P-0615		12:20		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H5KRR					----	
03	P-0616		11:05		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H5KRV					----	
04	P-0617		11:20		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H5KRX					----	
05	P-0618		10:35		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H5KR2					----	
06	P-0619		10:45		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H5KR4					----	
07	P-0620		12:05		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H5KR6					----	
08														----	
09														----	
10														----	

COLLECTED & RELEASED BY: [illegible]	DATE 5/5/06	TIME 16:00	COOLER I.D.:			COMMENTS (see note on back):
RECEIVED BY: [illegible]	DATE 5/5/06	TIME 10:15	RELINQUISHED BY: S Valmore	DATE / / 5/12/06	TIME : 1600	RECEIVED IN GOOD CONDITION UNDER COC MAY 8 2006 INT.
S Welch	5/17/06	10:00				
RECORD RETURNED BY:	DATE / /	TIME :				
COURIER: FEDEX			SHIPPING NUMBER: 7947137740			

DISTRIBUTION: WHITE – PROJECT FILE • CANARY – LAB RECEIPT • PINK – DATA MANAGEMENT • GOLDENROD – FIELD

USE A BALLPOINT PEN, BLACK INK, AND PRESS FIRMLY. INSTRUCTIONS ARE ON THE BACK.

STL RICHLAND

SEVERN TRENT STL

Sample Check-in List

Date/Time Received: 5/17/06 10:00

Client: BROWN3 Caldwell SDG#: 31683 NA [ ] SAF #: _____ NA [ ]

Work Order Number: J6E170306 Chain of Custody # _____

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: 14
7. Sample holding times exceeded? NA [✓] Yes [ ] No [ ]
8. Samples have:
   _____tape
   _____custody seals
   _____hazard labels
   ✓ appropriate samples labels
9. Samples are:
   ✓ 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: S. Welch Date: 5/16/06 10:00

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

THORIUM

SAMPLE AND QC DATA

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

6/22/2006 10:43:12 AM

Lot No., Due Date: J6E170306; 06/14/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6143229; RTHISO Thlso by ALP

SDG, Matrix: 31683; FILTER

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 Pam Richmond **Date** 6-22-06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 143229

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. Allen Date: 6-22-06

STL RICHLAND

6/5/2006 11:55:00 AM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell , Brown & Caldwell

9N ThIso PrpRc5016, SepRC~~5084~~ 5087(5003) J-C 6/6/06
S1 Thorium-228,230,232 by Alpha Spec
01 STANDARD TEST SET

Pipet #: _____

AnalyDueDate: 06/13/2006

Sep1 DT/Tm Tech:

Batch: 6143229 FILTER pCi/sampl PM, Quote: SA , 63174

Sep2 DT/Tm Tech: 6-20-06 [illegible]

SEQ Batch, Test: None

Prep Tech: HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
171 1 H5KQR-1-AA J6E170306-1-SAMP 05/04/2006 12:10 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	508.50sa,g	50.10g,in	0.0821g	THTF0573 06/02/06,pd 05/23/05,r	500	Scr:	Alpha:	Beta:	
172 2 H5KQ4-1-AA J6E170306-2-SAMP 05/04/2006 12:15 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	502.88sa,g	50.03g,in	0.0829g	THTF0574 06/02/06,pd 05/23/05,r		Scr:	Alpha:	Beta:	
173 3 H5KQ8-1-AA J6E170306-3-SAMP 05/04/2006 23:10 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	500.47sa,g	50.24g,in	0.0836g	THTF0575 06/02/06,pd 05/23/05,r		Scr:	Alpha:	Beta:	
174 4 H5KRC-1-AA J6E170306-4-SAMP 05/04/2006 23:25 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	501.28sa,g	50.13g,in	0.0833g	THTF0576 06/02/06,pd 05/23/05,r		Scr:	Alpha:	Beta:	
175 5 H5KRF-1-AA J6E170306-5-SAMP 05/04/2006 10:30 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	502.19sa,g	50.20g,in	0.0833g	THTF0577 06/02/06,pd 05/23/05,r		Scr:	Alpha:	Beta:	
176 6 H5KRG-1-AA J6E170306-6-SAMP 05/04/2006 10:50 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	500.90sa,g	50.15g,in	0.0834g	THTF0578 06/02/06,pd 05/23/05,r		Scr:	Alpha:	Beta:	
177 7 H5KRJ-1-AA J6E170306-7-SAMP 05/04/2006 11:30 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	502.17sa,g	50.02g,in	0.083g	THTF0579 06/02/06,pd 05/23/05,r		Scr:	Alpha:	Beta:	

STL RICHLAND

6/5/2006 11:55:01 AM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell , Brown & Caldwell

9N ThIso PrpRc5016, SepRC5084(5003)
S1 Thorium-228,230,232 by Alpha Spec
01 STANDARD TEST SET

Pipet #: _____

AnalyDueDate: 06/13/2006

Sep1 DT/Tm Tech:

Batch: 6143229 FILTER pCi/sampl PM, Quote: SA , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 H5KRL-1-AA J6E170306-8-SAMP 05/04/2006 12:00 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	506.92sa,g	50.26g,in	0.0826g	THTF0580 06/02/06,pd 05/23/05,r			Scr:	Alpha:	Beta:
9 H5KRR-1-AA J6E170306-9-SAMP 05/04/2006 12:20 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	501.37sa,g	50.22g,in	0.0834g	THTF0581 06/02/06,pd 05/23/05,r			Scr:	Alpha:	Beta:
10H5KRV-1-AA J6E170306-10-SAMP 05/04/2006 11:05 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	500.80sa,g	50.46g,in	0.0839g	THTF0582 06/02/06,pd 05/23/05,r			Scr:	Alpha:	Beta:
11 H5KRX-1-AA J6E170306-11-SAMP 05/04/2006 11:20 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	506.72sa,g	50.12g,in	0.0824g	THTF0583 06/02/06,pd 05/23/05,r			Scr:	Alpha:	Beta:
12H5KR2-1-AA J6E170306-12-SAMP 05/04/2006 10:35 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	500.34sa,g	50.20g,in	0.0836g	THTF0584 06/02/06,pd 05/23/05,r			Scr:	Alpha:	Beta:
13H5KR4-1-AA J6E170306-13-SAMP 05/04/2006 10:45 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	500.12sa,g	50.27g,in	0.0837g	THTF0585 06/02/06,pd 05/23/05,r			Scr:	Alpha:	Beta:
14H5KR6-1-AA J6E170306-14-SAMP 05/04/2006 12:05 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	507.20sa,g	50.04g,in	0.0822g	THTF0586 06/02/06,pd 05/23/05,r			Scr:	Alpha:	Beta:

62

STL RICHLAND

6/5/2006 11:55:01 AM

Sample Preparation/Analysis

9N Thlso PrpRc5016, SepRC5084(5003)
S1 Thorium-228,230,232 by Alpha Spec
01 STANDARD TEST SET

Balance Id:1120373922
Pipet #: _____
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech: ,HansenM

AnalyDueDate: 06/13/2006

Batch: 6143229 pCi/sampl
SEQ Batch, Test: None

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
15H50PC-1-AA-B J6E230000-229-BLK 05/04/2006 12:10			1.00sa,in	1.00sa	THTF0587 06/02/06,pd 05/23/05,r					
		AmtRec:	#Containers: 1				Scr:	Alpha:		Beta:
16H50PC-1-AC-C J6E230000-229-LCS 05/04/2006 12:10			1.00sa,in	1.00sa	THSO0074 06/02/06,pd 01/28/04,r					
		AmtRec:	#Containers: 1				Scr:	Alpha:		Beta:

Comments:

All Clients for Batch:
536403, Brown and Caldwell Brown & Caldwell , SA , 63174

H5KQR1AA-SAMP Constituent List:

Th-228	RDL:1	pCi/sam	LCL:	UCL:	RPD:	Th-230	RDL:1	pCi/sam	LCL:	UCL:	RPD:
Th-232	RDL:1	pCi/sam	LCL:	UCL:	RPD:	Th-234	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20

H50PC1AA-BLK:

Th-228	RDL:1	pCi/sam	LCL:	UCL:	RPD:	Th-230	RDL:1	pCi/sam	LCL:	UCL:	RPD:
Th-232	RDL:1	pCi/sam	LCL:	UCL:	RPD:	Th-234	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20

H50PC1AC-LCS:

Th-230	RDL:1	pCi/sam	LCL:70	UCL:130	RPD:20	Th-234	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20

H5KQR1AA-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H50PC1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H50PC1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

6/22/2006 9:03:05 AM

ICOC Fraction Transfer/Status Report

ByDate: 6/22/2005, 6/27/2006, Batch: '6143229', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6143229						
AC		**CalcC**	**HansenM**	6/5/2006 3:55:36 PM		
SC			hansenm	IsBatched	5/31/2006 11:48:09 AM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	6/5/2006 3:55:36 PM	RICH-RC-5016 REVISION 5
SC			HansenM	Prep2C	6/5/2006 3:57:12 PM	RICH-RC-5016 REVISION 5
SC			AndersonE	Sep1C	6/15/2006 2:27:36 PM	RICH-RC-5087 REV 0
SC			FABREM	Sep2C	6/20/2006 5:52:28 PM	RICH-RC-5039 REV 6
SC			DAWKINSO	InCnt1	6/20/2006 6:22:41 PM	RICH-RD-0008 REVISION 4
SC			DAWKINSO	CalcC	6/21/2006 9:08:58 PM	RICH-RD-0008 REVISION 4
AC			**HansenM**	6/5/2006 3:57:12 PM		
AC			**AndersonE**	6/15/2006 2:27:36 PM		
AC			**FABREM**	6/20/2006 5:52:28 PM		
AC			**DAWKINSO**	6/20/2006 6:22:41 PM		
AC			**DAWKINSO**	6/21/2006 9:08:58 PM		rEVISION 4

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 6

ICOCFractions v4.8.18

6/22/2006 9:03:04 AM

Rpt DB Transfer log (Batch Results)

SEVERN TRENT STL

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Mda	Sample Date / Units	Expected	Yield	Volumes
31683	**9H5KQ410**			**J6E1703062**	000444	FILTER	5/17/2006 10:00:00		5/4/2006 12:15:00 PM			
ALPHA	BAS7		0	6/10/2006 8:56:31 AM	**-8.8661E-01**	6.832E-01	6.894E-01	5.657E+00	PCI/SA	1.0	1.0E+0	2.094E-2
BETA	BDS8		0	6/9/2006 2:07:59 PM	**1.8388E+01**	2.097E+00	2.455E+00	6.372E+00	PCI/SA	1.0	1.0E+0	3.309E-2
RA-226	BXTE		0	6/18/2006 5:03:00 PM	**1.3353E-01**	2.129E-01	2.134E-01	7.847E-01	PCI/SA	0.985	8.33E-1	2.485E-1
RA-228	BXTF		0	6/21/2006 6:29:15 AM	**3.1343E+00**	5.695E-01	6.244E-01	2.249E+00	PCI/SA	0.89	1.0E+0	2.485E-1
TH-228	9NS1		0	6/21/2006 2:01:25 AM	**-4.8565E-02**	6.868E-02	6.882E-02	4.51E-01	PCI/SA	0.79	1.0E+0	3.287E-2
TH-230	9NS1		0	6/21/2006 2:01:25 AM	**3.4503E-01**	1.321E-01	1.358E-01	2.759E-01	PCI/SA	0.79	1.0E+0	3.287E-2
TH-232	9NS1		0	6/21/2006 2:01:25 AM	**9.2007E-02**	6.506E-02	6.559E-02	1.247E-01	PCI/SA	0.79	1.0E+0	3.287E-2
U-234	7YSR		0	6/20/2006 11:35:05 PM	**0.0E+00**	0.0E+00	1.363E-01	3.016E-01	PCI/SA	0.897	1.0E+0	3.232E-2
U-235	7YSR		0	6/20/2006 11:35:05 PM	**-2.2265E-02**	2.227E-02	2.234E-02	5.331E-01	PCI/SA	0.897	1.0E+0	3.232E-2
U-238	7YSR		0	6/20/2006 11:35:05 PM	**-1.8548E-05**	1.219E-01	1.219E-01	8.193E-01	PCI/SA	0.897	1.0E+0	3.232E-2
31683	**9H5KQ810**			**J6E1703063**	000445	FILTER	5/17/2006 10:00:00		5/4/2006 11:10:00 PM			
ALPHA	BAS7		0	6/10/2006 8:56:31 AM	**1.0276E+00**	1.657E+00	1.66E+00	7.714E+00	PCI/SA	1.0	1.0E+0	2.119E-2
BETA	BDS8		0	6/9/2006 2:07:59 PM	**1.4485E+01**	1.96E+00	2.193E+00	6.353E+00	PCI/SA	1.0	1.0E+0	3.332E-2
RA-226	BXTE		0	6/18/2006 5:06:00 PM	**1.5586E-01**	2.222E-01	2.228E-01	8.092E-01	PCI/SA	1.087	8.33E-1	2.504E-1
RA-228	BXTF		0	6/21/2006 6:29:15 AM	**2.7691E+00**	4.593E-01	5.154E-01	1.741E+00	PCI/SA	0.967	1.0E+0	2.504E-1
TH-228	9NS1		0	6/21/2006 2:01:25 AM	**1.7813E-01**	1.284E-01	1.296E-01	4.274E-01	PCI/SA	0.63	1.0E+0	3.362E-2
TH-230	9NS1		0	6/21/2006 2:01:25 AM	**1.6876E-01**	1.217E-01	1.228E-01	4.049E-01	PCI/SA	0.63	1.0E+0	3.362E-2
TH-232	9NS1		0	6/21/2006 2:01:25 AM	**3.3753E-02**	7.547E-02	7.554E-02	4.049E-01	PCI/SA	0.63	1.0E+0	3.362E-2
U-234	7YSR		0	6/20/2006 11:35:16 PM	**-5.2515E-05**	1.151E-01	1.151E-01	7.732E-01	PCI/SA	0.912	1.0E+0	3.243E-2
U-235	7YSR		0	6/20/2006 11:35:16 PM	**4.1984E-02**	1.112E-01	1.112E-01	6.631E-01	PCI/SA	0.912	1.0E+0	3.243E-2
U-238	7YSR		0	6/20/2006 11:35:16 PM	**-2.1071E-02**	1.17E-01	1.17E-01	8.198E-01	PCI/SA	0.912	1.0E+0	3.243E-2
31683	**9H5KQR10**			**J6E1703061**	000443	FILTER	5/17/2006 10:00:00		5/4/2006 12:10:00 PM			
ALPHA	BAS7		0	6/10/2006 8:56:31 AM	**2.9595E+00**	1.6E+00	1.629E+00	5.595E+00	PCI/SA	1.0	1.0E+0	2.049E-2
BETA	BDS8		0	6/9/2006 2:07:59 PM	**1.8558E+01**	2.115E+00	2.487E+00	6.552E+00	PCI/SA	1.0	1.0E+0	3.219E-2
RA-226	BXTE		0	6/18/2006 5:06:00 PM	**3.7852E-01**	1.545E-01	1.596E-01	4.51E-01	PCI/SA	0.938	8.33E-1	2.462E-1
RA-228	BXTF		0	6/21/2006 6:29:15 AM	**1.4499E+00**	5.732E-01	6.15E-01	2.622E+00	PCI/SA	0.824	1.0E+0	2.462E-1
TH-228	9NS1		0	6/21/2006 2:01:25 AM	**2.7632E-01**	1.595E-01	1.616E-01	5.161E-01	PCI/SA	0.65	1.0E+0	3.207E-2
TH-230	9NS1		0	6/21/2006 2:01:25 AM	**1.7449E-01**	1.007E-01	1.021E-01	1.576E-01	PCI/SA	0.65	1.0E+0	3.207E-2
TH-232	9NS1		0	6/21/2006 2:01:25 AM	**2.9083E-02**	6.503E-02	6.509E-02	3.489E-01	PCI/SA	0.65	1.0E+0	3.207E-2
U-234	7YSR		0	6/20/2006 11:34:56 PM	**-4.3929E-02**	3.106E-02	3.127E-02	6.205E-01	PCI/SA	0.91	1.0E+0	3.158E-2
U-235	7YSR		0	6/20/2006 11:34:56 PM	**-2.1964E-02**	2.196E-02	2.204E-02	5.259E-01	PCI/SA	0.91	1.0E+0	3.158E-2
U-238	7YSR		0	6/20/2006 11:34:56 PM	**6.5871E-02**	1.141E-01	1.142E-01	6.205E-01	PCI/SA	0.91	1.0E+0	3.158E-2
31683	**9H5KR210**			**J6E17030612**	P-0618	FILTER	5/17/2006 10:00:00		5/4/2006 10:35:00 AM			
ALPHA	BAS7		0	6/10/2006 12:41:20 PM	**1.3347E+00**	1.307E+00	1.314E+00	5.677E+00	PCI/SA	1.0	1.0E+0	2.084E-2
BETA	BDS8		0	6/9/2006 2:08:11 PM	**1.9537E+01**	2.063E+00	2.467E+00	6.118E+00	PCI/SA	1.0	1.0E+0	3.344E-2
RA-226	BXTE		0	6/18/2006 5:45:00 PM	**2.0616E-01**	1.338E-01	1.356E-01	4.504E-01	PCI/SA	0.966	8.33E-1	2.502E-1
RA-228	BXTF		0	6/21/2006 7:26:01 AM	**2.1852E+00**	4.167E-01	4.476E-01	1.464E+00	PCI/SA	0.873	1.0E+0	2.502E-1
TH-228	9NS1		0	6/21/2006 2:02:22 AM	**1.4685E-01**	9.361E-02	9.454E-02	3.153E-01	PCI/SA	0.681	1.0E+0	3.358E-2
TH-230	9NS1		0	6/21/2006 2:02:22 AM	**5.825E-01**	1.633E-01	1.716E-01	2.744E-01	PCI/SA	0.681	1.0E+0	3.358E-2
TH-232	9NS1		0	6/21/2006 2:02:22 AM	**0.0E+00**	0.0E+00	5.324E-02	1.178E-01	PCI/SA	0.681	1.0E+0	3.358E-2
U-234	7YSR		0	6/20/2006 11:37:03 PM	**-2.2262E-02**	2.226E-02	2.234E-02	5.331E-01	PCI/SA	0.881	1.0E+0	3.252E-2
U-235	7YSR		0	6/20/2006 11:37:03 PM	**0.0E+00**	0.0E+00	1.363E-01	3.016E-01	PCI/SA	0.881	1.0E+0	3.252E-2
U-238	7YSR		0	6/20/2006 11:37:03 PM	**0.0E+00**	0.0E+00	1.363E-01	3.016E-01	PCI/SA	0.881	1.0E+0	3.252E-2
31683	**9H5KR410**			**J6E17030613**	P-0619	FILTER	5/17/2006 10:00:00		5/4/2006 10:45:00 AM			
ALPHA	BAS7		0	6/10/2006 12:41:20 PM	**2.5934E+00**	1.899E+00	1.917E+00	7.787E+00	PCI/SA	1.0	1.0E+0	2.097E-2
BETA	BDS8		0	6/9/2006 2:08:11 PM	**1.2783E+01**	1.846E+00	2.174E+00	6.103E+00	PCI/SA	1.0	1.0E+0	3.333E-2
RA-226	BXTE		0	6/18/2006 5:42:02 PM	**2.8573E-01**	1.521E-01	1.547E-01	4.976E-01	PCI/SA	0.986	8.33E-1	2.506E-1
RA-228	BXTF		0	6/21/2006 7:26:01 AM	**3.7422E+00**	5.228E-01	5.817E-01	1.692E+00	PCI/SA	0.857	1.0E+0	2.506E-1
TH-228	9NS1		0	6/21/2006 2:02:32 AM	**7.7147E-02**	1.22E-01	1.222E-01	5.677E-01	PCI/SA	0.585	1.0E+0	3.373E-2
TH-230	9NS1		0	6/21/2006 2:02:32 AM	**3.6532E-01**	1.634E-01	1.672E-01	1.98E-01	PCI/SA	0.585	1.0E+0	3.373E-2
TH-232	9NS1		0	6/21/2006 2:02:32 AM	**7.3063E-02**	7.306E-02	7.341E-02	1.98E-01	PCI/SA	0.585	1.0E+0	3.373E-2

6143229, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 14,
**Results Inserted | ReTestInserted | Updated | NotInserted => 46 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H50PC1AA=> , mat:FILTER | Air *wo:H50PC1AA=> , mat:FILTER | Air *wo:H50PC1AA=> , mat:FILTER | Air.

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Mda	Sample Date / Units	Expected	Yield	Volumes
U-234	7YSR	0		6/20/2006 11:37:45 PM	**2.387E-01**	2.127E-01	2.137E-01	8.433E-01	PCI/SA	0.93	1.0E+0	3.274E-2
U-235	7YSR	0		6/20/2006 11:37:45 PM	**-1.1943E-02**	1.194E-02	1.199E-02	6.007E-01	PCI/SA	0.93	1.0E+0	3.274E-2
U-238	7YSR	0		6/20/2006 11:37:45 PM	**2.9842E-01**	2.11E-01	2.125E-01	4.044E-01	PCI/SA	0.93	1.0E+0	3.274E-2
31683	**9H5KR610**			**J6E17030614**	P-0620	FILTER	5/17/2006 10:00:00		5/4/2006 12:05:00 PM			
ALPHA	BAS7	0		6/10/2006 12:41:20 PM	**2.9338E+00**	1.763E+00	1.788E+00	6.643E+00	PCI/SA	1.0	1.0E+0	2.069E-2
BETA	BDS8	0		6/9/2006 2:08:11 PM	**1.158E+01**	1.99E+00	2.157E+00	7.045E+00	PCI/SA	1.0	1.0E+0	3.254E-2
RA-226	BXTE	0		6/18/2006 5:43:00 PM	**-5.4494E-02**	1.262E-01	1.263E-01	5.355E-01	PCI/SA	0.965	8.33E-1	2.467E-1
RA-228	BXTF	0		6/21/2006 7:26:01 AM	**2.1036E+00**	4.43E-01	4.675E-01	1.614E+00	PCI/SA	0.841	1.0E+0	2.467E-1
TH-228	9NS1	0		6/21/2006 2:02:45 AM	**3.6281E-01**	1.511E-01	1.547E-01	3.815E-01	PCI/SA	0.927	1.0E+0	3.218E-2
TH-230	9NS1	0		6/21/2006 2:02:45 AM	**9.8188E-02**	6.943E-02	7.0E-02	1.33E-01	PCI/SA	0.927	1.0E+0	3.218E-2
TH-232	9NS1	0		6/21/2006 2:02:45 AM	**4.9094E-02**	4.909E-02	4.93E-02	1.33E-01	PCI/SA	0.927	1.0E+0	3.218E-2
U-234	7YSR	0		6/20/2006 11:37:55 PM	**-4.6242E-02**	3.27E-02	3.291E-02	6.532E-01	PCI/SA	0.928	1.0E+0	3.157E-2
U-235	7YSR	0		6/20/2006 11:37:55 PM	**0.0E+00**	0.0E+00	1.416E-01	3.132E-01	PCI/SA	0.928	1.0E+0	3.157E-2
U-238	7YSR	0		6/20/2006 11:37:55 PM	**0.0E+00**	0.0E+00	1.416E-01	3.132E-01	PCI/SA	0.928	1.0E+0	3.157E-2
31683	**9H5KRC10**			**J6E1703064**	000446	FILTER	5/17/2006 10:00:00		5/4/2006 11:25:00 PM			
ALPHA	BAS7	0		6/10/2006 8:56:31 AM	**1.7865E+00**	1.555E+00	1.566E+00	6.574E+00	PCI/SA	1.0	1.0E+0	2.092E-2
BETA	BDS8	0		6/9/2006 2:07:57 PM	**1.5346E+01**	1.94E+00	2.214E+00	6.154E+00	PCI/SA	1.0	1.0E+0	3.43E-2
RA-226	BXTE	0		6/18/2006 5:04:00 PM	**-7.7853E-02**	1.694E-01	1.696E-01	6.902E-01	PCI/SA	0.994	8.33E-1	2.499E-1
RA-228	BXTF	0		6/21/2006 6:29:15 AM	**2.4174E+00**	4.914E-01	5.103E-01	1.811E+00	PCI/SA	0.885	1.0E+0	2.499E-1
TH-228	9NS1	0		6/21/2006 2:01:25 AM	**2.7851E-02**	6.228E-02	6.233E-02	3.341E-01	PCI/SA	0.827	1.0E+0	3.33E-2
TH-230	9NS1	0		6/21/2006 2:01:25 AM	**2.6387E-01**	1.18E-01	1.205E-01	1.43E-01	PCI/SA	0.827	1.0E+0	3.33E-2
TH-232	9NS1	0		6/21/2006 2:01:25 AM	**7.9161E-02**	7.916E-02	7.95E-02	3.165E-01	PCI/SA	0.827	1.0E+0	3.33E-2
U-234	7YSR	0		6/20/2006 11:35:28 PM	**1.5368E-01**	1.598E-01	1.603E-01	6.93E-01	PCI/SA	0.864	1.0E+0	3.253E-2
U-235	7YSR	0		6/20/2006 11:35:28 PM	**6.5859E-02**	1.141E-01	1.142E-01	6.204E-01	PCI/SA	0.864	1.0E+0	3.253E-2
U-238	7YSR	0		6/20/2006 11:35:28 PM	**-8.7846E-02**	4.392E-02	4.45E-02	7.542E-01	PCI/SA	0.864	1.0E+0	3.253E-2
31683	**9H5KRF10**			**J6E1703065**	000447	FILTER	5/17/2006 10:00:00		5/4/2006 10:30:00 AM			
ALPHA	BAS7	0		6/10/2006 10:49:19	**2.0716E+00**	1.828E+00	1.84E+00	7.789E+00	PCI/SA	1.0	1.0E+0	2.087E-2
BETA	BDS8	0		6/9/2006 2:07:57 PM	**2.4139E+01**	2.255E+00	2.988E+00	6.538E+00	PCI/SA	1.0	1.0E+0	3.362E-2
RA-226	BXTE	0		6/18/2006 5:04:00 PM	**-2.7322E-02**	1.393E-01	1.393E-01	6.031E-01	PCI/SA	1.104	8.33E-1	2.495E-1
RA-228	BXTF	0		6/21/2006 7:25:39 AM	**2.4817E+00**	4.228E-01	4.573E-01	1.402E+00	PCI/SA	0.975	1.0E+0	2.495E-1
TH-228	9NS1	0		6/21/2006 2:01:25 AM	**1.5989E-01**	9.374E-02	9.48E-02	2.942E-01	PCI/SA	0.974	1.0E+0	3.327E-2
TH-230	9NS1	0		6/21/2006 2:01:25 AM	**2.2717E-01**	1.037E-01	1.056E-01	2.787E-01	PCI/SA	0.974	1.0E+0	3.327E-2
TH-232	9NS1	0		6/21/2006 2:01:25 AM	**7.5723E-02**	5.354E-02	5.396E-02	1.026E-01	PCI/SA	0.974	1.0E+0	3.327E-2
U-234	7YSR	0		6/20/2006 11:35:39 PM	**-8.378E-02**	1.221E-01	1.223E-01	9.371E-01	PCI/SA	0.881	1.0E+0	3.225E-2
U-235	7YSR	0		6/20/2006 11:35:39 PM	**-2.0944E-02**	2.094E-02	2.101E-02	5.016E-01	PCI/SA	0.881	1.0E+0	3.225E-2
U-238	7YSR	0		6/20/2006 11:35:39 PM	**2.0943E-02**	1.128E-01	1.128E-01	7.193E-01	PCI/SA	0.881	1.0E+0	3.225E-2
31683	**9H5KRG10**			**J6E1703066**	000448	FILTER	5/17/2006 10:00:00		5/4/2006 10:50:00 AM			
ALPHA	BAS7	0		6/10/2006 10:49:19	**1.2809E+00**	1.254E+00	1.261E+00	5.448E+00	PCI/SA	1.0	1.0E+0	2.105E-2
BETA	BDS8	0		6/9/2006 2:07:57 PM	**1.6696E+01**	2.066E+00	2.49E+00	6.57E+00	PCI/SA	1.0	1.0E+0	3.373E-2
RA-226	BXTE	0		6/18/2006 5:05:00 PM	**5.0386E-01**	2.498E-01	2.559E-01	8.274E-01	PCI/SA	1.123	8.33E-1	2.496E-1
RA-228	BXTF	0		6/21/2006 7:25:39 AM	**3.3673E+00**	4.731E-01	5.188E-01	1.478E+00	PCI/SA	0.999	1.0E+0	2.496E-1
TH-228	9NS1	0		6/21/2006 2:01:25 AM	**6.5352E-07**	4.797E-02	4.797E-02	2.883E-01	PCI/SA	1.072	1.0E+0	3.34E-2
TH-230	9NS1	0		6/21/2006 2:01:25 AM	**3.1537E-01**	1.128E-01	1.162E-01	2.225E-01	PCI/SA	1.072	1.0E+0	3.34E-2
TH-232	9NS1	0		6/21/2006 2:01:25 AM	**-1.8551E-02**	1.855E-02	1.862E-02	2.225E-01	PCI/SA	1.072	1.0E+0	3.34E-2
U-234	7YSR	0		6/20/2006 11:35:49 PM	**1.0679E-01**	1.068E-01	1.071E-01	2.894E-01	PCI/SA	0.899	1.0E+0	3.236E-2
U-235	7YSR	0		6/20/2006 11:35:49 PM	**-4.2731E-02**	3.022E-02	3.041E-02	6.035E-01	PCI/SA	0.899	1.0E+0	3.236E-2
U-238	7YSR	0		6/20/2006 11:35:49 PM	**8.5425E-02**	1.089E-01	1.091E-01	5.115E-01	PCI/SA	0.899	1.0E+0	3.236E-2
31683	**9H5KRJ10**			**J6E1703067**	000449	FILTER	5/17/2006 10:00:00		5/4/2006 11:30:00 AM			
ALPHA	BAS7	0		6/10/2006 10:49:19	**1.8858E+00**	1.416E+00	1.43E+00	5.662E+00	PCI/SA	1.0	1.0E+0	2.09E-2
BETA	BDS8	0		6/9/2006 2:07:59 PM	**1.466E+01**	1.97E+00	2.23E+00	6.45E+00	PCI/SA	1.0	1.0E+0	3.301E-2
RA-226	BXTE	0		6/18/2006 5:03:00 PM	**1.7732E-01**	1.181E-01	1.197E-01	4.009E-01	PCI/SA	1.058	8.33E-1	2.489E-1
RA-228	BXTF	0		6/21/2006 7:25:39 AM	**3.7028E+00**	5.151E-01	5.649E-01	1.595E+00	PCI/SA	0.954	1.0E+0	2.489E-1
TH-228	9NS1	0		6/21/2006 2:01:25 AM	**0.0E+00**	0.0E+00	6.694E-02	1.481E-01	PCI/SA	0.804	1.0E+0	3.297E-2
TH-230	9NS1	0		6/21/2006 2:01:25 AM	**0.0E+00**	0.0E+00	6.34E-02	1.403E-01	PCI/SA	0.804	1.0E+0	3.297E-2

6143229, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 14,
**Results Inserted | ReTestInserted | Updated | NotInserted => 46 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H50PC1AA=> , mat:FILTER | Air *wo:H50PC1AA=> , mat:FILTER | Air *wo:H50PC1AA=> , mat:FILTER | Air.

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Sample Date / Mda	Units	Expected	Yield	Volumes	
TH-232	9NS1	0		6/21/2006 2:01:25 AM	**-2.5883E-02**	2.588E-02	2.599E-02	3.105E-01	PCI/SA		0.804	1.0E+0	3.297E-2
U-234	7YSR	0		6/20/2006 11:35:58 PM	**0.0E+00**	0.0E+00	1.216E-01	2.692E-01	PCI/SA		1.038	1.0E+0	3.24E-2
U-235	7YSR	0		6/20/2006 11:35:58 PM	**0.0E+00**	0.0E+00	1.216E-01	2.692E-01	PCI/SA		1.038	1.0E+0	3.24E-2
U-238	7YSR	0		6/20/2006 11:35:58 PM	**9.9318E-02**	9.932E-02	9.964E-02	2.692E-01	PCI/SA		1.038	1.0E+0	3.24E-2
31683	**9H5KRL10**			**J6E1703068**	P-0614	FILTER	5/17/2006 10:00:00	5/4/2006 12:00:00 PM					
ALPHA	BAS7	0		6/10/2006 10:49:19	**5.2837E-01**	1.62E+00	1.621E+00	7.932E+00	PCI/SA		1.0	1.0E+0	2.062E-2
BETA	BDS8	0		6/9/2006 2:07:59 PM	**1.4517E+01**	1.943E+00	2.303E+00	6.345E+00	PCI/SA		1.0	1.0E+0	3.271E-2
RA-226	BXTE	0		6/18/2006 5:02:00 PM	**1.6434E-01**	1.591E-01	1.601E-01	5.71E-01	PCI/SA		1.037	8.33E-1	2.466E-1
RA-228	BXTF	0		6/21/2006 7:20:48 AM	**5.8088E+00**	5.904E-01	7.082E-01	1.536E+00	PCI/SA		0.931	1.0E+0	2.466E-1
TH-228	9NS1	0		6/21/2006 2:01:25 AM	**1.4754E-01**	1.043E-01	1.053E-01	1.999E-01	PCI/SA		0.499	1.0E+0	3.259E-2
TH-230	9NS1	0		6/21/2006 2:01:25 AM	**1.3975E-01**	9.882E-02	9.973E-02	1.894E-01	PCI/SA		0.499	1.0E+0	3.259E-2
TH-232	9NS1	0		6/21/2006 2:01:25 AM	**1.3975E-01**	9.882E-02	9.973E-02	1.894E-01	PCI/SA		0.499	1.0E+0	3.259E-2
U-234	7YSR	0		6/20/2006 11:36:16 PM	**-5.9331E-02**	3.426E-02	3.458E-02	6.238E-01	PCI/SA		0.942	1.0E+0	3.192E-2
U-235	7YSR	0		6/20/2006 11:36:16 PM	**-1.9777E-02**	1.978E-02	1.984E-02	4.733E-01	PCI/SA		0.942	1.0E+0	3.192E-2
U-238	7YSR	0		6/20/2006 11:36:16 PM	**0.0E+00**	0.0E+00	1.21E-01	2.678E-01	PCI/SA		0.942	1.0E+0	3.192E-2
31683	**9H5KRR10**			**J6E1703069**	P-0615	FILTER	5/17/2006 10:00:00	5/4/2006 12:20:00 PM					
ALPHA	BAS7	0		6/10/2006 10:49:19	**1.7747E+00**	1.545E+00	1.556E+00	6.53E+00	PCI/SA		1.0	1.0E+0	2.103E-2
BETA	BDS8	0		6/9/2006 2:07:59 PM	**1.5927E+01**	2.002E+00	2.28E+00	6.452E+00	PCI/SA		1.0	1.0E+0	3.39E-2
RA-226	BXTE	0		6/18/2006 5:46:00 PM	**2.9957E-01**	1.721E-01	1.749E-01	5.61E-01	PCI/SA		0.946	8.33E-1	2.494E-1
RA-228	BXTF	0		6/21/2006 7:20:48 AM	**3.536E+00**	5.033E-01	5.562E-01	1.561E+00	PCI/SA		0.845	1.0E+0	2.494E-1
TH-228	9NS1	0		6/21/2006 2:01:40 AM	**-2.7333E-02**	1.192E-01	1.193E-01	6.243E-01	PCI/SA		0.634	1.0E+0	3.344E-2
TH-230	9NS1	0		6/21/2006 2:01:40 AM	**1.5549E-01**	8.977E-02	9.091E-02	1.405E-01	PCI/SA		0.634	1.0E+0	3.344E-2
TH-232	9NS1	0		6/21/2006 2:01:40 AM	**0.0E+00**	0.0E+00	6.348E-02	1.405E-01	PCI/SA		0.634	1.0E+0	3.344E-2
U-234	7YSR	0		6/20/2006 11:36:28 PM	**8.445E-02**	1.077E-01	1.079E-01	5.058E-01	PCI/SA		0.931	1.0E+0	3.244E-2
U-235	7YSR	0		6/20/2006 11:36:28 PM	**0.0E+00**	0.0E+00	1.293E-01	2.861E-01	PCI/SA		0.931	1.0E+0	3.244E-2
U-238	7YSR	0		6/20/2006 11:36:28 PM	**0.0E+00**	0.0E+00	1.293E-01	2.861E-01	PCI/SA		0.931	1.0E+0	3.244E-2
31683	**9H5KRV10**			**J6E17030610**	P-0616	FILTER	5/17/2006 10:00:00	5/4/2006 11:05:00 AM					
ALPHA	BAS7	0		6/10/2006 12:41:20 PM	**3.6551E+00**	2.028E+00	2.064E+00	7.68E+00	PCI/SA		1.0	1.0E+0	2.117E-2
BETA	BDS8	0		6/9/2006 2:07:59 PM	**1.5504E+01**	1.956E+00	2.239E+00	6.19E+00	PCI/SA		1.0	1.0E+0	3.325E-2
RA-226	BXTE	0		6/18/2006 5:44:00 PM	**2.9394E-01**	1.923E-01	1.948E-01	6.558E-01	PCI/SA		0.995	8.33E-1	2.499E-1
RA-228	BXTF	0		6/21/2006 7:20:48 AM	**3.6329E+00**	4.834E-01	5.39E-01	1.452E+00	PCI/SA		0.885	1.0E+0	2.499E-1
TH-228	9NS1	0		6/21/2006 2:01:59 AM	**2.0625E-01**	1.209E-01	1.224E-01	3.795E-01	PCI/SA		0.861	1.0E+0	3.393E-2
TH-230	9NS1	0		6/21/2006 2:01:59 AM	**1.4652E-01**	8.459E-02	8.565E-02	1.324E-01	PCI/SA		0.861	1.0E+0	3.393E-2
TH-232	9NS1	0		6/21/2006 2:01:59 AM	**4.8839E-02**	4.884E-02	4.904E-02	1.324E-01	PCI/SA		0.861	1.0E+0	3.393E-2
U-234	7YSR	0		6/20/2006 11:36:40 PM	**7.9084E-02**	1.008E-01	1.01E-01	4.735E-01	PCI/SA		0.987	1.0E+0	3.251E-2
U-235	7YSR	0		6/20/2006 11:36:40 PM	**0.0E+00**	0.0E+00	1.211E-01	2.679E-01	PCI/SA		0.987	1.0E+0	3.251E-2
U-238	7YSR	0		6/20/2006 11:36:40 PM	**5.9309E-02**	1.027E-01	1.028E-01	5.587E-01	PCI/SA		0.987	1.0E+0	3.251E-2
31683	**9H5KRX10**			**J6E17030611**	P-0617	FILTER	5/17/2006 10:00:00	5/4/2006 11:20:00 AM					
ALPHA	BAS7	0		6/10/2006 12:41:20 PM	**2.9229E+00**	1.58E+00	1.609E+00	5.525E+00	PCI/SA		1.0	1.0E+0	2.071E-2
BETA	BDS8	0		6/9/2006 2:08:11 PM	**-4.5773E-01**	1.504E+00	1.504E+00	6.81E+00	PCI/SA		1.0	1.0E+0	3.233E-2
RA-226	BXTE	0		6/18/2006 5:45:00 PM	**5.2308E-01**	1.941E-01	2.023E-01	5.538E-01	PCI/SA		0.858	8.33E-1	2.476E-1
RA-228	BXTF	0		6/21/2006 7:26:01 AM	**4.1395E+00**	5.756E-01	6.339E-01	1.75E+00	PCI/SA		0.768	1.0E+0	2.476E-1
TH-228	9NS1	0		6/21/2006 2:02:09 AM	**1.4419E-01**	8.979E-02	9.074E-02	2.466E-01	PCI/SA		0.667	1.0E+0	3.239E-2
TH-230	9NS1	0		6/21/2006 2:02:09 AM	**2.9265E-02**	5.069E-02	5.076E-02	2.756E-01	PCI/SA		0.667	1.0E+0	3.239E-2
TH-232	9NS1	0		6/21/2006 2:02:09 AM	**3.9021E-02**	4.974E-02	4.987E-02	2.336E-01	PCI/SA		0.667	1.0E+0	3.239E-2
U-234	7YSR	0		6/20/2006 11:36:52 PM	**-3.9432E-02**	2.788E-02	2.806E-02	5.57E-01	PCI/SA		0.905	1.0E+0	3.165E-2
U-235	7YSR	0		6/20/2006 11:36:52 PM	**7.8859E-02**	1.005E-01	1.007E-01	4.721E-01	PCI/SA		0.905	1.0E+0	3.165E-2
U-238	7YSR	0		6/20/2006 11:36:52 PM	**7.8859E-02**	1.005E-01	1.007E-01	4.721E-01	PCI/SA		0.905	1.0E+0	3.165E-2
31683	**H50PC1AB**			**J6E230000229**	INTRA-LAB BLANK	FILTER	5/17/2006 10:00:00	5/4/2006 12:10:00 PM					
TH-228	9NS1	0	B	6/21/2006 10:41:55	**1.9486E-02**	1.378E-02	1.39E-02	4.78E-02	PCI/SA		0.582	1.0E+0	1.0E+0
TH-230	9NS1	0	B	6/21/2006 10:41:55	**6.1566E-03**	6.157E-03	6.184E-03	1.668E-02	PCI/SA		0.582	1.0E+0	1.0E+0
TH-232	9NS1	0	B	6/21/2006 10:41:55	**6.1566E-03**	6.157E-03	6.184E-03	1.668E-02	PCI/SA		0.582	1.0E+0	1.0E+0
31683	**H50PC1CS**			**J6E230000229**	INTRA-LAB CHECK	FILTER	5/17/2006 10:00:00	5/4/2006 12:10:00 PM					
TH-230	9NS1	0	S	6/21/2006 10:42:01	**1.5679E+00**	8.043E-02	1.6E-01	1.118E-02	PCI/SA	1.8453E+00	0.907	1.0E+0	1.0E+0

6143229, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 14,
**Results Inserted | ReTestInserted | Updated | NotInserted => 46 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H50PC1AA=> , mat:FILTER | Air *wo:H50PC1AA=> , mat:FILTER | Air *wo:H50PC1AA=> , mat:FILTER | Air.

Batch Nbr: 6143229

Alpha Spec, ThIso by ALP , Results

Summary Report

6/21/2006 7:50:38 PM

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
ThIso by ALP			Richland Standard AlpIso Wo Blk Subt.											
Calc	S1	FILTER	H5KQR1AA	TH-228	2.76E-01	(1.62E-01)		PCI/SA	R	1.75E-01	5.16E-01		65%	
Calc	S1	FILTER	H5KQR1AA	TH-230	1.74E-01	(1.02E-01)		PCI/SA	R		1.58E-01		65%	
Calc	S1	FILTER	H5KQR1AA	TH-232	2.91E-02	(6.51E-02)	U4	PCI/SA	R	9.57E-02	3.49E-01		65%	
Calc	S1	FILTER	H5KQ41AA	TH-228	-4.86E-02	(6.88E-02)	U4	PCI/SA	R	1.60E-01	4.51E-01		79%	
Calc	S1	FILTER	H5KQ41AA	TH-230	3.45E-01	(1.36E-01)		PCI/SA	R	7.57E-02	2.76E-01		79%	
Calc	S1	FILTER	H5KQ41AA	TH-232	9.20E-02	(6.56E-02)	U4	PCI/SA	R		1.25E-01		79%	
Calc	S1	FILTER	H5KQ81AA	TH-228	1.78E-01	(1.30E-01)	U4	PCI/SA	R	1.17E-01	4.27E-01		63%	
Calc	S1	FILTER	H5KQ81AA	TH-230	1.69E-01	(1.23E-01)	U4	PCI/SA	R	1.11E-01	4.05E-01		63%	
Calc	S1	FILTER	H5KQ81AA	TH-232	3.38E-02	(7.55E-02)	U4	PCI/SA	R	1.11E-01	4.05E-01		63%	
Calc	S1	FILTER	H5KRC1AA	TH-228	2.79E-02	(6.23E-02)	U4	PCI/SA	R	9.16E-02	3.34E-01		83%	
Calc	S1	FILTER	H5KRC1AA	TH-230	2.64E-01	(1.20E-01)		PCI/SA	R		1.43E-01		83%	
Calc	S1	FILTER	H5KRC1AA	TH-232	7.92E-02	(7.95E-02)	U4	PCI/SA	R	8.68E-02	3.17E-01		83%	
Calc	S1	FILTER	H5KRF1AA	TH-228	1.60E-01	(9.48E-02)		PCI/SA	R	9.30E-02	2.94E-01		97%	
Calc	S1	FILTER	H5KRF1AA	TH-230	2.27E-01	(1.06E-01)		PCI/SA	R	8.81E-02	2.79E-01		97%	
Calc	S1	FILTER	H5KRF1AA	TH-232	7.57E-02	(5.40E-02)	U4	PCI/SA	R		1.03E-01		97%	
Calc	S1	FILTER	H5KRG1AA	TH-228	6.54E-07	(4.80E-02)	U4	PCI/SA	R	9.11E-02	2.88E-01		107%	
Calc	S1	FILTER	H5KRG1AA	TH-230	3.15E-01	(1.16E-01)		PCI/SA	R	6.10E-02	2.23E-01		107%	
Calc	S1	FILTER	H5KRG1AA	TH-232	-1.86E-02	(1.86E-02)	U4	PCI/SA	R	6.10E-02	2.23E-01		107%	
Calc	S1	FILTER	H5KRJ1AA	TH-228	0.00E+00	(6.69E-02)	U4	PCI/SA	R		1.48E-01		80%	
Calc	S1	FILTER	H5KRJ1AA	TH-230	0.00E+00	(6.34E-02)	U4	PCI/SA	R		1.40E-01		80%	
Calc	S1	FILTER	H5KRJ1AA	TH-232	-2.59E-02	(2.60E-02)	U4	PCI/SA	R	8.52E-02	3.11E-01		80%	
Calc	S1	FILTER	H5KRL1AA	TH-228	1.48E-01	(1.05E-01)	U4	PCI/SA	R		2.00E-01		50%	
Calc	S1	FILTER	H5KRL1AA	TH-230	1.40E-01	(9.97E-02)	U4	PCI/SA	R		1.89E-01		50%	
Calc	S1	FILTER	H5KRL1AA	TH-232	1.40E-01	(9.97E-02)	U4	PCI/SA	R		1.89E-01		50%	
Calc	S1	FILTER	H5KRR1AA	TH-228	-2.73E-02	(1.19E-01)	U4	PCI/SA	R	2.38E-01	6.24E-01		63%	
Calc	S1	FILTER	H5KRR1AA	TH-230	1.55E-01	(9.09E-02)		PCI/SA	R		1.40E-01		63%	
Calc	S1	FILTER	H5KRR1AA	TH-232	0.00E+00	(6.35E-02)	U4	PCI/SA	R		1.40E-01		63%	
Calc	S1	FILTER	H5KRV1AA	TH-228	2.06E-01	(1.22E-01)		PCI/SA	R	1.20E-01	3.79E-01		86%	
Calc	S1	FILTER	H5KRV1AA	TH-230	1.47E-01	(8.56E-02)		PCI/SA	R		1.32E-01		86%	
Calc	S1	FILTER	H5KRV1AA	TH-232	4.88E-02	(4.90E-02)	U4	PCI/SA	R		1.32E-01		86%	
Calc	S1	FILTER	H5KRX1AA	TH-228	1.44E-01	(9.07E-02)	U4	PCI/SA	R	5.36E-02	2.47E-01		67%	
Calc	S1	FILTER	H5KRX1AA	TH-230	2.93E-02	(5.08E-02)	U4	PCI/SA	R	7.18E-02	2.76E-01		67%	
Calc	S1	FILTER	H5KRX1AA	TH-232	3.90E-02	(4.99E-02)	U4	PCI/SA	R	5.08E-02	2.34E-01		67%	
Calc	S1	FILTER	H5KR21AA	TH-228	1.47E-01	(9.45E-02)	U4	PCI/SA	R	9.55E-02	3.15E-01		68%	
Calc	S1	FILTER	H5KR21AA	TH-230	5.82E-01	(1.72E-01)		PCI/SA	R	7.83E-02	2.74E-01		68%	
Calc	S1	FILTER	H5KR21AA	TH-232	0.00E+00	(5.32E-02)	U4	PCI/SA	R		1.18E-01		68%	
Calc	S1	FILTER	H5KR41AA	TH-228	7.71E-02	(1.22E-01)	U4	PCI/SA	R	1.79E-01	5.68E-01		59%	

() - (1s Uncertainities)
IDC - Instrument Detection Level in Conc Units
MLcC- Method Decision Level in Conc Units
MDC - Minimum Detectable Concentration
*Std - Lc, MDC using StdDev for Set of Blanks

Q - Qualifier, U is Less Than Lc = 1.645*TPU
All Results Displayed to Three Digits Reguardless of Significants
Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:51
RADCALC v4.8.18
STL Richland

Batch Nbr: 6143229

Alpha Spec, Thlso by ALP , Results

6/21/2006 7:50:38 PM

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Calc	S1	FILTER	**H5KR41AA**	TH-230	**3.65E-01**	**(1.67E-01)**		PCI/SA	R		1.98E-01		59%	
Calc	S1	FILTER	**H5KR41AA**	TH-232	**7.31E-02**	**(7.34E-02)**	**U4**	PCI/SA	R		1.98E-01		59%	
Calc	S1	FILTER	**H5KR61AA**	TH-228	**3.63E-01**	**(1.55E-01)**		PCI/SA	R	1.21E-01	3.81E-01		93%	
Calc	S1	FILTER	**H5KR61AA**	TH-230	**9.82E-02**	**(7.00E-02)**	**U4**	PCI/SA	R		1.33E-01		93%	
Calc	S1	FILTER	**H5KR61AA**	TH-232	**4.91E-02**	**(4.93E-02)**	**U4**	PCI/SA	R		1.33E-01		93%	
Calc	S1	FILTER	**H50PC1AA**	TH-228	**1.95E-02**	**(1.39E-02)**	**U4**	PCI/SA	R	1.51E-02	4.78E-02	**B**	58%	
Calc	S1	FILTER	**H50PC1AA**	TH-230	**6.16E-03**	**(6.18E-03)**	**U4**	PCI/SA	R		1.67E-02	**B**	58%	
Calc	S1	FILTER	**H50PC1AA**	TH-232	**6.16E-03**	**(6.18E-03)**	**U4**	PCI/SA	R		1.67E-02	**B**	58%	
Calc	S1	FILTER	**H50PC1AC**	TH-230	**1.57E+00**	**(1.60E-01)**		PCI/SA	R		1.12E-02	**S**	91%	85%

PAnderson
6.22.06

() - (1s Uncertainities)
IDC - Instrument Detection Level in Conc Units
MLcC- Method Decision Level in Conc Units
MDC - Minimum Detectable Concentration
*Std - Lc, MDC using StdDev for Set of Blanks

Q - Qualifier, U is Less Than Lc = 1.645*TPU
All Results Displayed to Three Digits Reguardless of Significants
Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:62
RADCALC v4.8.18
STL Richland

Batch Nbr: 6143229

Alpha Spec, Thlso by ALP , Calculated Results

6/21/2006 7:50:39 PM

Detailed Report

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
1	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H5KQR1AA**	**PCI/SA**		05/04/06 12:10	06/21/06 02:01			1	1.00 Sa	
536403,000443					,J6E170306-1 v4.8.18		FILTER		05/02/06 10:40			THTF0573 Alq		0.082071 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 21:51	TH-228	6	3	ALP171	ED	N	N	2.9087E-01		N	65%	N		1.0000E+00	4.5045E-01	1.0494E+00	
			499.4666666	998.95			Y		(8.726E-03)			4%			(0.000E+00)	12.184515		
1	06/20/06 21:51	TH-229	377	1	ALP171	ED	Y	N	2.9087E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.726E-03)						(0.000E+00)	12.184515		
2	06/20/06 21:51	TH-230	3	0	ALP171	ED	N	N	2.9087E-01		N	65%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.726E-03)			4%			(0.000E+00)	12.184515		
3	06/20/06 21:51	TH-232	1	1	ALP171	ED	N	N	2.9087E-01		N	65%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.726E-03)			4%			(0.000E+00)	12.184515		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	TH-228	R	**0.276325**		9.00966E-03	0.047977	0.047977	1.00 Sa	65%		0.516111		
				(0.161616)		(5.2017E-03)	(0.027925)	(0.027925)	(0.028284)			0.174955		
	06/21/06	TH-229	R	**14.223916**		7.53804E-01	2.591578	2.591578	1.00 Sa	65%				
				(1.178212)		(3.8887E-02)	(0.154657)	(0.154657)	(0.028284)					
	06/21/06	TH-230	R	**0.174493**		6.00641E-03	0.031792	0.031792	1.00 Sa	65%		0.157625		
				(0.102058)		(3.4678E-03)	(0.018505)	(0.018505)	(0.028284)					
	06/21/06	TH-232	R	**0.029083**	**U4**	1.00108E-03	0.005299	0.005299	1.00 Sa	65%		0.348871		
				(0.065086)		(2.2384E-03)	(0.011855)	(0.011855)	(0.028284)			0.09568		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
2	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H5KQ41AA**	**PCI/SA**		05/04/06 12:15	06/21/06 02:01			1	1.00 Sa	
536403,000444					,J6E170306-2 v4.8.18		FILTER		05/02/06 10:40			THTF0574 Alq		0.082873 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 21:51	TH-228	1	4	ALP172	ED	N	N	2.9949E-01		N	79%	N		1.0000E+00	4.5045E-01	1.0494E+00	
			499.4666666	998.95			Y		(8.985E-03)			5%			(0.000E+00)	12.06671		
1	06/20/06 21:51	TH-229	476	4	ALP172	ED	Y	N	2.9949E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.985E-03)						(0.000E+00)	12.06671		
2	06/20/06 21:51	TH-230	8	1	ALP172	ED	N	N	2.9949E-01		N	79%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.985E-03)			5%			(0.000E+00)	12.06671		
3	06/20/06 21:51	TH-232	2	0	ALP172	ED	N	N	2.9949E-01		N	79%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.985E-03)			5%			(0.000E+00)	12.06671		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:2

RADCALC v4.8.18

STL Richland

Batch Nbr: 6143229 — Alpha Spec, ThIso by ALP , Calculated Results — 6/21/2006 7:50:39 PM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	TH-228	R	**-0.048565**	U4	-2.00207E-03	-0.008514	-0.008514	1.00 Sa	79%		0.450991		
				(0.068824)		(2.8314E-03)	(0.012056)	(0.012056)	(0.028284)			0.159783		
	06/21/06	TH-229	R	**17.223592**		9.49012E-01	3.168752	3.168752	1.00 Sa	79%				
				(1.36958)		(4.3727E-02)	(0.174225)	(0.174225)	(0.028284)					
	06/21/06	TH-230	R	**0.345027**		1.50160E-02	0.063477	0.063477	1.00 Sa	79%		0.27593		
				(0.135784)		(5.7507E-03)	(0.024714)	(0.024714)	(0.028284)			0.075675		
	06/21/06	TH-232	R	**0.092007**	U4	4.00427E-03	0.016927	0.016927	1.00 Sa	79%		0.12467		
				(0.065591)		(2.8314E-03)	(0.012028)	(0.012028)	(0.028284)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
3	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H5KQ81AA**	**PCI/SA**		05/04/06 23:10	06/21/06 02:01			1	1.00 Sa	
536403,000445					,J6E170306-3 v4.8.18		FILTER		05/02/06 10:40			THTF0575 Alq		0.083621 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 21:51	TH-228	3	1	ALP173	ED	N	N	2.5374E-01		N	63%	N		1.0000E+00	4.5045E-01	1.0491E+00	
			499.4666666	998.95			Y		(7.612E-03)			4%			(0.000E+00)	11.958685		
1	06/20/06 21:51	TH-229	321	0	ALP173	ED	Y	N	2.5374E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.612E-03)						(0.000E+00)	11.958685		
2	06/20/06 21:51	TH-230	3	1	ALP173	ED	N	N	2.5374E-01		N	63%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.612E-03)			4%			(0.000E+00)	11.958685		
3	06/20/06 21:51	TH-232	1	1	ALP173	ED	N	N	2.5374E-01		N	63%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.612E-03)			4%			(0.000E+00)	11.958685		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	TH-228	R	**0.178126**	U4	5.00536E-03	0.031518	0.031518	1.00 Sa	63%		0.42736		
				(0.12958)		(3.6094E-03)	(0.022857)	(0.022857)	(0.028284)			0.117206		
	06/21/06	TH-229	R	**13.643788**		6.42686E-01	2.532824	2.532824	1.00 Sa	63%				
				(1.166944)		(3.5871E-02)	(0.160495)	(0.160495)	(0.028284)					
	06/21/06	TH-230	R	**0.168764**	U4	5.00536E-03	0.031329	0.031329	1.00 Sa	63%		0.404898		
				(0.122769)		(3.6094E-03)	(0.02272)	(0.02272)	(0.028284)			0.111045		
	06/21/06	TH-232	R	**0.033753**	U4	1.00108E-03	0.006266	0.006266	1.00 Sa	63%		0.404898		
				(0.075542)		(2.2384E-03)	(0.014019)	(0.014019)	(0.028284)			0.111045		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
4	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H5KRC1AA**	**PCI/SA**		05/04/06 23:25	06/21/06 02:01			1	1.00 Sa	
536403,000446					,J6E170306-4 v4.8.18		FILTER		05/02/06 10:40			THTF0576 Alq		0.083303 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 21:51	TH-228	1	1	ALP174	ED	N	N	2.4814E-01		N	83%	N		1.0000E+00	4.5045E-01	1.0491E+00	
			499.4666666	998.95			Y		(7.444E-03)			5%			(0.000E+00)	12.004323		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:4 RADCALC v4.8.18 STL Richland

Batch Nbr: 6143229 Alpha Spec, ThIso by ALP , Calculated Results 6/21/2006 7:50:39 PM

1	06/20/06 21:51	TH-229	412	1	ALP174	ED	Y	N	2.4814E-01	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00
			499.4666666	998.95			Y		(7.444E-03)				(0.000E+00)	12.004323	
2	06/20/06 21:51	TH-230	5	0	ALP174	ED	N	N	2.4814E-01	N	83%	N	1.0000E+00	4.5045E-01	1.0000E+00
			499.4666666	998.95			Y		(7.444E-03)		5%		(0.000E+00)	12.004323	
3	06/20/06 21:51	TH-232	2	1	ALP174	ED	N	N	2.4814E-01	N	83%	N	1.0000E+00	4.5045E-01	1.0000E+00
			499.4666666	998.95			Y		(7.444E-03)		5%		(0.000E+00)	12.004323	

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	TH-228	R	**0.027851**	U4	1.00108E-03	0.004909	0.004909	1.00 Sa	83%		0.334098		
				(0.062329)		(2.2384E-03)	(0.010983)	(0.010983)	(0.028284)			0.091628		
	06/21/06	TH-229	R	**17.953646**		8.23879E-01	3.320232	3.320232	1.00 Sa	83%				
				(1.462375)		(4.0651E-02)	(0.191729)	(0.191729)	(0.028284)					
	06/21/06	TH-230	R	**0.26387**		1.00107E-02	0.048798	0.048798	1.00 Sa	83%		0.143018		
				(0.120495)		(4.4769E-03)	(0.022107)	(0.022107)	(0.028284)					
	06/21/06	TH-232	R	**0.079161**	U4	3.00322E-03	0.01464	0.01464	1.00 Sa	83%		0.31654		
				(0.079498)		(3.0032E-03)	(0.014678)	(0.014678)	(0.028284)			0.086813		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
5	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H5KRF1AA**	**PCI/SA**		05/04/06 10:30	06/21/06 02:01			1	1.00 Sa	
536403,000447					,J6E170306-5 v4.8.18		FILTER		05/02/06 10:40			THTF0577 Alq		0.083268 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 21:51	TH-228	5	2	ALP175	ED	N	N	2.9360E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0494E+00	
			499.4666666	998.95			Y		(8.808E-03)			6%			(0.000E+00)	12.009346		
1	06/20/06 21:51	TH-229	576	0	ALP175	ED	Y	N	2.9360E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.808E-03)						(0.000E+00)	12.009346		
2	06/20/06 21:51	TH-230	7	2	ALP175	ED	N	N	2.9360E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.808E-03)			6%			(0.000E+00)	12.009346		
3	06/20/06 21:51	TH-232	2	0	ALP175	ED	N	N	2.9360E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.808E-03)			6%			(0.000E+00)	12.009346		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	TH-228	R	**0.15989**		8.00858E-03	0.028165	0.028165	1.00 Sa	97%		0.294194		
				(0.094804)		(4.6954E-03)	(0.016621)	(0.016621)	(0.028284)			0.09299		
	06/21/06	TH-229	R	**21.248416**		1.15323E+00	3.927902	3.927902	1.00 Sa	97%				
				(1.637109)		(4.8051E-02)	(0.201671)	(0.201671)	(0.028284)					
	06/21/06	TH-230	R	**0.227169**		1.20128E-02	0.041994	0.041994	1.00 Sa	97%		0.278658		
				(0.105617)		(5.4831E-03)	(0.019374)	(0.019374)	(0.028284)			0.088079		
	06/21/06	TH-232	R	**0.075723**	U4	4.00427E-03	0.013998	0.013998	1.00 Sa	97%		0.102604		
				(0.053962)		(2.8314E-03)	(0.009943)	(0.009943)	(0.028284)					

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:6 RADCALC v4.8.18 STL Richland

Batch Nbr: 6143229 — Alpha Spec, ThIso by ALP , Calculated Results — 6/21/2006 7:50:40 PM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
6	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H5KRG1AA**	**PCI/SA**		05/04/06 10:50	06/21/06 02:01			1	1.00 Sa	
536403,000448					,J6E170306-6 v4.8.18		FILTER		05/02/06 10:40			THTF0578 Alq		0.0834 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 21:51	TH-228	1	2	ALP176	ED	N	N	2.9146E-01		N	107%	N		1.0000E+00	4.5045E-01	1.0494E+00	
			499.4666666	998.95			Y		(8.744E-03)			6%			(0.000E+00)	11.990439		
1	06/20/06 21:51	TH-229	629	3	ALP176	ED	Y	N	2.9146E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.744E-03)						(0.000E+00)	11.990439		
2	06/20/06 21:51	TH-230	9	1	ALP176	ED	N	N	2.9146E-01		N	107%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.744E-03)			6%			(0.000E+00)	11.990439		
3	06/20/06 21:51	TH-232	0	1	ALP176	ED	N	N	2.9146E-01		N	107%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.744E-03)			6%			(0.000E+00)	11.990439		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/lLcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	TH-228	R	**6.5352E-07**	U4	3.34040E-08	1.153E-07	1.153E-07	1.00 Sa	107%		0.288291		
				(0.047973)		(2.4521E-03)	(0.008464)	(0.008464)	(0.028284)			0.091124		
	06/21/06	TH-229	R	**23.281429**		1.25634E+00	4.310503	4.310503	1.00 Sa	107%				
				(1.77296)		(5.0243E-02)	(0.215497)	(0.215497)	(0.028284)					
	06/21/06	TH-230	R	**0.315366**		1.70182E-02	0.058389	0.058389	1.00 Sa	107%		0.222538		
				(0.11618)		(6.0893E-03)	(0.021247)	(0.021247)	(0.028284)			0.061032		
	06/21/06	TH-232	R	**-0.018551**	U4	-1.00105E-03	-0.003435	-0.003435	1.00 Sa	107%		0.222538		
				(0.018622)		(1.0011E-03)	(0.003442)	(0.003442)	(0.028284)			0.061032		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
7	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H5KRJ1AA**	**PCI/SA**		05/04/06 11:30	06/21/06 02:01			1	1.00 Sa	
536403,000449					,J6E170306-7 v4.8.18		FILTER		05/02/06 10:40			THTF0579 Alq		0.082973 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 21:51	TH-228	0	0	ALP177	ED	N	N	2.6130E-01		N	80%	N		1.0000E+00	4.5045E-01	1.0494E+00	
			499.4666666	998.95			Y		(7.839E-03)			5%			(0.000E+00)	12.052082		
1	06/20/06 21:51	TH-229	423	0	ALP177	ED	Y	N	2.6130E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.839E-03)						(0.000E+00)	12.052082		
2	06/20/06 21:51	TH-230	0	0	ALP177	ED	N	N	2.6130E-01		N	80%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.839E-03)			5%			(0.000E+00)	12.052082		
3	06/20/06 21:51	TH-232	0	1	ALP177	ED	N	N	2.6130E-01		N	80%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.839E-03)			5%			(0.000E+00)	12.052082		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:7 RADCALC v4.8.18 STL Richland

Batch Nbr: 6143229 — Alpha Spec, ThIso by ALP , Calculated Results — 6/21/2006 7:50:40 PM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	TH-228	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 Sa	80%		0.148108		
				(0.066935)		(0.0000E+00)	(0.011749)	(0.011749)	(0.028284)					
	06/21/06	TH-229	R	**17.595475**		8.46903E-01	3.241099	3.241099	1.00 Sa	80%				
				(1.425566)		(4.1178E-02)	(0.18517)	(0.18517)	(0.028284)					
	06/21/06	TH-230	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 Sa	80%		0.14029		
				(0.063402)		(0.0000E+00)	(0.011679)	(0.011679)	(0.028284)					
	06/21/06	TH-232	R	**-0.025883**	U4	-1.00105E-03	-0.004768	-0.004768	1.00 Sa	80%		0.310502		
				(0.025992)		(1.0011E-03)	(0.00478)	(0.00478)	(0.028284)			0.085157		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
8	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H5KRL1AA**	**PCI/SA**		05/04/06 12:00	06/21/06 02:01			1	1.00 Sa	
536403,P-0614					,J6E170306-8 v4.8.18		FILTER		05/02/06 10:40			THTF0580 Alq		0.08259 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 21:51	TH-228	2	0	ALP178	ED	N	N	3.1338E-01		N	50%	N		1.0000E+00	4.5045E-01	1.0494E+00	
			499.4666666	998.95			Y		(9.401E-03)			4%			(0.000E+00)	12.107987		
1	06/20/06 21:51	TH-229	315 ~	0	ALP178	ED	Y	N	3.1338E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(9.401E-03)						(0.000E+00)	12.107987		
2	06/20/06 21:51	TH-230	2	0	ALP178	ED	N	N	3.1338E-01		N	50%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(9.401E-03)			4%			(0.000E+00)	12.107987		
3	06/20/06 21:51	TH-232	2	0	ALP178	ED	N	N	3.1338E-01		N	50%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(9.401E-03)			4%			(0.000E+00)	12.107987		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	TH-228	R	**0.14754**	U4	4.00427E-03	0.025778	0.025778	1.00 Sa	50%		0.199917		
				(0.105289)		(2.8314E-03)	(0.018336)	(0.018336)	(0.028284)					
	06/21/06	TH-229	R	**10.976133**		6.30673E-01	2.012477	2.012477	1.00 Sa	50%				
				(0.942581)		(3.5534E-02)	(0.128462)	(0.128462)	(0.028284)					
	06/21/06	TH-230	R	**0.139753**	U4	4.00427E-03	0.025624	0.025624	1.00 Sa	50%		0.189365		
				(0.099732)		(2.8314E-03)	(0.018226)	(0.018226)	(0.028284)					
	06/21/06	TH-232	R	**0.139753**	U4	4.00427E-03	0.025624	0.025624	1.00 Sa	50%		0.189365		
				(0.099732)		(2.8314E-03)	(0.018226)	(0.018226)	(0.028284)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
9	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H5KRR1AA**	**PCI/SA**		05/04/06 12:20	06/21/06 02:01			1	1.00 Sa	
536403,P-0615					,J6E170306-9 v4.8.18		FILTER		05/02/06 10:40			THTF0581 Alq		0.083438 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 21:51	TH-228	3	7	ALP114	ED	N	N	3.2873E-01		N	63%	N		1.0000E+00	4.5045E-01	1.0494E+00	
			500.0333333	1000.2			Y		(9.862E-03)			4%			(0.000E+00)	11.984961		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:9 RADCALC v4.8.18 STL Richland

Batch Nbr: 6143229 Alpha Spec, ThIso by ALP , Calculated Results 6/21/2006 7:50:40 PM

1	06/20/06 21:51	TH-229	419	0	ALP114	ED	Y	N	3.2873E-01	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00
			500.0333333	1000.2			Y		(9.862E-03)				(0.000E+00)	11.984961	
2	06/20/06 21:51	TH-230	3	0	ALP114	ED	N	N	3.2873E-01	N	63%	N	1.0000E+00	4.5045E-01	1.0000E+00
			500.0333333	1000.2			Y		(9.862E-03)		4%		(0.000E+00)	11.984961	
3	06/20/06 21:51	TH-232	0	0	ALP114	ED	N	N	3.2873E-01	N	63%	N	1.0000E+00	4.5045E-01	1.0000E+00
			500.0333333	1000.2			Y		(9.862E-03)		4%		(0.000E+00)	11.984961	

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	TH-228	R	**-0.027333**	U4	-9.99000E-04	-0.004825	-0.004825	1.00 Sa	63%		0.624262		
				(0.119275)		(4.3584E-03)	(0.021052)	(0.021052)	(0.028284)			0.23813		
	06/21/06	TH-229	R	**13.761238**		8.37944E-01	2.549026	2.549026	1.00 Sa	63%				
				(1.116836)		(4.0936E-02)	(0.146134)	(0.146134)	(0.028284)					
	06/21/06	TH-230	R	**0.15549**		5.99960E-03	0.028802	0.028802	1.00 Sa	63%		0.14046		
				(0.090907)		(3.4639E-03)	(0.016757)	(0.016757)	(0.028284)					
	06/21/06	TH-232	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 Sa	63%		0.14046		
				(0.063479)		(0.0000E+00)	(0.011758)	(0.011758)	(0.028284)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
10	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H5KRV1AA**	**PCI/SA**		05/04/06 11:05	06/21/06 02:01			1	1.00 Sa	
536403,P-0616					,J6E170306-10 v4.8.18		FILTER		05/02/06 10:40			THTF0582 Alq		0.083932 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 21:51	TH-228	5	2	ALP116	ED	N	N	2.5523E-01		N	86%	N		1.0000E+00	4.5045E-01	1.0494E+00	
			500.0666666	1000.1166			Y		(7.657E-03)			6%			(0.000E+00)	11.914397		
1	06/20/06 21:51	TH-229	444	2	ALP116	ED	Y	N	2.5523E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0666666	1000.1166			Y		(7.657E-03)						(0.000E+00)	11.914397		
2	06/20/06 21:51	TH-230	3	0	ALP116	ED	N	N	2.5523E-01		N	86%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0666666	1000.1166			Y		(7.657E-03)			6%			(0.000E+00)	11.914397		
3	06/20/06 21:51	TH-232	1	0	ALP116	ED	N	N	2.5523E-01		N	86%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0666666	1000.1166			Y		(7.657E-03)			6%			(0.000E+00)	11.914397		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	TH-228	R	**0.206245**		7.99890E-03	0.03662	0.03662	1.00 Sa	86%		0.379494		
				(0.122383)		(4.6898E-03)	(0.021628)	(0.021628)	(0.028284)			0.119953		
	06/21/06	TH-229	R	**18.627686**		8.85882E-01	3.470885	3.470885	1.00 Sa	86%				
				(1.497761)		(4.2161E-02)	(0.195266)	(0.195266)	(0.028284)					
	06/21/06	TH-230	R	**0.146517**		5.99920E-03	0.027301	0.027301	1.00 Sa	86%		0.132354		
				(0.085645)		(3.4636E-03)	(0.015881)	(0.015881)	(0.028284)					
	06/21/06	TH-232	R	**0.048839**	U4	1.99973E-03	0.0091	0.0091	1.00 Sa	86%		0.132354		
				(0.049043)		(1.9997E-03)	(0.009123)	(0.009123)	(0.028284)					

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:11 RADCALC v4.8.18
STL Richland

Batch Nbr: 6143229 — Alpha Spec, ThIso by ALP , Calculated Results — 6/21/2006 7:50:40 PM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
11	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H5KRX1AA**	**PCI/SA**		05/04/06 11:20	06/21/06 02:02			1	1.00 Sa	
536403,P-0617					,J6E170306-11 v4.8.18		FILTER		05/02/06 10:40			THTF0583 Alq		0.082393 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 21:52	TH-228	3	1	ALP117	ED	N	N	3.3591E-01		N	67%	N		1.0000E+00	4.5045E-01	1.0494E+00	
			500.0666666	2500.1			Y		(1.008E-02)			4%			(0.000E+00)	12.137018		
1	06/20/06 21:52	TH-229	452	2	ALP117	ED	Y	N	3.3591E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0666666	2500.1			Y		(1.008E-02)						(0.000E+00)	12.137018		
2	06/20/06 21:52	TH-230	1	2	ALP117	ED	N	N	3.3591E-01		N	67%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0666666	2500.1			Y		(1.008E-02)			4%			(0.000E+00)	12.137018		
3	06/20/06 21:52	TH-232	1	1	ALP117	ED	N	N	3.3591E-01		N	67%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0666666	2500.1			Y		(1.008E-02)			4%			(0.000E+00)	12.137018		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	TH-228	R	**0.144189**	U4	5.59922E-03	0.025132	0.025132	1.00 Sa	67%		0.24665		
				(0.090744)		(3.4867E-03)	(0.015751)	(0.015751)	(0.028284)			0.053579		
	06/21/06	TH-229	R	**14.698175**		9.03080E-01	2.688468	2.688468	1.00 Sa	67%				
				(1.177387)		(4.2519E-02)	(0.15009)	(0.15009)	(0.028284)					
	06/21/06	TH-230	R	**0.029265**	U4	1.19977E-03	0.005353	0.005353	1.00 Sa	67%		0.275646		
				(0.050762)		(2.0782E-03)	(0.00928)	(0.00928)	(0.028284)			0.071772		
	06/21/06	TH-232	R	**0.039021**	U4	1.59975E-03	0.007137	0.007137	1.00 Sa	67%		0.233628		
				(0.049871)		(2.0393E-03)	(0.009113)	(0.009113)	(0.028284)			0.05075		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
12	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H5KR21AA**	**PCI/SA**		05/04/06 10:35	06/21/06 02:02			1	1.00 Sa	
536403,P-0618					,J6E170306-12 v4.8.18		FILTER		05/02/06 10:40			THTF0584 Alq		0.083576 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 21:52	TH-228	4	4	ALP118	ED	N	N	3.6403E-01		N	68%	N		1.0000E+00	4.5045E-01	1.0494E+00	
			500.0833333	2500.0166			Y		(1.092E-02)			4%			(0.000E+00)	11.965105		
1	06/20/06 21:52	TH-229	499	8	ALP118	ED	Y	N	3.6403E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0833333	2500.0166			Y		(1.092E-02)						(0.000E+00)	11.965105		
2	06/20/06 21:52	TH-230	14	3	ALP118	ED	N	N	3.6403E-01		N	68%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0833333	2500.0166			Y		(1.092E-02)			4%			(0.000E+00)	11.965105		
3	06/20/06 21:52	TH-232	0	0	ALP118	ED	N	N	3.6403E-01		N	68%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0833333	2500.0166			Y		(1.092E-02)			4%			(0.000E+00)	11.965105		

RecCnt:12 RADCALC v4.8.18 STL Richland

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

Batch Nbr: 6143229

Alpha Spec, Thlso by ALP , Calculated Results

6/21/2006 7:50:41 PM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	TH-228	R	**0.146854**	U4	6.39868E-03	0.025964	0.025964	1.00 Sa	68%		0.315263		
				(0.094535)		(4.0786E-03)	(0.016647)	(0.016647)	(0.028284)			0.095502		
	06/21/06	TH-229	R	**14.726005**		9.94634E-01	2.732259	2.732259	1.00 Sa	68%				
				(1.161229)		(4.4683E-02)	(0.147598)	(0.147598)	(0.028284)					
	06/21/06	TH-230	R	**0.582496**		2.67953E-02	0.108076	0.108076	1.00 Sa	68%		0.274391		
				(0.171561)		(7.5141E-03)	(0.03122)	(0.03122)	(0.028284)			0.07834		
	06/21/06	TH-232	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 Sa	68%		0.117804		
				(0.05324)		(0.0000E+00)	(0.009878)	(0.009878)	(0.028284)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
13	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H5KR41AA**	**PCI/SA**		05/04/06 10:45	06/21/06 02:02			1	1.00 Sa	
536403,P-0619					,J6E170306-13 v4.8.18		FILTER		05/02/06 10:40			THTF0585 Alq		0.08373 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 21:52	TH-228	2	2	ALP119	ED	N	N	2.5157E-01		N	59%	N		1.0000E+00	4.5045E-01	1.0494E+00	
			500.0333333	1000.2			Y		(7.547E-03)			4%			(0.000E+00)	11.94319		
1	06/20/06 21:52	TH-229	297	0	ALP119	ED	Y	N	2.5157E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0333333	1000.2			Y		(7.547E-03)						(0.000E+00)	11.94319		
2	06/20/06 21:52	TH-230	5	0	ALP119	ED	N	N	2.5157E-01		N	59%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0333333	1000.2			Y		(7.547E-03)			4%			(0.000E+00)	11.94319		
3	06/20/06 21:52	TH-232	1	0	ALP119	ED	N	N	2.5157E-01		N	59%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0333333	1000.2			Y		(7.547E-03)			4%			(0.000E+00)	11.94319		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	TH-228	R	**0.077147**	U4	2.00013E-03	0.013665	0.013665	1.00 Sa	59%		0.567699		
				(0.12219)		(3.1620E-03)	(0.021629)	(0.021629)	(0.028284)			0.179436		
	06/21/06	TH-229	R	**12.701691**		5.93960E-01	2.360993	2.360993	1.00 Sa	59%				
				(1.104901)		(3.4465E-02)	(0.154225)	(0.154225)	(0.028284)					
	06/21/06	TH-230	R	**0.365316**		9.99933E-03	0.067905	0.067905	1.00 Sa	59%		0.198001		
				(0.167192)		(4.4718E-03)	(0.030832)	(0.030832)	(0.028284)					
	06/21/06	TH-232	R	**0.073063**	U4	1.99987E-03	0.013581	0.013581	1.00 Sa	59%		0.198001		
				(0.073408)		(1.9999E-03)	(0.013623)	(0.013623)	(0.028284)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
14	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H5KR61AA**	**PCI/SA**		05/04/06 12:05	06/21/06 02:02			1	1.00 Sa	
536403,P-0620					,J6E170306-14 v4.8.18		FILTER		05/02/06 10:40			THTF0586 Alq		0.082183 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 21:52	TH-228	8	2	ALP120	ED	N	N	2.4073E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0494E+00	
			500.05	1000.1666			Y		(7.222E-03)			6%			(0.000E+00)	12.167937		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:14 RADCALC v4.8.18
STL Richland

Batch Nbr: 6143229

Alpha Spec, ThIso by ALP , Calculated Results

6/21/2006 7:50:41 PM

1	06/20/06 21:52	TH-229	453	0	ALP120	ED	Y	N	2.4073E-01	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00
			500.05	1000.1666			Y		(7.222E-03)				(0.000E+00)	12.167937	
2	06/20/06 21:52	TH-230	2	0	ALP120	ED	N	N	2.4073E-01	N	93%	N	1.0000E+00	4.5045E-01	1.0000E+00
			500.05	1000.1666			Y		(7.222E-03)		6%		(0.000E+00)	12.167937	
3	06/20/06 21:52	TH-232	1	0	ALP120	ED	N	N	2.4073E-01	N	93%	N	1.0000E+00	4.5045E-01	1.0000E+00
			500.05	1000.1666			Y		(7.222E-03)		6%		(0.000E+00)	12.167937	

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	TH-228	R	**0.362809**		1.39987E-02	0.063078	0.063078	1.00 Sa	93%		0.381457		
				(0.154679)		(5.8303E-03)	(0.026647)	(0.026647)	(0.028284)			0.120571		
	06/21/06	TH-229	R	**20.62599**		9.05909E-01	3.763148	3.763148	1.00 Sa	93%				
				(1.651046)		(4.2563E-02)	(0.209777)	(0.209777)	(0.028284)					
	06/21/06	TH-230	R	**0.098188**	U4	3.99960E-03	0.017914	0.017914	1.00 Sa	93%		0.133045		
				(0.070003)		(2.8281E-03)	(0.01273)	(0.01273)	(0.028284)					
	06/21/06	TH-232	R	**0.049094**	U4	1.99980E-03	0.008957	0.008957	1.00 Sa	93%		0.133045		
				(0.049297)		(1.9998E-03)	(0.008979)	(0.008979)	(0.028284)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
15	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H50PC1AA**	**PCI/SA**	**B**	05/04/06 12:10	06/21/06 10:41			1	1.00 Sa	
0,INTRA-LAB BLANK					,J6E230000-229		FILTER					THTF0587 Alq		1.00 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/21/06 06:31	TH-228	4	2	ALP119	ED	N	N	2.5157E-01		N	58%	N		1.0000E+00	4.5045E-01	1.0487E+00	
			500.0833333	1000.2			Y		(7.547E-03)			4%			(0.000E+00)	1.00		
1	06/21/06 06:31	TH-229	294	0	ALP119	ED	Y	N	2.5157E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0833333	1000.2			Y		(7.547E-03)						(0.000E+00)	1.00		
2	06/21/06 06:31	TH-230	1	0	ALP119	ED	N	N	2.5157E-01		N	58%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0833333	1000.2			Y		(7.547E-03)			4%			(0.000E+00)	1.00		
3	06/21/06 06:31	TH-232	1	0	ALP119	ED	N	N	2.5157E-01		N	58%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0833333	1000.2			Y		(7.547E-03)			4%			(0.000E+00)	1.00		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	TH-228	R	**0.019486**	U4	5.99907E-03	0.041251	0.041251	1.00 Sa	58%		0.047805		
				(0.013902)		(4.2419E-03)	(0.029348)	(0.029348)	(0.017321)			0.01511		
	06/21/06	TH-229	R	**1.052661**		5.87902E-01	2.336911	2.336911	1.00 Sa	58%				
				(0.088707)		(3.4287E-02)	(0.153266)	(0.153266)	(0.017321)					
	06/21/06	TH-230	R	**0.006157**	U4	1.99967E-03	0.013668	0.013668	1.00 Sa	58%		0.016684		
				(0.006184)		(1.9997E-03)	(0.01371)	(0.01371)	(0.017321)					
	06/21/06	TH-232	R	**0.006157**	U4	1.99967E-03	0.013668	0.013668	1.00 Sa	58%		0.016684		
				(0.006184)		(1.9997E-03)	(0.01371)	(0.01371)	(0.017321)					

RecCnt:16 RADCALC v4.8.18 STL Richland

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

Batch Nbr: 6143229 — Alpha Spec, ThIso by ALP , Calculated Results — 6/21/2006 7:50:41 PM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
16	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H50PC1AC**	**PCI/SA**	**S**	05/04/06 12:10	06/21/06 10:42		THSO0074	1	1.00 Sa	
0,INTRA-LAB CHECK					,J6E230000-229		FILTER					THSO0074 Alq		1.00 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/21/06 06:31	TH-229	457	0	ALP120	ED	Y	N	2.4073E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.05	1000.1666			Y		(7.222E-03)						(0.000E+00)	1.00		
2	06/21/06 06:31	TH-230	380	0	ALP120	ED	N	N	2.4073E-01		N	91%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.05	1000.1666			Y		(7.222E-03)			6%			(0.000E+00)	1.00		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	TH-229	R	**1.710078**		9.13909E-01	3.796376	3.796376	1.00 Sa	91%				
				(0.131222)		(4.2751E-02)	(0.21097)	(0.21097)	(0.017321)					
	06/21/06	TH-230	R	**1.567947**		7.59924E-01	3.480847	3.480847	1.00 Sa	91%	85%	0.011182		
				(0.159974)		(3.8983E-02)	(0.303646)	(0.303646)	(0.017321)					

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:16

RADCALC v4.8.18
STL Richland

SEVERN TRENT **STL**

THORIUM ISOTOPIC COUNTING REQUEST

6/21
0612

C.R. Technician: OAP
Date Counted: 6/20/06
C.R. Analyst: CB
Date Analyzed: 6/21/06

Counting Time
Sample: 500 Minutes

Background: See Alpha Analysis Report
BRC 5/04/06

SOP's
Operating: RICHRD008
Review: RICHRD0016
614322.9

WorkOrder #	Th-229 (4845 KeV) Tracer from Th-234 Beta Count (7)				TOTAL COUNTS			Det #	Comment
					Th-228 (5423 KeV)	Th-230 (4688 KeV)	Th-232 (4010 KeV)		
	ID	Activity	ROI Cts	BKG	(6)	(8)	(9)		
H5KQR1AA		10		0	See Alpha Analysis Report for ROI Information			171	
H5KQ41AA		10		0	See Alpha Analysis Report for ROI Information			172	
H5KQ81AA		10		0	See Alpha Analysis Report for ROI Information			173	
H5KRC1AA		10		0	See Alpha Analysis Report for ROI Information			174	
H5KRF1AA		10		0	See Alpha Analysis Report for ROI Information			175	
H5KRG1AA		10		0	See Alpha Analysis Report for ROI Information			176	
H5KRJ1AA		10		0	See Alpha Analysis Report for ROI Information			177	
H5KRL1AA		10		0	See Alpha Analysis Report for ROI Information			178	
		10		0	See Alpha Analysis Report for ROI Information				

Comments:

Approved by: S
Date: 6/21/06

Form No: RC-012, 10/02, Rev 9

STL RICHLAND

80

Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H5KQR1AA

Detector: ALP171 1
Report Date: 21-Jun-06 06:47 AM
Acquire Date: 20-JUN-2006 21:51:40.57
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	6	3	0.009	5423.2	116.3	316	336
TH-229	377	1	0.754	4845.3	296.7	226	277
TH-230	3	0	0.006	4687.7	116.3	190	210
TH-232	1	1	0.001	4013.0	116.4	74	94

End of Alpha Region Report
(Produced by ANAL Report)

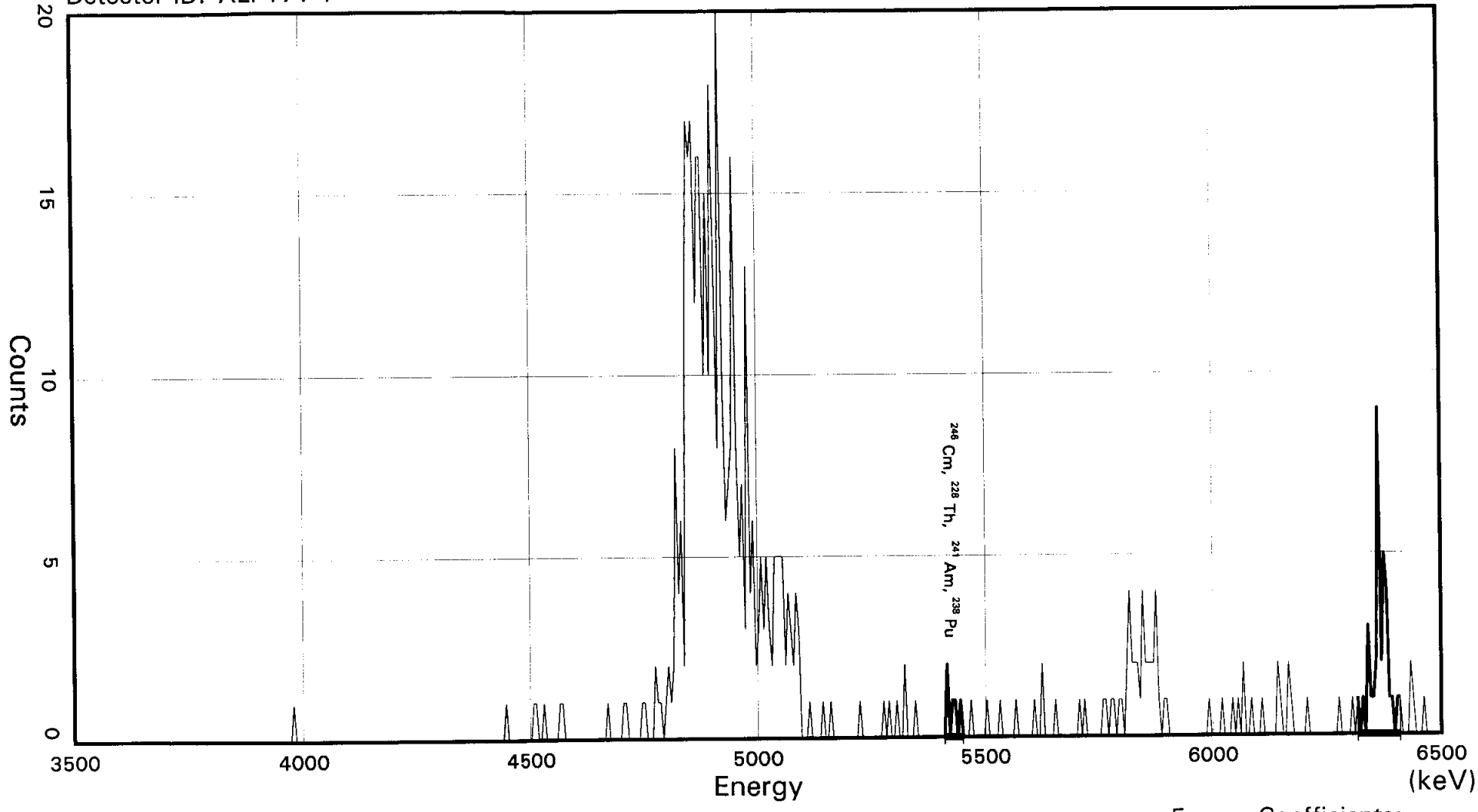
STL Richland WA.

TH BRC

Sample ID: H5KQR1AA

Detector ID: ALP171 1

Batch ID: 6143229



Acquisition Start: 20-JUN-2006 21:51:40.57

Preset Live Time: 0 08:20:00.00

Elapsed Live Time: 0 08:19:28.00

Energy Coefficients:

Offset: 3.49600E+03

Slope: 5.81791E+00

Quadrature: -1.51993E-06

SAMPLE IDENTIITY: H5KQR1AA

TITLE : TH BRC

DETECTOR : ALP171 1
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H5KQR1AA_200662151A.CN
F;1
ACQUIRE DATE of BACKGROUND: 10-JUN-2006 06:49:56

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 20-JUN-2006 21:51:40 CALIB DATE : 09-JUN-2006 02:56:15

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:19:28

OFFSET : 3496.00 keV CONSTANT FWHM : 8.50000 Channels
SLOPE : 5.81791 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.151993E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 29-Jun-92)

Sample Identity: H5KQR1AA
Detector: ALP171 1
Report Date: 21-Jun-06 06:12 AM
Acquire Date: 20-JUN-2006 21:51:40.57

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0		201	8		251	0		301	0		351	2		401	0		451	1		501
		2	0		52	0		102	0		152	1		202	5		252	0		302	0		352	2		402	0		452	0		502
	0	3	0		53	0		103	0		153	0		203	7		253	0		303	0		353	1		403	0		453	0		503
	0	4	0		54	0		104	0		154	0		204	3		254	0		304	0		354	4		404	0		454	0		504
	0	5	0		55	0		105	0		155	0		205	13		255	0		305	0		355	2		405	2		455	2		505
	0	6	0		56	0		106	0		156	0		206	4		256	1		306	1		356	2		406	1		456	1		506
	0	7	0		57	0		107	0		157	0		207	6		257	0		307	0		357	2		407	0		457	0		507
	0	8	0		58	0		108	0		158	1		208	2		258	1		308	0		358	2		408	0		458	0		508
	0	9	0		59	0		109	0		159	1		209	3		259	0		309	0		359	4		409	2		459	0		509
	0	10	0		60	0		110	0		160	0		210	5		260	0		310	0		360	1		410	1		460	1		510
	0	11	0		61	0		111	0		161	0		211	3		261	1		311	0		361	0		411	0		461	0		511
	0	12	0		62	0		112	0		162	0		212	5		262	0		312	0		362	1		412	0		462	0		512
	0	13	0		63	0		113	1		163	0		213	3		263	0		313	1		363	1		413	0		463			
	0	14	0		64	0		114	0		164	0		214	2		264	2		314	0		364	0		414	0		464			
	0	15	0		65	0		115	0		165	1		215	5		265	0		315	0		365	0		415	0		465			
	0	16	0		66	0		116	0		166	1		216	5		266	0		316	2		366	0		416	1		466			
	0	17	0		67	0		117	0		167	0		217	5		267	0		317	0		367	0		417	0		467			
	0	18	0		68	0		118	0		168	0		218	5		268	1		318	0		368	0		418	0		468			
	0	19	0		69	0		119	0		169	0		219	2		269	0		319	0		369	0		419	0		469			
	0	20	0		70	0		120	0		170	2		220	4		270	0		320	0		370	0		420	0		470			
	0	21	0		71	0		121	0		171	1		221	3		271	0		321	1		371	0		421	0		471			
	0	22	0		72	0		122	0		172	1		222	2		272	0		322	0		372	0		422	0		472			
	0	23	0		73	0		123	0		173	0		223	4		273	0		323	0		373	0		423	0		473			
	0	24	0		74	0		124	1		174	1		224	3		274	0		324	0		374	0		424	0		474			
	0	25	0		75	0		125	1		175	2		225	0		275	0		325	0		375	0		425	0		475			
	0	26	0		76	0		126	0		176	1		226	0		276	0		326	0		376	0		426	0		476			
	0	27	0		77	0		127	0		177	2		227	0		277	0		327	0		377	0		427	0		477			
	0	28	0		78	0		128	1		178	8		228	1		278	0		328	0		378	0		428	1		478			
	0	29	0		79	0		129	0		179	4		229	0		279	0		329	0		379	1		429	0		479			
	0	30	0		80	0		130	0		180	6		230	0		280	2		330	1		380	0		430	0		480			
	0	31	0		81	0		131	0		181	2		231	0		281	0		331	0		381	0		431	0		481			
	0	32	0		82	0		132	0		182	12		232	0		282	1		332	1		382	0		432	0		482			
	0	33	1		83	0		133	0		183	17		233	1		283	1		333	0		383	0		433	1		483			
	0	34	0		84	0		134	1		184	16		234	0		284	0		334	0		384	1		434	0		484			
	0	35	0		85	0		135	1		185	17		235	0		285	1		335	0		385	0		435	1		485			
	0	36	0		86	0		136	0		186	12		236	1		286	0		336	0		386	0		436	0		486			
	0	37	0		87	0		137	0		187	16		237	0		287	0		337	0		387	0		437	1		487			
	0	38	0		88	0		138	0		188	16		238	0		288	0		338	0		388	1		438	0		488			
	0	39	0		89	0		139	0		189	10		239	0		289	1		339	1		389	0		439	3		489			
	0	40	0		90	0		140	0		190	15		240	0		290	0		340	1		390	1		440	1		490			
	0	41	0		91	0		141	0		191	10		241	0		291	0		341	0		391	0		441	1		491			
	0	42	0		92	0		142	0		192	18		242	0		292	0		342	1		392	2		442	2		492			
	0	43	0		93	0		143	0		193	13		243	0		293	0		343	1		393	0		443	9		493			
	0	44	0		94	0		144	0		194	8		244	0		294	0		344	0		394	0		444	2		494			
	0	45	0		95	0		145	0		195	20		245	0		295	1		345	1		395	1		445	5		495			
	0	46	0		96	0		146	0		196	10		246	0		296	0		346	1		396	0		446	4		496			
	0	47	0		97	0		147	0		197	6		247	1		297	0		347	0		397	0		447	1		497			
	0	48	0		98	0		148	0		198	7		248	0		298	0		348	2		398	0		448	1		498			
	0	49	0		99	0		149	0		199	8		249	0		299	0		349	4		399	1		449	0		499			

0	50	0	100	0	150	0	200	16	250	0	300	1	350	2	400	0	450	1	500

VMS Peak Search Report V1.9 Generated 21-JUN-2006 06:12:15

Configuration	: $DISK1:[ALP171.SAMPLE]H5KQR1AA_200662151A.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: TH BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:51:40
Sample ID	: H5KQR1AA	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP171 1	Detector geometry	:
Elapsed live time	: 0 08:19:28.00	Elapsed real time	: 0 08:19:28.00 0.0%
Start energy	: 3513.45 keV	End energy	: 6474.37 keV
Sensitivity	: 3.00	Sum Sensitivity	: 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5424.47	4	0	23.27	331.50	329	7	1.33E-04	50.0	
2	0	6367.30	33	0	34.91	493.59	485	16	1.10E-03	17.4	

VMS Nuclide Identification Report V3.0 Generated 21-JUN-2006 06:12:18

```
Configuration     : $DISK1:[ALP171.SAMPLE]H5KQR1AA_200662151A.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 4-MAY-2006 12:00:00  Acquisition date : 20-JUN-2006 21:51:40
Sample ID         : H5KQR1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP171 1             Detector geometry:
Elapsed live time: 0 08:19:28.00         Elapsed real time: 0 08:19:28.00   0.0%
Energy tolerance :    80.00 keV          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    70.00
```

Summary of Nuclide Activity

Total number of lines in spectrum	2	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	1	50.00%

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-228	1.91Y	1.05	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-246	8500.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PU-238	87.74Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
AM-241	432.20Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			

Grand Total Activity : 0.000E+00 0.000E+00

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

```
  Error Report  (Date: 21-Jun-06  06:12 AM)

Program: Alp_rgn_cnts
subroutine: Main
Message: No trace pk or nucl
Record being processed:  7

System Status Message:

%NONAME-W-NOMSG, Message number 00000000
```

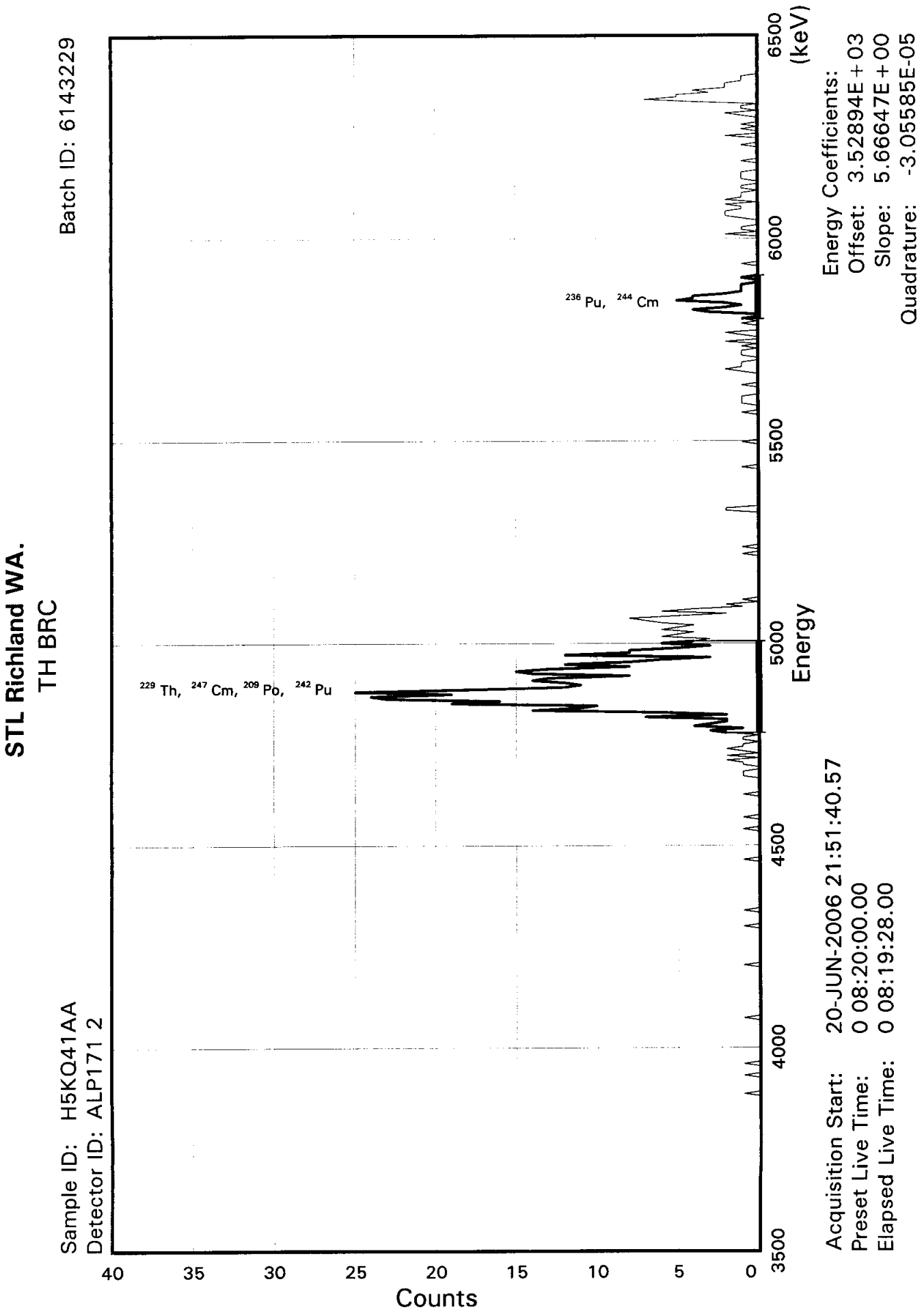
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H5KQ41AA

Detector: ALP171 2
Report Date: 21-Jun-06 06:47 AM
Acquire Date: 20-JUN-2006 21:51:40.57
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	1	4	-0.002	5423.2	112.9	320	340
TH-229	476	4	0.949	4845.3	333.4	223	282
TH-230	8	1	0.015	4687.7	113.1	190	210
TH-232	2	0	0.004	4013.0	113.2	70	90

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6143229
Sample ID: H5KQ41AA
Detector ID: ALP171 2
229 Th, 247 Cm, 209 Po, 242 Pu
236 Pu, 244 Cm
Counts
40
35
30
25
20
15
10
5
0
3500
4000
4500
5000
5500
6000
6500
(keV)
Energy
Acquisition Start: 20-JUN-2006 21:51:40.57
Preset Live Time: 0 08:20:00.00
Elapsed Live Time: 0 08:19:28.00
Energy Coefficients:
Offset: 3.52894E+03
Slope: 5.66647E+00
Quadrature: -3.05585E-05

SAMPLE IDENTIITY: H5KQ41AA

TITLE : TH BRC

DETECTOR : ALP171 2
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H5KQ41AA_200662151B.CN
F;1
ACQUIRE DATE of BACKGROUND: 09-JUN-2006 06:58:01

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 20-JUN-2006 21:51:40 CALIB DATE : 09-JUN-2006 02:56:29

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:19:28

OFFSET : 3528.94 keV CONSTANT FWHM : 10.00000 Channels
SLOPE : 5.66647 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.305585E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H5KQ41AA

Detector: ALP171 2
Report Date: 21-Jun-06 06:12 AM
Acquire Date: 20-JUN-2006 21:51:40.57
Tracer Nuclide: TH-229
High Counts Limit: 36
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
PO-208	-9999	-9999	0	-10.010	5160.0	226.0	269	309	0.00	0.00	M
PO-209	434	3	0	0.866	4928.3	226.1	221	261	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5349.4	225.9	302	342	0.00	0.00	M
AC-227	16	5	23	0.026	6083.1	225.6	432	472	0.00	0.00	S
TH-227	16	5	23	0.026	6083.1	225.6	432	472	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5468.3	225.8	323	363	0.00	0.00	M
TH-229	434	3	0	0.866	4890.4	226.1	221	261	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4732.8	226.1	193	233	0.00	0.00	M I
TH-232	2	3	0	0.001	4058.1	226.4	74	114	0.00	0.00	S
U-232	-9999	-9999	0	-10.010	5365.2	225.9	305	345	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4819.7	226.1	208	248	0.00	0.00	M I
U-235	3	2	1	0.003	4442.9	226.3	142	182	0.00	0.00	S
PU-236	4	33	0	-0.025	5812.7	107.2	402	421	0.00	0.00	P
NP-237	-9999	-9999	0	-10.010	4833.1	226.1	211	251	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.010	5544.1	225.8	337	377	0.00	0.00	M
U-238	-9999	-9999	0	-10.010	4243.1	226.3	107	147	0.00	0.00	M
PU-239	-9999	-9999	0	-10.010	5201.6	225.9	276	316	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5530.7	225.8	334	374	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5251.9	225.9	285	325	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6157.8	231.2	445	486	0.00	0.00	M
PU-242	434	3	0	0.866	4945.6	226.1	221	261	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5320.4	225.9	297	337	0.00	0.00	M
CM-244	4	33	0	-0.025	5849.9	107.2	402	421	0.00	0.00	P
CM-246	-9999	-9999	0	-10.010	5431.6	225.8	317	357	0.00	0.00	M
CM-247	434	3	0	0.866	4915.5	226.1	221	261	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5123.7	226.0	262	302	0.00	0.00	M

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H5KQ41AA
Detector: ALP171 2
Report Date: 21-Jun-06 06:12 AM
Acquire Date: 20-JUN-2006 21:51:40.57

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0	+	101	0	+	151	0	+	201	12	@	251	0	@	301	0	@	351	0		401	1	@	451
		2	0		52	0	+	102	0	+	152	1	+	202	8	@	252	1	@	302	0	@	352	1	@	402	2	@	452
0		3	0		53	0	+	103	0	+	153	1	+	203	6	@	253	0	@	303	0	@	353	0	@	403	0	@	453
0		4	0		54	0	+	104	0	+	154	1	+	204	3	@	254	0	@	304	0	@	354	0	@	404	2	@	454
0		5	0		55	0	+	105	0	+	155	0	+	205	12	@	255	0	@	305	0	@	355	3	@	405	1	@	455
0		6	0		56	0	+	106	0	+	156	0	+	206	8	@	256	0	@	306	0	@	356	4	@	406	1	@	456
0		7	0		57	0	@	107	0	+	157	1	+	207	8	@	257	0	@	307	0	@	357	2	@	407	1	@	457
0		8	0		58	0	@	108	0	+	158	1	@	208	5	@	258	0	@	308	0	@	358	1	@	408	0	@	458
0		9	0		59	0	@	109	0	+	159	2	@	209	3	@	259	0	@	309	0	@	359	2	@	409	1	@	459
0		10	0		60	0	@	110	0	+	160	0	@	210	6	@	260	0	@	310	0	@	360	5	@	410	1	@	460
0		11	0		61	0	@	111	0	+	161	2	-	211	4		261	0	@	311	1	@	361	4	@	411	0	@	461
0		12	0		62	0	@	112	0	+	162	0	@	212	3	+	262	0	@	312	0	@	362	4	@	412	0	@	462
0		13	1		63	0	@	113	0	+	163	1	@	213	6	+	263	0	@	313	0	@	363	2	@	413	1	@	463
0		14	0		64	0	@	114	0	+	164	2	@	214	5	+	264	0	@	314	0	@	364	1	@	414	1	@	464
0		15	0		65	0	-	115	1	+	165	1	@	215	4	+	265	0	@	315	1	@	365	1	@	415	1	@	465
0		16	0		66	0	-	116	0	+	166	1	@	216	6	+	266	0	@	316	1	@	366	1	@	416	1	@	466
0		17	0		67	0	-	117	0	+	167	0	@	217	5	+	267	0	-	317	1	@	367	1	@	417	0	@	467
0		18	0		68	0	-	118	0	+	168	1	@	218	4	+	268	2	@	318	1	@	368	0	@	418	0	@	468
0		19	0		69	1	-	119	0	+	169	1	@	219	6	@	269	2	@	319	0	@	369	0	@	419	0	@	469
0		20	0		70	0	-	120	0	+	170	0	@	220	7	@	270	0	@	320	0	@	370	1	@	420	0	@	470
0		21	1		71	0	-	121	0	+	171	2	@	221	8	@	271	0	@	321	0	@	371	0		421	1	@	471
0		22	0		72	0	-	122	0	+	172	3	@	222	5	@	272	0	@	322	0	@	372	0		422	0	@	472
0		23	0		73	0	-	123	0	+	173	1	@	223	2	@	273	0	@	323	1	@	373	0		423	0	-	473
0		24	0	+	74	0	-	124	0	+	174	4	@	224	6	@	274	0	@	324	0	@	374	0		424	0	-	474
0		25	0	+	75	0	-	125	0	+	175	3	@	225	4	@	275	0	@	325	0	+	375	0		425	0	-	475
0		26	1	+	76	0	-	126	0	+	176	2	@	226	1	@	276	0	@	326	0	+	376	1		426	0	-	476
0		27	0	+	77	0	-	127	0	+	177	2	@	227	2	@	277	0	@	327	0	+	377	0		427	0	-	477
0		28	0	+	78	0	-	128	0	+	178	7	@	228	0	@	278	0	@	328	0		378	0		428	1	-	478
0		29	0	+	79	0	-	129	1	+	179	2	@	229	1	@	279	0	@	329	1		379	0		429	0	-	479
0		30	0	+	80	0	-	130	0	+	180	6	@	230	0	@	280	0	@	330	2		380	0		430	0	-	480
0		31	0	+	81	0	-	131	0	+	181	14	@	231	0	@	281	0	@	331	1		381	0		431	0	-	481
0		32	0	+	82	0	-	132	0	+	182	11	@	232	0	@	282	0	@	332	1		382	0	@	432	2	-	482
0		33	0	+	83	0	-	133	0		183	10	@	233	0	@	283	0	@	333	1		383	0	@	433	0	-	483
0		34	0	+	84	0	-	134	1		184	19	@	234	0	@	284	0	@	334	0		384	0	@	434	0	-	484
0		35	0	+	85	0	-	135	0		185	16	@	235	0	@	285	0	@	335	0		385	0	@	435	1	-	485
0		36	0	+	86	1	-	136	0		186	23	@	236	0	@	286	0	@	336	1		386	0	@	436	0	-	486
0		37	0	+	87	0	-	137	0		187	24	@	237	0	@	287	1	@	337	1		387	0	@	437	1		487
0		38	0	+	88	0	-	138	0		188	19	@	238	0	@	288	0	@	338	1		388	0	@	438	0		488
0		39	0	+	89	0	-	139	0		189	25	@	239	0	@	289	0	@	339	0		389	2	@	439	0		489
0		40	0	+	90	0	-	140	0		190	18	@	240	0	@	290	0	@	340	1		390	0	@	440	0		490
0		41	0	+	91	0	-	141	0		191	12	@	241	0	@	291	0	@	341	0		391	1	@	441	1		491
0		42	0	+	92	0	@	142	0		192	11	@	242	0	@	292	0	@	342	2		392	1	@	442	2		492
0		43	0	+	93	1	@	143	0	+	193	12	@	243	0	@	293	0	@	343	0		393	0	@	443	0		493
0		44	0	+	94	0	@	144	1	+	194	14	@	244	0	@	294	0	@	344	0		394	0	@	444	1		494
0		45	0	+	95	0	@	145	0	+	195	13	@	245	0	@	295	0	@	345	1		395	0	-	445	1		495
0		46	1	+	96	0	@	146	0	+	196	8	@	246	0	@	296	0	@	346	2		396	1	@	446	0		496
0		47	0	+	97	0	@	147	0	+	197	14	@	247	0	@	297	0	@	347	0		397	2	@	447	4		497
0		48	0	+	98	0	+	148	0	+	198	15	@	248	0	@	298	1	@	348	0		398	2	@	448	7		498
0		49	0	+	99	0	+	149	0	+	199	13	@	249	1	@	299	0	@	349	0		399	2	@	449	5		499
0		50	0	+	100	0	+	150	0	+	200	8	@	250	0	@	300	0	@	350	1		400	1	@	450	5		500

VMS Peak Search Report V1.9 Generated 21-JUN-2006 06:12:21

Configuration : $DISK1:[ALP171.SAMPLE]H5KQ41AA_200662151B.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 4-MAY-2006 12:00:00 Acquisition date : 20-JUN-2006 21:51:40
Sample ID : H5KQ41AA Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP171 1 Detector geometry:
Elapsed live time: 0 08:19:28.00 Elapsed real time: 0 08:19:28.00 0.0%
Start energy : 3545.94 keV End energy : 6422.16 keV
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4890.35	434	0	102.00	240.57	221	40	1.45E-02	4.8	
2	0	5843.89	4	0	51.00	409.44	402	19	1.33E-04	50.0	

VMS Nuclide Identification Report V3.0 Generated 21-JUN-2006 06:12:24

Configuration : $DISK1:[ALP171.SAMPLE]H5KQ41AA_200662151B.CNF;1
Analyses by : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title : TH BRC
Sample date : 4-MAY-2006 12:00:00
Sample ID : H5KQ41AA
Sample type : disk
Detector name : ALP171 1
Elapsed live time: 0 08:19:28.00
Energy tolerance : 80.00 keV
Errors propagated: No
Efficiency type : Spline
Abundance limit : 70.00

Acquisition date : 20-JUN-2006 21:51:40
Sample quantity : 0.00000E+00 SAMPLE
Sample geometry :
Detector geometry:
Elapsed real time: 0 08:19:28.00 0.0%
Half life ratio : 1.00
Systematic Error : 0.00 %
Efficiencies at : Peak Energy

Summary of Nuclide Activity

Total number of lines in spectrum	2	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	2	100.00%

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-236	2.86Y	1.03	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-244	18.10Y	1.01	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-247	1.56E+07Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Grand Total Activity : 0.000E+00 0.000E+00

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP171.SAMPLE]H5KQ41AA_200662151B.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4890.35	221	261	434	406	1.34		
5843.89	402	421	4	33	-14.50		

***** WARNING: Possible PEAK/ALPHA Error *****
Review Spectrum on Screen

End of Report

Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H5KQ81AA

Detector: ALP171 3
Report Date: 21-Jun-06 06:48 AM
Acquire Date: 20-JUN-2006 21:51:40.57
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	3	1	0.005	5423.2	119.4	309	329
TH-229	321	0	0.643	4845.3	328.1	215	270
TH-230	3	1	0.005	4687.7	119.2	185	205
TH-232	1	1	0.001	4013.0	119.0	72	92

End of Alpha Region Report
(Produced by ANAL Report)

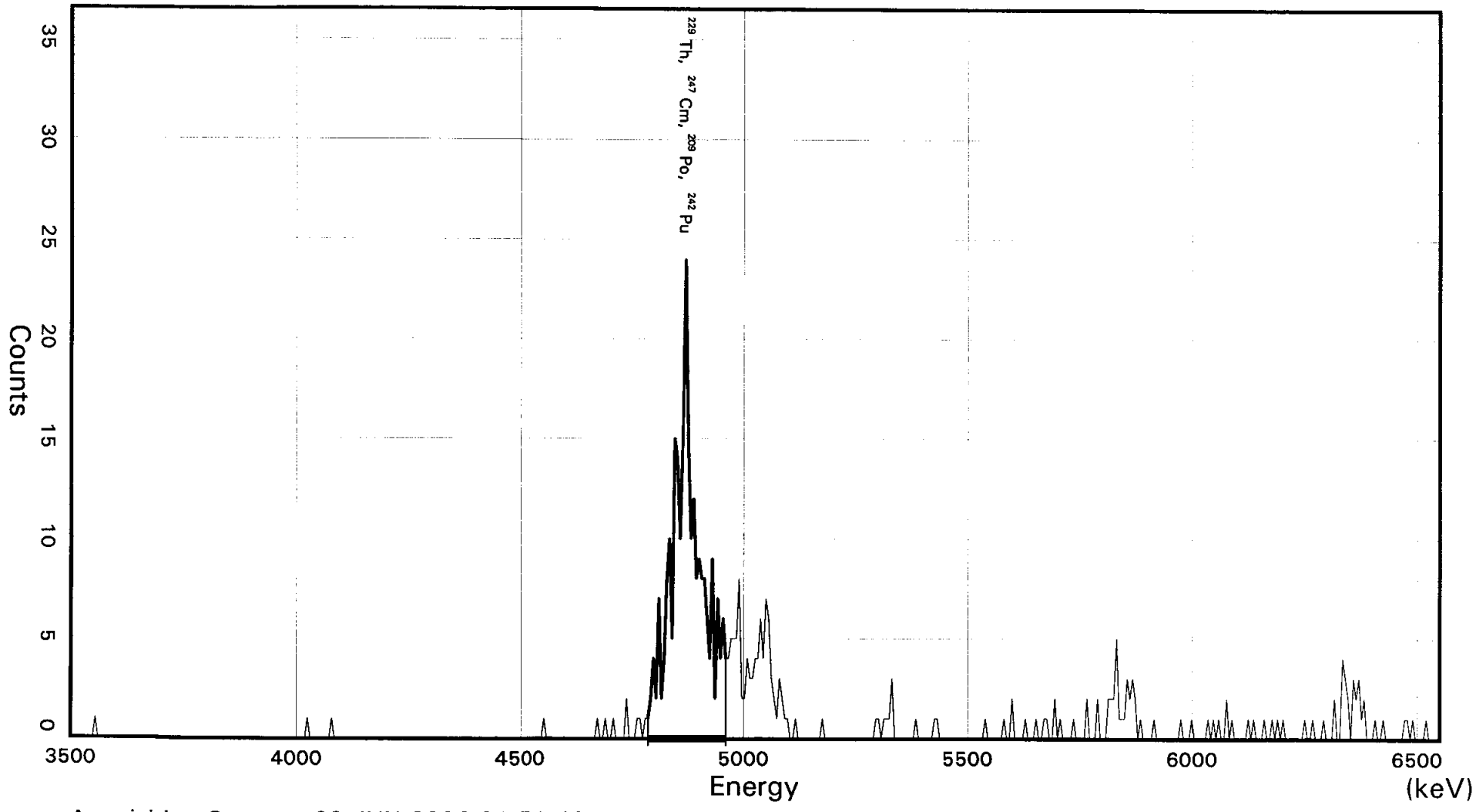
STL Richland WA.

TH BRC

Sample ID: H5KQ81AA

Detector ID: ALP171 3

Batch ID: 6143229



Acquisition Start: 20-JUN-2006 21:51:40.57

Preset Live Time: 0 08:20:00.00

Elapsed Live Time: 0 08:19:28.00

Energy Coefficients:

Offset: 3.49562E+03

Slope: 5.94301E+00

Quadrature: 4.47075E-05

SAMPLE IDENTIITY: H5KQ81AA

TITLE : TH BRC

DETECTOR : ALP171 3
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H5KQ81AA_200662151C.CN
F;1
ACQUIRE DATE of BACKGROUND: 09-JUN-2006 06:58:01

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 20-JUN-2006 21:51:40 CALIB DATE : 09-JUN-2006 02:56:42

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:19:28

OFFSET : 3495.62 keV CONSTANT FWHM : 8.66667 Channels
SLOPE : 5.94301 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 4.470750E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H5KQ81AA

Detector: ALP171 3
Report Date: 21-Jun-06 06:12 AM
Acquire Date: 20-JUN-2006 21:51:40.57
Tracer Nuclide: TH-229
High Counts Limit: 36
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
PO-208	-9999	-9999	0	-10.010	5139.6	173.1	262	291	0.00	0.00	M
PO-209	233	0	0	0.466	4907.9	172.9	217	246	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5329.1	173.1	294	323	0.00	0.00	M
AC-227	6	1	6	0.011	6062.7	173.5	417	446	0.00	0.00	S
TH-227	6	1	6	0.011	6062.7	173.5	417	446	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5447.9	173.2	314	343	0.00	0.00	M
TH-229	233	0	0	0.466	4870.0	172.9	217	246	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4712.4	172.9	191	220	0.00	0.00	M I
TH-232	2	1	0	0.003	4037.7	172.6	77	106	0.00	0.00	
U-232	-9999	-9999	0	-10.010	5344.9	173.2	297	326	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4799.3	172.9	205	234	0.00	0.00	M I
U-235	0	0	0	0.000	4422.5	172.8	142	171	0.00	0.00	
PU-236	15	19	28	0.012	5792.4	167.4	372	400	0.00	0.00	S
NP-237	-9999	-9999	0	-10.010	4812.7	172.9	207	236	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.010	5523.8	173.2	327	356	0.00	0.00	M
U-238	0	0	0	0.000	4222.7	172.7	108	137	0.00	0.00	
PU-239	-9999	-9999	0	-10.010	5181.3	173.1	269	298	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5510.3	173.2	324	353	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5231.5	173.1	278	307	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6137.4	173.5	429	458	0.00	0.00	M
PU-242	233	0	0	0.466	4925.2	172.9	217	246	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5300.0	173.1	289	318	0.00	0.00	M
CM-244	16	20	28	0.013	5829.5	173.4	378	407	0.00	0.00	S
CM-246	-9999	-9999	0	-10.010	5411.2	173.2	308	337	0.00	0.00	M
CM-247	233	0	0	0.466	4895.1	172.9	217	246	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5103.3	173.0	256	285	0.00	0.00	M

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H5KQ81AA
Detector: ALP171 3
Report Date: 21-Jun-06 06:12 AM
Acquire Date: 20-JUN-2006 21:51:40.57

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1		0	51		0+	101		0+	151		1+	201		8	251		0@	301		0@	351		1-	401		0-	451		0	501
		2		0	52		0+	102		0+	152		0+	202		2	252		1@	302		0@	352		0-	402		1-	452		1	502
	0	3		0	53		0+	103		0+	153		0+	203		2	253		1@	303		2@	353		0-	403		0-	453		0	503
	0	4		0	54		0+	104		0+	154		1+	204		4	254		0@	304		0+	354		0-	404		1-	454		0	504
	0	5		0	55		0+	105		0+	155		0@	205		3	255		1@	305		0+	355		0-	405		0-	455		0	505
	0	6		0	56		0+	106		0+	156		0@	206		3+	256		1@	306		0+	356		1-	406		0-	456		0	506
	0	7		0	57		0	107		0+	157		0-	207		4+	257		1@	307		0	357		0-	407		0-	457		1	507
	0	8		0	58		0+	108		0+	158		0@	208		4+	258		3-	308		1	358		0	408		0-	458		0	508
	0	9		0	59		0+	109		0+	159		2@	209		6+	259		0@	309		0	359		0	409		0	459		0	509
	1	10		0	60		0+	110		0+	160		0@	210		4+	260		0@	310		0	360		0	410		0	460		0	510
	0	11		0	61		0+	111		0+	161		0@	211		7+	261		0@	311		0	361		0	411		0	461		0	511
	0	12		0	62		0+	112		0+	162		0@	212		6@	262		0@	312		1	362		0	412		1	462		0	512
	0	13		0	63		0+	113		0+	163		1@	213		3@	263		0@	313		0	363		0	413		0	463			
	0	14		0	64		0+	114		0+	164		1@	214		2@	264		0@	314		0	364		0	414		0	464			
	0	15		0	65		0+	115		0+	165		0@	215		1@	265		0@	315		1	365		0	415		1	465			
	0	16		0	66		0+	116		0+	166		1@	216		3@	266		0@	316		1	366		1	416		0	466			
	0	17		0	67		0+	117		0+	167		1@	217		2@	267		1@	317		0	367		0@	417		0	467			
	0	18		0	68		0+	118		0+	168		2@	218		1@	268		0@	318		0	368		0@	418		0	468			
	0	19		0	69		0+	119		0+	169		4@	219		1@	269		0@	319		2	369		0@	419		1	469			
	0	20		0	70		0+	120		0+	170		2@	220		0@	270		0@	320		0	370		1@	420		0	470			
	0	21		0	71		0+	121		0+	171		7@	221		0@	271		0@	321		1	371		0@	421		0	471			
	0	22		0	72		0+	122		0	172		2@	222		1@	272		0@	322		0+	372		0@	422		0	472			
	0	23		0	73		0+	123		0	173		4@	223		0@	273		0@	323		0+	373		0@	423		2	473			
	0	24		0	74		0+	124		0	174		8@	224		0@	274		1@	324		0+	374		0@	424		0	474			
	0	25		0	75		0+	125		0	175		10@	225		0@	275		1@	325		0+	375		0@	425		0	475			
	0	26		0	76		0+	126		0	176		5@	226		0@	276		0@	326		1+	376		1@	426		4	476			
	0	27		0+	77		0+	127		0	177		15@	227		0@	277		0@	327		0+	377		0@	427		3	477			
	0	28		0+	78		0+	128		1	178		14@	228		0@	278		0@	328		0@	378		1@	428		2	478			
	0	29		0+	79		0+	129		0	179		10@	229		0@	279		0@	329		0@	379		0-	429		0	479			
	0	30		0+	80		0+	130		0	180		15@	230		0@	280		0@	330		0@	380		1@	430		3	480			
	0	31		0+	81		0+	131		0	181		24@	231		0@	281		0@	331		2@	381		0@	431		2	481			
	0	32		0+	82		0+	132		0	182		15@	232		1@	282		0@	332		0@	382		0@	432		3	482			
	0	33		0+	83		0+	133		0	183		10@	233		0@	283		0@	333		0@	383		2@	433		1	483			
	0	34		0+	84		0+	134		0	184		12@	234		0@	284		0@	334		0@	384		0@	434		2	484			
	0	35		0+	85		0+	135		0	185		8@	235		0@	285		0@	335		2@	385		1@	435		0	485			
	0	36		0+	86		0+	136		0	186		9@	236		0@	286		0@	336		0@	386		0@	436		0	486			
	0	37		0+	87		0+	137		0	187		8@	237		0@	287		0@	337		0@	387		0@	437		0	487			
	0	38		0+	88		0	138		0	188		8@	238		0@	288		0@	338		0@	388		0@	438		1	488			
	0	39		1+	89		0	139		0	189		6@	239		0-	289		0@	339		2@	389		0@	439		0	489			
	0	40		0+	90		0	140		0	190		4@	240		0@	290		0@	340		2@	390		0@	440		0	490			
	0	41		0+	91		0	141		0+	191		9@	241		0@	291		0@	341		2@	391		1@	441		1	491			
	0	42		0+	92		0+	142		0+	192		2@	242		0@	292		0@	342		5@	392		0@	442		0	492			
	0	43		0+	93		0+	143		0+	193		7@	243		0@	293		1@	343		1@	393		1@	443		0	493			
	0	44		0+	94		0+	144		0+	194		4@	244		0@	294		0@	344		1@	394		0@	444		0	494			
	0	45		0+	95		0+	145		0+	195		6@	245		0@	295		0@	345		1@	395		0@	445		0	495			
	0	46		0+	96		0+	146		0+	196		4	246		0@	296		0@	346		3@	396		0@	446		0	496			
	0	47		0+	97		0+	147		0+	197		4	247		0@	297		0@	347		2@	397		1-	447		0	497			
	0	48		1+	98		0+	148		1+	198		5	248		0@	298		0@	348		3@	398		0-	448		0	498			
	0	49		0+	99		0+	149		0+	199		5	249		0@	299		0@	349		2@	399		0-	449		1	499			
	0	50		0+	100		0+	150		0+	200		5	250		0@	300		1@	350		0@	400		1-	450		1	500			

VMS Peak Search Report V1.9 Generated 21-JUN-2006 06:12:29

Configuration	: $DISK1:[ALP171.SAMPLE]H5KQ81AA_200662151C.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: TH BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:51:40
Sample ID	: H5KQ81AA	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP171 1	Detector geometry	:
Elapsed live time	: 0 08:19:28.00	Elapsed real time	: 0 08:19:28.00 0.0%
Start energy	: 3513.45 keV	End energy	: 6550.16 keV
Sensitivity	: 3.00	Sum Sensitivity	: 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4870.02	233	0	65.37	230.86	217	29	7.77E-03	6.6	

VMS Nuclide Identification Report V3.0 Generated 21-JUN-2006 06:12:31

Configuration : $DISK1:[ALP171.SAMPLE]H5KQ81AA_200662151C.CNF;1
Analyses by : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title : TH BRC
Sample date : 4-MAY-2006 12:00:00
Sample ID : H5KQ81AA
Sample type : disk
Detector name : ALP171 1
Elapsed live time: 0 08:19:28.00
Energy tolerance : 80.00 keV
Errors propagated: No
Efficiency type : Spline
Abundance limit : 70.00

Acquisition date : 20-JUN-2006 21:51:40
Sample quantity : 0.00000E+00 SAMPLE
Sample geometry :
Detector geometry:
Elapsed real time: 0 08:19:28.00 0.0%
Half life ratio : 1.00
Systematic Error : 0.00 %
Efficiencies at : Peak Energy

Summary of Nuclide Activity

Total number of lines in spectrum	1	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	1	100.00%

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-247	1.56E+07Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Grand Total Activity : 0.000E+00 0.000E+00

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP171.SAMPLE]H5KQ81AA_200662151C.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4870.02	217	246	233	235	-0.13		

End of Report

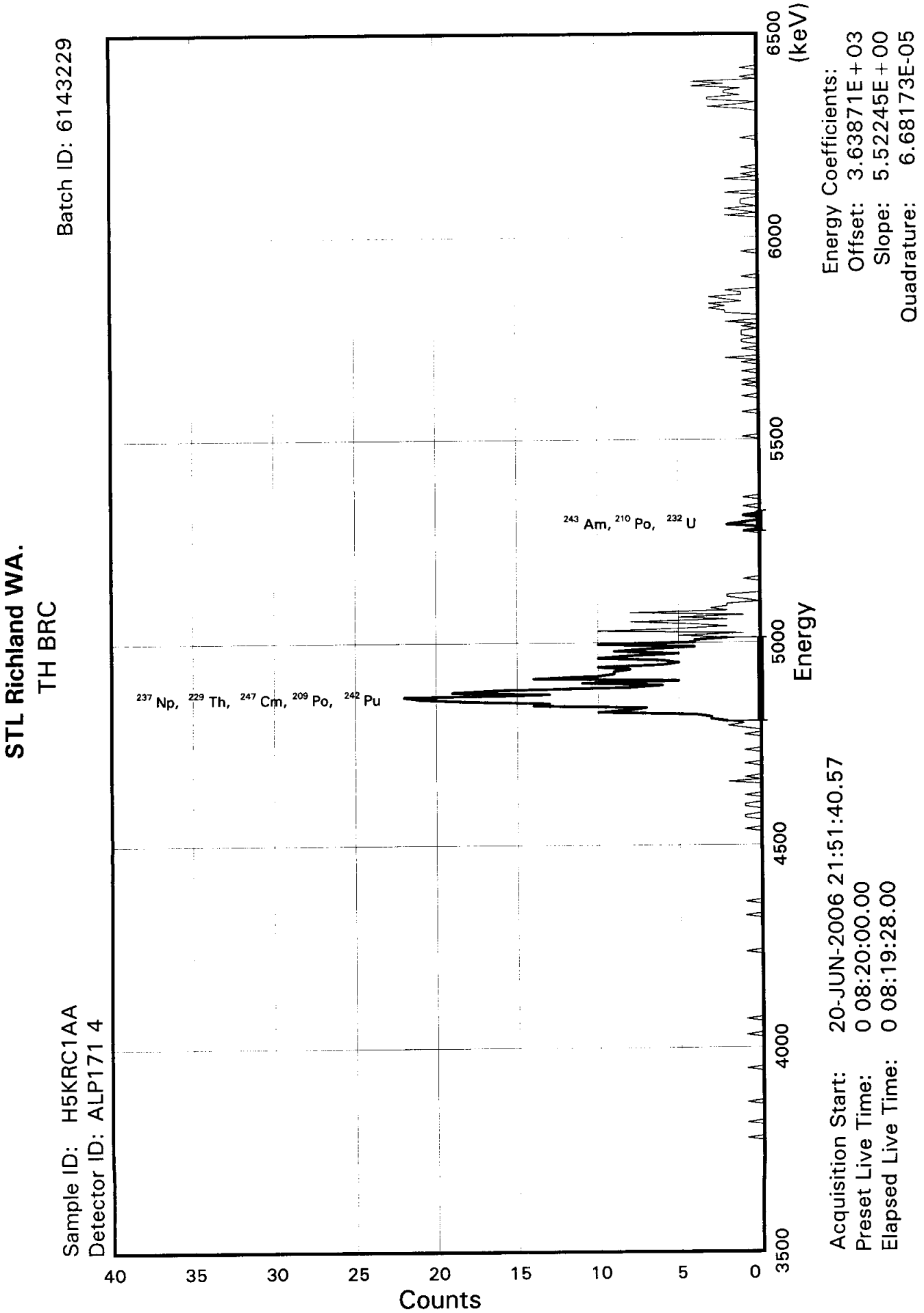
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H5KRC1AA

Detector: ALP171 4
Report Date: 21-Jun-06 06:48 AM
Acquire Date: 20-JUN-2006 21:51:40.57
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	1	1	0.001	5423.2	111.3	307	327
TH-229	412	1	0.824	4845.3	338.8	208	269
TH-230	5	0	0.010	4687.7	110.9	175	195
TH-232	2	1	0.003	4013.0	110.6	53	73

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6143229
Sample ID: H5KRC1AA
Detector ID: ALP171 4
^{237}Np, ^{229}Th, ^{247}Cm, ^{209}Po, ^{242}Pu
^{243}Am, ^{210}Po, ^{232}U
Counts
40
35
30
25
20
15
10
5
0
Energy
3500
4000
4500
5000
5500
6000
6500
(keV)
Energy Coefficients:
Offset: 3.63871E+03
Slope: 5.52245E+00
Quadrature: 6.68173E-05
Acquisition Start: 20-JUN-2006 21:51:40.57
Preset Live Time: 0 08:20:00.00
Elapsed Live Time: 0 08:19:28.00

SAMPLE IDENTIITY: H5KRC1AA

TITLE : TH BRC

DETECTOR : ALP171 4
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H5KRC1AA_200662151D.CN
F;1
ACQUIRE DATE of BACKGROUND: 09-JUN-2006 06:58:01

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 20-JUN-2006 21:51:40 CALIB DATE : 09-JUN-2006 02:56:58

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:19:28

OFFSET : 3638.71 keV CONSTANT FWHM : 11.00000 Channels
SLOPE : 5.52245 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 6.681730E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H5KRC1AA

Detector: ALP171 4
Report Date: 21-Jun-06 06:12 AM
Acquire Date: 20-JUN-2006 21:51:40.57
Tracer Nuclide: TH-229
High Counts Limit: 36
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
PO-208	-9999	-9999	0	-10.010	5133.4	200.1	260	296	0.00	0.00	M I
PO-209	350	0	0	0.701	4901.7	205.5	211	248	0.00	0.00	P
PO-210	6	0	0	0.012	5322.9	50.1	295	304	0.00	0.00	P
AC-227	10	5	9	0.015	6056.5	206.5	425	462	0.00	0.00	S
TH-227	10	5	9	0.015	6056.5	206.5	425	462	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5441.7	206.0	315	352	0.00	0.00	M
TH-229	350	0	0	0.701	4863.8	205.5	211	248	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4706.2	205.3	183	220	0.00	0.00	S I
TH-232	2	1	0	0.003	4031.5	204.7	61	98	0.00	0.00	S
U-232	6	0	0	0.012	5338.7	50.1	295	304	0.00	0.00	P
U-234	-9999	-9999	0	-10.010	4793.1	205.4	198	235	0.00	0.00	S I
U-235	2	2	1	0.001	4416.3	205.1	130	167	0.00	0.00	S
PU-236	18	23	27	0.012	5786.2	206.3	377	414	0.00	0.00	S
NP-237	350	0	0	0.701	4806.5	205.5	211	248	0.00	0.00	P
PU-238	-9999	-9999	0	-10.010	5517.5	206.0	329	366	0.00	0.00	M
U-238	-9999	-9999	0	-10.010	4216.5	204.9	94	131	0.00	0.00	M
PU-239	-9999	-9999	0	-10.010	5175.1	205.7	267	304	0.00	0.00	M I
AM-241	-9999	-9999	0	-10.010	5504.1	206.0	326	363	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5225.3	205.8	276	313	0.00	0.00	M I
CM-242	-9999	-9999	0	-10.010	6131.2	206.6	439	476	0.00	0.00	M
PU-242	350	0	0	0.701	4919.0	205.5	211	248	0.00	0.00	P
AM-243	6	0	0	0.012	5293.8	50.1	295	304	0.00	0.00	P
CM-244	15	20	27	0.009	5823.3	200.7	384	420	0.00	0.00	S
CM-246	-9999	-9999	0	-10.010	5405.0	205.9	308	345	0.00	0.00	M
CM-247	350	0	0	0.701	4888.9	205.5	211	248	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5097.1	205.7	253	290	0.00	0.00	M

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H5KRC1AA
Detector: ALP171 4
Report Date: 21-Jun-06 06:12 AM
Acquire Date: 20-JUN-2006 21:51:40.57

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1		0	51		0	101		0	151		0	201	10		251		0	301		0	351		1	401		2	451		0	501
		2		0	52		0	102		0	152		0	202	5		252		1	302		0	352		2	402		0	452		0	502
	0	3		0	53		0	103		0	153		0	203	2	+	253		0	303		0	353		0	403		1	453		0	503
	0	4		0	54		0	104		0	154		0	204	4	+	254		0	304		0	354		0	404		0	454		0	504
	0	5		0	55		0	105		0	155		1	205	8	+	255		0	305		1	355		0	405		0	455		0	505
	0	6		1	56		0	106		0	156		0	206	2	+	256		1	306		0	356		0	406		1	456		0	506
	0	7		0	57		0	107		0	157		0	207	5	+	257		0	307		0	357		0	407		0	457		0	507
	0	8		0	58		1	108		0	158		1	208	1	+	258		0	308		0	358		1	408		0	458		0	508
	0	9		0	59		0	109		0	159		2	209	8	+	259		0	309		0	359		0	409		0	459		0	509
	0	10		0	60		0	110		0	160		1	210	2	@	260		1	310		1	360		0	410		0	460		0	510
	0	11		0	61		0	111		0	161		2	211	3	@	261		0	311		0	361		0	411		0	461		0	511
	0	12		0	62		0	112		0	162		3	212	2	@	262		0	312		1	362		0	412		0	462		0	512
	0	13		0	63		0	113		1	163		3	213	2	@	263		0	313		0	363		0	413		0	463			
	0	14		0	64		0	114		0	164		4	214	0	@	264		0	314		0	364		0	414		0	464			
	0	15		0	65		0	115		0	165		10	215	1	@	265		0	315		0	365		0	415		0	465			
	0	16		0	66		0	116		0	166		8	216	2	@	266		0	316		1	366		0	416		0	466			
	0	17		0	67		0	117		0	167		7	217	2	@	267		0	317		0	367		0	417		0	467			
	0	18		0	68		0	118		1	168		14	218	0	@	268		0	318		0	368		0	418		0	468			
	0	19		0	69		0	119		1	169		13	219	0	@	269		0	319		0	369		1	419		1	469			
	0	20		0	70		0	120		0	170		18	220	0	@	270		0	320		1	370		0	420		0	470			
	0	21		1	71		0	121		0	171		21	221	0	@	271		0	321		0	371		0	421		0	471			
	0	22		0	72		0	122		0	172		22	222	0	@	272		0	322		2	372		0	422		0	472			
	0	23		0	73		0	123		1	173		13	223	0	@	273		0	323		0	373		0	423		0	473			
	0	24		0	74		1	124		1	174		19	224	1	@	274		0	324		0	374		0	424		0	474			
	1	25		0	75		0	125		0	175		16	225	0	@	275		0	325		0	375		0	425		0	475			
	0	26		0	76		0	126		0	176		8	226	0	@	276		0	326		1	376		0	426		0	476			
	0	27		0	77		0	127		0	177		6	227	0	@	277		0	327		0	377		0	427		0	477			
	0	28		1	78		0	128		1	178		11	228	0	@	278		0	328		0	378		0	428		0	478			
	0	29		0	79		0	129		0	179		5	229	0	@	279		0	329		1	379		0	429		0	479			
	0	30		0	80		1	130		0	180		14	230	0	@	280		0	330		1	380		0	430		0	480			
	0	31		0	81		0	131		0	181		10	231	0	@	281		0	331		0	381		0	431		0	481			
	1	32		0	82		0	132		0	182		9	232	0	@	282		0	332		1	382		0	432		1	482			
	0	33		0	83		0	133		0	183		9	233	0	@	283		0	333		1	383		0	433		3	483			
	0	34		0	84		0	134		2	184		8	234	0	@	284		0	334		1	384		0	434		1	484			
	0	35		0	85		0	135		0	185		10	235	0	@	285		0	335		0	385		2	435		0	485			
	0	36		0	86		0	136		1	186		6	236	0	@	286		0	336		1	386		0	436		3	486			
	0	37		0	87		0	137		0	187		5	237	0	@	287		1	337		0	387		1	437		3	487			
	0	38		0	88		0	138		0	188		6	238	0	@	288		0	338		2	388		2	438		1	488			
	0	39		0	89		0	139		0	189		10	239	0	@	289		0	339		0	389		0	439		2	489			
	0	40		0	90		0	140		0	190		8	240	0	@	290		0	340		0	390		1	440		2	490			
	1	41		0	91		0	141		0	191		5	241	0	@	291		0	341		0	391		1	441		1	491			
	0	42		0	92		0	142		1	192		9	242	0	@	292		0	342		2	392		1	442		4	492			
	0	43		0	93		0	143		0	193		7	243	0	@	293		0	343		2	393		0	443		2	493			
	0	44		0	94		0	144		0	194		4	244	0	@	294		0	344		3	394		0	444		4	494			
	0	45		0	95		0	145		0	195		10	245	1	-	295		0	345		2	395		2	445		0	495			
	0	46		0	96		0	146		0	196		4	246	0	@	296		0	346		3	396		0	446		1	496			
	0	47		0	97		0	147		0	197		4	247	0	@	297		0	347		1	397		0	447		0	497			
	0	48		0	98		0	148		1	198		2	248	2	@	298		1	348		2	398		0	448		0	498			
	0	49		0	99		0	149		0	199		5	249	1	@	299		0	349		3	399		0	449		0	499			
	0	50		0	100		0	150		0	200		1	250	0	@	300		0	350		1	400		0	450		1	500			

VMS Peak Search Report V1.9 Generated 21-JUN-2006 06:12:34

Configuration : $DISK1:[ALP171.SAMPLE]H5KRC1AA_200662151D.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 4-MAY-2006 12:00:00
Sample ID : H5KRC1AA
Sample type : disk
Detector name : ALP171 1
Elapsed live time: 0 08:19:28.00
Start energy : 3655.27 keV
Sensitivity : 3.00

Acquisition date : 20-JUN-2006 21:51:40
Sample quantity : 0.00000E+00 SAMPLE
Sample geometry :
Detector geometry:
Elapsed real time: 0 08:19:28.00 0.0%
End energy : 6483.72 keV
Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4863.81	350	0	49.70	221.25	211	37	1.17E-02	5.3	
2	0	5293.11	6	0	33.13	298.50	295	9	2.00E-04	40.8	

VMS Nuclide Identification Report V3.0 Generated 21-JUN-2006 06:12:36

Configuration : $DISK1:[ALP171.SAMPLE]H5KRC1AA_200662151D.CNF;1
Analyses by : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title : TH BRC
Sample date : 4-MAY-2006 12:00:00 Acquisition date : 20-JUN-2006 21:51:40
Sample ID : H5KRC1AA Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP171 1 Detector geometry:
Elapsed live time: 0 08:19:28.00 Elapsed real time: 0 08:19:28.00 0.0%
Energy tolerance : 80.00 keV Half life ratio : 1.00
Errors propagated: No Systematic Error : 0.00 %
Efficiency type : Spline Efficiencies at : Peak Energy
Abundance limit : 70.00

Summary of Nuclide Activity

Total number of lines in spectrum	2	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	2	100.00%

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PO-210	138.38D	1.27	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
NP-237	2.14E+06Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
AM-243	7370.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-247	1.56E+07Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Grand Total Activity : 0.000E+00 0.000E+00

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP171.SAMPLE]H5KRC1AA_200662151D.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4863.80	211	248	350	343	0.37		
5293.10	295	304	6	5	0.41		

End of Report

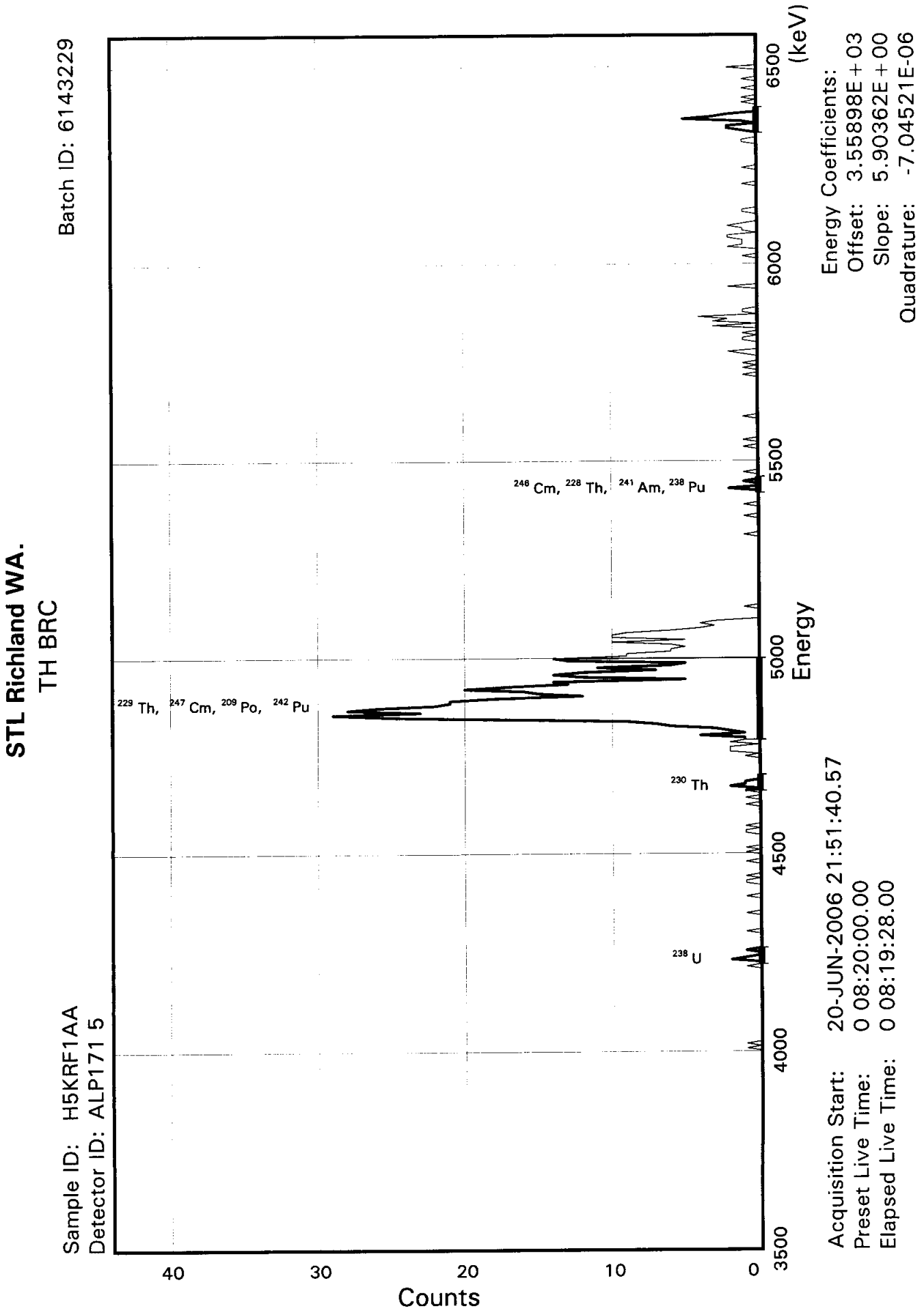
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H5KRF1AA

Detector: ALP171 5
Report Date: 21-Jun-06 06:48 AM
Acquire Date: 20-JUN-2006 21:51:40.57
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	5	2	0.008	5423.2	118.0	301	321
TH-229	576	0	1.153	4845.3	348.1	209	268
TH-230	7	2	0.012	4687.7	118.0	176	196
TH-232	2	0	0.004	4013.0	118.1	62	82

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6143229
Sample ID: H5KRF1AA
Detector ID: ALP171 5
229 Th, 247 Cm, 209 Po, 242 Pu
230 Th
238 U
246 Cm, 228 Th, 241 Am, 238 Pu
Counts
40
30
20
10
0
Energy
3500
4000
4500
5000
5500
6000
6500
(keV)
Acquisition Start: 20-JUN-2006 21:51:40.57
Preset Live Time: 0 08:20:00.00
Elapsed Live Time: 0 08:19:28.00
Energy Coefficients:
Offset: 3.55898E+03
Slope: 5.90362E+00
Quadrature: -7.04521E-06

SAMPLE IDENTIITY: H5KRF1AA

TITLE : TH BRC

DETECTOR : ALP171 5
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H5KRF1AA_200662151E.CN
F;1
ACQUIRE DATE of BACKGROUND: 09-JUN-2006 06:58:01

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 20-JUN-2006 21:51:40 CALIB DATE : 09-JUN-2006 02:57:11

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:19:28

OFFSET : 3558.98 keV CONSTANT FWHM : 7.66667 Channels
SLOPE : 5.90362 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.704521E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H5KRF1AA

Detector: ALP171 5
Report Date: 21-Jun-06 06:12 AM
Acquire Date: 20-JUN-2006 21:51:40.57
Tracer Nuclide: TH-229
High Counts Limit: 36
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
PO-208	-9999	-9999	0	-10.010	5153.0	206.5	255	290	0.00	0.00	M
PO-209	441	0	0	0.883	4921.3	206.5	209	244	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5342.5	206.5	287	322	0.00	0.00	M I
AC-227	11	2	12	0.021	6076.1	206.4	411	446	0.00	0.00	S
TH-227	11	2	12	0.021	6076.1	206.4	411	446	0.00	0.00	S
TH-228	4	2	0	0.006	5461.3	41.3	315	322	0.00	0.00	P
TH-229	441	0	0	0.883	4883.4	206.5	209	244	0.00	0.00	P
TH-230	4	2	0	0.006	4725.8	41.3	187	194	0.00	0.00	P
TH-232	2	1	0	0.003	4051.1	206.6	68	103	0.00	0.00	
U-232	-9999	-9999	0	-10.010	5358.3	206.5	289	324	0.00	0.00	M I
U-234	-9999	-9999	0	-10.010	4812.7	206.5	197	232	0.00	0.00	S I
U-235	8	1	0	0.015	4435.9	206.6	133	168	0.00	0.00	
PU-236	13	22	20	0.005	5805.7	206.4	365	400	0.00	0.00	S
NP-237	-9999	-9999	0	-10.010	4826.1	206.5	199	234	0.00	0.00	S I
PU-238	4	2	0	0.006	5537.1	41.3	315	322	0.00	0.00	P
U-238	4	1	0	0.007	4236.1	41.3	112	119	0.00	0.00	P
PU-239	-9999	-9999	0	-10.010	5194.7	206.5	262	297	0.00	0.00	M
AM-241	4	2	0	0.006	5523.7	41.3	315	322	0.00	0.00	P
AM-242M	-9999	-9999	0	-10.010	5244.9	206.5	270	305	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6150.8	206.4	424	459	0.00	0.00	M
PU-242	441	0	0	0.883	4938.6	206.5	209	244	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5313.4	206.5	282	317	0.00	0.00	M I
CM-244	12	19	20	0.006	5842.9	206.4	372	407	0.00	0.00	S
CM-246	4	2	0	0.006	5424.6	41.3	315	322	0.00	0.00	P
CM-247	441	0	0	0.883	4908.5	206.5	209	244	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5116.7	206.5	249	284	0.00	0.00	M

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H5KRF1AA
Detector: ALP171 5
Report Date: 21-Jun-06 06:12 AM
Acquire Date: 20-JUN-2006 21:51:40.57

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0	+	101	0	+	151	0	@	201	10	+	251	0	@	301	0		351	0	-	401	0	-	451
		2	0		52	0	+	102	0	+	152	1	@	202	5	+	252	0	@	302	0		352	0	-	402	0	-	452
0		3	0		53	0	+	103	0	+	153	0	@	203	10	+	253	0	@	303	0		353	0	-	403	0	-	453
0		4	0		54	0		104	0	+	154	2	@	204	10	+	254	0	@	304	0		354	2	-	404	0	-	454
0		5	0		55	0		105	0	+	155	2	@	205	9	@	255	1	@	305	0		355	0	-	405	1	-	455
0		6	0		56	0		106	1	+	156	2	@	206	6	@	256	0	@	306	0		356	0	-	406	0	-	456
0		7	0		57	0		107	0	+	157	0	@	207	4	@	257	0	@	307	0		357	0	-	407	0	-	457
0		8	0		58	0		108	0	+	158	2	@	208	3	@	258	0	@	308	0		358	0		408	0	-	458
0		9	0		59	0		109	0	+	159	1	@	209	4	@	259	0	@	309	0		359	0		409	0	-	459
0		10	0		60	0		110	1	+	160	1	@	210	3	@	260	1	@	310	0		360	0		410	0		460
0		11	0		61	1		111	0	+	161	4	@	211	0	@	261	0	@	311	0		361	0	@	411	0		461
0		12	0		62	0	+	112	1	+	162	1	@	212	0	@	262	0	@	312	0		362	0	@	412	0		462
0		13	0		63	0	+	113	0	+	163	2	@	213	0	@	263	0	@	313	0		363	0	@	413	0		463
0		14	0		64	2	+	114	0	+	164	3	@	214	0	@	264	0	@	314	0		364	0	@	414	0		464
0		15	0		65	1	+	115	0	+	165	6	@	215	0	@	265	0	-	315	0	+	365	0	@	415	0		465
0		16	0		66	0	+	116	0	+	166	7	@	216	1	@	266	0	@	316	1	+	366	0	@	416	1		466
0		17	0		67	0	+	117	0	+	167	9	@	217	0	@	267	2	@	317	0	+	367	1	@	417	1		467
0		18	0	+	68	1	+	118	0	+	168	17	@	218	0	@	268	0	@	318	0	+	368	0	@	418	0		468
0		19	0	+	69	0		119	1		169	25	@	219	0	@	269	0	@	319	1	+	369	0	@	419	0		469
0		20	0	+	70	0		120	1		170	29	@	220	0	@	270	1	@	320	0	+	370	0	@	420	0		470
0		21	0	+	71	0		121	0		171	23	@	221	0	@	271	0	@	321	1	+	371	2	@	421	1		471
0		22	0	+	72	0		122	1		172	28	@	222	0	@	272	0	@	322	0	@	372	1	@	422	2		472
0		23	0	+	73	0		123	0		173	26	@	223	0	@	273	0	-	323	0	@	373	1	@	423	2		473
0		24	0	+	74	0		124	0		174	22	@	224	0	@	274	1	-	324	0	@	374	1	-	424	0		474
0		25	0	+	75	0		125	0		175	21	@	225	0	@	275	0		325	1	@	375	2	@	425	1		475
0		26	1	+	76	1		126	0		176	21	@	226	0	@	276	0		326	2	@	376	2	@	426	5		476
0		27	0	+	77	0		127	0		177	18	@	227	0	@	277	0		327	0	@	377	0	@	427	3		477
0		28	1	+	78	0		128	0		178	12	@	228	0	@	278	0		328	0	@	378	1	@	428	2		478
0		29	0	+	79	0		129	0		179	15	@	229	0	@	279	0		329	0	@	379	1	@	429	0		479
0		30	0	+	80	0		130	0		180	16	@	230	0	@	280	0		330	0	@	380	2	@	430	0		480
0		31	0	+	81	0		131	1		181	20	@	231	0	@	281	0		331	1	@	381	1	@	431	0		481
0		32	0	+	82	0		132	0		182	17	@	232	0	@	282	0		332	1	@	382	0	@	432	0		482
0		33	0	+	83	0	+	133	0		183	13	@	233	0	@	283	0		333	0	@	383	0	@	433	1		483
0		34	0	+	84	1	+	134	1		184	14	@	234	0	@	284	0		334	1	@	384	0	@	434	0		484
0		35	0	+	85	0	+	135	0		185	5	@	235	0	@	285	1		335	0	@	385	0	@	435	1		485
0		36	0	+	86	0	+	136	0		186	12	@	236	0	@	286	0		336	0	@	386	1	@	436	0		486
0		37	0	+	87	0	+	137	1	+	187	14	@	237	0	@	287	0		337	3	@	387	1	@	437	0		487
0		38	0	+	88	0	+	138	0	+	188	12	@	238	0	@	288	1		338	0	@	388	0	@	438	0		488
0		39	0	+	89	0	+	139	2	+	189	7	@	239	0	@	289	0		339	3	@	389	0	@	439	1		489
0		40	0	+	90	0	+	140	1	+	190	11	@	240	0	@	290	0		340	2	@	390	0	@	440	0		490
0		41	0	+	91	1	+	141	1	+	191	6	@	241	0	@	291	0		341	4	@	391	0	@	441	0		491
0		42	0	+	92	0	+	142	0	+	192	5	@	242	0	@	292	0		342	0	@	392	0	@	442	0		492
0		43	0	+	93	0	+	143	0	+	193	13	@	243	0	@	293	0		343	1	@	393	0	@	443	1		493
0		44	0	+	94	0	+	144	0		194	14		244	0	@	294	0		344	1	@	394	0	@	444	0		494
0		45	0	+	95	0	+	145	0		195	9		245	0	@	295	0		345	0	@	395	0	@	445	0		495
0		46	0	+	96	0	+	146	0		196	9		246	0	@	296	0		346	0	@	396	0	@	446	0		496
0		47	0	+	97	1	+	147	0	+	197	6		247	1	@	297	0		347	0	@	397	0	-	447	0		497
0		48	0	+	98	1	+	148	0	+	198	6		248	0	@	298	1		348	0	@	398	1	-	448	2		498
0		49	0	+	99	0	+	149	0	@	199	5	+	249	0	@	299	0		349	0	@	399	0	-	449	0		499
0		50	0	+	100	1	+	150	0	@	200	6	+	250	0	@	300	0		350	0	@	400	0	-	450	0		500

VMS Peak Search Report V1.9 Generated 21-JUN-2006 06:12:38

Configuration : $DISK1:[ALP171.SAMPLE]H5KRF1AA_200662151E.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 4-MAY-2006 12:00:00
Sample ID : H5KRF1AA
Sample type : disk
Detector name : ALP171 1
Elapsed live time: 0 08:19:28.00
Start energy : 3576.69 keV
Sensitivity : 3.00

Acquisition date : 20-JUN-2006 21:51:40
Sample quantity : 0.00000E+00 SAMPLE
Sample geometry :
Detector geometry:
Elapsed real time: 0 08:19:28.00 0.0%
End energy : 6579.78 keV
Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4234.85	4	0	23.61	114.50	112	7	1.33E-04	50.0	
2	0	4677.46	4	0	23.61	189.50	187	7	1.33E-04	50.0	
3	0	4883.39	441	0	88.55	224.40	209	35	1.47E-02	4.8	
4	0	5432.67	4	0	23.61	317.50	315	7	1.33E-04	50.0	
5	0	6370.45	15	0	23.61	476.50	470	11	5.01E-04	25.8	

VMS Nuclide Identification Report V3.0 Generated 21-JUN-2006 06:12:41

Configuration : $DISK1:[ALP171.SAMPLE]H5KRF1AA_200662151E.CNF;1
Analyses by : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title : TH BRC
Sample date : 4-MAY-2006 12:00:00
Sample ID : H5KRF1AA
Sample type : disk
Detector name : ALP171 1
Elapsed live time: 0 08:19:28.00
Energy tolerance : 80.00 keV
Errors propagated: No
Efficiency type : Spline
Abundance limit : 70.00

Acquisition date : 20-JUN-2006 21:51:40
Sample quantity : 0.00000E+00 SAMPLE
Sample geometry :
Detector geometry:
Elapsed real time: 0 08:19:28.00 0.0%
Half life ratio : 1.00
Systematic Error : 0.00 %
Efficiencies at : Peak Energy

Summary of Nuclide Activity

Total number of lines in spectrum	5	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	4	80.00%

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
TH-228	1.91Y	1.05	0.000E+00	0.000E+00	0.000E+00	0.00	
TH-230	7.54E+04Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
U-238	4.47E+09Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-246	8500.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-238	87.74Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
AM-241	432.20Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-247	1.56E+07Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Grand Total Activity : 0.000E+00 0.000E+00

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP171.SAMPLE]H5KRF1AA_200662151E.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4234.85	112	119	4	4	0.00		
4677.46	187	194	4	5	-0.50		
4883.38	209	244	441	470	-1.38		
5432.66	315	322	4	3	0.50		
6370.45	470	481	15	16	-0.26		

***** WARNING: Possible PEAK/ALPHA Error *****
Review Spectrum on Screen

End of Report

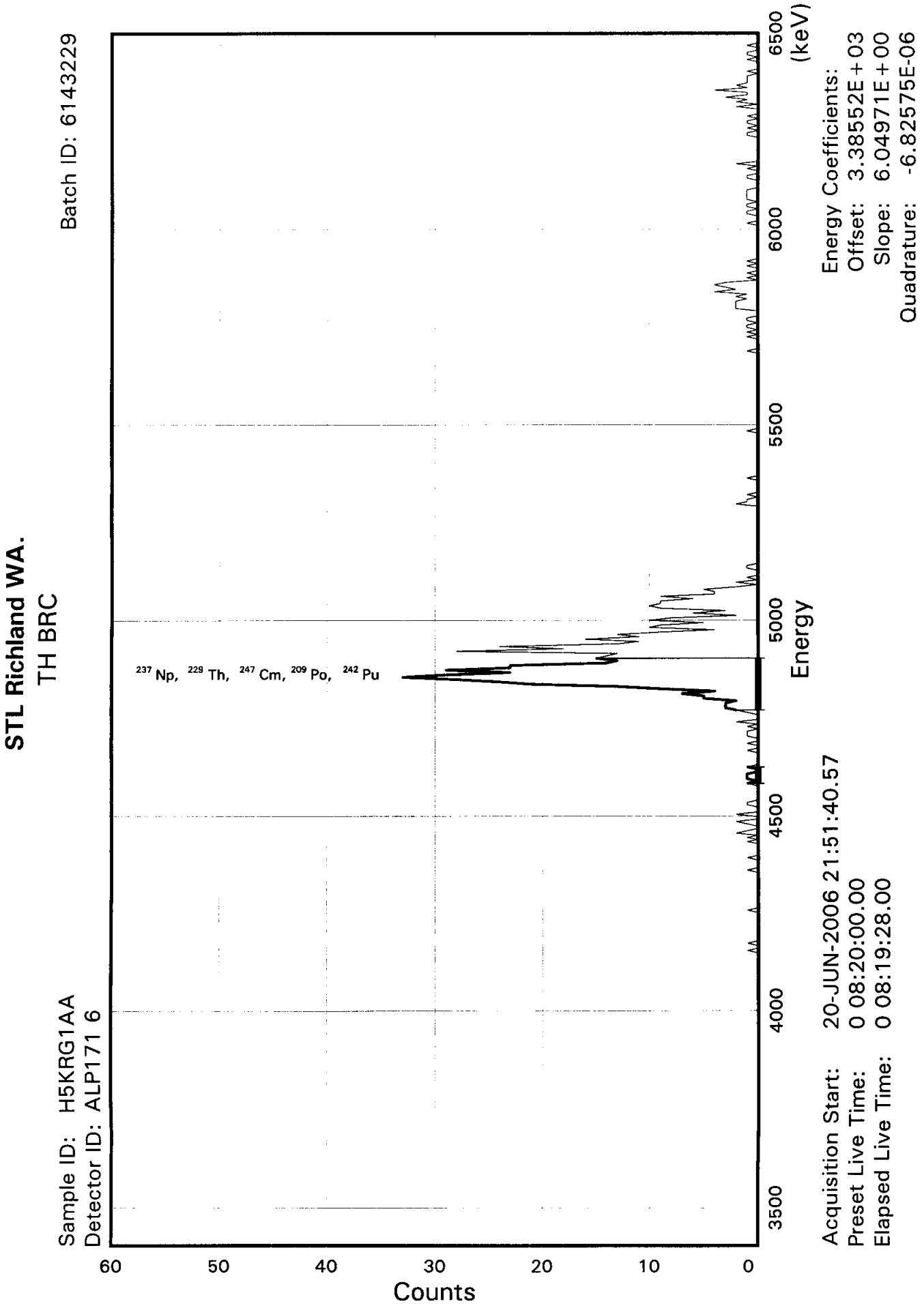
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H5KRG1AA

Detector: ALP171 6
Report Date: 21-Jun-06 06:49 AM
Acquire Date: 20-JUN-2006 21:51:40.57
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	1	2	0.000	5423.2	120.9	322	342
TH-229	629	3	1.256	4845.3	374.9	226	288
TH-230	9	1	0.017	4687.7	120.9	200	220
TH-232	0	1	-0.001	4013.0	121.0	89	109

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6143229
Sample ID: H5KRG1AA
Detector ID: ALP171 6
^{237}Np, ^{229}Th, ^{247}Cm, ^{209}Po, ^{242}Pu
Counts
60
50
40
30
20
10
0
3500
4000
4500
5000
5500
6000
6500
(keV)
Energy
Acquisition Start: 20-JUN-2006 21:51:40.57
Preset Live Time: 0 08:20:00.00
Elapsed Live Time: 0 08:19:28.00
Energy Coefficients:
Offset: 3.38552E+03
Slope: 6.04971E+00
Quadrature: -6.82575E-06

SAMPLE IDENTIITY: H5KRG1AA

TITLE : TH BRC

DETECTOR : ALP171 6
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H5KRG1AA_200662151F.CN
F;1
ACQUIRE DATE of BACKGROUND: 09-JUN-2006 06:58:01

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 20-JUN-2006 21:51:40 CALIB DATE : 09-JUN-2006 02:57:29

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:19:28

OFFSET : 3385.52 keV CONSTANT FWHM : 7.83333 Channels
SLOPE : 6.04971 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.682575E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H5KRG1AA

Detector: ALP171 6
Report Date: 21-Jun-06 06:12 AM
Acquire Date: 20-JUN-2006 21:51:40.57
Tracer Nuclide: TH-229
High Counts Limit: 36
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
PO-208	-9999	-9999	0	-10.010	5132.7	133.0	274	296	0.00	0.00	M
PO-209	328	1	0	0.656	4901.0	133.0	229	251	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5322.2	133.0	305	327	0.00	0.00	M
AC-227	5	2	8	0.008	6055.9	133.0	426	448	0.00	0.00	S
TH-227	5	2	8	0.008	6055.9	133.0	426	448	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5441.0	133.0	325	347	0.00	0.00	M
TH-229	328	1	0	0.656	4863.1	133.0	229	251	0.00	0.00	P
TH-230	6	2	6	0.011	4705.5	133.0	203	225	0.00	0.00	S
TH-232	0	1	0	-0.001	4030.8	133.1	91	113	0.00	0.00	
U-232	-9999	-9999	0	-10.010	5338.0	133.0	308	330	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4792.4	133.0	217	239	0.00	0.00	S I
U-235	6	1	0	0.011	4415.6	133.0	155	177	0.00	0.00	
PU-236	9	7	16	0.012	5785.5	133.0	382	404	0.00	0.00	S
NP-237	328	1	0	0.656	4805.8	133.0	229	251	0.00	0.00	P
PU-238	-9999	-9999	0	-10.010	5516.9	133.0	337	359	0.00	0.00	M
U-238	3	1	0	0.005	4215.8	133.1	122	144	0.00	0.00	
PU-239	-9999	-9999	0	-10.010	5174.4	133.0	280	302	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5503.4	133.0	335	357	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5224.6	133.0	289	311	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6130.6	133.0	439	461	0.00	0.00	M
PU-242	328	1	0	0.656	4918.3	133.0	229	251	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5293.1	133.0	300	322	0.00	0.00	M
CM-244	25	23	16	0.028	5822.7	133.0	388	410	0.00	0.00	S
CM-246	-9999	-9999	0	-10.010	5404.3	133.0	319	341	0.00	0.00	M
CM-247	328	1	0	0.656	4888.2	133.0	229	251	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5096.4	133.0	268	290	0.00	0.00	M

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H5KRG1AA
Detector: ALP171 6
Report Date: 21-Jun-06 06:12 AM
Acquire Date: 20-JUN-2006 21:51:40.57

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0	+	101	0		151	1		201	15		251	0	@	301	0	@	351	2	@	401
		2	0		52	0	+	102	0		152	1		202	14		252	0	@	302	0	@	352	2	@	402
0		3	0		53	0	+	103	0		153	0	+	203	13		253	0	@	303	0	@	353	1	@	403
0		4	0		54	0	+	104	0		154	0	+	204	28		254	0	@	304	0	@	354	2	@	404
0		5	0		55	0	+	105	0	+	155	1	+	205	18		255	0	@	305	0	@	355	1	-	405
0		6	0		56	0	+	106	0	+	156	0	+	206	24		256	0	@	306	0	@	356	4	-	406
0		7	0		57	0	+	107	0	+	157	0	+	207	13		257	0	@	307	0	@	357	2	-	407
0		8	0		58	0	+	108	0	+	158	0	+	208	11		258	0	@	308	0	+	358	3	-	408
0		9	0		59	0	+	109	0	+	159	0	+	209	16		259	0	@	309	0	+	359	4	-	409
0		10	0		60	0	+	110	0	+	160	0	+	210	11		260	0	@	310	0		360	3	-	410
0		11	0		61	0	+	111	1	+	161	0	+	211	13		261	0	@	311	0		361	0		411
0		12	0		62	0	+	112	0	+	162	1	+	212	9		262	0	@	312	0		362	1		412
0		13	0		63	0	+	113	0	+	163	0	+	213	4		263	0	@	313	0		363	0		413
0		14	0		64	0		114	0	+	164	0	+	214	10		264	0	@	314	0		364	1		414
0		15	0		65	0		115	0	+	165	1	+	215	9		265	0	@	315	0		365	0		415
0		16	0		66	0		116	1	+	166	0	+	216	5		266	2	@	316	0		366	0		416
0		17	0		67	0		117	0	+	167	0	@	217	10		267	1	@	317	0		367	1		417
0		18	0		68	0		118	0	+	168	1	@	218	8	+	268	1	@	318	0		368	0		418
0		19	0		69	0		119	0	+	169	1	@	219	2	+	269	0	-	319	0		369	1		419
0		20	0		70	0		120	0	+	170	1	@	220	6	+	270	1	@	320	0		370	0		420
0		21	0		71	0		121	0	+	171	0	@	221	3	+	271	0	@	321	0		371	0		421
0		22	0		72	0	+	122	0	+	172	1	@	222	9	+	272	0	@	322	0		372	0		422
0		23	0		73	0	+	123	1	+	173	0	@	223	10	+	273	0	@	323	0		373	0		423
0		24	0		74	0	+	124	0	+	174	2	@	224	9	@	274	0	@	324	0		374	0		424
0		25	0		75	0	+	125	1	+	175	0	@	225	9	@	275	0	@	325	0		375	0		425
0		26	0		76	0	+	126	0	+	176	0	-	226	6	@	276	0	@	326	0		376	0	@	426
0		27	0		77	1	+	127	2	+	177	0	-	227	9	@	277	1	@	327	0		377	0	@	427
0		28	0		78	0	+	128	1		178	1	-	228	4	@	278	0	@	328	0		378	0	@	428
0		29	0		79	0	+	129	0		179	2	-	229	4	@	279	0	@	329	0		379	0	@	429
0		30	0		80	1	+	130	0		180	3	@	230	5	@	280	0	@	330	0		380	0	@	430
0		31	0		81	0	+	131	1		181	3	@	231	2	@	281	0	@	331	1		381	0	@	431
0		32	0		82	0	+	132	2		182	3	@	232	0	@	282	0	@	332	0	+	382	0	@	432
0		33	0		83	0	+	133	0		183	2	@	233	2	@	283	0	@	333	0	+	383	0	@	433
0		34	0		84	0	+	134	0		184	5	@	234	0	@	284	0	@	334	0	+	384	0	@	434
0		35	0		85	0	+	135	2		185	5	@	235	1	@	285	0	@	335	0	+	385	1	@	435
0		36	0		86	0	+	136	0		186	7	@	236	0	@	286	0	@	336	0	+	386	0	@	436
0		37	0		87	0	+	137	0		187	4	@	237	0	@	287	0	@	337	1	+	387	0	@	437
0		38	0		88	0	+	138	0		188	9	@	238	0	@	288	0	@	338	0	@	388	0	@	438
0		39	0		89	0	+	139	1		189	13	@	239	1	@	289	0	@	339	1	@	389	1	-	439
0		40	0		90	0	+	140	1		190	21	@	240	1	@	290	0	@	340	0	@	390	1	@	440
0		41	0	+	91	0	+	141	0		191	24	@	241	0	@	291	0	@	341	1	@	391	0	@	441
0		42	0	+	92	0	+	142	0		192	28	@	242	0	@	292	0	@	342	1	@	392	1	@	442
0		43	0	+	93	0	+	143	0		193	33	@	243	0	@	293	0	@	343	0	@	393	1	@	443
0		44	0	+	94	1	+	144	0		194	29	@	244	0	@	294	0	@	344	1	@	394	0	@	444
0		45	0	+	95	0		145	0		195	23	@	245	0	@	295	0	@	345	1	@	395	1	@	445
0		46	0	+	96	0		146	0		196	29	@	246	0	@	296	0	@	346	0	@	396	1	@	446
0		47	0	+	97	0		147	0		197	23	@	247	0	@	297	1	@	347	0	@	397	1	@	447
0		48	0	+	98	0		148	1		198	23	@	248	0	@	298	0	@	348	0	@	398	1	@	448
0		49	0	+	99	0		149	0		199	14	@	249	0	@	299	0	@	349	2	@	399	1	-	449
0		50	0	+	100	0		150	1		200	13	@	250	0	-	300	0	@	350	2	@	400	0	-	450

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
0		451	0		501			
0		452	0		502			
0		453	0		503			
1		454	1		504			
1		455	0		505			
0		456	1		506			
0		457	1		507			
1		458	0		508			
0		459	0		509			
2	-	460	1		510			
0	-	461	0		511			
0		462	0		512			
0		463						
0		464						
0		465						
0		466						
0		467						
0		468						
0		469						
0		470						
0		471						
1		472						
1		473						
0		474						
1		475						
0		476						
1		477						
1		478						
0		479						
1		480						
0		481						
0		482						
0		483						
2		484						
0		485						
2		486						
1		487						
3		488						
1		489						
1		490						
4		491						
1		492						
2		493						
1		494						
1		495						
1		496						
1		497						
0		498						
1		499						
0		500						

VMS Peak Search Report V1.9 Generated 21-JUN-2006 06:12:43

```
Configuration     : $DISK1:[ALP171.SAMPLE]H5KRG1AA_200662151F.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 4-MAY-2006 12:00:00  Acquisition date : 20-JUN-2006 21:51:40
Sample ID         : H5KRG1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP171 1             Detector geometry:
Elapsed live time: 0 08:19:28.00         Elapsed real time: 0 08:19:28.00   0.0%
Start energy      :  3403.67 keV         End energy       :  6481.19 keV
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4598.21	4	0	24.20	200.50	198	7	1.33E-04	50.0	
2	0	4863.15	328	0	60.50	244.31	229	22	1.09E-02	5.5	

VMS Nuclide Identification Report V3.0 Generated 21-JUN-2006 06:12:45

```
Configuration     : $DISK1:[ALP171.SAMPLE]H5KRG1AA_200662151F.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 4-MAY-2006 12:00:00  Acquisition date : 20-JUN-2006 21:51:40
Sample ID         : H5KRG1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP171 1             Detector geometry:
Elapsed live time: 0 08:19:28.00         Elapsed real time: 0 08:19:28.00   0.0%
Energy tolerance :    80.00 keV          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    70.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                2
 Number of unidentified lines                     1
 Number of lines tentatively identified by NID    1       50.00%
```

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
NP-237	2.14E+06Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-247	1.56E+07Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Grand Total Activity : 0.000E+00 0.000E+00

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP171.SAMPLE]H5KRG1AA_200662151F.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4598.21	198	205	4	5	-0.50		
4863.14	229	251	328	331	-0.17		

End of Report

Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H5KRJ1AA

Detector: ALP171 7
Report Date: 21-Jun-06 06:49 AM
Acquire Date: 20-JUN-2006 21:51:40.57
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	0	0	0.000	5423.2	112.7	311	331
TH-229	423	0	0.847	4845.3	327.0	211	269
TH-230	0	0	0.000	4687.7	112.8	180	200
TH-232	0	1	-0.001	4013.0	112.9	60	80

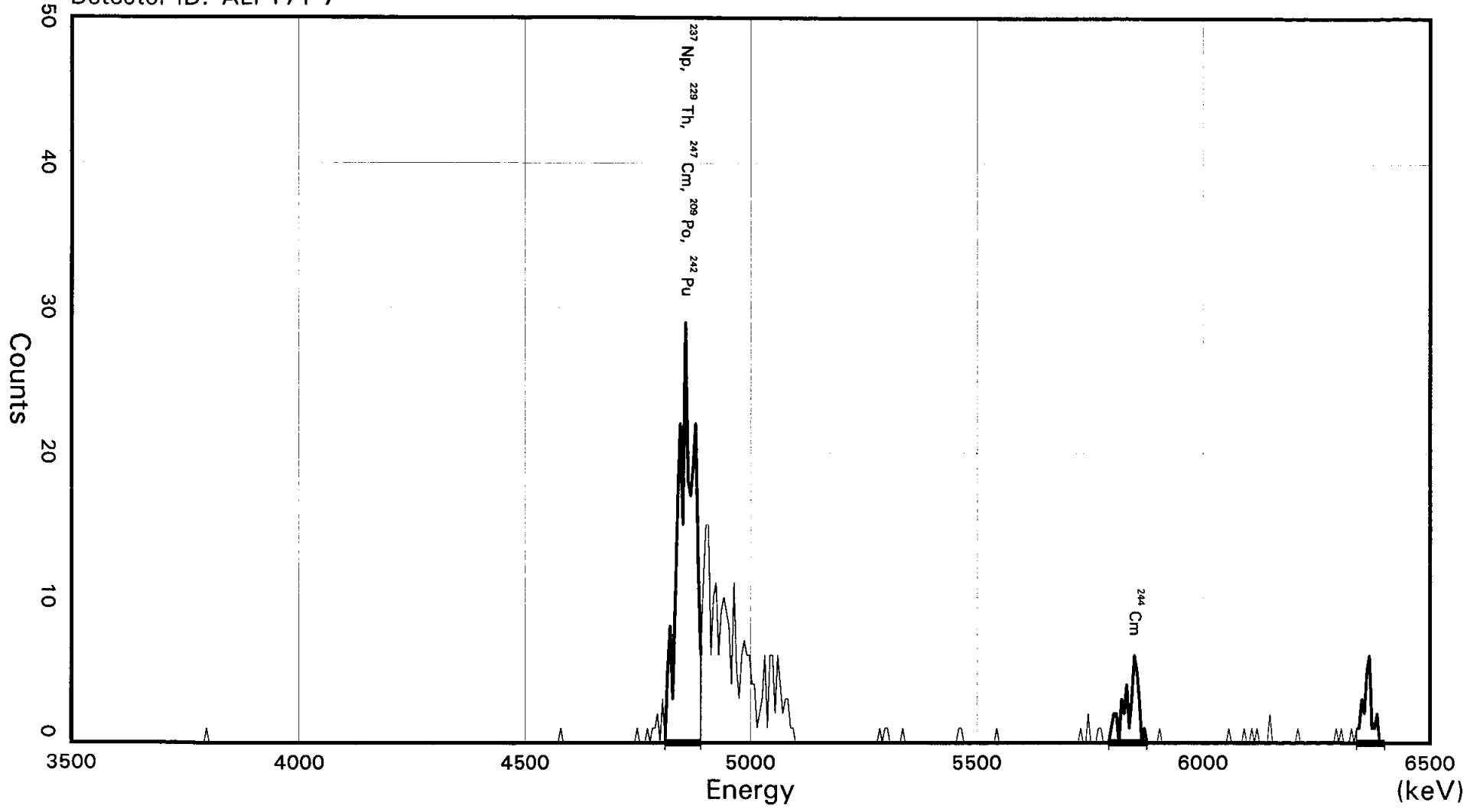
End of Alpha Region Report
(Produced by ANAL Report)

STL Richland WA.

TH BRC

Sample ID: H5KRJ1AA
Detector ID: ALP171 7

Batch ID: 6143229



Acquisition Start: 20-JUN-2006 21:51:40.57
Preset Live Time: 0 08:20:00.00
Elapsed Live Time: 0 08:19:28.00

Energy Coefficients:
Offset: 3.58695E+03
Slope: 5.64544E+00
Quadrature: -1.52186E-05

SAMPLE IDENTIITY: H5KRJ1AA

TITLE : TH BRC

DETECTOR : ALP171 7
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H5KRJ1AA_200662151G.CN
F;1
ACQUIRE DATE of BACKGROUND: 09-JUN-2006 06:58:01

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 20-JUN-2006 21:51:40 CALIB DATE : 09-JUN-2006 02:57:47

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:19:28

OFFSET : 3586.95 keV CONSTANT FWHM : 6.33333 Channels
SLOPE : 5.64544 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.152186E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H5KRJ1AA

Detector: ALP171 7
Report Date: 21-Jun-06 06:12 AM
Acquire Date: 20-JUN-2006 21:51:40.57
Tracer Nuclide: TH-229
High Counts Limit: 36
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
PO-208	-9999	-9999	0	-10.010	5130.8	78.9	265	279	0.00	0.00	M
PO-209	238	0	0	0.477	4899.1	78.9	217	231	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5320.3	78.9	298	312	0.00	0.00	M
AC-227	1	0	0	0.002	6053.9	78.9	429	443	0.00	0.00	S
TH-227	1	0	0	0.002	6053.9	78.9	429	443	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5439.1	78.9	320	334	0.00	0.00	M
TH-229	238	0	0	0.477	4861.2	78.9	217	231	0.00	0.00	P
TH-230	0	0	0	0.000	4703.6	79.0	189	203	0.00	0.00	
TH-232	0	1	0	-0.001	4028.9	79.0	69	83	0.00	0.00	
U-232	-9999	-9999	0	-10.010	5336.1	78.9	301	315	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4790.5	78.9	204	218	0.00	0.00	I
U-235	0	1	0	-0.001	4413.7	79.0	138	152	0.00	0.00	
PU-236	-9999	-9999	0	-10.010	5783.5	78.9	381	395	0.00	0.00	I
NP-237	238	0	0	0.477	4803.9	78.9	217	231	0.00	0.00	P
PU-238	-9999	-9999	0	-10.010	5514.9	78.9	333	347	0.00	0.00	M
U-238	0	0	0	0.000	4213.9	79.0	102	116	0.00	0.00	
PU-239	-9999	-9999	0	-10.010	5172.5	78.9	272	286	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5501.5	78.9	331	345	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5222.7	78.9	281	295	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6128.6	78.8	442	456	0.00	0.00	M
PU-242	238	0	0	0.477	4916.4	78.9	217	231	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5291.2	78.9	293	307	0.00	0.00	M
CM-244	31	19	0	0.043	5820.7	84.5	391	406	0.00	0.00	P
CM-246	-9999	-9999	0	-10.010	5402.4	78.9	313	327	0.00	0.00	M
CM-247	238	0	0	0.477	4886.3	78.9	217	231	0.00	0.00	P
CM-248	32	0	5	0.063	5094.5	78.9	258	272	0.00	0.00	S

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H5KRJ1AA
Detector: ALP171 7
Report Date: 21-Jun-06 06:12 AM
Acquire Date: 20-JUN-2006 21:51:40.57

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1		0	51		0	101		0+	151		0+	201		4	251		1@	301		0	351		6-	401		0-	451		0	501
		2		0	52		0+	102		0+	152		0+	202		4	252		0@	302		0	352		5-	402		0-	452		0	502
	0	3		0	53		0+	103		0	153		0+	203		1	253		1@	303		0	353		3-	403		0-	453		0	503
	0	4		0	54		0+	104		0	154		0-	204		2	254		1@	304		0	354		0-	404		2-	454		0	504
	0	5		0	55		0+	105		0	155		0-	205		3	255		0@	305		0	355		1-	405		0-	455		0	505
	0	6		0	56		0+	106		0	156		1-	206		6	256		0@	306		0	356		0	406		0-	456		0	506
	0	7		0	57		0+	107		0	157		0-	207		1	257		0@	307		0	357		0	407		0	457		0	507
	0	8		0	58		0+	108		0	158		0-	208		6+	258		0@	308		0	358		0	408		0	458		0	508
	0	9		0	59		0+	109		0	159		0-	209		6+	259		0@	309		0	359		0	409		0	459		0	509
	0	10		0	60		0+	110		0	160		1-	210		2+	260		1@	310		0	360		0	410		0	460		0	510
	0	11		0	61		0+	111		0	161		0-	211		6+	261		0@	311		0	361		1	411		0	461		0	511
	0	12		0	62		0+	112		0	162		1-	212		4+	262		0@	312		0	362		0	412		0	462		0	512
	0	13		0	63		0+	113		0	163		1-	213		2+	263		0@	313		0	363		0	413		0	463			
	0	14		0	64		0+	114		0	164		2-	214		3+	264		0@	314		0	364		0	414		0	464			
	0	15		0	65		0+	115		0	165		0-	215		3@	265		0@	315		0	365		0	415		1	465			
	0	16		0	66		0+	116		0	166		3-	216		1@	266		0-	316		0	366		0	416		0	466			
	0	17		0	67		0	117		0	167		0-	217		1@	267		0-	317		0	367		0	417		0	467			
	0	18		0	68		0	118		0	168		5@	218		0@	268		0-	318		0	368		0	418		0	468			
	0	19		0+	69		0	119		0	169		8@	219		0@	269		0-	319		0	369		0	419		0	469			
	0	20		0+	70		0	120		0	170		3@	220		0@	270		0@	320		0	370		0	420		0	470			
	0	21		0+	71		0	121		0	171		10@	221		0@	271		0@	321		0	371		0	421		0	471			
	0	22		0+	72		0	122		0	172		17@	222		0@	272		0@	322		0	372		0	422		0	472			
	0	23		0+	73		0	123		0	173		22@	223		0@	273		0@	323		0	373		0	423		0	473			
	0	24		0+	74		0	124		0	174		15@	224		0@	274		0@	324		0	374		0	424		0	474			
	0	25		0+	75		0	125		0	175		29@	225		0@	275		0@	325		0	375		0	425		0	475			
	0	26		0+	76		0	126		1	176		18@	226		0@	276		0@	326		0	376		0	426		0	476			
	0	27		0+	77		0	127		0	177		17@	227		0@	277		0@	327		0	377		0	427		0	477			
	0	28		0+	78		0	128		0	178		19@	228		0@	278		0+	328		0	378		0	428		0	478			
	0	29		0+	79		0	129		0	179		22@	229		0@	279		0+	329		0	379		0@	429		0	479			
	0	30		0+	80		0	130		0	180		12@	230		0-	280		0+	330		1	380		0@	430		1	480			
	0	31		0+	81		0	131		0	181		6	231		0@	281		0@	331		0+	381		0@	431		0	481			
	0	32		0+	82		0	132		0	182		11	232		0@	282		1@	332		0+	382		0@	432		1	482			
	0	33		0+	83		0	133		0	183		15	233		0@	283		1@	333		2+	383		0@	433		0	483			
	0	34		0	84		0	134		0	184		15	234		0@	284		0@	334		0+	384		0@	434		0	484			
	0	35		0	85		0	135		0	185		6	235		0@	285		0@	335		0+	385		0@	435		0	485			
	0	36		0	86		0	136		0	186		10	236		0@	286		0@	336		0+	386		0@	436		1	486			
	1	37		0	87		0	137		0	187		11	237		0-	287		0@	337		1+	387		0@	437		0	487			
	0	38		0	88		0+	138		0	188		6	238		0-	288		0@	338		1+	388		1@	438		1	488			
	0	39		0	89		0+	139		0+	189		9	239		0-	289		0@	339		0+	389		0@	439		1	489			
	0	40		0	90		0+	140		0+	190		10	240		0-	290		0@	340		0+	390		0@	440		3	490			
	0	41		0	91		0+	141		0+	191		9	241		0-	291		0@	341		0@	391		0@	441		2	491			
	0	42		0	92		0+	142		0+	192		8	242		0-	292		0@	342		1@	392		0-	442		5	492			
	0	43		0	93		0+	143		0+	193		4	243		0@	293		0@	343		2@	393		0@	443		6	493			
	0	44		0	94		0+	144		0+	194		11	244		0@	294		0@	344		2@	394		1-	444		1	494			
	0	45		0	95		0+	145		0+	195		5	245		0@	295		0@	345		0@	395		0-	445		1	495			
	0	46		0	96		0+	146		0+	196		3	246		0-	296		0+	346		3-	396		0-	446		2	496			
	0	47		0	97		0+	147		0+	197		6	247		0-	297		1+	347		2-	397		1-	447		0	497			
	0	48		0	98		0+	148		0+	198		7	248		0@	298		0	348		4-	398		0-	448		0	498			
	0	49		0	99		0+	149		0+	199		6	249		0@	299		0	349		1-	399		1-	449		0	499			
	0	50		0	100		0+	150		0+	200		6	250		0@	300		0	350		3-	400		0-	450		0	500			

VMS Peak Search Report V1.9 Generated 21-JUN-2006 06:12:48

Configuration : $DISK1:[ALP171.SAMPLE]H5KRJ1AA_200662151G.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 4-MAY-2006 12:00:00 Acquisition date : 20-JUN-2006 21:51:40
Sample ID : H5KRJ1AA Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP171 1 Detector geometry:
Elapsed live time: 0 08:19:28.00 Elapsed real time: 0 08:19:28.00 0.0%
Start energy : 3603.88 keV End energy : 6473.42 keV
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4861.18	238	0	50.81	225.85	217	14	7.94E-03	6.5	
2	0	5851.14	31	0	22.58	401.50	391	15	1.03E-03	18.0	
3	0	6361.69	22	0	16.94	492.15	488	11	7.34E-04	21.3	

VMS Nuclide Identification Report V3.0 Generated 21-JUN-2006 06:12:50

Configuration	: $DISK1:[ALP171.SAMPLE]H5KRJ1AA_200662151G.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: TH BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:51:40
Sample ID	: H5KRJ1AA	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP171 1	Detector geometry	:
Elapsed live time	: 0 08:19:28.00	Elapsed real time	: 0 08:19:28.00 0.0%
Energy tolerance	: 80.00 keV	Half life ratio	: 1.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Spline	Efficiencies at	: Peak Energy
Abundance limit	: 70.00		

Summary of Nuclide Activity

Total number of lines in spectrum	3	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	2	66.67%

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
NP-237	2.14E+06Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-244	18.10Y	1.01	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-247	1.56E+07Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Grand Total Activity : 0.000E+00 0.000E+00

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP171.SAMPLE]H5KRJ1AA_200662151G.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4861.18	217	231	238	203	2.27		
5851.13	391	406	31	33	-0.36		
6361.68	488	499	22	22	0.00		

***** WARNING: Possible PEAK/ALPHA Error *****
Review Spectrum on Screen

End of Report

Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H5KRL1AA

Detector: ALP171 8
Report Date: 21-Jun-06 06:49 AM
Acquire Date: 20-JUN-2006 21:51:40.57
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	2	0	0.004	5423.2	117.6	307	327
TH-229	315	0	0.631	4845.3	288.4	217	266
TH-230	2	0	0.004	4687.7	117.8	182	202
TH-232	2	0	0.004	4013.0	117.9	67	87

End of Alpha Region Report
(Produced by ANAL Report)

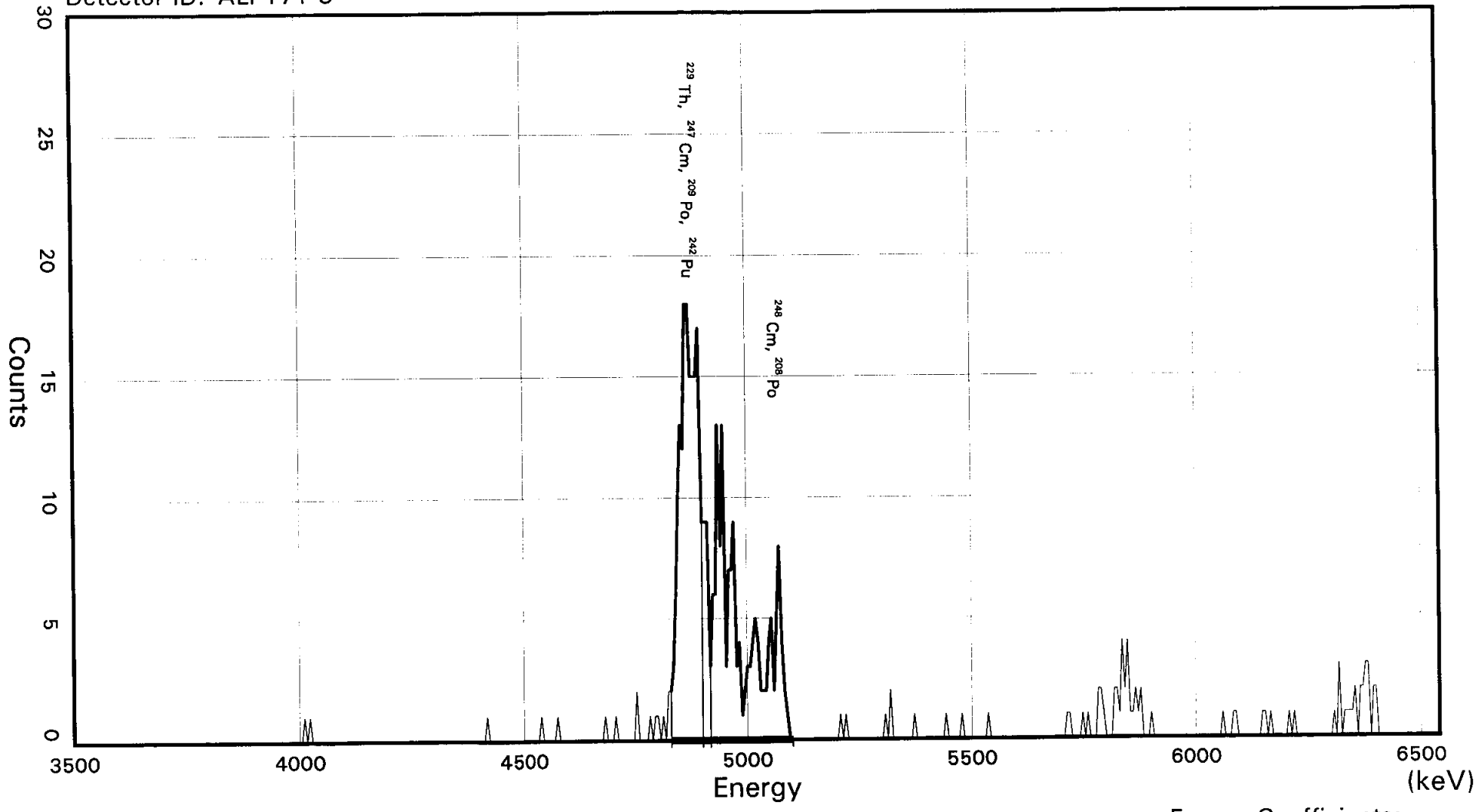
STL Richland WA.

TH BRC

Sample ID: H5KRL1AA

Detector ID: ALP171 8

Batch ID: 6143229



Acquisition Start: 20-JUN-2006 21:51:40.57

Preset Live Time: 0 08:20:00.00

Elapsed Live Time: 0 08:19:28.00

Energy Coefficients:

Offset: 3.52789E+03

Slope: 5.89894E+00

Quadrature: -2.64137E-05

SAMPLE IDENTIITY: H5KRL1AA

TITLE : TH BRC

DETECTOR : ALP171 8
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H5KRL1AA_200662151H.CN
F;1
ACQUIRE DATE of BACKGROUND: 09-JUN-2006 06:58:01

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 20-JUN-2006 21:51:40 CALIB DATE : 09-JUN-2006 02:58:05

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:19:28

OFFSET : 3527.89 keV CONSTANT FWHM : 7.33333 Channels
SLOPE : 5.89894 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.264137E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H5KRL1AA

Detector: ALP171 8
Report Date: 21-Jun-06 06:12 AM
Acquire Date: 20-JUN-2006 21:51:40.57
Tracer Nuclide: TH-229
High Counts Limit: 36
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
PO-208	102	0	0	0.204	5144.7	200.1	233	267	0.00	0.00	P
PO-209	210	0	0	0.420	4913.0	88.3	221	236	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5334.1	88.2	299	314	0.00	0.00	M
AC-227	3	1	0	0.005	6067.8	88.1	424	439	0.00	0.00	S
TH-227	3	1	0	0.005	6067.8	88.1	424	439	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5453.0	88.2	319	334	0.00	0.00	M
TH-229	210	0	0	0.420	4875.1	88.3	221	236	0.00	0.00	P
TH-230	4	0	0	0.008	4717.5	88.3	194	209	0.00	0.00	
TH-232	2	0	0	0.004	4042.8	88.4	80	95	0.00	0.00	
U-232	-9999	-9999	0	-10.010	5349.9	88.2	302	317	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4804.4	88.3	209	224	0.00	0.00	S I
U-235	1	0	0	0.002	4427.6	88.4	145	160	0.00	0.00	
PU-236	10	9	14	0.012	5797.4	88.2	378	393	0.00	0.00	S
NP-237	-9999	-9999	0	-10.010	4817.8	88.3	211	226	0.00	0.00	S I
PU-238	-9999	-9999	0	-10.010	5528.8	88.2	332	347	0.00	0.00	M
U-238	0	0	0	0.000	4227.8	88.4	111	126	0.00	0.00	
PU-239	1	3	2	-0.001	5186.4	88.3	274	289	0.00	0.00	S
AM-241	-9999	-9999	0	-10.010	5515.4	88.2	330	345	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5236.6	88.3	282	297	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6142.5	94.0	436	452	0.00	0.00	M
PU-242	210	0	0	0.420	4930.3	88.3	221	236	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5305.1	88.2	294	309	0.00	0.00	M
CM-244	18	22	14	0.015	5834.6	88.2	384	399	0.00	0.00	S
CM-246	-9999	-9999	0	-10.010	5416.3	88.2	313	328	0.00	0.00	M
CM-247	210	0	0	0.420	4900.2	88.3	221	236	0.00	0.00	P
CM-248	102	0	0	0.204	5108.4	200.1	233	267	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H5KRL1AA
Detector: ALP171 8
Report Date: 21-Jun-06 06:12 AM
Acquire Date: 20-JUN-2006 21:51:40.57

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1		0	51		0	101		1+	151		0+	201		3@	251		0@	301		0	351		0	401		0-	451		0	501
		2		0	52		0	102		0+	152		0+	202		4@	252		1@	302		0	352		0	402		0-	452		0	502
	0	3		0	53		0	103		0+	153		0+	203		5@	253		0@	303		0	353		1	403		0	453		0	503
	0	4		0	54		0	104		0+	154		0+	204		4@	254		2@	304		0	354		0	404		0	454		0	504
	0	5		0	55		0	105		0+	155		0+	205		2@	255		0@	305		0	355		0	405		1	455		0	505
	0	6		0	56		0	106		0+	156		0+	206		2@	256		0@	306		0	356		0	406		0	456		0	506
	0	7		0	57		0	107		0+	157		0+	207		2@	257		0@	307		0	357		0	407		1	457		0	507
	0	8		0	58		0	108		0+	158		2+	208		4@	258		0@	308		0	358		0	408		0	458		0	508
	0	9		0	59		0	109		0+	159		0@	209		5@	259		0@	309		0	359		0	409		0	459		0	509
	0	10		0	60		0	110		0+	160		0+	210		2@	260		0@	310		0	360		0	410		0	460		0	510
	0	11		0	61		0+	111		0	161		0@	211		5@	261		0@	311		0	361		0	411		0	461		0	511
	0	12		0	62		0+	112		0	162		0@	212		8@	262		0@	312		0	362		0	412		0	462		0	512
	0	13		0	63		0+	113		0	163		1@	213		4@	263		1-	313		0	363		0	413		0	463			
	0	14		0	64		0+	114		0	164		0@	214		2@	264		0@	314		0	364		0	414		0	464			
	0	15		0	65		0+	115		0	165		1@	215		1@	265		0@	315		0	365		0	415		0	465			
	0	16		0	66		0+	116		0	166		1@	216		0@	266		0@	316		0	366		0	416		0	466			
	0	17		0	67		0+	117		0	167		0@	217		0	267		0@	317		0	367		0	417		0	467			
	0	18		0	68		0+	118		0	168		1@	218		0	268		0-	318		0	368		0	418		0	468			
	0	19		0	69		0+	119		0	169		0@	219		0	269		0@	319		0	369		0	419		0	469			
	0	20		0	70		0+	120		0	170		2@	220		0	270		0@	320		0	370		0	420		0	470			
	0	21		0	71		0+	121		0	171		2@	221		0	271		0@	321		1	371		0	421		0	471			
	0	22		0	72		0+	122		1	172		3@	222		0	272		0@	322		1	372		0	422		1	472			
	0	23		0	73		0+	123		0	173		6@	223		0	273		0@	323		0	373		0	423		0	473			
	0	24		0	74		0+	124		0	174		10@	224		0+	274		0@	324		0	374		0@	424		3	474			
	0	25		0	75		0+	125		0	175		13@	225		0+	275		1@	325		0	375		0@	425		0	475			
	0	26		0	76		0+	126		0	176		12@	226		0+	276		0@	326		0	376		0@	426		1	476			
	0	27		0	77		0	127		0	177		18@	227		0+	277		0@	327		1	377		0@	427		1	477			
	0	28		0	78		0	128		1	178		18@	228		0+	278		0@	328		0+	378		0@	428		1	478			
	0	29		0	79		0	129		0	179		15@	229		0+	279		0+	329		1+	379		0@	429		1	479			
	0	30		0+	80		0	130		0	180		15@	230		0+	280		0@	330		0+	380		1@	430		2	480			
	0	31		0+	81		0	131		0	181		15@	231		0+	281		1@	331		0+	381		0@	431		0	481			
	0	32		1+	82		0	132		0	182		17@	232		0@	282		0@	332		0+	382		0@	432		2	482			
	0	33		0+	83		0	133		0	183		9-	233		0@	283		0@	333		2+	383		0@	433		2	483			
	0	34		1+	84		0	134		0	184		9@	234		0@	284		0@	334		2@	384		1@	434		3	484			
	0	35		0+	85		0	135		0	185		9@	235		1@	285		0@	335		1@	385		1@	435		3	485			
	0	36		0+	86		0	136		0	186		3@	236		0@	286		0@	336		0@	386		0-	436		0	486			
	0	37		0+	87		0	137		0	187		6@	237		1@	287		0@	337		0@	387		0@	437		2	487			
	0	38		0+	88		0	138		0	188		6@	238		0@	288		0@	338		0@	388		0@	438		2	488			
	0	39		0+	89		0	139		0	189		13@	239		0@	289		0@	339		2@	389		0@	439		0	489			
	0	40		0+	90		0	140		0	190		8@	240		0-	290		0@	340		2@	390		0-	440		0	490			
	0	41		0+	91		0	141		0	191		13@	241		0-	291		1@	341		1@	391		0-	441		0	491			
	0	42		0+	92		0	142		0	192		3@	242		0-	292		0@	342		4@	392		0-	442		0	492			
	0	43		0+	93		0	143		0	193		7@	243		0-	293		0@	343		2@	393		0-	443		0	493			
	0	44		0+	94		0	144		0+	194		7@	244		0@	294		0@	344		4-	394		0-	444		0	494			
	0	45		0+	95		0+	145		0+	195		9@	245		0@	295		0@	345		1-	395		1-	445		0	495			
	0	46		0	96		0+	146		1+	196		3@	246		0@	296		0+	346		1-	396		1-	446		0	496			
	0	47		0	97		0+	147		0+	197		4@	247		0@	297		0+	347		2-	397		0-	447		0	497			
	0	48		0	98		0+	148		0+	198		1@	248		0-	298		0	348		1-	398		1-	448		0	498			
	0	49		0	99		0+	149		0+	199		2@	249		0@	299		0	349		2-	399		0-	449		0	499			
	0	50		0	100		0+	150		1+	200		3@	250		0@	300		0	350		0	400		0-	450		0	500			

VMS Peak Search Report V1.9 Generated 21-JUN-2006 06:12:53

Configuration	: $DISK1:[ALP171.SAMPLE]H5KRL1AA_200662151H.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: TH BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:51:40
Sample ID	: H5KRL1AA	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP171 1	Detector geometry	:
Elapsed live time	: 0 08:19:28.00	Elapsed real time	: 0 08:19:28.00 0.0%
Start energy	: 3545.58 keV	End energy	: 6541.22 keV
Sensitivity	: 3.00	Sum Sensitivity	: 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4875.06	210	0	58.99	228.61	221	15	7.01E-03	6.9	
2	0	5064.24	102	0	47.19	260.75	233	34	3.40E-03	9.9	

VMS Nuclide Identification Report V3.0 Generated 21-JUN-2006 06:12:55

Configuration : $DISK1:[ALP171.SAMPLE]H5KRL1AA_200662151H.CNF;1
Analyses by : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title : TH BRC
Sample date : 4-MAY-2006 12:00:00
Sample ID : H5KRL1AA
Sample type : disk
Detector name : ALP171 1
Elapsed live time: 0 08:19:28.00
Energy tolerance : 80.00 keV
Errors propagated: No
Efficiency type : Spline
Abundance limit : 70.00

Acquisition date : 20-JUN-2006 21:51:40
Sample quantity : 0.00000E+00 SAMPLE
Sample geometry :
Detector geometry:
Elapsed real time: 0 08:19:28.00 0.0%
Half life ratio : 1.00
Systematic Error : 0.00 %
Efficiencies at : Peak Energy

Summary of Nuclide Activity

Total number of lines in spectrum	2	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	2	100.00%

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-208	2.90Y	1.03	0.000E+00	0.000E+00	0.000E+00	0.00	
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-247	1.56E+07Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-248	3.39E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Grand Total Activity : 0.000E+00 0.000E+00

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP171.SAMPLE]H5KRL1AA_200662151H.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4875.06	221	236	210	174	2.48		
5064.24	233	267	102	168	-6.53	30	0.00

***** WARNING: Possible PEAK/ALPHA Error *****
Review Spectrum on Screen

End of Report

SEVERN TRENT **STL**

THORIUM ISOTOPIC COUNTING REQUEST

6/21
0612

C.R. Technician: OD
Date Counted: 6/20/06
C.R. Analyst: CB
Date Analyzed: 6/21/06

Counting Time: 500 Minutes
Sample
Background: See Alpha Analysis Report BRC 5/4/06

SOP's
Operating: RICHRD008
Review: RICHRD0016 614 3229

WorkOrder #	Th-229 (4845 KeV) Tracer from Th-234 Beta Count (7)				TOTAL COUNTS			Det #	Comment
					Th-228 (5423 KeV)	Th-230 (4688 KeV)	Th-232 (4010 KeV)		
	ID	Activity	ROI Cts	BKG	(6)	(8)	(9)		
H5KRR1AA		10		0	See Alpha Analysis Report for ROI Information			114	
H5KRV1AA		10		0	See Alpha Analysis Report for ROI Information			116	
H5KRX1AA		10		0	See Alpha Analysis Report for ROI Information			117	
H5KR21AA		10		0	See Alpha Analysis Report for ROI Information			118	
H5KR41AA		10		0	See Alpha Analysis Report for ROI Information			119	
H5KR61AA		10		0	See Alpha Analysis Report for ROI Information			120	
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				

Comments:

Form No: RC-012, 10/02, Rev 9

Approved by: S

Date: 6/21/06

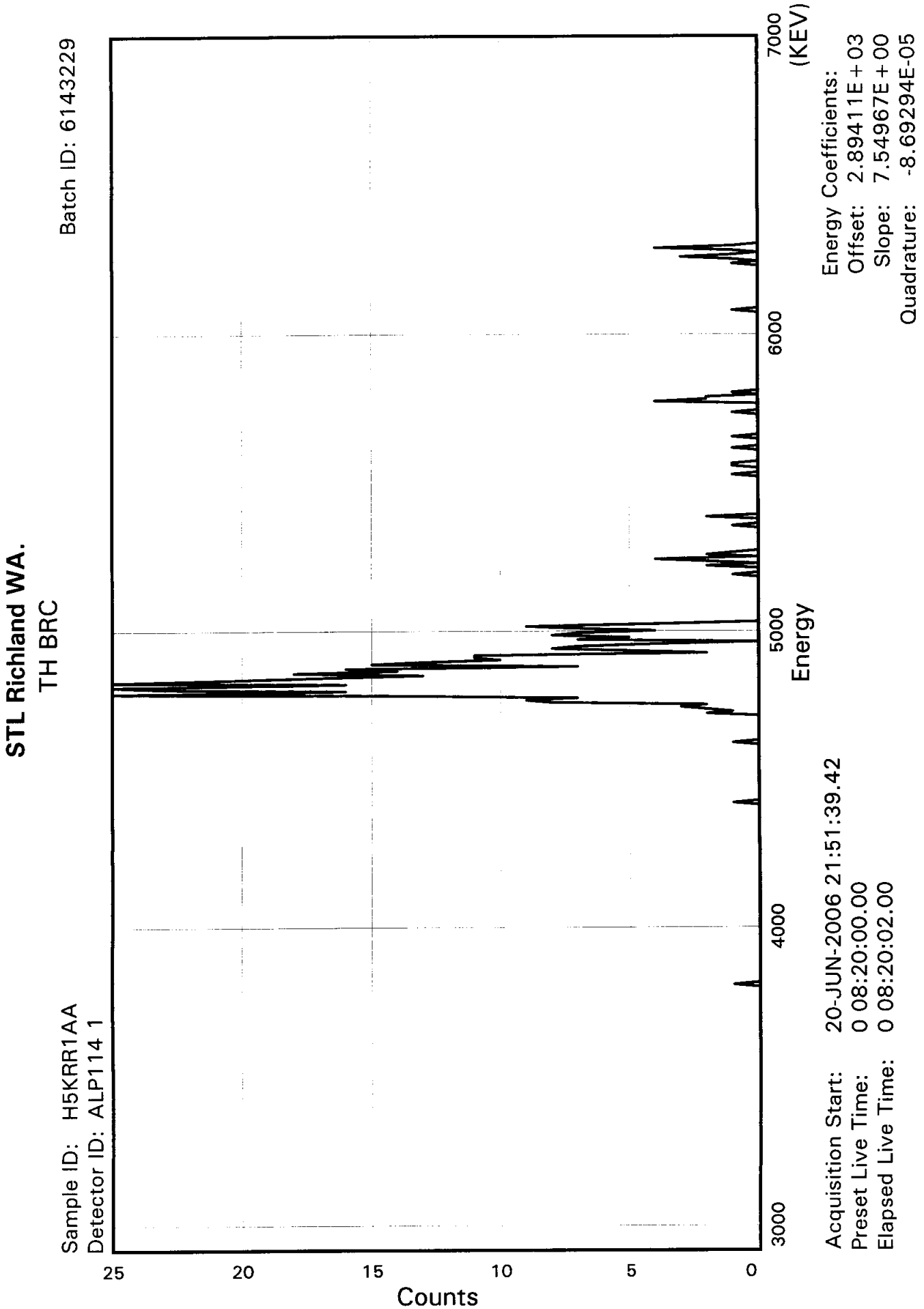
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H5KRR1AA

Detector: ALP114 1
Report Date: 21-Jun-06 06:44 AM
Acquire Date: 20-JUN-2006 21:51:39.42
Tracer Nuclide: TH-229
Sample Live Time: 500 minutes
Bkgrnd Live Time: 1000 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	3	7	-0.001	5423.2	149.8	321	341
TH-229	419	0	0.838	4845.3	307.7	244	285
TH-230	3	0	0.006	4687.7	150.2	223	243
TH-232	0	0	0.000	4013.0	150.5	133	153

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6143229
Sample ID: H5KRR1AA
Detector ID: ALP114 1
Counts
25
20
15
10
5
0
3000
4000
5000
6000
7000
Energy
(KEV)
Acquisition Start: 20-JUN-2006 21:51:39.42
Preset Live Time: 0 08:20:00.00
Elapsed Live Time: 0 08:20:02.00
Energy Coefficients:
Offset: 2.89411E+03
Slope: 7.54967E+00
Quadrature: -8.69294E-05

SAMPLE IDENTIITY: H5KRR1AA

TITLE : TH BRC

DETECTOR : ALP114 1
CONFIGURATION NAME : RDND06$DKA100:[ALP114.SAMPLE]H5KRR1AA_200662
151.CNF;1
ACQUIRE DATE of BACKGROUND: 15-MAY-2006 08:40:49

REPORT DATE : 21-Jun-06
ACQUIRE DATE: 20-JUN-2006 21:51:39

SAMPLE DATE: 04-MAY-2006 12:00:00
CALIB DATE : 15-MAY-2006 02:21:17

PRESET LIVE TIME: 0 08:20:00

ELAPSED LIVE TIME: 0 08:20:02

OFFSET : 2894.11 keV
SLOPE : 7.54967 keV/C
QUAD COEFF : -.869294E-04 keV/C^2

CONSTANT FWHM : 7.00000 Channels
SENSITIVITY : 6.00000 Std Dev's
SUM SENSITIVITY: 0.10000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 29-Jun-92)

Sample Identity: H5KRR1AA
Detector: ALP114 1
Report Date: 21-Jun-06 06:12 AM
Acquire Date: 20-JUN-2006 21:51:39.42

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0		201	14		251	0		301	0		351	0		401	1		451	0		501
		2	0		52	0		102	0		152	0		202	25		252	0		302	0		352	0		402	4		452	0		502
0		3	0		53	0		103	0		153	1		203	16		253	0		303	0		353	0		403	1		453	0		503
0		4	0		54	0		104	0		154	0		204	23		254	0		304	1		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0		205	25		255	1		305	1		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0		206	16		256	0		306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0		207	25		257	0		307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0		208	21		258	0		308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	0		209	17		259	2		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	0		210	13		260	0		310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	0		161	0		211	18		261	2		311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0		212	14		262	4		312	1		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0		213	16		263	0		313	0		363	0		413	0		463			
0		14	0		64	0		114	0		164	0		214	7		264	2		314	0		364	0		414	0		464			
0		15	0		65	0		115	0		165	0		215	15		265	1		315	0		365	0		415	0		465			
0		16	0		66	0		116	0		166	0		216	13		266	0		316	0		366	0		416	0		466			
0		17	0		67	0		117	0		167	0		217	10		267	0		317	1		367	0		417	0		467			
0		18	0		68	0		118	0		168	0		218	11		268	0		318	0		368	0		418	0		468			
0		19	0		69	0		119	0		169	0		219	11		269	0		319	0		369	0		419	0		469			
0		20	0		70	0		120	0		170	0		220	2		270	0		320	0		370	0		420	0		470			
0		21	0		71	1		121	0		171	0		221	5		271	0		321	0		371	0		421	0		471			
0		22	0		72	0		122	0		172	0		222	8		272	0		322	0		372	0		422	0		472			
0		23	0		73	0		123	0		173	0		223	7		273	0		323	0		373	0		423	0		473			
0		24	0		74	0		124	0		174	0		224	4		274	0		324	0		374	1		424	0		474			
0		25	0		75	0		125	0		175	0		225	0		275	0		325	0		375	0		425	0		475			
0		26	0		76	0		126	0		176	0		226	7		276	0		326	0		376	0		426	0		476			
0		27	0		77	0		127	0		177	0		227	5		277	1		327	0		377	0		427	0		477			
0		28	0		78	0		128	0		178	0		228	8		278	0		328	1		378	0		428	0		478			
0		29	0		79	0		129	0		179	0		229	7		279	0		329	0		379	0		429	0		479			
0		30	0		80	0		130	0		180	1		230	4		280	0		330	0		380	0		430	0		480			
0		31	0		81	0		131	0		181	0		231	7		281	2		331	0		381	0		431	0		481			
0		32	0		82	0		132	0		182	0		232	9		282	0		332	0		382	0		432	0		482			
0		33	0		83	0		133	0		183	0		233	4		283	0		333	4		383	0		433	0		483			
0		34	0		84	0		134	0		184	0		234	0		284	0		334	2		384	0		434	0		484			
0		35	0		85	0		135	0		185	0		235	0		285	0		335	2		385	0		435	0		485			
0		36	0		86	0		136	0		186	0		236	0		286	0		336	0		386	0		436	0		486			
0		37	0		87	0		137	0		187	0		237	0		287	0		337	1		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	0		288	0		338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	0		289	0		339	0		389	0		439	0		489			
0		40	0		90	0		140	0		190	0		240	0		290	0		340	0		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	0		291	0		341	0		391	0		441	0		491			
0		42	0		92	0		142	0		192	0		242	0		292	0		342	0		392	0		442	0		492			
0		43	0		93	0		143	0		193	2		243	0		293	0		343	0		393	0		443	0		493			
0		44	0		94	0		144	0		194	1		244	0		294	0		344	0		394	0		444	0		494			
0		45	0		95	0		145	0		195	2		245	0		295	0		345	0		395	1		445	0		495			
0		46	0		96	0		146	0		196	3		246	0		296	0		346	0		396	0		446	0		496			
0		47	0		97	0		147	0		197	2		247	0		297	0		347	0		397	1		447	0		497			
0		48	0		98	0		148	0		198	8		248	0		298	0		348	0		398	3		448	0		498			
0		49	0		99	0		149	0		199	9		249	0		299	0		349	0		399	1		449	0		499			

0 50 0 100 0 150 0 200 7 250 0 300 1 350 0 400 0 450 0 500

VMS Peak Search Report V1.9 Generated 21-JUN-2006 06:12:01

Configuration	: RDND06$DKA100:[ALP114.SAMPLE]H5KRR1AA_200662151.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: TH BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:51:39
Sample ID	: H5KRR1AA	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP114	Detector geometry	:
Elapsed live time	: 0 08:20:02.00	Elapsed real time	: 0 08:20:02.00 0.0%
Start energy	: 2916.76 KEV	End energy	: 6736.75 KEV
Sensitivity	: 6.00	Sum Sensitivity	: 0.10

No peaks were found

VMS Nuclide Identification Report V3.1 Generated 21-JUN-2006 06:12:02

Configuration	: RDND06$DKA100:[ALP114.SAMPLE]H5KRR1AA_200662151.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.4		
Sample title	: TH BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:51:39
Sample ID	: H5KRR1AA	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP114	Detector geometry	:
Elapsed live time	: 0 08:20:02.00	Elapsed real time	: 0 08:20:02.00 0.0%
Energy tolerance	: 80.00 KEV	Half life ratio	: 1.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Spline	Efficiencies at	: Peak Energy
Abundance limit	: 0.00		

Summary of Nuclide Activity

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

```
  Error Report  (Date: 21-Jun-06  06:12 AM)

Program: Alp_rgn_cnts
subroutine: Main
Message: No trace pk or nucl
Record being processed:  7

System Status Message:

%NONAME-W-NOMSG, Message number 00000000
```

Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H5KRV1AA

Detector: ALP116 1
Report Date: 21-Jun-06 06:45 AM
Acquire Date: 20-JUN-2006 21:51:56.54
Tracer Nuclide: TH-229
Sample Live Time: 500 minutes
Bkgrnd Live Time: 1000 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	5	2	0.008	5423.2	150.4	327	347
TH-229	444	2	0.886	4845.3	399.4	250	303
TH-230	3	0	0.006	4687.7	151.0	229	249
TH-232	1	0	0.002	4013.0	151.5	140	160

End of Alpha Region Report
(Produced by ANAL Report)

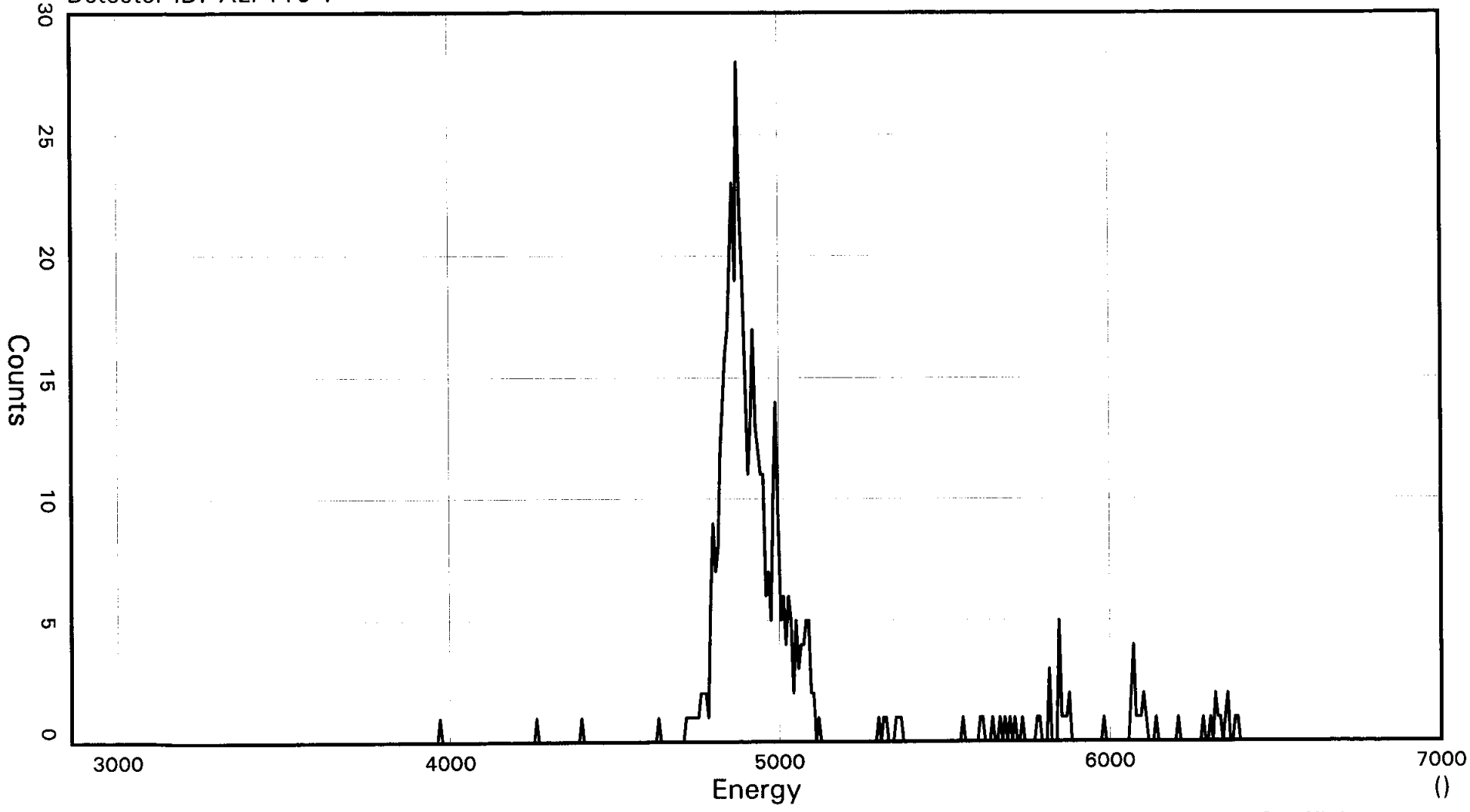
STL Richland WA.

TH BRC

Sample ID: H5KRV1AA

Detector ID: ALP116 1

Batch ID: 6143229



Acquisition Start: 20-JUN-2006 21:51:56.54

Preset Live Time: 0 08:20:00.00

Elapsed Live Time: 0 08:20:04.00

Energy Coefficients:

Offset: 2.83815E+03

Slope: 7.61998E+00

Quadrature: -1.51265E-04

SAMPLE IDENTIITY: H5KRV1AA

TITLE : TH BRC

DETECTOR : ALP116 1
CONFIGURATION NAME : RDND06$DKA100:[ALP116.SAMPLE]H5KRV1AA_200662
151.CNF;1
ACQUIRE DATE of BACKGROUND: 15-MAY-2006 08:40:55

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 20-JUN-2006 21:51:56 CALIB DATE : 15-MAY-2006 02:21:38

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:20:04

OFFSET : 2838.15 keV CONSTANT FWHM : 9.00000 Channels
SLOPE : 7.61998 keV/C SENSITIVITY : 6.00000 Std Dev's
QUAD COEFF : -.151265E-03 keV/C^2 SUM SENSITIVITY: 0.10000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 29-Jun-92)

Sample Identity: H5KRV1AA
Detector: ALP116 1
Report Date: 21-Jun-06 06:12 AM
Acquire Date: 20-JUN-2006 21:51:56.54

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0		201	1		251	1		301	0		351	1		401	0		451	0		501
		2	0		52	0		102	0		152	0		202	1		252	0		302	0		352	2		402	0		452	0		502
0		3	0		53	0		103	0		153	0		203	1		253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0		204	2		254	0		304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0		205	2		255	0		305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	1		206	2		256	0		306	0		356	0		406	1		456	0		506
0		7	0		57	0		107	0		157	0		207	1		257	0		307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0		208	6		258	0		308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	0		209	9		259	0		309	1		359	0		409	1		459	0		509
0		10	0		60	0		110	0		160	0		210	7		260	0		310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	0		161	0		211	8		261	0		311	0		361	0		411	2		461	0		511
0		12	0		62	0		112	0		162	0		212	12		262	0		312	0		362	0		412	1		462	0		512
0		13	0		63	0		113	0		163	0		213	14		263	0		313	0		363	0		413	1		463			
0		14	0		64	0		114	0		164	0		214	16		264	0		314	0		364	0		414	0		464			
0		15	0		65	0		115	0		165	0		215	17		265	0		315	0		365	0		415	1		465			
0		16	0		66	0		116	0		166	0		216	20		266	0		316	1		366	1		416	2		466			
0		17	0		67	0		117	0		167	0		217	23		267	0		317	1		367	0		417	0		467			
0		18	0		68	0		118	0		168	0		218	19		268	0		318	0		368	0		418	0		468			
0		19	0		69	0		119	0		169	0		219	28		269	0		319	0		369	0		419	1		469			
0		20	0		70	0		120	0		170	0		220	22		270	0		320	0		370	0		420	1		470			
0		21	0		71	0		121	0		171	0		221	19		271	0		321	1		371	0		421	0		471			
0		22	0		72	0		122	0		172	0		222	15		272	0		322	0		372	0		422	0		472			
0		23	0		73	0		123	0		173	0		223	11		273	0		323	0		373	0		423	0		473			
0		24	0		74	0		124	0		174	0		224	13		274	0		324	1		374	0		424	0		474			
0		25	0		75	0		125	0		175	0		225	17		275	1		325	0		375	0		425	0		475			
0		26	0		76	0		126	0		176	0		226	13		276	0		326	1		376	0		426	0		476			
0		27	0		77	0		127	0		177	0		227	12		277	1		327	0		377	2		427	0		477			
0		28	0		78	0		128	0		178	0		228	11		278	1		328	1		378	4		428	0		478			
0		29	0		79	0		129	0		179	0		229	11		279	0		329	0		379	1		429	0		479			
0		30	0		80	0		130	0		180	0		230	6		280	0		330	1		380	1		430	0		480			
0		31	0		81	0		131	0		181	0		231	7		281	0		331	0		381	1		431	0		481			
0		32	0		82	0		132	0		182	0		232	5		282	1		332	0		382	2		432	0		482			
0		33	0		83	0		133	0		183	0		233	10		283	1		333	1		383	1		433	0		483			
0		34	0		84	0		134	0		184	0		234	14		284	1		334	0		384	0		434	0		484			
0		35	0		85	0		135	0		185	0		235	9		285	0		335	0		385	0		435	0		485			
0		36	0		86	0		136	0		186	0		236	5		286	0		336	0		386	0		436	0		486			
0		37	0		87	0		137	0		187	1		237	6		287	0		337	0		387	1		437	0		487			
0		38	0		88	0		138	1		188	0		238	4		288	0		338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	6		289	0		339	1		389	0		439	0		489			
0		40	0		90	0		140	0		190	0		240	5		290	0		340	1		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	2		291	0		341	0		391	0		441	0		491			
0		42	0		92	0		142	0		192	0		242	5		292	0		342	0		392	0		442	0		492			
0		43	0		93	0		143	0		193	0		243	3		293	0		343	0		393	0		443	0		493			
0		44	0		94	0		144	0		194	0		244	4		294	0		344	3		394	0		444	0		494			
0		45	0		95	0		145	0		195	0		245	4		295	0		345	0		395	0		445	0		495			
0		46	0		96	0		146	0		196	0		246	5		296	0		346	0		396	1		446	0		496			
0		47	0		97	0		147	0		197	0		247	5		297	0		347	0		397	0		447	0		497			
0		48	0		98	0		148	0		198	1		248	2		298	0		348	5		398	0		448	0		498			
0		49	0		99	1		149	0		199	1		249	2		299	0		349	1		399	0		449	0		499			

0 50 0 100 0 150 0 200 1 250 0 300 0 350 1 400 0 450 0 500

VMS Peak Search Report V1.9 Generated 21-JUN-2006 06:12:05

```
Configuration     : RDND06$DKA100:[ALP116.SAMPLE]H5KRV1AA_200662151.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 4-MAY-2006 12:00:00  Acquisition date : 20-JUN-2006 21:51:56
Sample ID         : H5KRV1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP116               Detector geometry:
Elapsed live time: 0 08:20:04.00         Elapsed real time: 0 08:20:04.00   0.0%
Start energy      :  2861.01             End energy       :  6699.93
Sensitivity       :     6.00             Sum Sensitivity  :     0.10
No peaks were found
```

VMS Nuclide Identification Report V3.1 Generated 21-JUN-2006 06:12:06

```
Configuration     : RDND06$DKA100:[ALP116.SAMPLE]H5KRV1AA_200662151.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : TH BRC
Sample date       : 4-MAY-2006 12:00:00  Acquisition date : 20-JUN-2006 21:51:56
Sample ID         : H5KRV1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP116               Detector geometry:
Elapsed live time: 0 08:20:04.00         Elapsed real time: 0 08:20:04.00   0.0%
Energy tolerance :    80.00              Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :     0.00
```

Summary of Nuclide Activity

**** There are no nuclides meeting summary criteria ****

```
Flags: "K" = Keyline not found          "M" = Manually accepted
       "E" = Manually edited            "A" = Nuclide specific abn. limit
```

```
  Error Report  (Date: 21-Jun-06  06:12 AM)

Program: Alp_rgn_cnts
subroutine: Main
Message: No trace pk or nucl
Record being processed:  7

System Status Message:

%NONAME-W-NOMSG, Message number 00000000
```

Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H5KRX1AA

Detector: ALP117 1
Report Date: 21-Jun-06 06:45 AM
Acquire Date: 20-JUN-2006 21:52:07.38
Tracer Nuclide: TH-229
Sample Live Time: 500 minutes
Bkgrnd Live Time: 2500 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	3	1	0.006	5423.2	149.3	338	358
TH-229	452	2	0.903	4845.3	387.8	263	315
TH-230	1	2	0.001	4687.7	149.1	239	259
TH-232	1	1	0.002	4013.0	148.9	148	168

End of Alpha Region Report
(Produced by ANAL Report)

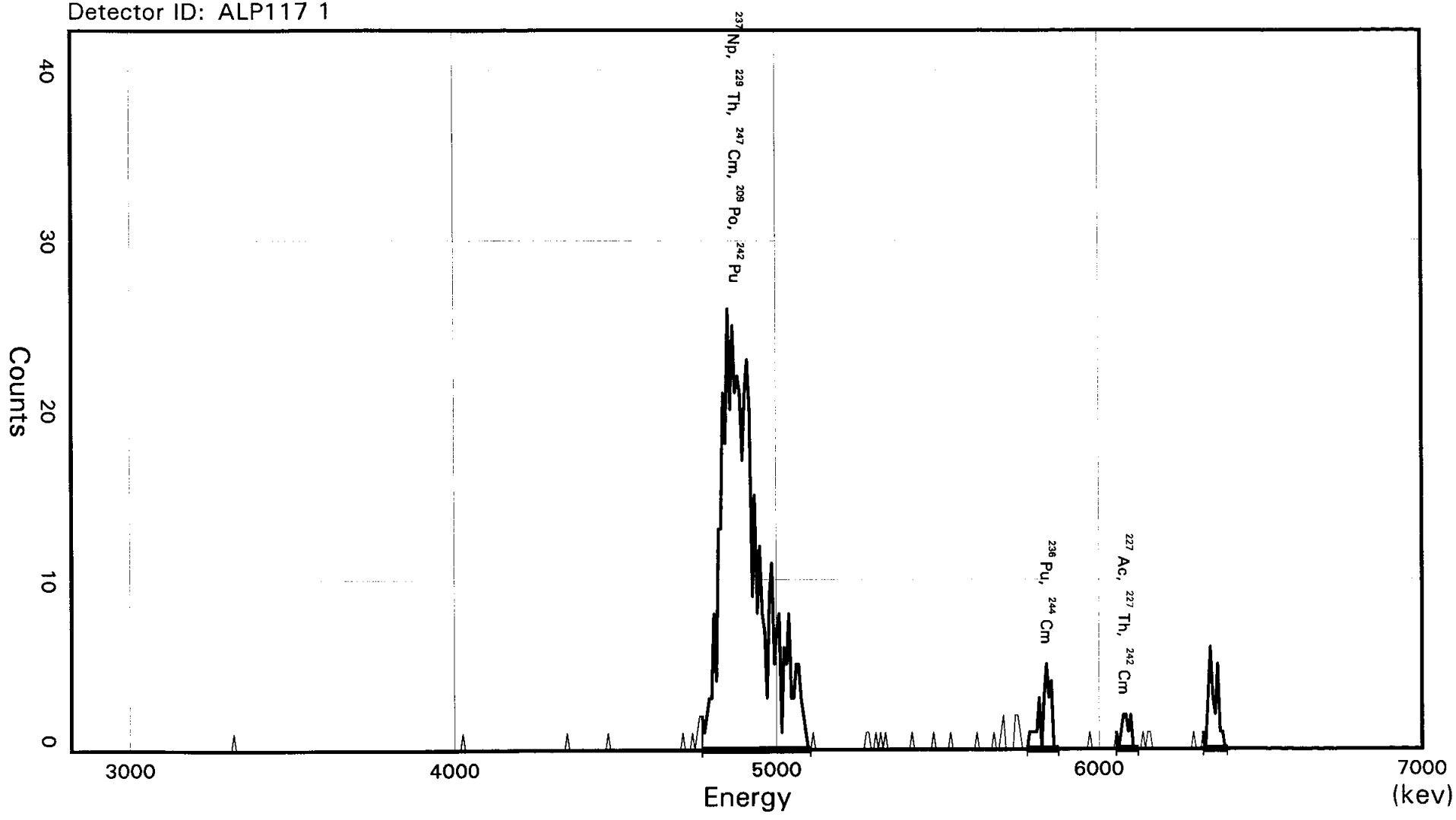
STL Richland WA.

TH BRC

Sample ID: H5KRX1AA

Detector ID: ALP117 1

Batch ID: 6143229



Acquisition Start: 20-JUN-2006 21:52:07.38

Preset Live Time: 0 08:20:00.00

Elapsed Live Time: 0 08:20:04.00

Energy Coefficients:

Offset: 2.79766E+03

Slope: 7.43061E+00

Quadrature: 4.65511E-05

SAMPLE IDENTIITY: H5KRX1AA

TITLE : TH BRC

DETECTOR : ALP117 1
CONFIGURATION NAME : RDND06$DKA100:[ALP117.SAMPLE]H5KRX1AA_200662
152.CNF;1
ACQUIRE DATE of BACKGROUND: 15-MAY-2006 08:40:57

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 20-JUN-2006 21:52:07 CALIB DATE : 15-MAY-2006 02:21:42

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:20:04

OFFSET : 2797.66 keV CONSTANT FWHM : 6.66667 Channels
SLOPE : 7.43061 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 4.655110E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H5KRX1AA

Detector: ALP117 1
Report Date: 21-Jun-06 06:12 AM
Acquire Date: 20-JUN-2006 21:52:07.38
Tracer Nuclide: TH-229
High Counts Limit: 36
Sample Live Time: 500 minutes
Bkgrnd Live Time: 2500 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
PO-208	-9999	-9999	0	-15.996	5147.1	335.7	301	346	0.00	0.00	M I
PO-209	450	2	0	0.899	4915.4	335.6	265	310	0.00	0.00	P
PO-210	-9999	-9999	0	-15.996	5336.6	335.8	327	372	0.00	0.00	M
AC-227	-9999	-9999	0	-15.996	6070.2	336.3	425	470	0.00	0.00	I
TH-227	-9999	-9999	0	-15.996	6070.2	336.3	425	470	0.00	0.00	I
TH-228	-9999	-9999	0	-15.996	5455.4	335.9	342	387	0.00	0.00	M
TH-229	450	2	0	0.899	4877.5	335.6	265	310	0.00	0.00	P
TH-230	-9999	-9999	0	-15.996	4719.9	335.5	244	289	0.00	0.00	M I
TH-232	1	4	0	0.001	4045.2	335.1	153	198	0.00	0.00	S
U-232	-9999	-9999	0	-15.996	5352.4	335.9	329	374	0.00	0.00	M
U-234	-9999	-9999	0	-15.996	4806.8	335.5	256	301	0.00	0.00	M I
U-235	-9999	-9999	0	-15.996	4430.0	335.3	205	250	0.00	0.00	M
PU-236	22	27	0	0.033	5799.9	97.1	400	413	0.00	0.00	P
NP-237	450	2	0	0.899	4820.2	335.6	265	310	0.00	0.00	P
PU-238	-9999	-9999	0	-15.996	5531.2	336.0	353	398	0.00	0.00	M
U-238	-9999	-9999	0	-15.996	4230.2	335.2	178	223	0.00	0.00	M
PU-239	-9999	-9999	0	-15.996	5188.8	335.8	307	352	0.00	0.00	M I
AM-241	-9999	-9999	0	-15.996	5517.8	335.9	351	396	0.00	0.00	M
AM-242M	-9999	-9999	0	-15.996	5239.0	335.8	313	358	0.00	0.00	M
CM-242	9	1	0	0.018	6144.9	67.2	437	446	0.00	0.00	P
PU-242	450	2	0	0.899	4932.7	335.6	265	310	0.00	0.00	P
AM-243	-9999	-9999	0	-15.996	5307.5	335.8	323	368	0.00	0.00	M
CM-244	22	27	0	0.033	5837.0	97.1	400	413	0.00	0.00	P
CM-246	-9999	-9999	0	-15.996	5418.7	335.9	338	383	0.00	0.00	M
CM-247	450	2	0	0.899	4902.6	335.6	265	310	0.00	0.00	P
CM-248	-9999	-9999	0	-15.996	5110.8	335.7	296	341	0.00	0.00	M I

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H5KRX1AA
Detector: ALP117 1
Report Date: 21-Jun-06 06:12 AM
Acquire Date: 20-JUN-2006 21:52:07.38

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1		0	51		0	101		0	151		0	- 201		0	+ 251		8	@ 301		0	@ 351		1	@ 401		1	@ 451		0	501
		2		0	52		0	102		0	152		0	- 202		0	+ 252		3	@ 302		1	@ 352		1	@ 402		0	@ 452		0	502
	0	3		0	53		0	103		0	+ 153		0	- 203		0	+ 253		3	@ 303		0	@ 353		1	@ 403		0	@ 453		0	503
	0	4		0	54		0	104		0	+ 154		0	- 204		0	+ 254		5	@ 304		0	@ 354		1	@ 404		0	@ 454		0	504
	0	5		0	55		0	105		0	+ 155		0	@ 205		0	+ 255		5	@ 305		0	@ 355		3	@ 405		0	@ 455		0	505
	0	6		0	56		0	106		0	+ 156		0	@ 206		0	@ 256		3	@ 306		0	@ 356		0	@ 406		0	@ 456		0	506
	0	7		0	57		0	107		0	+ 157		0	@ 207		1	@ 257		2	@ 307		0	@ 357		3	@ 407		0	@ 457		0	507
	0	8		0	58		0	108		0	+ 158		0	@ 208		0	@ 258		1	@ 308		0	@ 358		5	@ 408		0	@ 458		0	508
	0	9		0	59		0	109		0	+ 159		1	@ 209		0	@ 259		0	@ 309		0	@ 359		3	@ 409		0	@ 459		0	509
	0	10		0	60		0	110		0	+ 160		0	@ 210		0	@ 260		0	@ 310		0	@ 360		4	@ 410		0	@ 460		0	510
	0	11		0	61		0	111		0	+ 161		0	@ 211		1	@ 261		1	@ 311		1	@ 361		0	@ 411		0	@ 461		0	511
	0	12		0	62		0	112		0	+ 162		0	@ 212		0	@ 262		0	@ 312		0	@ 362		0	@ 412		0	@ 462		0	512
	0	13		0	63		0	113		0	+ 163		0	@ 213		1	@ 263		0	@ 313		0	@ 363		0	413		0	@ 463			
	0	14		0	64		0	114		0	+ 164		0	@ 214		2	@ 264		0	@ 314		0	@ 364		0	414		0	@ 464			
	0	15		0	65		0	115		1	+ 165		0	@ 215		2	- 265		0	@ 315		0	@ 365		0	415		0	@ 465			
	0	16		0	66		0	116		0	+ 166		0	@ 216		1	@ 266		0	@ 316		0	@ 366		0	416		0	@ 466			
	0	17		0	67		0	117		0	+ 167		0	@ 217		2	@ 267		0	@ 317		0	@ 367		0	417		0	@ 467			
	0	18		0	68		0	118		0	+ 168		0	@ 218		3	@ 268		0	@ 318		1	@ 368		0	418		0	@ 468			
	0	19		0	69		0	119		0	+ 169		0	@ 219		3	@ 269		0	@ 319		0	@ 369		0	419		1	@ 469			
	0	20		1	70		0	120		0	+ 170		0	@ 220		8	@ 270		0	@ 320		0	@ 370		0	420		0	@ 470			
	0	21		0	71		0	121		0	+ 171		0	@ 221		4	@ 271		0	@ 321		0	@ 371		0	421		0	471			
	0	22		0	72		0	122		0	+ 172		0	@ 222		13	@ 272		0	@ 322		0	@ 372		0	422		0	472			
	0	23		0	73		0	123		0	+ 173		0	@ 223		13	@ 273		0	@ 323		0	@ 373		0	423		1	473			
	0	24		0	74		0	124		0	+ 174		0	+ 224		21	@ 274		0	@ 324		0	@ 374		0	424		0	474			
	0	25		0	75		0	125		0	+ 175		0	+ 225		18	@ 275		0	@ 325		0	@ 375		0	@ 425		3	475			
	0	26		0	76		0	126		0	+ 176		1	+ 226		26	@ 276		0	@ 326		0	@ 376		1	@ 426		6	476			
	0	27		0	77		0	127		0	+ 177		0	+ 227		20	@ 277		0	@ 327		0	@ 377		0	@ 427		3	477			
	0	28		0	78		0	128		0	@ 178		0	+ 228		25	@ 278		0	@ 328		0	@ 378		0	@ 428		2	478			
	0	29		0	79		0	129		0	@ 179		0	+ 229		21	@ 279		0	@ 329		1	@ 379		0	@ 429		5	479			
	0	30		0	80		0	130		0	@ 180		0	+ 230		22	@ 280		0	@ 330		0	@ 380		0	@ 430		1	480			
	0	31		0	81		0	131		0	@ 181		0	+ 231		21	@ 281		0	@ 331		0	@ 381		0	@ 431		1	481			
	0	32		0	82		0	132		0	@ 182		0	+ 232		17	@ 282		0	@ 332		0	@ 382		0	@ 432		0	482			
	0	33		0	83		0	133		0	@ 183		0	+ 233		21	@ 283		1	@ 333		0	@ 383		0	@ 433		0	483			
	0	34		0	84		0	134		0	@ 184		0	+ 234		23	@ 284		1	@ 334		0	@ 384		0	@ 434		0	484			
	0	35		0	85		0	135		0	@ 185		0	+ 235		20	@ 285		0	@ 335		0	@ 385		0	@ 435		0	485			
	0	36		0	86		0	136		0	@ 186		0	+ 236		9	@ 286		0	@ 336		1	@ 386		0	@ 436		0	486			
	0	37		0	87		0	137		0	@ 187		0	+ 237		15	@ 287		1	@ 337		0	@ 387		1	- 437		0	487			
	0	38		0	88		0	138		0	@ 188		0	+ 238		8	@ 288		0	@ 338		0	@ 388		0	@ 438		0	488			
	0	39		0	89		0	139		0	@ 189		0	+ 239		12	@ 289		1	@ 339		1	@ 389		1	@ 439		0	489			
	0	40		0	90		0	140		0	@ 190		0	+ 240		8	@ 290		0	@ 340		2	@ 390		2	@ 440		0	490			
	0	41		0	91		0	141		0	@ 191		0	+ 241		7	@ 291		1	@ 341		0	@ 391		2	@ 441		0	491			
	0	42		0	92		0	142		0	@ 192		0	+ 242		3	@ 292		0	@ 342		0	@ 392		1	@ 442		0	492			
	0	43		0	93		0	143		0	@ 193		0	+ 243		9	@ 293		0	@ 343		0	@ 393		2	@ 443		0	493			
	0	44		0	94		0	144		0	@ 194		0	@ 244		11	@ 294		0	@ 344		0	@ 394		0	@ 444		0	494			
	0	45		0	95		0	145		0	@ 195		0	@ 245		5	@ 295		0	@ 345		2	@ 395		0	@ 445		0	495			
	0	46		0	96		0	146		0	@ 196		0	@ 246		7	- 296		0	@ 346		2	@ 396		0	@ 446		0	496			
	0	47		0	97		0	147		0	@ 197		0	@ 247		8	@ 297		0	@ 347		1	+ 397		0	@ 447		0	497			
	0	48		0	98		0	148		0	@ 198		0	@ 248		1	@ 298		0	@ 348		0	+ 398		1	@ 448		0	498			
	0	49		0	99		0	149		0	- 199		0	@ 249		6	@ 299		0	@ 349		0	399		0	@ 449		0	499			
	0	50		0	100		0	150		0	- 200		0	@ 250		5	@ 300		0	@ 350		0	@ 400		1	@ 450		0	500			

VMS Peak Search Report V1.9 Generated 21-JUN-2006 06:12:14

Configuration : RDND06$DKA100:[ALP117.SAMPLE]H5KRX1AA_200662152.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 4-MAY-2006 12:00:00 Acquisition date : 20-JUN-2006 21:52:07
Sample ID : H5KRX1AA Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP117 Detector geometry:
Elapsed live time: 0 08:20:04.00 Elapsed real time: 0 08:20:04.00 0.0%
Start energy : 2819.95 kev End energy : 6614.33 kev
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4877.51	450	0	104.03	279.41	265	45	1.50E-02	4.7	
2	0	5838.50	22	0	37.15	408.19	400	13	7.33E-04	21.3	
3	0	6079.34	9	0	37.15	440.43	437	9	3.00E-04	33.3	
4	0	6350.68	22	0	44.58	476.74	473	10	7.33E-04	21.3	

VMS Nuclide Identification Report V3.1 Generated 21-JUN-2006 06:12:16

Configuration : RDND06$DKA100:[ALP117.SAMPLE]H5KRX1AA_200662152.CNF;1
Analyses by : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title : TH BRC
Sample date : 4-MAY-2006 12:00:00 Acquisition date : 20-JUN-2006 21:52:07
Sample ID : H5KRX1AA Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP117 Detector geometry:
Elapsed live time: 0 08:20:04.00 Elapsed real time: 0 08:20:04.00 0.0%
Energy tolerance : 100.00 kev Half life ratio : 1.00
Errors propagated: No Systematic Error : 0.00 %
Efficiency type : Spline Efficiencies at : Peak Energy
Abundance limit : 0.00

Summary of Nuclide Activity

Total number of lines in spectrum	4	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	3	75.00%

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-236	2.86Y	1.03	0.000E+00	0.000E+00	0.000E+00	0.00	
NP-237	2.14E+06Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-242	162.80D	1.22	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-244	18.10Y	1.01	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-247	1.56E+07Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Grand Total Activity : 0.000E+00 0.000E+00

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: RDND06$DKA100:[ALP117.SAMPLE]H5KRX1AA_200662152.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4877.51	265	310	450	448	0.09		
5838.49	400	413	22	22	0.00		
6079.34	437	446	9	9	0.00		
6350.68	473	483	22	22	0.00		

End of Report

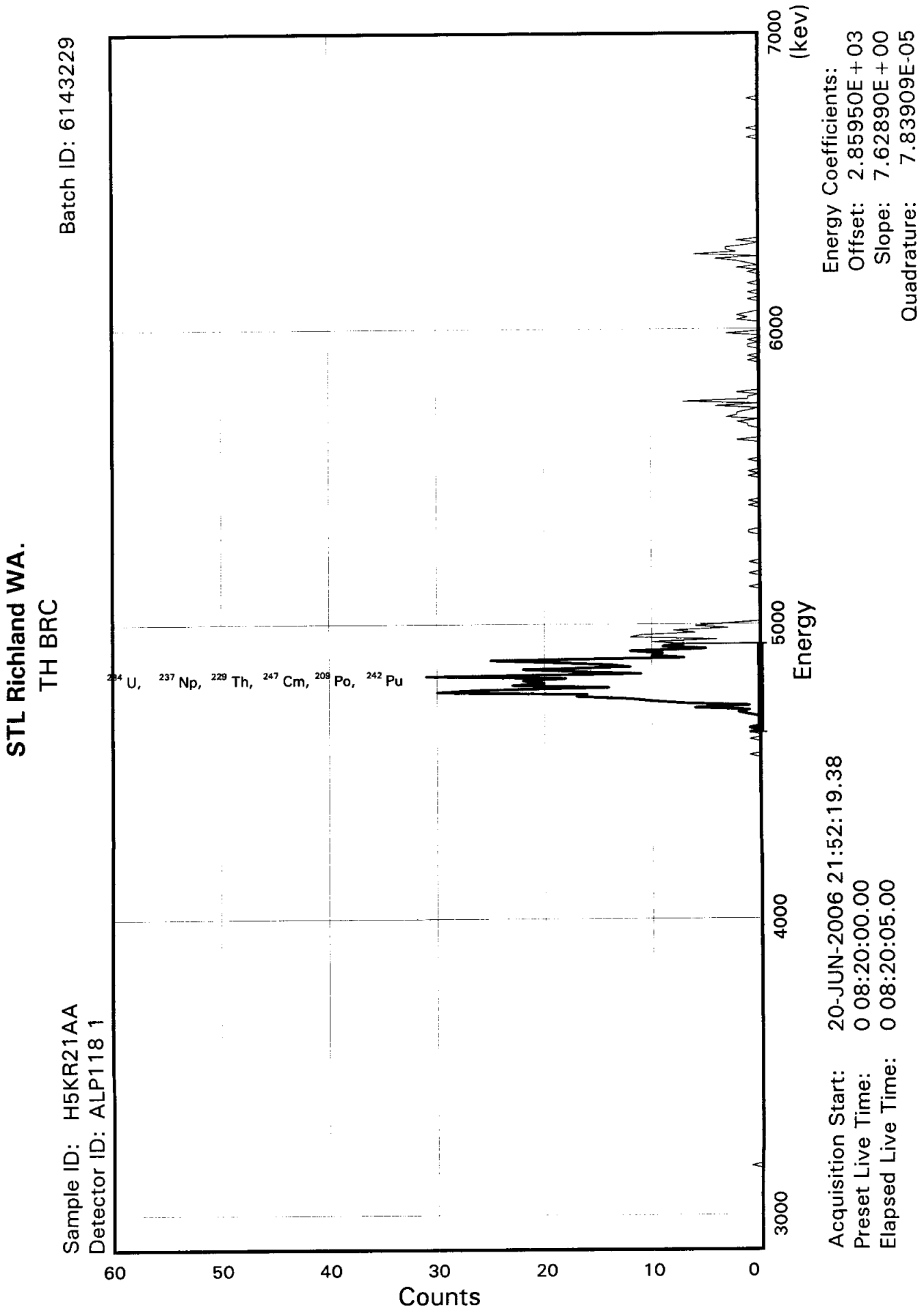
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H5KR21AA

Detector: ALP118 1
Report Date: 21-Jun-06 06:45 AM
Acquire Date: 20-JUN-2006 21:52:19.38
Tracer Nuclide: TH-229
Sample Live Time: 500 minutes
Bkgrnd Live Time: 2500 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	4	4	0.006	5423.2	153.6	320	340
TH-229	499	8	0.995	4845.3	337.5	239	283
TH-230	14	3	0.027	4687.7	153.3	224	244
TH-232	0	0	0.000	4013.0	153.0	136	156

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6143229
Sample ID: H5KR21AA
Detector ID: ALP118 1
234 U, 237 Np, 229 Th, 247 Cm, 209 Po, 242 Pu
Counts
60
50
40
30
20
10
0
3000
4000
5000
6000
7000
(kev)
Energy
Acquisition Start: 20-JUN-2006 21:52:19.38
Preset Live Time: 0 08:20:00.00
Elapsed Live Time: 0 08:20:05.00
Energy Coefficients:
Offset: 2.85950E+03
Slope: 7.62890E+00
Quadrature: 7.83909E-05

SAMPLE IDENTIITY: H5KR21AA

TITLE : TH BRC

DETECTOR : ALP118 1
CONFIGURATION NAME : RDND06$DKA100:[ALP118.SAMPLE]H5KR21AA_200662
152.CNF;1
ACQUIRE DATE of BACKGROUND: 15-MAY-2006 08:41:02

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 20-JUN-2006 21:52:19 CALIB DATE : 15-MAY-2006 02:21:48

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:20:05

OFFSET : 2859.50 keV CONSTANT FWHM : 7.50000 Channels
SLOPE : 7.62890 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 7.839090E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H5KR21AA

Detector: ALP118 1
Report Date: 21-Jun-06 06:12 AM
Acquire Date: 20-JUN-2006 21:52:19.38
Tracer Nuclide: TH-229
High Counts Limit: 36
Sample Live Time: 500 minutes
Bkgrnd Live Time: 2500 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
PO-208	-9999	-9999	0	-15.995	5084.8	299.3	267	306	0.00	0.00	M I
PO-209	435	6	0	0.867	4853.1	299.1	232	271	0.00	0.00	P
PO-210	-9999	-9999	0	-15.995	5274.3	299.4	292	331	0.00	0.00	M
AC-227	-9999	-9999	0	-15.995	6007.9	300.0	387	426	0.00	0.00	M
TH-227	-9999	-9999	0	-15.995	6007.9	300.0	387	426	0.00	0.00	M
TH-228	-9999	-9999	0	-15.995	5393.1	299.5	307	346	0.00	0.00	M
TH-229	435	6	0	0.867	4815.2	299.1	232	271	0.00	0.00	P
TH-230	-9999	-9999	0	-15.995	4657.6	298.9	211	250	0.00	0.00	S I
TH-232	0	0	0	0.000	3982.9	298.4	123	162	0.00	0.00	S
U-232	-9999	-9999	0	-15.995	5290.1	299.4	294	333	0.00	0.00	M
U-234	435	6	0	0.867	4744.5	299.1	232	271	0.00	0.00	P
U-235	-9999	-9999	0	-15.995	4367.7	298.7	174	213	0.00	0.00	M
PU-236	-9999	-9999	0	-15.995	5737.6	299.8	352	391	0.00	0.00	M
NP-237	435	6	0	0.867	4757.9	299.1	232	271	0.00	0.00	P
PU-238	-9999	-9999	0	-15.995	5468.9	299.6	317	356	0.00	0.00	M
U-238	-9999	-9999	0	-15.995	4167.9	306.2	147	187	0.00	0.00	M
PU-239	-9999	-9999	0	-15.995	5126.5	299.3	273	312	0.00	0.00	M
AM-241	-9999	-9999	0	-15.995	5455.5	299.6	315	354	0.00	0.00	M
AM-242M	-9999	-9999	0	-15.995	5176.7	299.4	279	318	0.00	0.00	M
CM-242	-9999	-9999	0	-15.995	6082.6	300.1	397	436	0.00	0.00	M
PU-242	435	6	0	0.867	4870.4	299.1	232	271	0.00	0.00	P
AM-243	-9999	-9999	0	-15.995	5245.2	299.4	288	327	0.00	0.00	M
CM-244	-9999	-9999	0	-15.995	5774.7	299.8	357	396	0.00	0.00	M
CM-246	-9999	-9999	0	-15.995	5356.4	291.8	303	341	0.00	0.00	M
CM-247	435	6	0	0.867	4840.3	299.1	232	271	0.00	0.00	P
CM-248	-9999	-9999	0	-15.995	5048.5	299.2	262	301	0.00	0.00	M I

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H5KR21AA
Detector: ALP118 1
Report Date: 21-Jun-06 06:12 AM
Acquire Date: 20-JUN-2006 21:52:19.38

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0	@	151	0	+	201	26	@	251	0	@	301	0	@	351	0	@	401	0		451	0		501
		2	0		52	0		102	0	@	152	0	+	202	14	@	252	1	@	302	1	@	352	1	@	402	0		452	0		502
0		3	0		53	0		103	0	@	153	0	+	203	23	@	253	0	-	303	0	@	353	1	@	403	0		453	0		503
0		4	0		54	0		104	0	@	154	0	+	204	20	@	254	0	@	304	0	@	354	0	@	404	0		454	0		504
0		5	0		55	0		105	0	@	155	0	+	205	22	@	255	0	@	305	0	@	355	1	@	405	0		455	0		505
0		6	0		56	0		106	0	@	156	0	+	206	18	@	256	0	@	306	0	@	356	0	@	406	0		456	0		506
0		7	0		57	0		107	0	@	157	0	+	207	31	@	257	1	@	307	0	@	357	0	@	407	0		457	0		507
0		8	0		58	0		108	0	@	158	0	+	208	11	@	258	0	@	308	0	@	358	3	@	408	0		458	0		508
0		9	0		59	0		109	0	@	159	0	+	209	17	@	259	0	@	309	0	@	359	0	@	409	0		459	0		509
0		10	0		60	0		110	0	@	160	0	+	210	22	@	260	0	@	310	0	@	360	0	@	410	0		460	0		510
0		11	0		61	0		111	0	@	161	0	@	211	12	@	261	0	@	311	2	@	361	0	@	411	0		461	1		511
0		12	0		62	0		112	0	@	162	0	@	212	14	-	262	0	@	312	0	@	362	0	@	412	0		462	0		512
0		13	0		63	0		113	0	-	163	0	@	213	19	@	263	0	@	313	0	@	363	0	@	413	0		463			
0		14	0		64	0		114	0	-	164	0	+	214	25	@	264	0	@	314	0	@	364	2	@	414	0		464			
0		15	0		65	0		115	0	-	165	0	+	215	7	@	265	0	@	315	0	@	365	1	@	415	0		465			
0		16	0		66	0		116	0	-	166	0	+	216	10	@	266	0	@	316	0	@	366	2	@	416	0		466			
0		17	0		67	0		117	0	-	167	0	+	217	9	@	267	0	@	317	1	@	367	1	@	417	0		467			
0		18	0		68	0		118	0	-	168	0	+	218	12	@	268	0	@	318	1	@	368	0	@	418	0		468			
0		19	0		69	0		119	0	-	169	0	+	219	5	@	269	0	@	319	2	@	369	0	@	419	0		469			
0		20	0		70	0		120	0	-	170	0	+	220	9	@	270	1	@	320	0	@	370	0	@	420	0		470			
0		21	0		71	0		121	0	-	171	0	+	221	7	@	271	1	@	321	3	@	371	0	@	421	0		471			
0		22	0		72	0		122	0	-	172	1	+	222	10	@	272	0	@	322	2	@	372	0	@	422	0		472			
0		23	0		73	0	+	123	0	-	173	0	+	223	4	@	273	0	@	323	2	@	373	1	@	423	0		473			
0		24	0		74	0	+	124	0	@	174	0	+	224	12	@	274	0	@	324	1	@	374	0	@	424	0		474			
0		25	0		75	0	+	125	0	@	175	0	+	225	11	@	275	0	@	325	0	@	375	0	@	425	0		475			
0		26	0		76	0	+	126	0	@	176	0	+	226	6	@	276	0	@	326	4	@	376	1	@	426	0		476			
0		27	0		77	0	+	127	0	@	177	0	+	227	8	@	277	0	@	327	0	@	377	0	-	427	0		477			
0		28	0		78	0	+	128	0	@	178	0	+	228	3	@	278	0	@	328	7	@	378	0	-	428	0		478			
0		29	0		79	0	+	129	0	@	179	1	+	229	6	@	279	0	@	329	1	@	379	0	-	429	0		479			
0		30	0		80	0	+	130	0	@	180	0	+	230	3	@	280	0	@	330	1	@	380	1	-	430	0		480			
0		31	0		81	0	+	131	0	@	181	0	+	231	0	@	281	0	@	331	0	@	381	0	-	431	0		481			
0		32	0		82	0	+	132	0	@	182	1	@	232	0	@	282	1	@	332	2	@	382	0	-	432	0		482			
0		33	0		83	0	+	133	0	@	183	0	@	233	0	@	283	0	@	333	0	@	383	0	-	433	0		483			
0		34	0		84	0	+	134	0	@	184	1	@	234	0	@	284	1	@	334	0	@	384	0	-	434	0		484			
0		35	0		85	0	+	135	0	@	185	0	@	235	0	@	285	0	@	335	0	@	385	1	-	435	0		485			
0		36	0		86	0	+	136	0	@	186	0	@	236	0	@	286	0	@	336	0	@	386	0	-	436	0		486			
0		37	0		87	0	+	137	0	@	187	0	@	237	0	@	287	0	@	337	0	@	387	2		437	0		487			
0		38	0		88	0	+	138	0	+	188	0	@	238	0	@	288	0	@	338	0	@	388	0		438	0		488			
0		39	0		89	0	+	139	0	+	189	0	@	239	0	@	289	0	@	339	0	@	389	1		439	0		489			
1		40	0		90	0	+	140	0	+	190	1	@	240	0	@	290	0	@	340	0	@	390	2		440	0		490			
0		41	0		91	0	+	141	0	+	191	2	@	241	0	@	291	0	@	341	0	@	391	4		441	0		491			
0		42	0		92	0	+	142	0	+	192	1	@	242	0	@	292	0	@	342	0	@	392	0		442	0		492			
0		43	0		93	0	+	143	0	+	193	6	@	243	0	@	293	0	@	343	0	@	393	6		443	0		493			
0		44	0		94	0	+	144	0	+	194	1	@	244	0	@	294	0	@	344	0	@	394	2		444	1		494			
0		45	0		95	0	+	145	0	+	195	7	@	245	0	@	295	1	@	345	0	@	395	3		445	0		495			
0		46	0		96	0	+	146	0	+	196	10	@	246	1	@	296	0	@	346	1	@	396	3		446	0		496			
0		47	0		97	0	@	147	0	+	197	12	@	247	0	@	297	1	@	347	0	+	397	1		447	0		497			
0		48	0		98	0	@	148	0	+	198	17	@	248	0	@	298	0	@	348	1	@	398	0		448	1		498			
0		49	0		99	0	@	149	0	+	199	16	@	249	0	@	299	0	@	349	0	@	399	2		449	0		499			
0		50	0		100	0	@	150	0	+	200	30	@	250	0	@	300	0	@	350	0	@	400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 21-JUN-2006 06:12:25

```
Configuration     : RDND06$DKA100:[ALP118.SAMPLE]H5KR21AA_200662152.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 4-MAY-2006 12:00:00  Acquisition date : 20-JUN-2006 21:52:19
Sample ID         : H5KR21AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP118               Detector geometry:
Elapsed live time: 0 08:20:05.00         Elapsed real time: 0 08:20:05.00   0.0%
Start energy      :  2882.39 kev         End energy       :  6786.05 kev
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4815.19	435	0144.95		255.68	232	39	1.45E-02	4.8	

VMS Nuclide Identification Report V3.1 Generated 21-JUN-2006 06:12:26

Configuration : RDND06$DKA100:[ALP118.SAMPLE]H5KR21AA_200662152.CNF;1
Analyses by : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title : TH BRC
Sample date : 4-MAY-2006 12:00:00
Sample ID : H5KR21AA
Sample type : disk
Detector name : ALP118
Elapsed live time: 0 08:20:05.00
Energy tolerance : 100.00 kev
Errors propagated: No
Efficiency type : Spline
Abundance limit : 0.00

Acquisition date : 20-JUN-2006 21:52:19
Sample quantity : 0.00000E+00 SAMPLE
Sample geometry :
Detector geometry:
Elapsed real time: 0 08:20:05.00 0.0%
Half life ratio : 1.00
Systematic Error : 0.00 %
Efficiencies at : Peak Energy

Summary of Nuclide Activity

Total number of lines in spectrum	1	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	1	100.00%

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
U-234	2.45E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
NP-237	2.14E+06Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-247	1.56E+07Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Grand Total Activity : 0.000E+00 0.000E+00

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: RDND06$DKA100:[ALP118.SAMPLE]H5KR21AA_200662152.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4815.19	232	271	435	438	-0.14		

End of Report

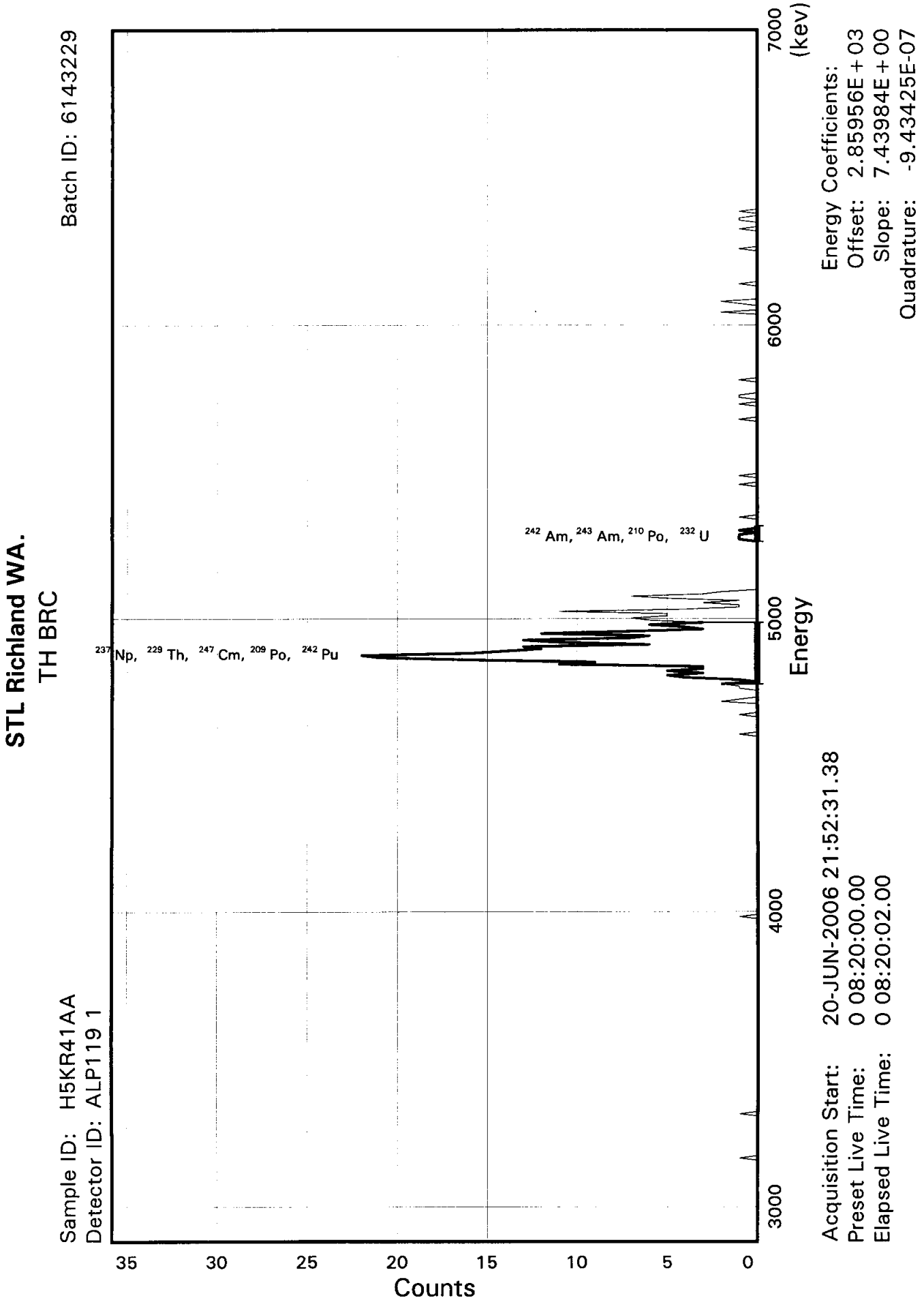
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H5KR41AA

Detector: ALP119 1
Report Date: 21-Jun-06 06:46 AM
Acquire Date: 20-JUN-2006 21:52:31.38
Tracer Nuclide: TH-229
Sample Live Time: 500 minutes
Bkgrnd Live Time: 1000 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	2	2	0.002	5423.2	148.8	330	350
TH-229	297	0	0.594	4845.3	319.9	259	302
TH-230	5	0	0.010	4687.7	148.8	231	251
TH-232	1	0	0.002	4013.0	148.8	140	160

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6143229
Sample ID: H5KR41AA
Detector ID: ALP119 1
237Np, 229 Th, 247 Cm, 209 Po, 242 Pu
242 Am, 243 Am, 210 Po, 232 U
Counts
35
30
25
20
15
10
5
0
Energy
3000
4000
5000
6000
7000
(kev)
Acquisition Start: 20-JUN-2006 21:52:31.38
Preset Live Time: 0 08:20:00.00
Elapsed Live Time: 0 08:20:02.00
Energy Coefficients:
Offset: 2.85956E+03
Slope: 7.43984E+00
Quadrature: -9.43425E-07

SAMPLE IDENTIITY: H5KR41AA

TITLE : TH BRC

DETECTOR : ALP119 1
CONFIGURATION NAME : RDND06$DKA100:[ALP119.SAMPLE]H5KR41AA_200662
152.CNF;1
ACQUIRE DATE of BACKGROUND: 15-MAY-2006 08:41:04

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 20-JUN-2006 21:52:31 CALIB DATE : 15-MAY-2006 02:21:53

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:20:02

OFFSET : 2859.56 keV CONSTANT FWHM : 8.83333 Channels
SLOPE : 7.43984 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.943425E-06 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H5KR41AA

Detector: ALP119 1
Report Date: 21-Jun-06 06:12 AM
Acquire Date: 20-JUN-2006 21:52:31.38
Tracer Nuclide: TH-229
High Counts Limit: 36
Sample Live Time: 500 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
PO-208	-9999	-9999	0	-10.000	5150.7	208.3	294	322	0.00	0.00	M
PO-209	242	0	0	0.484	4919.0	208.3	258	286	0.00	0.00	P
PO-210	4	1	0	0.007	5340.2	52.1	323	330	0.00	0.00	P
AC-227	3	0	6	0.006	6073.8	208.3	418	446	0.00	0.00	S
TH-227	3	0	6	0.006	6073.8	208.3	418	446	0.00	0.00	S
TH-228	-9999	-9999	0	-10.000	5459.0	208.3	336	364	0.00	0.00	M
TH-229	242	0	0	0.484	4881.1	208.3	258	286	0.00	0.00	P
TH-230	-9999	-9999	0	-10.000	4723.5	208.3	237	265	0.00	0.00	S I
TH-232	1	1	0	0.001	4048.8	208.3	146	174	0.00	0.00	S
U-232	4	1	0	0.007	5356.0	52.1	323	330	0.00	0.00	P
U-234	-9999	-9999	0	-10.000	4810.4	208.3	248	276	0.00	0.00	S I
U-235	0	1	0	-0.001	4433.6	208.3	198	226	0.00	0.00	S
PU-236	3	1	3	0.004	5803.5	208.3	382	410	0.00	0.00	S
NP-237	242	0	0	0.484	4823.8	208.3	258	286	0.00	0.00	P
PU-238	-9999	-9999	0	-10.000	5534.8	208.3	346	374	0.00	0.00	M
U-238	-9999	-9999	0	-10.000	4233.8	208.3	171	199	0.00	0.00	M
PU-239	-9999	-9999	0	-10.000	5192.4	208.3	300	328	0.00	0.00	M I
AM-241	-9999	-9999	0	-10.000	5521.4	208.3	344	372	0.00	0.00	M
AM-242M	4	1	0	0.007	5242.6	52.1	323	330	0.00	0.00	P
CM-242	-9999	-9999	0	-10.000	6148.5	208.3	428	456	0.00	0.00	M
PU-242	242	0	0	0.484	4936.3	208.3	258	286	0.00	0.00	P
AM-243	4	1	0	0.007	5311.1	52.1	323	330	0.00	0.00	P
CM-244	2	1	3	0.002	5840.6	208.3	387	415	0.00	0.00	S
CM-246	-9999	-9999	0	-10.000	5422.3	208.3	331	359	0.00	0.00	M
CM-247	242	0	0	0.484	4906.2	208.3	258	286	0.00	0.00	P
CM-248	-9999	-9999	0	-10.000	5114.4	208.3	289	317	0.00	0.00	M

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H5KR41AA
Detector: ALP119 1
Report Date: 21-Jun-06 06:12 AM
Acquire Date: 20-JUN-2006 21:52:31.38

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	1	+	151	0	+	201	1	@	251	0	@	301	0	@	351	0	@	401	0	-	451
		2	0		52	0		102	0	+	152	0	+	202	0	@	252	0	@	302	0	@	352	0	@	402	0	-	452
0		3	0		53	0		103	0	+	153	0	+	203	0	@	253	0	@	303	1	@	353	0	@	403	0	-	453
0		4	0		54	0		104	0	+	154	0	+	204	0	@	254	0	@	304	0	@	354	0	@	404	0	-	454
0		5	0		55	0		105	0	+	155	0	+	205	0	@	255	0	@	305	0	@	355	0	@	405	0	-	455
0		6	0		56	0		106	0	+	156	0	+	206	1	@	256	0	@	306	0	@	356	0	@	406	0	-	456
0		7	0		57	0		107	0	+	157	0	+	207	1	@	257	0	@	307	0	@	357	0	@	407	1		457
0		8	0		58	0		108	0	+	158	0	+	208	2	-	258	0	@	308	0	@	358	0	@	408	0		458
0		9	0		59	0		109	0	+	159	0	+	209	0	@	259	0	@	309	0	@	359	0	@	409	0		459
0		10	0		60	0		110	0	+	160	0	+	210	1	@	260	0	@	310	0	@	360	0	@	410	0		460
0		11	1		61	0		111	0	+	161	0	+	211	4	@	261	0	@	311	0	@	361	0	-	411	0		461
0		12	0		62	0		112	0	+	162	0	+	212	5	@	262	0	@	312	0	@	362	0	-	412	0		462
0		13	0		63	0		113	0	+	163	0	+	213	3	@	263	0	@	313	0	@	363	0	-	413	0		463
0		14	0		64	0		114	0	+	164	0	+	214	5	@	264	0	@	314	0	@	364	0	-	414	0		464
0		15	0		65	0		115	0	+	165	0	+	215	3	@	265	0	@	315	0	@	365	0	-	415	0		465
0		16	0		66	0		116	0	+	166	0	+	216	3	@	266	0	@	316	0	@	366	0		416	1		466
0		17	0		67	0		117	0	+	167	0	+	217	11	@	267	0	@	317	0	@	367	0		417	0		467
0		18	0		68	0		118	0	+	168	0	+	218	9	@	268	0	@	318	0	@	368	0	@	418	0		468
0		19	0		69	0		119	0	+	169	0	+	219	16	@	269	0	@	319	0	@	369	0	@	419	0		469
0		20	0		70	0		120	0	+	170	0	+	220	21	@	270	0	@	320	0	@	370	0	@	420	1		470
0		21	0		71	0		121	0	@	171	0	+	221	22	@	271	0	@	321	0	@	371	0	@	421	1		471
0		22	0		72	0		122	0	@	172	0	+	222	16	@	272	0	@	322	0	@	372	0	@	422	0		472
0		23	0		73	0		123	0	@	173	0	+	223	14	@	273	0	@	323	0	+	373	0	@	423	0		473
0		24	0		74	0		124	0	@	174	0	+	224	12	@	274	1	@	324	0	+	374	0	@	424	1		474
0		25	0		75	0		125	0	-	175	0	+	225	13	@	275	1	@	325	0		375	0	@	425	0		475
0		26	0		76	0		126	0	-	176	0	+	226	6	@	276	1	@	326	0		376	0	@	426	0		476
0		27	0		77	0		127	0	-	177	0		227	11	@	277	0	@	327	0		377	0	@	427	0		477
0		28	0		78	0		128	0	-	178	0		228	13	@	278	1	@	328	0		378	2	-	428	0		478
0		29	0		79	0		129	0	-	179	0		229	7	@	279	0	@	329	1		379	0	@	429	0		479
0		30	0		80	0		130	0	-	180	0		230	6	@	280	0		330	0		380	0	@	430	0		480
0		31	0		81	0		131	0	-	181	0		231	12	@	281	0	+	331	0		381	0	@	431	0		481
0		32	0		82	0		132	0	-	182	0		232	7	@	282	0	+	332	0	+	382	1	@	432	0		482
0		33	0		83	0		133	0	-	183	0		233	3	@	283	0	+	333	0	+	383	2	@	433	0		483
0		34	0		84	0		134	0	-	184	0		234	4	@	284	1	+	334	0	+	384	0	@	434	0		484
0		35	0		85	0		135	0	-	185	1		235	6	@	285	0	+	335	0	+	385	0	@	435	0		485
0		36	0		86	0		136	0	-	186	0		236	3		286	0	@	336	1	+	386	0	@	436	0		486
0		37	0		87	0		137	0	-	187	0	+	237	6		287	0	@	337	0	@	387	0	@	437	0		487
0		38	0		88	0		138	0	-	188	0	+	238	7		288	0	@	338	0	@	388	0	@	438	0		488
0		39	0		89	0		139	0	-	189	0	+	239	5	+	289	0	@	339	1	@	389	0	@	439	0		489
0		40	0		90	0		140	0	-	190	0	+	240	5	+	290	0	@	340	1	@	390	0	@	440	0		490
1		41	0		91	0		141	0	-	191	0	+	241	11	+	291	0	@	341	0	@	391	1	@	441	0		491
0		42	0		92	0		142	0	-	192	0	+	242	4	+	292	0	@	342	0	@	392	0	@	442	0		492
0		43	0		93	0		143	0	-	193	0	+	243	1	+	293	0	@	343	0	@	393	0	@	443	0		493
0		44	0		94	0		144	0	-	194	1	+	244	1	@	294	0	@	344	0	@	394	0	@	444	0		494
0		45	0		95	0		145	0	-	195	0	+	245	3	@	295	0	@	345	0	@	395	0	@	445	0		495
0		46	0		96	0	+	146	0	-	196	0	+	246	1	@	296	0	@	346	0	@	396	0	@	446	0		496
0		47	0		97	0	+	147	0		197	0	+	247	5	@	297	0	@	347	1	@	397	0	-	447	0		497
0		48	0		98	0	+	148	0	@	198	0	@	248	7	@	298	0	@	348	0	@	398	0	-	448	0		498
0		49	0		99	0	+	149	0	@	199	0	@	249	3	@	299	1	@	349	0	@	399	0	-	449	0		499
0		50	0		100	0	+	150	0	+	200	2	@	250	2	@	300	0	@	350	0	@	400	0	-	450	0		500

VMS Peak Search Report V1.9 Generated 21-JUN-2006 06:12:35

```
Configuration     : RDND06$DKA100:[ALP119.SAMPLE]H5KR41AA_200662152.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 4-MAY-2006 12:00:00  Acquisition date : 20-JUN-2006 21:52:31
Sample ID         : H5KR41AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP119               Detector geometry:
Elapsed live time: 0 08:20:02.00         Elapsed real time: 0 08:20:02.00   0.0%
Start energy      :  2881.88 kev         End energy       :  6668.51 kev
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4881.10	242	0	66.96	271.73	258	28	8.07E-03	6.4	
2	0	5281.13	4	0	29.76	325.50	323	7	1.33E-04	50.0	

VMS Nuclide Identification Report V3.1 Generated 21-JUN-2006 06:12:37

```
Configuration     : RDND06$DKA100:[ALP119.SAMPLE]H5KR41AA_200662152.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : TH BRC
Sample date       : 4-MAY-2006 12:00:00  Acquisition date : 20-JUN-2006 21:52:31
Sample ID         : H5KR41AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP119               Detector geometry:
Elapsed live time: 0 08:20:02.00         Elapsed real time: 0 08:20:02.00   0.0%
Energy tolerance :   100.00 kev          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :     0.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                2
 Number of unidentified lines                     0
 Number of lines tentatively identified by NID    2      100.00%
```

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PO-210	138.38D	1.27	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
NP-237	2.14E+06Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
AM-242M	141.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
AM-243	7370.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-247	1.56E+07Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			

```
   Grand Total Activity :  0.000E+00    0.000E+00
```

```
Flags: "K" = Keyline not found          "M" = Manually accepted
       "E" = Manually edited            "A" = Nuclide specific abn. limit
```

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: RDND06$DKA100:[ALP119.SAMPLE]H5KR41AA_200662152.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4881.10	258	286	242	238	0.26		
5281.13	323	330	4	4	0.00		

End of Report

Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H5KR61AA

Detector: ALP120 1
Report Date: 21-Jun-06 06:46 AM
Acquire Date: 20-JUN-2006 21:52:43.05
Tracer Nuclide: TH-229
Sample Live Time: 500 minutes
Bkgrnd Live Time: 1000 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	8	2	0.014	5423.2	147.7	333	353
TH-229	453	0	0.906	4845.3	369.3	256	306
TH-230	2	0	0.004	4687.7	147.7	233	253
TH-232	1	0	0.002	4013.0	147.8	142	162

End of Alpha Region Report
(Produced by ANAL Report)

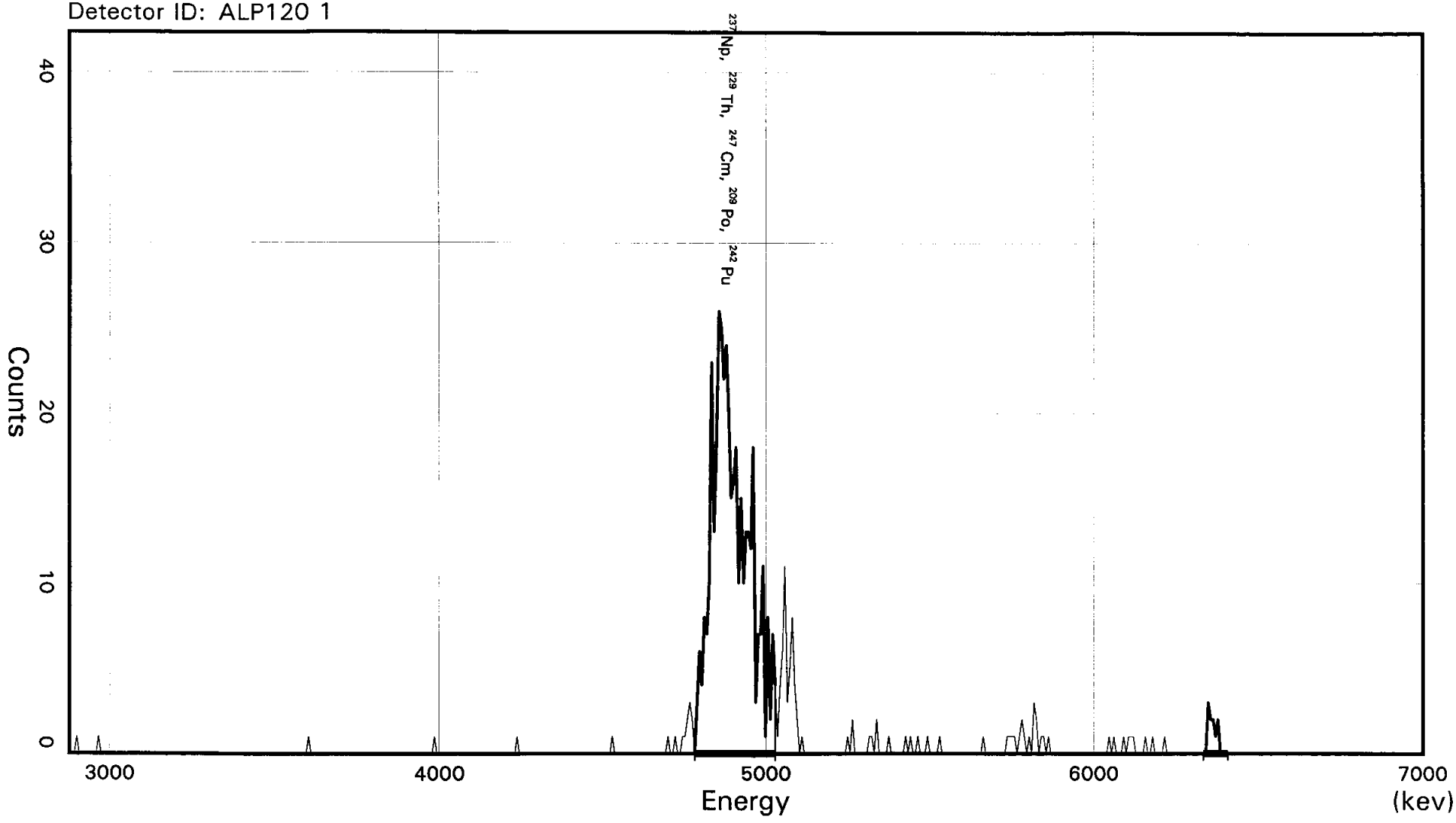
STL Richland WA.

TH BRC

Sample ID: H5KR61AA

Detector ID: ALP120 1

Batch ID: 6143229



Acquisition Start: 20-JUN-2006 21:52:43.05

Preset Live Time: 0 08:20:00.00

Elapsed Live Time: 0 08:20:03.00

Energy Coefficients:

Offset: 2.85545E+03

Slope: 7.39004E+00

Quadrature: -7.31039E-06

SAMPLE IDENTIITY: H5KR61AA

TITLE : TH BRC

DETECTOR : ALP120 1
CONFIGURATION NAME : RDND06$DKA100:[ALP120.SAMPLE]H5KR61AA_200662
152.CNF;1
ACQUIRE DATE of BACKGROUND: 15-MAY-2006 08:41:06

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 20-JUN-2006 21:52:43 CALIB DATE : 15-MAY-2006 02:22:03

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:20:03

OFFSET : 2855.45 keV CONSTANT FWHM : 9.50000 Channels
SLOPE : 7.39004 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.731039E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H5KR61AA

Detector: ALP120 1
Report Date: 21-Jun-06 06:12 AM
Acquire Date: 20-JUN-2006 21:52:43.05
Tracer Nuclide: TH-229
High Counts Limit: 36
Sample Live Time: 500 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
PO-208	-9999	-9999	0	-9.999	5152.5	243.7	298	331	0.00	0.00	M
PO-209	408	0	0	0.816	4920.8	243.7	261	294	0.00	0.00	P
PO-210	-9999	-9999	0	-9.999	5341.9	243.7	323	356	0.00	0.00	M
AC-227	-9999	-9999	0	-9.999	6075.6	243.7	423	456	0.00	0.00	M
TH-227	-9999	-9999	0	-9.999	6075.6	243.7	423	456	0.00	0.00	M
TH-228	-9999	-9999	0	-9.999	5460.8	243.7	339	372	0.00	0.00	M
TH-229	408	0	0	0.816	4882.9	243.7	261	294	0.00	0.00	P
TH-230	-9999	-9999	0	-9.999	4725.3	243.7	240	273	0.00	0.00	S I
TH-232	1	0	0	0.002	4050.6	243.8	148	181	0.00	0.00	S
U-232	-9999	-9999	0	-9.999	5357.7	243.7	325	358	0.00	0.00	M
U-234	-9999	-9999	0	-9.999	4812.2	243.7	251	284	0.00	0.00	S I
U-235	1	1	0	0.001	4435.4	243.8	200	233	0.00	0.00	S
PU-236	9	4	16	0.014	5805.2	243.7	386	419	0.00	0.00	S
NP-237	408	0	0	0.816	4825.6	243.7	261	294	0.00	0.00	P
PU-238	-9999	-9999	0	-9.999	5536.6	243.7	350	383	0.00	0.00	M
U-238	-9999	-9999	0	-9.999	4235.6	243.8	173	206	0.00	0.00	M
PU-239	-9999	-9999	0	-9.999	5194.1	243.7	303	336	0.00	0.00	M
AM-241	-9999	-9999	0	-9.999	5523.2	243.7	348	381	0.00	0.00	M
AM-242M	-9999	-9999	0	-9.999	5244.4	243.7	310	343	0.00	0.00	M
CM-242	-9999	-9999	0	-9.999	6150.3	243.7	433	466	0.00	0.00	M
PU-242	408	0	0	0.816	4938.1	243.7	261	294	0.00	0.00	P
AM-243	-9999	-9999	0	-9.999	5312.9	243.7	319	352	0.00	0.00	M
CM-244	-9999	-9999	0	-9.999	5842.4	243.7	391	424	0.00	0.00	M
CM-246	-9999	-9999	0	-9.999	5424.1	243.7	334	367	0.00	0.00	M
CM-247	408	0	0	0.816	4908.0	243.7	261	294	0.00	0.00	P
CM-248	-9999	-9999	0	-9.999	5116.2	243.7	293	326	0.00	0.00	M

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H5KR61AA
Detector: ALP120 1
Report Date: 21-Jun-06 06:12 AM
Acquire Date: 20-JUN-2006 21:52:43.05

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	1		101	0	+	151	0	@	201	0	@	251	8	@	301	0	@	351	3	@	401
		2	0		52	0		102	0	+	152	0	@	202	0	@	252	4	@	302	0	@	352	2	@	402
0		3	0		53	0		103	1	+	153	0	@	203	1	@	253	2	@	303	1	@	353	0	@	403
0		4	0		54	0		104	0	+	154	0	@	204	0	@	254	0	@	304	0	@	354	1	@	404
0		5	0		55	0		105	0	+	155	0	@	205	0	@	255	1	@	305	0	@	355	1	@	405
1		6	0		56	0		106	0	+	156	0	@	206	1	@	256	0	@	306	0	@	356	0	@	406
0		7	0		57	0		107	0	+	157	0	+	207	1	@	257	0	@	307	1	@	357	1	@	407
0		8	0		58	0		108	0	+	158	0	+	208	2	@	258	0	@	308	0	@	358	0	@	408
0		9	0		59	0		109	0	+	159	0	+	209	3	@	259	0	@	309	0	@	359	0	@	409
0		10	0		60	0		110	0	+	160	0	+	210	2	@	260	0	@	310	0	@	360	0	@	410
0		11	0		61	0		111	0	+	161	0	+	211	0	-	261	0	@	311	0	@	361	0	@	411
0		12	0		62	0		112	0	+	162	0	+	212	3	@	262	0	@	312	1	@	362	0	@	412
0		13	0		63	0		113	0	+	163	0	+	213	6	@	263	0	@	313	0	@	363	0	@	413
0		14	0		64	0		114	0	+	164	0	+	214	4	@	264	0	@	314	0	@	364	0	@	414
1		15	0		65	0		115	0	+	165	0	+	215	8	@	265	0	@	315	0	@	365	0	@	415
0		16	0		66	0		116	0	+	166	0	+	216	7	@	266	0	@	316	0	@	366	0	@	416
0		17	0		67	0		117	0	+	167	0	+	217	10	@	267	0	@	317	0	@	367	0	@	417
0		18	0		68	0		118	0	+	168	0	+	218	23	@	268	0	@	318	0	@	368	0	@	418
0		19	0		69	0		119	0	+	169	0	+	219	13	@	269	0	@	319	0	@	369	0	@	419
0		20	0		70	0		120	0	+	170	0	+	220	18	@	270	0	@	320	0	@	370	0	-	420
0		21	0		71	0		121	0	+	171	0	+	221	26	@	271	0	@	321	0	@	371	0	-	421
0		22	0		72	0		122	0	+	172	0	+	222	25	@	272	0	@	322	0	@	372	0	-	422
0		23	0		73	0		123	0	@	173	0	+	223	22	@	273	0	@	323	0	@	373	0	@	423
0		24	0		74	0		124	0	@	174	0	+	224	24	@	274	1	@	324	0	@	374	0	@	424
0		25	0		75	0		125	0	@	175	0	+	225	20	@	275	0	@	325	0	@	375	0	@	425
0		26	0		76	0		126	0	@	176	0	+	226	15	@	276	2	@	326	0	@	376	0	@	426
0		27	0		77	0		127	0	@	177	1	+	227	16	@	277	0	@	327	0	@	377	0	@	427
0		28	0		78	0		128	0	@	178	0	+	228	18	@	278	0	@	328	0	@	378	0	@	428
0		29	0		79	0		129	0	@	179	0	+	229	10	@	279	0	@	329	0	@	379	0	@	429
0		30	0		80	0		130	0	@	180	0	+	230	15	@	280	0	@	330	1	@	380	0	@	430
0		31	0		81	0		131	0	@	181	0	+	231	10	@	281	0	@	331	0	@	381	0	@	431
0		32	0		82	0		132	0	-	182	0	+	232	13	@	282	0	@	332	0	+	382	1	@	432
0		33	0		83	0		133	0	-	183	0	+	233	13	@	283	1	@	333	0	+	383	0	-	433
0		34	0		84	0		134	0	-	184	0		234	12	@	284	1	-	334	0		384	1	@	434
0		35	0		85	0		135	0	-	185	0		235	18	@	285	0	@	335	0		385	0	@	435
0		36	0		86	0		136	0	-	186	0		236	3	@	286	2	@	336	0	+	386	0	@	436
0		37	0		87	0		137	1	-	187	0		237	7	@	287	0	@	337	0	+	387	0	@	437
0		38	0		88	0		138	0	-	188	0		238	7	@	288	0	@	338	0	+	388	1	@	438
0		39	0		89	0		139	0	-	189	0		239	11	@	289	0	@	339	0	+	389	0	@	439
0		40	0		90	0		140	0	-	190	0	+	240	1	@	290	0	@	340	1	+	390	1	@	440
0		41	0		91	0		141	0	-	191	0	+	241	8	@	291	1	@	341	1	@	391	1	@	441
0		42	0		92	0		142	0	-	192	0	+	242	2	@	292	0	@	342	1	@	392	1	@	442
0		43	0		93	0		143	0	-	193	0	+	243	7	-	293	0	@	343	1	@	393	0	@	443
0		44	0		94	0		144	0	-	194	0	+	244	4	+	294	0	@	344	0	@	394	0	@	444
0		45	0		95	0		145	0	-	195	0	+	245	1	+	295	0	@	345	1	@	395	0	@	445
0		46	0		96	0		146	0	-	196	0	+	246	4	+	296	0	@	346	2	@	396	0	@	446
0		47	0		97	0		147	0	-	197	0	+	247	6	+	297	0	@	347	1	@	397	1	@	447
0		48	0		98	0	+	148	0	-	198	0	+	248	11	@	298	1	@	348	0	@	398	0	@	448
0		49	0		99	0	+	149	0	-	199	0	+	249	3	@	299	0	@	349	1	@	399	0	@	449
0		50	0		100	0	+	150	0	@	200	1	+	250	5	@	300	1	@	350	0	@	400	1	@	450

Cnt	F	Chn	Cnt	F	Chn
0	@	451	0		501
0	@	452	0		502
0	@	453	0		503
0	@	454	0		504
1	@	455	0		505
0	@	456	0		506
0	-	457	0		507
0	-	458	0		508
0	-	459	0		509
0	-	460	0		510
0	-	461	0		511
0	-	462	0		512
0	-	463			
0	-	464			
0	-	465			
0	-	466			
0		467			
0		468			
0		469			
0		470			
0		471			
0		472			
3		473			
2		474			
2		475			
1		476			
2		477			
0		478			
0		479			
0		480			
0		481			
0		482			
0		483			
0		484			
0		485			
0		486			
0		487			
0		488			
0		489			
0		490			
0		491			
0		492			
0		493			
0		494			
0		495			
0		496			
0		497			
0		498			
0		499			
0		500			

VMS Peak Search Report V1.9 Generated 21-JUN-2006 06:12:47

```
Configuration     : RDND06$DKA100:[ALP120.SAMPLE]H5KR61AA_200662152.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 4-MAY-2006 12:00:00  Acquisition date : 20-JUN-2006 21:52:43
Sample ID         : H5KR61AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP120               Detector geometry:
Elapsed live time: 0 08:20:03.00         Elapsed real time: 0 08:20:03.00   0.0%
Start energy      :  2877.62 kev         End energy       :  6637.24 kev
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4882.86	408	0	125.63	274.42	261	33	1.36E-02	5.0	
2	0	6359.46	10	0	36.95	474.38	471	10	3.33E-04	31.6	

VMS Nuclide Identification Report V3.1 Generated 21-JUN-2006 06:12:48

```
Configuration     : RDND06$DKA100:[ALP120.SAMPLE]H5KR61AA_200662152.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : TH BRC
Sample date       : 4-MAY-2006 12:00:00  Acquisition date : 20-JUN-2006 21:52:43
Sample ID         : H5KR61AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP120               Detector geometry:
Elapsed live time: 0 08:20:03.00         Elapsed real time: 0 08:20:03.00   0.0%
Energy tolerance :   100.00 kev          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :     0.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                2
 Number of unidentified lines                     1
 Number of lines tentatively identified by NID    1       50.00%
```

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
NP-237	2.14E+06Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-247	1.56E+07Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			

Grand Total Activity : 0.000E+00 0.000E+00

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: RDND06$DKA100:[ALP120.SAMPLE]H5KR61AA_200662152.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4882.85	261	294	408	399	0.45		
6359.46	471	481	10	10	0.00		

End of Report

SEVERN TRENT **STL**

THORIUM ISOTOPIC COUNTING REQUEST 1451

C.R. Technician CO
Date Counted 6/21

C.R. Analyst OD
Date Analyzed 6/21/06

Counting Time
Sample 500 Minutes

Background **See Alpha Analysis Report** BRC 5/4/06

SOP's
Operating: RICHRD008
Review: RICHRD0016 614322.9

WorkOrder #	Th-229 (4845 KeV) Tracer from Th-234 Beta Count (7)				TOTAL COUNTS			Det #	Comment
					Th-228 (5423 KeV)	Th-230 (4688 KeV)	Th-232 (4010 KeV)		
	ID	Activity	ROI Cts	BKG	(6)	(8)	(9)		
H50PC1AA		10		0	See Alpha Analysis Report for ROI Information			119	
H50PC1AC		10		0	See Alpha Analysis Report for ROI Information			120	
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				

Comments:

No: RC-012, 10/02, Rev 9

Approved by: OD

Date: 6/21/06

STL RICHLAND

200

Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H50PC1AA

Detector: ALP119 1
Report Date: 21-Jun-06 03:30 PM
Acquire Date: 21-JUN-2006 06:31:52.07
Tracer Nuclide: TH-229
Sample Live Time: 500 minutes
Bkgrnd Live Time: 1000 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	4	2	0.006	5423.2	171.1	327	350
TH-229	294	0	0.588	4845.3	379.4	252	303
TH-230	1	0	0.002	4687.7	148.8	231	251
TH-232	1	0	0.002	4013.0	148.8	140	160

End of Alpha Region Report
(Produced by ANAL Report)

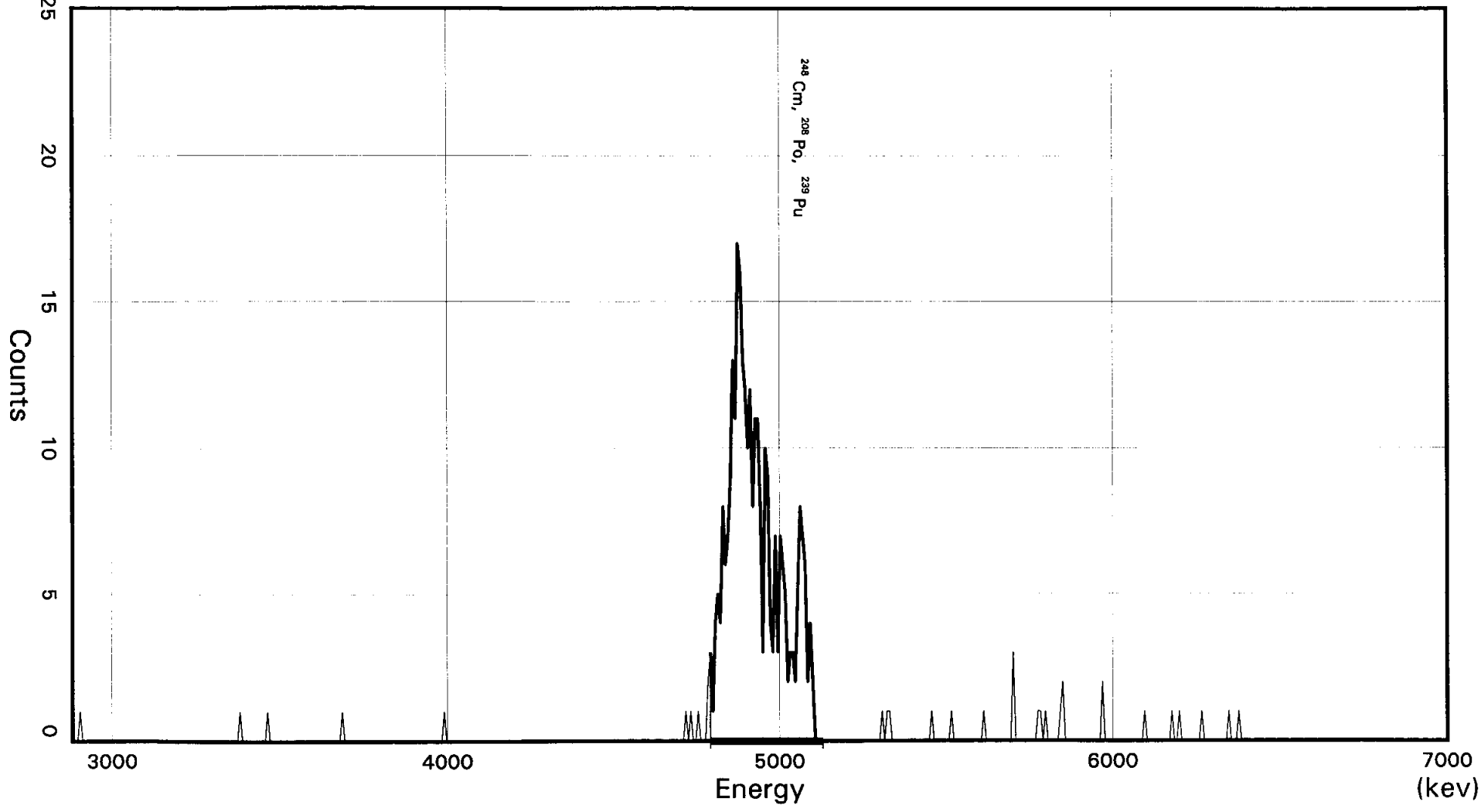
STL Richland WA.

TH BRC

Sample ID: H50PC1AA

Detector ID: ALP119 1

Batch ID: 6143229



Acquisition Start: 21-JUN-2006 06:31:52.07

Preset Live Time: 0 08:20:00.00

Elapsed Live Time: 0 08:20:05.00

Energy Coefficients:

Offset: 2.85956E+03

Slope: 7.43984E+00

Quadrature: -9.43425E-07

SAMPLE IDENTITY: H50PC1AA

TITLE : TH BRC

DETECTOR : ALP119 1
CONFIGURATION NAME : RDND06$DKA100:[ALP119.SAMPLE]H50PC1AA_210660
631.CNF;1
ACQUIRE DATE of BACKGROUND: 15-MAY-2006 08:41:04

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 21-JUN-2006 06:31:52 CALIB DATE : 15-MAY-2006 02:21:53

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:20:05

OFFSET : 2859.56 keV CONSTANT FWHM : 8.83333 Channels
SLOPE : 7.43984 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.943425E-06 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 29-Jun-92)

Sample Identity: H50PC1AA
Detector: ALP119 1
Report Date: 21-Jun-06 02:51 PM
Acquire Date: 21-JUN-2006 06:31:52.07

Flags Key

Intersect Region: @
Non-Intersect Region: +, ·

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0		201	0		251	2		301	0		351	1		401	0		451	0		501
		2	0		52	0		102	1		152	0		202	1		252	0		302	0		352	2		402	0		452	0		502
0		3	0		53	0		103	0		153	0		203	0		253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0		204	0		254	0		304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0		205	1		255	0		305	0		355	0		405	0		455	0		505
1		6	0		56	0		106	0		156	0		206	0		256	0		306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0		207	0		257	0		307	1		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0		208	0		258	0		308	0		358	0		408	1		458	0		508
0		9	0		59	0		109	0		159	0		209	2		259	0		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	0		210	3		260	0		310	0		360	0		410	0		460	0		510
0		11	0		61	1		111	0		161	0		211	1		261	0		311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0		212	4		262	0		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0		213	5		263	0		313	0		363	0		413	0		463			
0		14	0		64	0		114	0		164	0		214	4		264	0		314	0		364	0		414	0		464			
0		15	0		65	0		115	0		165	0		215	8		265	0		315	0		365	0		415	0		465			
0		16	0		66	0		116	0		166	0		216	6		266	0		316	0		366	0		416	0		466			
0		17	0		67	0		117	0		167	0		217	7		267	0		317	0		367	0		417	0		467			
0		18	0		68	0		118	0		168	0		218	9		268	0		318	0		368	2		418	0		468			
0		19	0		69	0		119	0		169	0		219	13		269	0		319	0		369	0		419	1		469			
0		20	1		70	0		120	0		170	0		220	11		270	0		320	1		370	0		420	0		470			
0		21	0		71	0		121	0		171	0		221	17		271	0		321	0		371	0		421	0		471			
0		22	0		72	0		122	0		172	0		222	16		272	0		322	0		372	0		422	0		472			
0		23	0		73	0		123	0		173	0		223	13		273	0		323	0		373	0		423	1		473			
0		24	0		74	0		124	0		174	0		224	12		274	0		324	0		374	0		424	0		474			
0		25	0		75	0		125	0		175	0		225	10		275	0		325	0		375	0		425	0		475			
0		26	0		76	0		126	0		176	0		226	12		276	0		326	0		376	0		426	0		476			
0		27	0		77	0		127	0		177	0		227	8		277	0		327	0		377	0		427	0		477			
0		28	0		78	0		128	0		178	0		228	11		278	0		328	0		378	0		428	0		478			
0		29	0		79	0		129	0		179	0		229	11		279	1		329	0		379	0		429	0		479			
0		30	0		80	0		130	0		180	0		230	8		280	0		330	0		380	0		430	0		480			
0		31	1		81	0		131	0		181	0		231	3		281	1		331	0		381	0		431	0		481			
0		32	0		82	0		132	0		182	0		232	10		282	1		332	3		382	0		432	0		482			
0		33	0		83	0		133	0		183	0		233	9		283	0		333	0		383	0		433	0		483			
0		34	0		84	0		134	0		184	0		234	4		284	0		334	0		384	0		434	0		484			
0		35	0		85	0		135	0		185	0		235	3		285	0		335	0		385	1		435	0		485			
0		36	0		86	0		136	0		186	0		236	7		286	0		336	0		386	0		436	0		486			
0		37	0		87	0		137	0		187	0		237	3		287	0		337	0		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	7		288	0		338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	6		289	0		339	0		389	0		439	0		489			
0		40	0		90	0		140	0		190	0		240	5		290	0		340	0		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	2		291	0		341	0		391	0		441	0		491			
0		42	0		92	0		142	0		192	0		242	3		292	0		342	1		392	0		442	0		492			
0		43	0		93	0		143	0		193	0		243	3		293	0		343	1		393	0		443	0		493			
0		44	0		94	0		144	0		194	0		244	2		294	0		344	0		394	0		444	0		494			
0		45	0		95	0		145	0		195	0		245	5		295	0		345	1		395	0		445	0		495			
0		46	0		96	0		146	0		196	0		246	8		296	0		346	0		396	1		446	0		496			
0		47	0		97	0		147	0		197	0		247	7		297	0		347	0		397	0		447	0		497			
0		48	0		98	0		148	0		198	0		248	6		298	0		348	0		398	0		448	0		498			
0		49	0		99	0		149	0		199	0		249	2		299	1		349	0		399	1		449	0		499			

0	50	0	100	0	150	0	200	1	250	4	300	0	350	0	400	0	450	0	500

VMS Peak Search Report V1.9 Generated 21-JUN-2006 14:51:59

Configuration : RDND06$DKA100:[ALP119.SAMPLE]H50PC1AA_210660631.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 4-MAY-2006 12:00:00 Acquisition date : 21-JUN-2006 06:31:52
Sample ID : H50PC1AA Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP119 Detector geometry:
Elapsed live time: 0 08:20:05.00 Elapsed real time: 0 08:20:05.00 0.0%
Start energy : 2881.88 kev End energy : 6668.51 kev
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5063.42	292	0	52.08	296.24	260	45	9.73E-03	5.9	

VMS Nuclide Identification Report V3.1 Generated 21-JUN-2006 14:52:00

```
Configuration     : RDND06$DKA100:[ALP119.SAMPLE]H50PC1AA_210660631.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : TH BRC
Sample date       : 4-MAY-2006 12:00:00  Acquisition date : 21-JUN-2006 06:31:52
Sample ID         : H50PC1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP119               Detector geometry:
Elapsed live time: 0 08:20:05.00         Elapsed real time: 0 08:20:05.00   0.0%
Energy tolerance :   100.00 kev          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :     0.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                 1
 Number of unidentified lines                      0
 Number of lines tentatively identified by NID     1      100.00%
```

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-208	2.90Y	1.03	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PU-239	24110.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-248	3.39E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Grand Total Activity :	0.000E+00	0.000E+00

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

```
  Error Report  (Date: 21-Jun-06  02:52 PM)

Program: Alp_rgn_cnts
subroutine: Main
Message: No trace pk or nucl
Record being processed:  7

System Status Message:

%NONAME-W-NOMSG, Message number 00000000
```

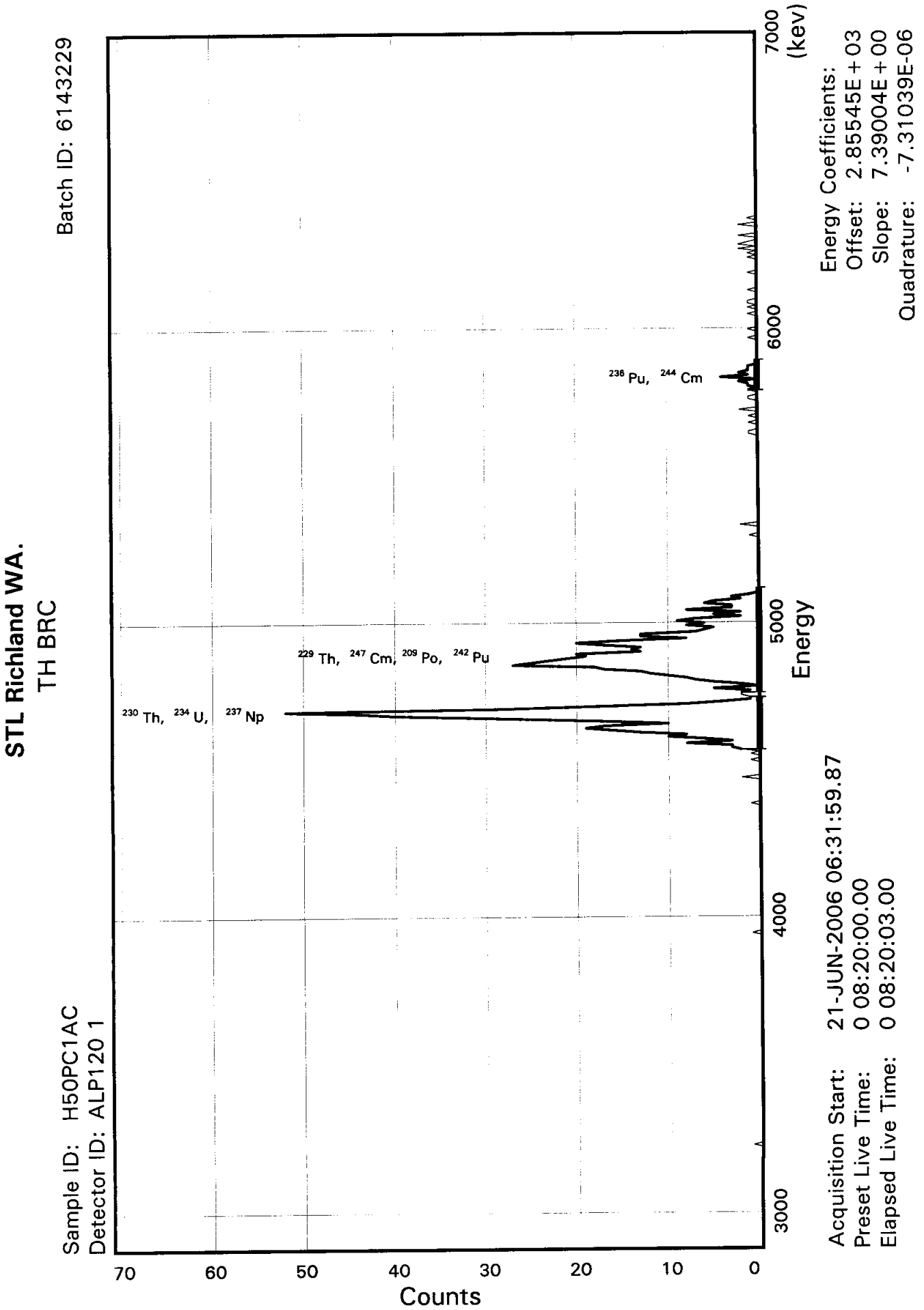
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H50PC1AC

Detector: ALP120 1
Report Date: 21-Jun-06 03:31 PM
Acquire Date: 21-JUN-2006 06:31:59.87
Tracer Nuclide: TH-229
Sample Live Time: 500 minutes
Bkgrnd Live Time: 1000 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	2	2	0.002	5423.2	147.7	333	353
TH-229	457	0	0.914	4845.3	369.3	254	304
TH-230	380	0	0.760	4687.7	184.7	228	253
TH-232	1	0	0.002	4013.0	147.8	142	162

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6143229
Sample ID: H50PC1AC
Detector ID: ALP120 1
230 Th, 234 U, 237 Np
229 Th, 247 Cm, 209 Po, 242 Pu
236 Pu, 244 Cm
Counts
70
60
50
40
30
20
10
0
Energy
3000
4000
5000
6000
7000
(kev)
Acquisition Start: 21-JUN-2006 06:31:59.87
Preset Live Time: 0 08:20:00.00
Elapsed Live Time: 0 08:20:03.00
Energy Coefficients:
Offset: 2.85545E+03
Slope: 7.39004E+00
Quadrature: -7.31039E-06

SAMPLE IDENTIITY: H50PC1AC

TITLE : TH BRC

DETECTOR : ALP120 1
CONFIGURATION NAME : RDND06$DKA100:[ALP120.SAMPLE]H50PC1AC_210660
631.CNF;1
ACQUIRE DATE of BACKGROUND: 15-MAY-2006 08:41:06

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 21-JUN-2006 06:31:59 CALIB DATE : 15-MAY-2006 02:22:03

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:20:03

OFFSET : 2855.45 keV CONSTANT FWHM : 9.50000 Channels
SLOPE : 7.39004 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.731039E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H50PC1AC

Detector: ALP120 1
Report Date: 21-Jun-06 02:52 PM
Acquire Date: 21-JUN-2006 06:31:59.87
Tracer Nuclide: TH-229
High Counts Limit: 36
Sample Live Time: 500 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
PO-208	-9999	-9999	0	-9.999	5156.7	354.5	295	343	0.00	0.00	M I
PO-209	448	0	0	0.896	4925.0	354.5	258	306	0.00	0.00	P
PO-210	-9999	-9999	0	-9.999	5346.2	354.5	320	368	0.00	0.00	M
AC-227	10	3	15	0.016	6079.8	354.4	420	468	0.00	0.00	S
TH-227	10	3	15	0.016	6079.8	354.4	420	468	0.00	0.00	S
TH-228	-9999	-9999	0	-9.999	5465.0	354.5	336	384	0.00	0.00	M
TH-229	448	0	0	0.896	4887.1	354.5	258	306	0.00	0.00	P
TH-230	386	0	0	0.772	4729.5	177.3	232	256	0.00	0.00	P
TH-232	1	0	0	0.002	4054.8	354.6	145	193	0.00	0.00	S
U-232	-9999	-9999	0	-9.999	5362.0	354.5	322	370	0.00	0.00	M
U-234	386	0	0	0.772	4816.4	177.3	232	256	0.00	0.00	P
U-235	-9999	-9999	0	-9.999	4439.6	354.6	197	245	0.00	0.00	S I
PU-236	16	1	0	0.031	5809.5	103.4	397	411	0.00	0.00	P
NP-237	386	0	0	0.772	4829.8	177.3	232	256	0.00	0.00	P
PU-238	-9999	-9999	0	-9.999	5540.9	354.5	347	395	0.00	0.00	M
U-238	-9999	-9999	0	-9.999	4239.8	354.6	170	218	0.00	0.00	M
PU-239	-9999	-9999	0	-9.999	5198.4	354.5	300	348	0.00	0.00	M I
AM-241	-9999	-9999	0	-9.999	5527.4	354.5	345	393	0.00	0.00	M
AM-242M	-9999	-9999	0	-9.999	5248.6	354.5	307	355	0.00	0.00	M
CM-242	-9999	-9999	0	-9.999	6154.6	354.4	430	478	0.00	0.00	M
PU-242	448	0	0	0.896	4942.3	354.5	258	306	0.00	0.00	P
AM-243	-9999	-9999	0	-9.999	5317.1	354.5	316	364	0.00	0.00	M
CM-244	16	1	0	0.031	5846.7	103.4	397	411	0.00	0.00	P
CM-246	-9999	-9999	0	-9.999	5428.3	354.5	331	379	0.00	0.00	M
CM-247	448	0	0	0.896	4912.2	354.5	258	306	0.00	0.00	P
CM-248	-9999	-9999	0	-9.999	5120.4	354.5	290	338	0.00	0.00	M I

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun 92)

Sample Identity: H50PC1AC
Detector: ALP120 1
Report Date: 21-Jun-06 02:52 PM
Acquire Date: 21-JUN-2006 06:31:59.87

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0	+	151	0	@	201	29	@	251	2	@	301	0	@	351	2	@	401	1	@	451
		2	0		52	0		102	0	+	152	0	@	202	18	@	252	3	@	302	0	@	352	0	@	402	0	@	452
0		3	0		53	0		103	0	+	153	0	@	203	8	@	253	1	@	303	0	@	353	4	@	403	0	@	453
0		4	0		54	0		104	0	+	154	0	@	204	4	@	254	0	@	304	0	@	354	1	@	404	0	@	454
0		5	0		55	0		105	0	+	155	0	@	205	1	@	255	0	@	305	0	@	355	2	@	405	0	@	455
0		6	0		56	0		106	0	+	156	0	@	206	1		256	0	@	306	0	@	356	1	@	406	0	@	456
0		7	0		57	0		107	0	+	157	1	@	207	2		257	0	@	307	0	@	357	1	@	407	0	@	457
0		8	0		58	0		108	0	+	158	0	@	208	2	@	258	0	@	308	0	@	358	1	@	408	1	@	458
0		9	0		59	0		109	0	+	159	0	@	209	1	@	259	0	@	309	0	@	359	0	@	409	0	@	459
0		10	0		60	0		110	0	+	160	0	@	210	5	@	260	0	@	310	0	@	360	0	@	410	1	@	460
0		11	0		61	0		111	0	+	161	0	@	211	0	@	261	0	@	311	0	@	361	0		411	0	@	461
0		12	0		62	0		112	0	+	162	0	@	212	2	@	262	0	@	312	0	@	362	0		412	2	@	462
0		13	0		63	0		113	0	+	163	0	@	213	5	@	263	0	@	313	0	@	363	0		413	0	@	463
0		14	0		64	0		114	0	+	164	0	@	214	7	@	264	0	@	314	0	@	364	0		414	2	@	464
0		15	0		65	0		115	0	+	165	0	@	215	8	@	265	0	@	315	0	@	365	0		415	1	@	465
0		16	0		66	0		116	0	+	166	0	@	216	10	@	266	0	@	316	0	@	366	0		416	0	@	466
0		17	0		67	0		117	0	+	167	0	@	217	12	@	267	0	@	317	0	@	367	0		417	0	@	467
0		18	0		68	0		118	0	+	168	0	@	218	13	@	268	0	@	318	0	@	368	0		418	2	@	468
0		19	0		69	0		119	0	+	169	2	+	219	17	@	269	0	@	319	0	@	369	0		419	0	-	469
0		20	0		70	0		120	0	@	170	0	+	220	18	@	270	0	@	320	0	@	370	0	@	420	0	-	470
0		21	0		71	0		121	0	@	171	0	+	221	27	@	271	0	@	321	0	@	371	1	@	421	0	-	471
0		22	0		72	0		122	0	@	172	0	+	222	25	@	272	0	@	322	0	@	372	0	@	422	0	-	472
0		23	0		73	0		123	0	@	173	0	+	223	23	@	273	0	@	323	0	@	373	0	@	423	2	-	473
0		24	0		74	0		124	0	@	174	0	+	224	21	@	274	0	@	324	0	@	374	0	@	424	0	-	474
0		25	0		75	0		125	0	@	175	0	+	225	19	@	275	0	@	325	0	@	375	1	@	425	0	-	475
0		26	0		76	0		126	0	@	176	0	+	226	20	@	276	0	@	326	0	@	376	0	@	426	1	-	476
0		27	0		77	0		127	0	@	177	1	+	227	13	@	277	0	@	327	1	@	377	0	@	427	0	-	477
0		28	0		78	0		128	0	@	178	0	+	228	14	@	278	0	@	328	1	@	378	0	@	428	0	-	478
0		29	0		79	0		129	0	@	179	0	+	229	13	@	279	0	@	329	0	@	379	0	@	429	0		479
0		30	0		80	0		130	0	@	180	1	+	230	17	@	280	1	@	330	0	@	380	0	-	430	0		480
0		31	0		81	0		131	0	@	181	0	+	231	20	@	281	0	@	331	0	@	381	0	@	431	0		481
0		32	0		82	0		132	0	@	182	2	+	232	15	@	282	0	@	332	1	@	382	1	@	432	0		482
0		33	0		83	0		133	0	@	183	3	@	233	8	@	283	0	@	333	0	@	383	0	@	433	0		483
0		34	0		84	0		134	0	@	184	3	@	234	13	@	284	0	@	334	0	@	384	0	@	434	0		484
0		35	0		85	0		135	0	@	185	8	@	235	13	@	285	2	@	335	1	@	385	1	@	435	0		485
0		36	0		86	0		136	0	@	186	3	@	236	7	@	286	0	@	336	0	@	386	0	@	436	0		486
0		37	0		87	0		137	0	@	187	6	@	237	6	@	287	0	@	337	0	@	387	1	@	437	0		487
0		38	0		88	0		138	0	@	188	10	@	238	5	@	288	0	@	338	2	@	388	1	@	438	0		488
0		39	0		89	0		139	0	@	189	8	@	239	8	@	289	0	@	339	0	@	389	0	@	439	0		489
0		40	0		90	0		140	0	@	190	13	@	240	6	-	290	0	@	340	0	@	390	0	@	440	0		490
0		41	0		91	0		141	0	@	191	16	@	241	9	@	291	0	@	341	0	@	391	0	@	441	0		491
0		42	0		92	0		142	0	@	192	19	@	242	7	@	292	0	@	342	0	@	392	0	@	442	0		492
0		43	0		93	0		143	0	@	193	17	@	243	2	@	293	0	@	343	1	@	393	1	@	443	0		493
0		44	0		94	0		144	0	-	194	10	@	244	5	@	294	0	@	344	1	+	394	0	@	444	0		494
0		45	0		95	0	+	145	0	-	195	16	@	245	2	@	295	0	@	345	0	+	395	0	@	445	0		495
0		46	0		96	0	+	146	0	-	196	23	@	246	8	@	296	0	@	346	0		396	0	@	446	0		496
0		47	0		97	1	+	147	0	@	197	31	@	247	3	@	297	0	@	347	1	@	397	0	@	447	0		497
0		48	0		98	0	+	148	0	@	198	40	@	248	3	@	298	0	@	348	0	@	398	0	@	448	0		498
0		49	0		99	0	+	149	0	@	199	44	@	249	6	@	299	0	@	349	1	@	399	0	@	449	0		499
1		50	0		100	0	+	150	0	@	200	52	@	250	5	@	300	0	@	350	1	@	400	0	@	450	0		500

VMS Peak Search Report V1.9 Generated 21-JUN-2006 14:52:04

Configuration : RDND06$DKA100:[ALP120.SAMPLE]H50PC1AC_210660631.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 4-MAY-2006 12:00:00 Acquisition date : 21-JUN-2006 06:31:59
Sample ID : H50PC1AC Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP120 Detector geometry:
Elapsed live time: 0 08:20:03.00 Elapsed real time: 0 08:20:03.00 0.0%
Start energy : 2877.62 kev End energy : 6637.24 kev
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4695.00	386	0	51.73	248.98	232	24	1.29E-02	5.1	
2	0	4887.14	448	0	118.24	275.00	258	48	1.49E-02	4.7	
3	0	5830.34	16	0	66.51	402.71	397	14	5.33E-04	25.0	

VMS Nuclide Identification Report V3.1 Generated 21-JUN-2006 14:52:05

```
Configuration     : RDND06$DKA100:[ALP120.SAMPLE]H50PC1AC_210660631.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : TH BRC
Sample date       : 4-MAY-2006 12:00:00  Acquisition date : 21-JUN-2006 06:31:59
Sample ID         : H50PC1AC             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP120               Detector geometry:
Elapsed live time: 0 08:20:03.00         Elapsed real time: 0 08:20:03.00   0.0%
Energy tolerance :   100.00 kev          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :     0.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                3
 Number of unidentified lines                     0
 Number of lines tentatively identified by NID    3      100.00%
```

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
TH-230	7.54E+04Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
U-234	2.45E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-236	2.86Y	1.03	0.000E+00	0.000E+00	0.000E+00	0.00	
NP-237	2.14E+06Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-244	18.10Y	1.01	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-247	1.56E+07Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			

```
   Grand Total Activity :  0.000E+00    0.000E+00
```

```
Flags: "K" = Keyline not found          "M" = Manually accepted
       "E" = Manually edited            "A" = Nuclide specific abn. limit
```

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: RDND06$DKA100:[ALP120.SAMPLE]H50PC1AC_210660631.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4694.99	232	256	386	385	0.05		
4887.13	258	306	448	449	-0.05		
5830.34	397	411	16	15	0.25		

End of Report

URANIUM ISOTOPIC

SAMPLE AND QC DATA

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

6/21/2006 4:26:51 PM

Lot No., Due Date: J6E170306; 06/14/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6143227; RUSIO Uiso by ALP

SDG, Matrix: 31683; FILTER

	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 Pam Anderson **Date** 6.21.06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6143227

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: 6-22-06

STL RICHLAND

6/5/2006 11:54:57 AM

Sample Preparation/Analysis

536403, Brown and Caldwell , Brown & Caldwell

7Y Uiso PrpRC5016/5086, SepRC5067(5039)
SR Uranium-234,235,238 by Alpha Spec
01 STANDARD TEST SET

Balance Id:1120373922

Pipet #: _____

AnalyDueDate: 06/13/2006

Sep1 DT/Tm Tech:

Batch: 6143227 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: None

Sep2 DT/Tm Tech: 6-20-06 [illegible]

Prep Tech: HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 **H5KQR-1-AG** J6E170306-1-SAMP 05/04/2006 12:10 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	508.50sa,g	37.59g,in	0.0616g	UITC15689 05/22/06,pd 01/20/04,r	200	Scr:	Alpha:		Beta:
2 **H5KQ4-1-AG** J6E170306-2-SAMP 05/04/2006 12:15 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	502.88sa,g	37.62g,in	0.0623g	UITC15690 05/22/06,pd 01/20/04,r		Scr:	Alpha:		Beta:
3 **H5KQ8-1-AG** J6E170306-3-SAMP 05/04/2006 23:10 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	500.47sa,g	37.51g,in	0.0624g	UITC15691 05/22/06,pd 01/20/04,r		Scr:	Alpha:		Beta:
4 **H5KRC-1-AG** J6E170306-4-SAMP 05/04/2006 23:25 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	501.28sa,g	37.63g,in	0.0625g	UITC15692 05/22/06,pd 01/20/04,r		Scr:	Alpha:		Beta:
5 **H5KRF-1-AG** J6E170306-5-SAMP 05/04/2006 10:30 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	502.19sa,g	37.53g,in	0.0623g	UITC15693 05/24/06,pd 01/20/04,r		Scr:	Alpha:		Beta:
6 **H5KRG-1-AG** J6E170306-6-SAMP 05/04/2006 10:50 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	500.90sa,g	37.50g,in	0.0624g	UITC15694 05/24/06,pd 01/20/04,r		Scr:	Alpha:		Beta:
7 **H5KRJ-1-AG** J6E170306-7-SAMP 05/04/2006 11:30 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	502.17sa,g	37.62g,in	0.0624g	UITC15695 05/24/06,pd 01/20/04,r		Scr:	Alpha:		Beta:

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STL RICHLAND

6/5/2006 11:54:58 AM

Sample Preparation/Analysis

536403, Brown and Caldwell , Brown & Caldwell

7Y Uiso PrpRC5016/5086, SepRC5067(5039)
SR Uranium-234,235,238 by Alpha Spec
01 STANDARD TEST SET

Balance Id:1120373922

Pipet #: _____

AnalyDueDate: 06/13/2006

Sep1 DT/Tm Tech:

Batch: 6143227 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 **H5KRL-1-AG** J6E170306-8-SAMP 05/04/2006 12:00	0.833sa,g	506.92sa,g	37.68g,in	0.0619g	UITC15696 05/24/06,pd 01/20/04,r					
	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
9 **H5KRR-1-AG** J6E170306-9-SAMP 05/04/2006 12:20	0.833sa,g	501.37sa,g	37.58g,in	0.0624g	UITC15697 05/24/06,pd 01/20/04,r					
	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
10 **H5KRV-1-AG** J6E170306-10-SAMP 05/04/2006 11:05	0.833sa,g	500.80sa,g	37.58g,in	0.0625g	UITC15698 05/24/06,pd 01/20/04,r					
	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
11 **H5KRX-1-AG** J6E170306-11-SAMP 05/04/2006 11:20	0.833sa,g	506.72sa,g	37.50g,in	0.0616g	UITC15699 05/24/06,pd 01/20/04,r					
	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
12 **H5KR2-1-AG** J6E170306-12-SAMP 05/04/2006 10:35	0.833sa,g	500.34sa,g	37.55g,in	0.0625g	UITC15700 05/24/06,pd 01/20/04,r					
	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
13 **H5KR4-1-AG** J6E170306-13-SAMP 05/04/2006 10:45	0.833sa,g	500.12sa,g	37.67g,in	0.0627g	UITC15701 05/24/06,pd 01/20/04,r					
	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
14 **H5KR6-1-AG** J6E170306-14-SAMP 05/04/2006 12:05	0.833sa,g	507.20sa,g	37.49g,in	0.0616g	UITC15702 05/24/06,pd 01/20/04,r					
	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:

223

STL RICHLAND

6/5/2006 11:54:59 AM

Sample Preparation/Analysis

7Y Uiso PrpRC5016/5086, SepRC5067(5039)
SR Uranium-234,235,238 by Alpha Spec
01 STANDARD TEST SET

Balance Id:1120373922

Pipet #: _____

AnalyDueDate: 06/13/2006

Sep1 DT/Tm Tech:

Batch: 6143227 pCi/sampl

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
15H50N8-1-AA-B J6E230000-227-BLK 05/04/2006 12:10			1.00sa,in	1.00sa	UITC15703 05/24/06,pd 01/20/04,r					
16H50N8-1-AC-C J6E230000-227-LCS 05/04/2006 12:10			1.00sa,in	1.00sa	UISF0371 10/09/05,pd 08/18/05,r					

05/04/2006 12:10 AmtRec: #Containers: 1 Scr: Alpha: Beta:

05/04/2006 12:10 AmtRec: #Containers: 1 Scr: Alpha: Beta:

Comments:

All Clients for Batch:
536403, Brown and Caldwell Brown & Caldwell , SA , 63174

H5KQR1AG-SAMP Constituent List:

U-232	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20	U-234	RDL:1	pCi/sam	LCL:	UCL:	RPD:
U-235	RDL:1	pCi/sam	LCL:	UCL:	RPD:	U-238	RDL:1	pCi/sam	LCL:	UCL:	RPD:

H50N81AA-BLK:

U-232	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20	U-234	RDL:1	pCi/sam	LCL:	UCL:	RPD:
U-235	RDL:1	pCi/sam	LCL:	UCL:	RPD:	U-238	RDL:1	pCi/sam	LCL:	UCL:	RPD:

H50N81AC-LCS:

U-232	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20	Uranium	RDL:	pCi/sam	LCL:70	UCL:130	RPD:20

H5KQR1AG-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H50N81AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H50N81AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

6/21/2006 4:06:41 PM

ICOC Fraction Transfer/Status Report

ByDate: 6/21/2005, 6/26/2006, Batch: '6143227', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6143227						
AC		**CalcC**	**HansenM**	6/5/2006 3:55:30 PM		
SC			hansenm	IsBatched	6/2/2006 1:45:01 PM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	6/5/2006 3:55:30 PM	RICH-RC-5016 REVISION 5
SC			HansenM	Prep2C	6/5/2006 3:57:06 PM	RICH-RC-5016 REVISION 5
SC			AndersonE	Sep1C	6/14/2006 1:24:23 PM	RICH-RC-5067 REV 6
SC			FABREM	Sep2C	6/20/2006 5:52:17 PM	RICH-RC-5039 REV 6
SC			DAWKINSO	InCnt1	6/20/2006 6:23:09 PM	RICH-RD-0008 REVISION 4
SC			BlackCL	CalcC	6/21/2006 7:13:13 AM	RICH-RD-0008 REVISION 4
AC			**HansenM**	6/5/2006 3:57:06 PM		
AC			**AndersonE**	6/14/2006 1:24:23 PM		
AC			**FABREM**	6/20/2006 5:52:17 PM		
AC			**DAWKINSO**	6/20/2006 6:23:09 PM		
AC			**BlackCL**	6/21/2006 7:13:13		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 6

ICOCFractions v4.8.18

6/21/2006 4:06:41 PM

Rpt DB Transfer log (Batch Results)

SEVERN TRENT STL

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Sample Date / Mda	Units	Expected	Yield	Volumes
31683	**9H5KQ410**			**J6E1703062**	000444	FILTER	5/17/2006 10:00:00	5/4/2006 12:15:00 PM				
ALPHA	BAS7		0	6/10/2006 8:56:31 AM	**-8.8661E-01**	6.832E-01	6.894E-01	5.657E+00	PCI/SA	1.0	1.0E+0	2.094E-2
BETA	BDS8		0	6/9/2006 2:07:59 PM	**1.8388E+01**	2.097E+00	2.455E+00	6.372E+00	PCI/SA	1.0	1.0E+0	3.309E-2
RA-226	BXTE		0	6/18/2006 5:03:00 PM	**1.3353E-01**	2.129E-01	2.134E-01	7.847E-01	PCI/SA	0.985	8.33E-1	2.485E-1
U-234	7YSR		0	6/20/2006 11:35:05 PM	**0.0E+00**	0.0E+00	1.363E-01	3.016E-01	PCI/SA	0.897	1.0E+0	3.232E-2
U-235	7YSR		0	6/20/2006 11:35:05 PM	**-2.2265E-02**	2.227E-02	2.234E-02	5.331E-01	PCI/SA	0.897	1.0E+0	3.232E-2
U-238	7YSR		0	6/20/2006 11:35:05 PM	**-1.8548E-05**	1.219E-01	1.219E-01	8.193E-01	PCI/SA	0.897	1.0E+0	3.232E-2
31683	**9H5KQ810**			**J6E1703063**	000445	FILTER	5/17/2006 10:00:00	5/4/2006 11:10:00 PM				
ALPHA	BAS7		0	6/10/2006 8:56:31 AM	**1.0276E+00**	1.657E+00	1.66E+00	7.714E+00	PCI/SA	1.0	1.0E+0	2.119E-2
BETA	BDS8		0	6/9/2006 2:07:59 PM	**1.4485E+01**	1.96E+00	2.193E+00	6.353E+00	PCI/SA	1.0	1.0E+0	3.332E-2
RA-226	BXTE		0	6/18/2006 5:06:00 PM	**1.5586E-01**	2.222E-01	2.228E-01	8.092E-01	PCI/SA	1.087	8.33E-1	2.504E-1
U-234	7YSR		0	6/20/2006 11:35:16 PM	**-5.2515E-05**	1.151E-01	1.151E-01	7.732E-01	PCI/SA	0.912	1.0E+0	3.243E-2
U-235	7YSR		0	6/20/2006 11:35:16 PM	**4.1984E-02**	1.112E-01	1.112E-01	6.631E-01	PCI/SA	0.912	1.0E+0	3.243E-2
U-238	7YSR		0	6/20/2006 11:35:16 PM	**-2.1071E-02**	1.17E-01	1.17E-01	8.198E-01	PCI/SA	0.912	1.0E+0	3.243E-2
31683	**9H5KQR10**			**J6E1703061**	000443	FILTER	5/17/2006 10:00:00	5/4/2006 12:10:00 PM				
ALPHA	BAS7		0	6/10/2006 8:56:31 AM	**2.9595E+00**	1.6E+00	1.629E+00	5.595E+00	PCI/SA	1.0	1.0E+0	2.049E-2
BETA	BDS8		0	6/9/2006 2:07:59 PM	**1.8558E+01**	2.115E+00	2.487E+00	6.552E+00	PCI/SA	1.0	1.0E+0	3.219E-2
RA-226	BXTE		0	6/18/2006 5:06:00 PM	**3.7852E-01**	1.545E-01	1.596E-01	4.51E-01	PCI/SA	0.938	8.33E-1	2.462E-1
U-234	7YSR		0	6/20/2006 11:34:56 PM	**-4.3929E-02**	3.106E-02	3.127E-02	6.205E-01	PCI/SA	0.91	1.0E+0	3.158E-2
U-235	7YSR		0	6/20/2006 11:34:56 PM	**-2.1964E-02**	2.196E-02	2.204E-02	5.259E-01	PCI/SA	0.91	1.0E+0	3.158E-2
U-238	7YSR		0	6/20/2006 11:34:56 PM	**6.5871E-02**	1.141E-01	1.142E-01	6.205E-01	PCI/SA	0.91	1.0E+0	3.158E-2
31683	**9H5KR210**			**J6E17030612**	P-0618	FILTER	5/17/2006 10:00:00	5/4/2006 10:35:00 AM				
ALPHA	BAS7		0	6/10/2006 12:41:20 PM	**1.3347E+00**	1.307E+00	1.314E+00	5.677E+00	PCI/SA	1.0	1.0E+0	2.084E-2
BETA	BDS8		0	6/9/2006 2:08:11 PM	**1.9537E+01**	2.063E+00	2.467E+00	6.118E+00	PCI/SA	1.0	1.0E+0	3.344E-2
RA-226	BXTE		0	6/18/2006 5:45:00 PM	**2.0616E-01**	1.338E-01	1.356E-01	4.504E-01	PCI/SA	0.966	8.33E-1	2.502E-1
U-234	7YSR		0	6/20/2006 11:37:03 PM	**-2.2262E-02**	2.226E-02	2.234E-02	5.331E-01	PCI/SA	0.881	1.0E+0	3.252E-2
U-235	7YSR		0	6/20/2006 11:37:03 PM	**0.0E+00**	0.0E+00	1.363E-01	3.016E-01	PCI/SA	0.881	1.0E+0	3.252E-2
U-238	7YSR		0	6/20/2006 11:37:03 PM	**0.0E+00**	0.0E+00	1.363E-01	3.016E-01	PCI/SA	0.881	1.0E+0	3.252E-2
31683	**9H5KR410**			**J6E17030613**	P-0619	FILTER	5/17/2006 10:00:00	5/4/2006 10:45:00 AM				
ALPHA	BAS7		0	6/10/2006 12:41:20 PM	**2.5934E+00**	1.899E+00	1.917E+00	7.787E+00	PCI/SA	1.0	1.0E+0	2.097E-2
BETA	BDS8		0	6/9/2006 2:08:11 PM	**1.2783E+01**	1.846E+00	2.174E+00	6.103E+00	PCI/SA	1.0	1.0E+0	3.333E-2
RA-226	BXTE		0	6/18/2006 5:42:02 PM	**2.8573E-01**	1.521E-01	1.547E-01	4.976E-01	PCI/SA	0.986	8.33E-1	2.506E-1
U-234	7YSR		0	6/20/2006 11:37:45 PM	**2.387E-01**	2.127E-01	2.137E-01	8.433E-01	PCI/SA	0.93	1.0E+0	3.274E-2
U-235	7YSR		0	6/20/2006 11:37:45 PM	**-1.1943E-02**	1.194E-02	1.199E-02	6.007E-01	PCI/SA	0.93	1.0E+0	3.274E-2
U-238	7YSR		0	6/20/2006 11:37:45 PM	**2.9842E-01**	2.11E-01	2.125E-01	4.044E-01	PCI/SA	0.93	1.0E+0	3.274E-2
31683	**9H5KR610**			**J6E17030614**	P-0620	FILTER	5/17/2006 10:00:00	5/4/2006 12:05:00 PM				
ALPHA	BAS7		0	6/10/2006 12:41:20 PM	**2.9338E+00**	1.763E+00	1.788E+00	6.643E+00	PCI/SA	1.0	1.0E+0	2.069E-2
BETA	BDS8		0	6/9/2006 2:08:11 PM	**1.158E+01**	1.99E+00	2.157E+00	7.045E+00	PCI/SA	1.0	1.0E+0	3.254E-2
RA-226	BXTE		0	6/18/2006 5:43:00 PM	**-5.4494E-02**	1.262E-01	1.263E-01	5.355E-01	PCI/SA	0.965	8.33E-1	2.467E-1
U-234	7YSR		0	6/20/2006 11:37:55 PM	**-4.6242E-02**	3.27E-02	3.291E-02	6.532E-01	PCI/SA	0.928	1.0E+0	3.157E-2
U-235	7YSR		0	6/20/2006 11:37:55 PM	**0.0E+00**	0.0E+00	1.416E-01	3.132E-01	PCI/SA	0.928	1.0E+0	3.157E-2
U-238	7YSR		0	6/20/2006 11:37:55 PM	**0.0E+00**	0.0E+00	1.416E-01	3.132E-01	PCI/SA	0.928	1.0E+0	3.157E-2
31683	**9H5KRC10**			**J6E1703064**	000446	FILTER	5/17/2006 10:00:00	5/4/2006 11:25:00 PM				
ALPHA	BAS7		0	6/10/2006 8:56:31 AM	**1.7865E+00**	1.555E+00	1.566E+00	6.574E+00	PCI/SA	1.0	1.0E+0	2.092E-2
BETA	BDS8		0	6/9/2006 2:07:57 PM	**1.5346E+01**	1.94E+00	2.214E+00	6.154E+00	PCI/SA	1.0	1.0E+0	3.43E-2
RA-226	BXTE		0	6/18/2006 5:04:00 PM	**-7.7853E-02**	1.694E-01	1.696E-01	6.902E-01	PCI/SA	0.994	8.33E-1	2.499E-1
U-234	7YSR		0	6/20/2006 11:35:28 PM	**1.5368E-01**	1.598E-01	1.603E-01	6.93E-01	PCI/SA	0.864	1.0E+0	3.253E-2
U-235	7YSR		0	6/20/2006 11:35:28 PM	**6.5859E-02**	1.141E-01	1.142E-01	6.204E-01	PCI/SA	0.864	1.0E+0	3.253E-2
U-238	7YSR		0	6/20/2006 11:35:28 PM	**-8.7846E-02**	4.392E-02	4.45E-02	7.542E-01	PCI/SA	0.864	1.0E+0	3.253E-2
31683	**9H5KRF10**			**J6E1703065**	000447	FILTER	5/17/2006 10:00:00	5/4/2006 10:30:00 AM				
ALPHA	BAS7		0	6/10/2006 10:49:19	**2.0716E+00**	1.828E+00	1.84E+00	7.789E+00	PCI/SA	1.0	1.0E+0	2.087E-2
BETA	BDS8		0	6/9/2006 2:07:57 PM	**2.4139E+01**	2.255E+00	2.988E+00	6.538E+00	PCI/SA	1.0	1.0E+0	3.362E-2

6143227, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 14,
**Results Inserted | ReTestInserted | Updated | NotInserted => 47 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H50N81AA=> , mat:FILTER | Air *wo:H50N81AA=> , mat:FILTER | Air *wo:H50N81AC=> , mat:FILTER | Air *wo:H50N81AC=> , mat:FILTER | Air.

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Sample Date / Mda	Units	Expected	Yield	Volumes
RA-226	BXTE	0		6/18/2006 5:04:00 PM	**-2.7322E-02**	1.393E-01	1.393E-01	6.031E-01	PCI/SA	1.104	8.33E-1	2.495E-1
U-234	7YSR	0		6/20/2006 11:35:39 PM	**-8.378E-02**	1.221E-01	1.223E-01	9.371E-01	PCI/SA	0.881	1.0E+0	3.225E-2
U-235	7YSR	0		6/20/2006 11:35:39 PM	**-2.0944E-02**	2.094E-02	2.101E-02	5.016E-01	PCI/SA	0.881	1.0E+0	3.225E-2
U-238	7YSR	0		6/20/2006 11:35:39 PM	**2.0943E-02**	1.128E-01	1.128E-01	7.193E-01	PCI/SA	0.881	1.0E+0	3.225E-2
31683	**9H5KRG10**			**J6E1703066**	000448	FILTER	5/17/2006 10:00:00	5/4/2006 10:50:00 AM				
ALPHA	BAS7	0		6/10/2006 10:49:19	**1.2809E+00**	1.254E+00	1.261E+00	5.448E+00	PCI/SA	1.0	1.0E+0	2.105E-2
BETA	BDS8	0		6/9/2006 2:07:57 PM	**1.6696E+01**	2.066E+00	2.49E+00	6.57E+00	PCI/SA	1.0	1.0E+0	3.373E-2
RA-226	BXTE	0		6/18/2006 5:05:00 PM	**5.0386E-01**	2.498E-01	2.559E-01	8.274E-01	PCI/SA	1.123	8.33E-1	2.496E-1
U-234	7YSR	0		6/20/2006 11:35:49 PM	**1.0679E-01**	1.068E-01	1.071E-01	2.894E-01	PCI/SA	0.899	1.0E+0	3.236E-2
U-235	7YSR	0		6/20/2006 11:35:49 PM	**-4.2731E-02**	3.022E-02	3.041E-02	6.035E-01	PCI/SA	0.899	1.0E+0	3.236E-2
U-238	7YSR	0		6/20/2006 11:35:49 PM	**8.5425E-02**	1.089E-01	1.091E-01	5.115E-01	PCI/SA	0.899	1.0E+0	3.236E-2
31683	**9H5KRJ10**			**J6E1703067**	000449	FILTER	5/17/2006 10:00:00	5/4/2006 11:30:00 AM				
ALPHA	BAS7	0		6/10/2006 10:49:19	**1.8858E+00**	1.416E+00	1.43E+00	5.662E+00	PCI/SA	1.0	1.0E+0	2.09E-2
BETA	BDS8	0		6/9/2006 2:07:59 PM	**1.466E+01**	1.97E+00	2.23E+00	6.45E+00	PCI/SA	1.0	1.0E+0	3.301E-2
RA-226	BXTE	0		6/18/2006 5:03:00 PM	**1.7732E-01**	1.181E-01	1.197E-01	4.009E-01	PCI/SA	1.058	8.33E-1	2.489E-1
U-234	7YSR	0		6/20/2006 11:35:58 PM	**0.0E+00**	0.0E+00	1.216E-01	2.692E-01	PCI/SA	1.038	1.0E+0	3.24E-2
U-235	7YSR	0		6/20/2006 11:35:58 PM	**0.0E+00**	0.0E+00	1.216E-01	2.692E-01	PCI/SA	1.038	1.0E+0	3.24E-2
U-238	7YSR	0		6/20/2006 11:35:58 PM	**9.9318E-02**	9.932E-02	9.964E-02	2.692E-01	PCI/SA	1.038	1.0E+0	3.24E-2
31683	**9H5KRL10**			**J6E1703068**	P-0614	FILTER	5/17/2006 10:00:00	5/4/2006 12:00:00 PM				
ALPHA	BAS7	0		6/10/2006 10:49:19	**5.2837E-01**	1.62E+00	1.621E+00	7.932E+00	PCI/SA	1.0	1.0E+0	2.062E-2
BETA	BDS8	0		6/9/2006 2:07:59 PM	**1.4517E+01**	1.943E+00	2.303E+00	6.345E+00	PCI/SA	1.0	1.0E+0	3.271E-2
RA-226	BXTE	0		6/18/2006 5:02:00 PM	**1.6434E-01**	1.591E-01	1.601E-01	5.71E-01	PCI/SA	1.037	8.33E-1	2.466E-1
U-234	7YSR	0		6/20/2006 11:36:16 PM	**-5.9331E-02**	3.426E-02	3.458E-02	6.238E-01	PCI/SA	0.942	1.0E+0	3.192E-2
U-235	7YSR	0		6/20/2006 11:36:16 PM	**-1.9777E-02**	1.978E-02	1.984E-02	4.733E-01	PCI/SA	0.942	1.0E+0	3.192E-2
U-238	7YSR	0		6/20/2006 11:36:16 PM	**0.0E+00**	0.0E+00	1.21E-01	2.678E-01	PCI/SA	0.942	1.0E+0	3.192E-2
31683	**9H5KRR10**			**J6E1703069**	P-0615	FILTER	5/17/2006 10:00:00	5/4/2006 12:20:00 PM				
ALPHA	BAS7	0		6/10/2006 10:49:19	**1.7747E+00**	1.545E+00	1.556E+00	6.53E+00	PCI/SA	1.0	1.0E+0	2.103E-2
BETA	BDS8	0		6/9/2006 2:07:59 PM	**1.5927E+01**	2.002E+00	2.28E+00	6.452E+00	PCI/SA	1.0	1.0E+0	3.39E-2
RA-226	BXTE	0		6/18/2006 5:46:00 PM	**2.9957E-01**	1.721E-01	1.749E-01	5.61E-01	PCI/SA	0.946	8.33E-1	2.494E-1
U-234	7YSR	0		6/20/2006 11:36:28 PM	**8.445E-02**	1.077E-01	1.079E-01	5.058E-01	PCI/SA	0.931	1.0E+0	3.244E-2
U-235	7YSR	0		6/20/2006 11:36:28 PM	**0.0E+00**	0.0E+00	1.293E-01	2.861E-01	PCI/SA	0.931	1.0E+0	3.244E-2
U-238	7YSR	0		6/20/2006 11:36:28 PM	**0.0E+00**	0.0E+00	1.293E-01	2.861E-01	PCI/SA	0.931	1.0E+0	3.244E-2
31683	**9H5KRV10**			**J6E17030610**	P-0616	FILTER	5/17/2006 10:00:00	5/4/2006 11:05:00 AM				
ALPHA	BAS7	0		6/10/2006 12:41:20 PM	**3.6551E+00**	2.028E+00	2.064E+00	7.68E+00	PCI/SA	1.0	1.0E+0	2.117E-2
BETA	BDS8	0		6/9/2006 2:07:59 PM	**1.5504E+01**	1.956E+00	2.239E+00	6.19E+00	PCI/SA	1.0	1.0E+0	3.325E-2
RA-226	BXTE	0		6/18/2006 5:44:00 PM	**2.9394E-01**	1.923E-01	1.948E-01	6.558E-01	PCI/SA	0.995	8.33E-1	2.499E-1
U-234	7YSR	0		6/20/2006 11:36:40 PM	**7.9084E-02**	1.008E-01	1.01E-01	4.735E-01	PCI/SA	0.987	1.0E+0	3.251E-2
U-235	7YSR	0		6/20/2006 11:36:40 PM	**0.0E+00**	0.0E+00	1.211E-01	2.679E-01	PCI/SA	0.987	1.0E+0	3.251E-2
U-238	7YSR	0		6/20/2006 11:36:40 PM	**5.9309E-02**	1.027E-01	1.028E-01	5.587E-01	PCI/SA	0.987	1.0E+0	3.251E-2
31683	**9H5KRX10**			**J6E17030611**	P-0617	FILTER	5/17/2006 10:00:00	5/4/2006 11:20:00 AM				
ALPHA	BAS7	0		6/10/2006 12:41:20 PM	**2.9229E+00**	1.58E+00	1.609E+00	5.525E+00	PCI/SA	1.0	1.0E+0	2.071E-2
BETA	BDS8	0		6/9/2006 2:08:11 PM	**-4.5773E-01**	1.504E+00	1.504E+00	6.81E+00	PCI/SA	1.0	1.0E+0	3.233E-2
RA-226	BXTE	0		6/18/2006 5:45:00 PM	**5.2308E-01**	1.941E-01	2.023E-01	5.538E-01	PCI/SA	0.858	8.33E-1	2.476E-1
U-234	7YSR	0		6/20/2006 11:36:52 PM	**-3.9432E-02**	2.788E-02	2.806E-02	5.57E-01	PCI/SA	0.905	1.0E+0	3.165E-2
U-235	7YSR	0		6/20/2006 11:36:52 PM	**7.8859E-02**	1.005E-01	1.007E-01	4.721E-01	PCI/SA	0.905	1.0E+0	3.165E-2
U-238	7YSR	0		6/20/2006 11:36:52 PM	**7.8859E-02**	1.005E-01	1.007E-01	4.721E-01	PCI/SA	0.905	1.0E+0	3.165E-2
31683	**H50N81AB**			**J6E230000227**	INTRA-LAB BLANK	FILTER	5/17/2006 10:00:00	5/4/2006 12:10:00 PM				
U-234	7YSR	0	B	6/20/2006 11:38:11 PM	**-1.0031E-03**	7.093E-04	7.135E-04	2.865E-02	PCI/SA	0.96	1.0E+0	1.0E+0
U-235	7YSR	0	B	6/20/2006 11:38:11 PM	**5.2653E-03**	6.308E-03	6.322E-03	2.865E-02	PCI/SA	0.96	1.0E+0	1.0E+0
U-238	7YSR	0	B	6/20/2006 11:38:11 PM	**-3.0093E-03**	1.229E-03	1.25E-03	3.718E-02	PCI/SA	0.96	1.0E+0	1.0E+0
31683	**H50N81CS**			**J6E230000227**	INTRA-LAB CHECK	FILTER	5/17/2006 10:00:00	5/4/2006 12:10:00 PM				
U-234	7YSR	0	S	6/20/2006 11:38:25 PM	**9.3543E-01**	7.6E-02	1.103E-01	3.075E-02	PCI/SA	9.7259E-01	1.024	1.0E+0	1.0E+0
U-238	7YSR	0	S	6/20/2006 11:38:25 PM	**1.0397E+00**	8.014E-02	1.197E-01	3.292E-02	PCI/SA	1.0186E+00	1.024	1.0E+0	1.0E+0

6143227, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 14,
**Results Inserted | ReTestInserted | Updated | NotInserted => 47 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H50N81AA=> , mat:FILTER | Air *wo:H50N81AA=> , mat:FILTER | Air *wo:H50N81AC=> , mat:FILTER | Air *wo:H50N81AC=> , mat:FILTER | Air.

Batch Nbr: 6143227

Alpha Spec, Uiso by ALP , Results

6/21/2006 7:13:03 AM

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	MLcC	MDC	QC	Yield	RYld
Uiso by ALP			Richland Standard AlpIso Wo Blk Subt.											
Calc	SR	FILTER	H5KQR1AG	U-234	-4.39E-02	(3.13E-02)	U4	PCI/SA	R	1.62E-01	6.21E-01		91%	
Calc	SR	FILTER	H5KQR1AG	U-235	-2.20E-02	(2.20E-02)	U4	PCI/SA	R	1.14E-01	5.26E-01		91%	
Calc	SR	FILTER	H5KQR1AG	U-238	6.59E-02	(1.14E-01)	U4	PCI/SA	R	1.62E-01	6.21E-01		91%	
Calc	SR	FILTER	H5KQ41AG	U-234	0.00E+00	(1.36E-01)	U4	PCI/SA	R		3.02E-01		90%	
Calc	SR	FILTER	H5KQ41AG	U-235	-2.23E-02	(2.23E-02)	U4	PCI/SA	R	1.16E-01	5.33E-01		90%	
Calc	SR	FILTER	H5KQ41AG	U-238	-1.85E-05	(1.22E-01)	U4	PCI/SA	R	2.59E-01	8.19E-01		90%	
Calc	SR	FILTER	H5KQ81AG	U-234	-5.25E-05	(1.15E-01)	U4	PCI/SA	R	2.44E-01	7.73E-01		91%	
Calc	SR	FILTER	H5KQ81AG	U-235	4.20E-02	(1.11E-01)	U4	PCI/SA	R	1.89E-01	6.63E-01		91%	
Calc	SR	FILTER	H5KQ81AG	U-238	-2.11E-02	(1.17E-01)	U4	PCI/SA	R	2.68E-01	8.20E-01		91%	
Calc	SR	FILTER	H5KRC1AG	U-234	1.54E-01	(1.60E-01)	U4	PCI/SA	R	1.98E-01	6.93E-01		86%	
Calc	SR	FILTER	H5KRC1AG	U-235	6.59E-02	(1.14E-01)	U4	PCI/SA	R	1.62E-01	6.20E-01		86%	
Calc	SR	FILTER	H5KRC1AG	U-238	-8.78E-02	(4.45E-02)	U4	PCI/SA	R	2.28E-01	7.54E-01		86%	
Calc	SR	FILTER	H5KRF1AG	U-234	-8.38E-02	(1.22E-01)	U4	PCI/SA	R	3.27E-01	9.37E-01		88%	
Calc	SR	FILTER	H5KRF1AG	U-235	-2.09E-02	(2.10E-02)	U4	PCI/SA	R	1.09E-01	5.02E-01		88%	
Calc	SR	FILTER	H5KRF1AG	U-238	2.09E-02	(1.13E-01)	U4	PCI/SA	R	2.18E-01	7.19E-01		88%	
Calc	SR	FILTER	H5KRG1AG	U-234	1.07E-01	(1.07E-01)	U4	PCI/SA	R		2.89E-01		90%	
Calc	SR	FILTER	H5KRG1AG	U-235	-4.27E-02	(3.04E-02)	U4	PCI/SA	R	1.57E-01	6.04E-01		90%	
Calc	SR	FILTER	H5KRG1AG	U-238	8.54E-02	(1.09E-01)	U4	PCI/SA	R	1.11E-01	5.12E-01		90%	
Calc	SR	FILTER	H5KRJ1AG	U-234	0.00E+00	(1.22E-01)	U4	PCI/SA	R		2.69E-01		104%	
Calc	SR	FILTER	H5KRJ1AG	U-235	0.00E+00	(1.22E-01)	U4	PCI/SA	R		2.69E-01		104%	
Calc	SR	FILTER	H5KRJ1AG	U-238	9.93E-02	(9.96E-02)	U4	PCI/SA	R		2.69E-01		104%	
Calc	SR	FILTER	H5KRL1AG	U-234	-5.93E-02	(3.46E-02)	U4	PCI/SA	R	1.78E-01	6.24E-01		94%	
Calc	SR	FILTER	H5KRL1AG	U-235	-1.98E-02	(1.98E-02)	U4	PCI/SA	R	1.03E-01	4.73E-01		94%	
Calc	SR	FILTER	H5KRL1AG	U-238	0.00E+00	(1.21E-01)	U4	PCI/SA	R		2.68E-01		94%	
Calc	SR	FILTER	H5KRR1AG	U-234	8.44E-02	(1.08E-01)	U4	PCI/SA	R	1.10E-01	5.06E-01		93%	
Calc	SR	FILTER	H5KRR1AG	U-235	0.00E+00	(1.29E-01)	U4	PCI/SA	R		2.86E-01		93%	
Calc	SR	FILTER	H5KRR1AG	U-238	0.00E+00	(1.29E-01)	U4	PCI/SA	R		2.86E-01		93%	
Calc	SR	FILTER	H5KRV1AG	U-234	7.91E-02	(1.01E-01)	U4	PCI/SA	R	1.03E-01	4.74E-01		99%	
Calc	SR	FILTER	H5KRV1AG	U-235	0.00E+00	(1.21E-01)	U4	PCI/SA	R		2.68E-01		99%	
Calc	SR	FILTER	H5KRV1AG	U-238	5.93E-02	(1.03E-01)	U4	PCI/SA	R	1.45E-01	5.59E-01		99%	
Calc	SR	FILTER	H5KRX1AG	U-234	-3.94E-02	(2.81E-02)	U4	PCI/SA	R	1.45E-01	5.57E-01		91%	
Calc	SR	FILTER	H5KRX1AG	U-235	7.89E-02	(1.01E-01)	U4	PCI/SA	R	1.03E-01	4.72E-01		91%	
Calc	SR	FILTER	H5KRX1AG	U-238	7.89E-02	(1.01E-01)	U4	PCI/SA	R	1.03E-01	4.72E-01		91%	
Calc	SR	FILTER	H5KR21AG	U-234	-2.23E-02	(2.23E-02)	U4	PCI/SA	R	1.16E-01	5.33E-01		88%	
Calc	SR	FILTER	H5KR21AG	U-235	0.00E+00	(1.36E-01)	U4	PCI/SA	R		3.02E-01		88%	
Calc	SR	FILTER	H5KR21AG	U-238	0.00E+00	(1.36E-01)	U4	PCI/SA	R		3.02E-01		88%	
Calc	SR	FILTER	H5KR41AG	U-234	2.39E-01	(2.14E-01)	U4	PCI/SA	R	2.20E-01	8.43E-01		93%	

() - (1s Uncertainities)
IDC - Instrument Detection Level in Conc Units
MLcC- Method Decision Level in Conc Units
MDC - Minimum Detectable Concentration
*Std - Lc, MDC using StdDev for Set of Blanks

Q - Qualifier, U is Less Than Lc = 1.645*TPU
All Results Displayed to Three Digits Reguardless of Significants
Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:51
RADCALC v4.8.18
STL Richland

Batch Nbr: 6143227

Alpha Spec, Uiso by ALP , Results

6/21/2006 7:13:03 AM

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Calc	SR	FILTER	**H5KR41AG**	U-235	**-1.19E-02**	**(1.20E-02)**	**U4**	PCI/SA	R	9.82E-02	6.01E-01		93%	
Calc	SR	FILTER	**H5KR41AG**	U-238	**2.98E-01**	**(2.13E-01)**	**U4**	PCI/SA	R		4.04E-01		93%	
Calc	SR	FILTER	**H5KR61AG**	U-234	**-4.62E-02**	**(3.29E-02)**	**U4**	PCI/SA	R	1.70E-01	6.53E-01		93%	
Calc	SR	FILTER	**H5KR61AG**	U-235	**0.00E+00**	**(1.42E-01)**	**U4**	PCI/SA	R		3.13E-01		93%	
Calc	SR	FILTER	**H5KR61AG**	U-238	**0.00E+00**	**(1.42E-01)**	**U4**	PCI/SA	R		3.13E-01		93%	
Calc	SR	FILTER	**H50N81AA**	U-234	**-1.00E-03**	**(7.14E-04)**	**U4**	PCI/SA	R	5.83E-03	2.86E-02	**B**	96%	
Calc	SR	FILTER	**H50N81AA**	U-235	**5.27E-03**	**(6.32E-03)**	**U4**	PCI/SA	R	5.83E-03	2.86E-02	**B**	96%	
Calc	SR	FILTER	**H50N81AA**	U-238	**-3.01E-03**	**(1.25E-03)**	**U4**	PCI/SA	R	1.01E-02	3.72E-02	**B**	96%	
Calc	SR	FILTER	**H50N81AC**	U-234	**9.35E-01**	**(1.10E-01)**		PCI/SA	R	7.03E-03	3.07E-02	**S**	102%	96%
Calc	SR	FILTER	**H50N81AC**	U-235	**4.12E-02**	**(1.67E-02)**		PCI/SA	R	8.11E-03	3.29E-02	**S**	102%	93%
Calc	SR	FILTER	**H50N81AC**	U-238	**1.04E+00**	**(1.20E-01)**		PCI/SA	R	8.11E-03	3.29E-02	**S**	102%	102%

P Anderson
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() - (1s Uncertainities)
IDC - Instrument Detection Level in Conc Units
MLcC- Method Decision Level in Conc Units
MDC - Minimum Detectable Concentration
*Std - Lc, MDC using StdDev for Set of Blanks

Q - Qualifier, U is Less Than Lc = 1.645*TPU
All Results Displayed to Three Digits Reguardless of Significants
Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:64
RADCALC v4.8.18
STL Richland

Batch Nbr: 6143227

Alpha Spec, Uiso by ALP , Calculated Results

6/21/2006 7:13:03 AM

Detailed Report

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
1	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H5KQR1AG**	**PCI/SA**		05/04/06 12:10	06/20/06 23:34			1	1.00 SA	
536403,000443					,J6E170306-1 v4.8.18		FILTER		05/02/06 10:40			UITC15689 Alq		0.061578 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 21:54	U-232	675	8	ALP1	ED	Y	N	3.6576E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	1000.2166			Y		(1.097E-02)						(0.000E+00)	16.239537		
1	06/20/06 21:54	U-234	0	2	ALP1	ED	N	N	3.6576E-01		N	91%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	1000.2166			Y		(1.097E-02)			4%			(0.000E+00)	16.239537		
2	06/20/06 21:54	U-235	0	1	ALP1	ED	N	N	3.6576E-01		N	91%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	1000.2166			Y		(1.097E-02)			4%			(0.000E+00)	16.239537		
3	06/20/06 21:54	U-238	1	2	ALP1	ED	N	N	3.6576E-01		N	91%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	1000.2166			Y		(1.097E-02)			4%			(0.000E+00)	16.239537		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	U-232	R	**67.310176**		3.36560E+00	9.20154	9.20154	1.00 SA	91%				
				(5.077007)		(1.2988E-01)	(0.44977)	(0.44977)	(0.028284)					
	06/21/06	U-234	R	**-0.043929**	**U4**	-1.99957E-03	-0.006005	-0.006005	1.00 SA	91%		0.620506		
				(0.031266)		(1.4139E-03)	(0.00426)	(0.00426)	(0.028284)			0.161569		
	06/21/06	U-235	R	**-0.021964**	**U4**	-9.99783E-04	-0.003003	-0.003003	1.00 SA	91%		0.525917		
				(0.022037)		(9.9978E-04)	(0.003008)	(0.003008)	(0.028284)			0.114247		
	06/21/06	U-238	R	**0.065871**	**U4**	2.99835E-03	0.009005	0.009005	1.00 SA	91%		0.620506		
				(0.114235)		(5.1941E-03)	(0.015608)	(0.015608)	(0.028284)			0.161569		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
2	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H5KQ41AG**	**PCI/SA**		05/04/06 12:15	06/20/06 23:35			1	1.00 SA	
536403,000444					,J6E170306-2 v4.8.18		FILTER		05/02/06 10:40			UITC15690 Alq		0.062316 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 21:55	U-232	653	9	ALP2	ED	Y	N	3.6206E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	1000.1666			Y		(1.086E-02)						(0.000E+00)	16.047248		
1	06/20/06 21:55	U-234	0	0	ALP2	ED	N	N	3.6206E-01		N	90%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	1000.1666			Y		(1.086E-02)			4%			(0.000E+00)	16.047248		
2	06/20/06 21:55	U-235	0	1	ALP2	ED	N	N	3.6206E-01		N	90%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	1000.1666			Y		(1.086E-02)			4%			(0.000E+00)	16.047248		
3	06/20/06 21:55	U-238	1	5	ALP2	ED	N	N	3.6206E-01		N	90%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	1000.1666			Y		(1.086E-02)			4%			(0.000E+00)	16.047248		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:2

RADCALC v4.8.18

STL Richland

Batch Nbr: 6143227

Alpha Spec, UIso by ALP , Calculated Results

6/21/2006 7:13:04 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	U-232	R	**64.984576**		3.25491E+00	8.990071	8.990071	1.00 SA	90%				
				(4.923722)		(1.2776E-01)	(0.444142)	(0.444142)	(0.028284)					
	06/21/06	U-234	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	90%		0.301641		
				(0.136322)		(0.0000E+00)	(0.018859)	(0.018859)	(0.028284)					
	06/21/06	U-235	R	**-0.022265**	U4	-9.99833E-04	-0.00308	-0.00308	1.00 SA	90%		0.533127		
				(0.022339)		(9.9983E-04)	(0.003085)	(0.003085)	(0.028284)			0.115812		
	06/21/06	U-238	R	**-1.8548E-05**	U4	-8.32917E-07	-2.566E-06	-2.566E-06	1.00 SA	90%		0.81926		
				(0.121934)		(5.4756E-03)	(0.016869)	(0.016869)	(0.028284)			0.258963		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
3	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H5KQ81AG**	**PCI/SA**		05/04/06 23:10	06/20/06 23:35			1	1.00 SA	
536403,000445					,J6E170306-3 v4.8.18		FILTER		05/02/06 10:40			UITC15691 Alq		0.062433 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 21:55	U-232	695	15	ALP3	ED	Y	N	3.7651E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	1000.0833			Y		(1.130E-02)						(0.000E+00)	16.017177		
1	06/20/06 21:55	U-234	1	5	ALP3	ED	N	N	3.7651E-01		N	91%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	1000.0833			Y		(1.130E-02)			4%			(0.000E+00)	16.017177		
2	06/20/06 21:55	U-235	1	3	ALP3	ED	N	N	3.7651E-01		N	91%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	1000.0833			Y		(1.130E-02)			4%			(0.000E+00)	16.017177		
3	06/20/06 21:55	U-238	1	6	ALP3	ED	N	N	3.7651E-01		N	91%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	1000.0833			Y		(1.130E-02)			4%			(0.000E+00)	16.017177		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	U-232	R	**66.264746**		3.45798E+00	9.184383	9.184383	1.00 SA	91%				
				(4.982039)		(1.3179E-01)	(0.445477)	(0.445477)	(0.028284)					
	06/21/06	U-234	R	**-5.2515E-05**	U4	-2.49833E-06	-7.2786E-06	-7.2786E-06	1.00 SA	91%		0.773207		
				(0.115074)		(5.4745E-03)	(0.015949)	(0.015949)	(0.028284)			0.244421		
	06/21/06	U-235	R	**0.041984**	U4	1.99734E-03	0.005819	0.005819	1.00 SA	91%		0.663086		
				(0.11122)		(5.2887E-03)	(0.015412)	(0.015412)	(0.028284)			0.189328		
	06/21/06	U-238	R	**-0.021071**	U4	-1.00242E-03	-0.00292	-0.00292	1.00 SA	91%		0.819837		
				(0.11699)		(5.5651E-03)	(0.016214)	(0.016214)	(0.028284)			0.26775		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
4	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H5KRC1AG**	**PCI/SA**		05/04/06 23:25	06/20/06 23:35			1	1.00 SA	
536403,000446					,J6E170306-4 v4.8.18		FILTER		05/02/06 10:40			UITC15692 Alq		0.062531 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 21:55	U-232	662	6	ALP4	ED	Y	N	3.7951E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.0166			Y		(1.139E-02)						(0.000E+00)	15.99194		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

RecCnt:4 RADCALC v4.8.18

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

STL Richland

Batch Nbr: 6143227

Alpha Spec, UIso by ALP , Calculated Results

6/21/2006 7:13:04 AM

1	06/20/06 21:55	U-234	2	3	ALP4	ED	N	N	3.7951E-01	N	86%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.05	1000.0166			Y		(1.139E-02)		4%		(0.000E+00)	15.99194	
2	06/20/06 21:55	U-235	1	2	ALP4	ED	N	N	3.7951E-01	N	86%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.05	1000.0166			Y		(1.139E-02)		4%		(0.000E+00)	15.99194	
3	06/20/06 21:55	U-238	0	4	ALP4	ED	N	N	3.7951E-01	N	86%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.05	1000.0166			Y		(1.139E-02)		4%		(0.000E+00)	15.99194	

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	U-232	R	**62.698863**		3.30317E+00	8.70386	8.70386	1.00 SA	86%				
				(4.740555)		(1.2864E-01)	(0.427874)	(0.427874)	(0.028284)					
	06/21/06	U-234	R	**0.153679**	**U4**	6.99755E-03	0.021334	0.021334	1.00 SA	86%		0.692976		
				(0.160335)		(7.2784E-03)	(0.022224)	(0.022224)	(0.028284)			0.197851		
	06/21/06	U-235	R	**0.065859**	**U4**	2.99878E-03	0.009143	0.009143	1.00 SA	86%		0.620406		
				(0.114216)		(5.1949E-03)	(0.015847)	(0.015847)	(0.028284)			0.161545		
	06/21/06	U-238	R	**-0.087846**	**U4**	-3.99993E-03	-0.012195	-0.012195	1.00 SA	86%		0.754155		
				(0.0445)		(2.0000E-03)	(0.006138)	(0.006138)	(0.028284)			0.228458		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
5	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H5KRF1AG**	**PCI/SA**		05/04/06 10:30	06/20/06 23:35			1	1.00 SA	
536403,000447					,J6E170306-5 v4.8.18		FILTER		05/02/06 10:40			UITC15693 Alq		0.062252 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 21:55	U-232	698	4	ALP5	ED	Y	N	3.9200E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.2333			Y		(1.176E-02)						(0.000E+00)	16.06366		
1	06/20/06 21:55	U-234	1	9	ALP5	ED	N	N	3.9200E-01		N	88%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.2333			Y		(1.176E-02)			4%			(0.000E+00)	16.06366		
2	06/20/06 21:55	U-235	0	1	ALP5	ED	N	N	3.9200E-01		N	88%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.2333			Y		(1.176E-02)			4%			(0.000E+00)	16.06366		
3	06/20/06 21:55	U-238	1	4	ALP5	ED	N	N	3.9200E-01		N	88%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.2333			Y		(1.176E-02)			4%			(0.000E+00)	16.06366		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	U-232	R	**64.331008**		3.48513E+00	8.890563	8.890563	1.00 SA	88%				
				(4.829662)		(1.3208E-01)	(0.429726)	(0.429726)	(0.028284)					
	06/21/06	U-234	R	**-0.08378**	**U4**	-3.99915E-03	-0.011578	-0.011578	1.00 SA	88%		0.93711		
				(0.122312)		(5.8295E-03)	(0.01689)	(0.01689)	(0.028284)			0.326853		
	06/21/06	U-235	R	**-0.020944**	**U4**	-9.99767E-04	-0.002895	-0.002895	1.00 SA	88%		0.501565		
				(0.021013)		(9.9977E-04)	(0.002899)	(0.002899)	(0.028284)			0.108951		
	06/21/06	U-238	R	**0.020943**	**U4**	9.99683E-04	0.002894	0.002894	1.00 SA	88%		0.719337		
				(0.1128)		(5.3838E-03)	(0.015588)	(0.015588)	(0.028284)			0.217902		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

RecCnt:6 RADCALC v4.8.18

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

STL Richland

Batch Nbr: 6143227 — Alpha Spec, UIso by ALP , Calculated Results — 6/21/2006 7:13:04 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
6	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H5KRG1AG**	**PCI/SA**		05/04/06 10:50	06/20/06 23:35			1	1.00 SA	
536403,000448					,J6E170306-6 v4.8.18		FILTER		05/02/06 10:40			UITC15694 Alq		0.062363 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 21:55	U-232	685	4	ALP6	ED	Y	N	3.7594E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	1000.0666			Y		(1.128E-02)						(0.000E+00)	16.035214		
1	06/20/06 21:55	U-234	1	0	ALP6	ED	N	N	3.7594E-01		N	90%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	1000.0666			Y		(1.128E-02)			4%			(0.000E+00)	16.035214		
2	06/20/06 21:55	U-235	0	2	ALP6	ED	N	N	3.7594E-01		N	90%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	1000.0666			Y		(1.128E-02)			4%			(0.000E+00)	16.035214		
3	06/20/06 21:55	U-238	1	1	ALP6	ED	N	N	3.7594E-01		N	90%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	1000.0666			Y		(1.128E-02)			4%			(0.000E+00)	16.035214		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	U-232	R	**65.701452**		3.41957E+00	9.096066	9.096066	1.00 SA	90%				
				(4.944493)		(1.3082E-01)	(0.442223)	(0.442223)	(0.028284)					
	06/21/06	U-234	R	**0.10679**	**U4**	4.99792E-03	0.014785	0.014785	1.00 SA	90%		0.289402		
				(0.10714)		(4.9979E-03)	(0.014809)	(0.014809)	(0.028284)					
	06/21/06	U-235	R	**-0.042731**	**U4**	-1.99987E-03	-0.005916	-0.005916	1.00 SA	90%		0.603519		
				(0.030413)		(1.4141E-03)	(0.004197)	(0.004197)	(0.028284)			0.157152		
	06/21/06	U-238	R	**0.085425**	**U4**	3.99798E-03	0.011827	0.011827	1.00 SA	90%		0.511516		
				(0.109126)		(5.0970E-03)	(0.015093)	(0.015093)	(0.028284)			0.111123		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
7	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H5KRJ1AG**	**PCI/SA**		05/04/06 11:30	06/20/06 23:35			1	1.00 SA	
536403,000449					,J6E170306-7 v4.8.18		FILTER		05/02/06 10:40			UITC15695 Alq		0.062404 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 21:55	U-232	762	2	ALP7	ED	Y	N	3.6324E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	1000.05			Y		(1.090E-02)						(0.000E+00)	16.024592		
1	06/20/06 21:55	U-234	0	0	ALP7	ED	N	N	3.6324E-01		N	104%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	1000.05			Y		(1.090E-02)			5%			(0.000E+00)	16.024592		
2	06/20/06 21:55	U-235	0	0	ALP7	ED	N	N	3.6324E-01		N	104%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	1000.05			Y		(1.090E-02)			5%			(0.000E+00)	16.024592		
3	06/20/06 21:55	U-238	1	0	ALP7	ED	N	N	3.6324E-01		N	104%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	1000.05			Y		(1.090E-02)			5%			(0.000E+00)	16.024592		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:7 RADCALC v4.8.18 STL Richland

Batch Nbr: 6143227 — Alpha Spec, Uiso by ALP , Calculated Results — 6/21/2006 7:13:04 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	U-232	R	**75.64073**		3.80641E+00	10.479056	10.479056	1.00 SA	104%				
				(5.616727)		(1.3797E-01)	(0.493056)	(0.493056)	(0.028284)					
	06/21/06	U-234	R	**0.00E00**	**U4**	0.00000E+00	0.00E00	0.00E00	1.00 SA	104%		0.269152		
				(0.12164)		(0.0000E+00)	(0.016852)	(0.016852)	(0.028284)					
	06/21/06	U-235	R	**0.00E00**	**U4**	0.00000E+00	0.00E00	0.00E00	1.00 SA	104%		0.269152		
				(0.121639)		(0.0000E+00)	(0.016852)	(0.016852)	(0.028284)					
	06/21/06	U-238	R	**0.099318**	**U4**	4.99792E-03	0.013759	0.013759	1.00 SA	104%		0.269152		
				(0.099636)		(4.9979E-03)	(0.013781)	(0.013781)	(0.028284)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
8	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H5KRL1AG**	**PCI/SA**		05/04/06 12:00	06/20/06 23:36			1	1.00 SA	
536403,P-0614					,J6E170306-8 v4.8.18		FILTER		05/02/06 10:40			UITC15696 Alq		0.061918 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 21:56	U-232	746	11	ALP8	ED	Y	N	3.9047E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1666666	1000.0166			Y		(1.171E-02)						(0.000E+00)	16.150409		
1	06/20/06 21:56	U-234	0	3	ALP8	ED	N	N	3.9047E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1666666	1000.0166			Y		(1.171E-02)			4%			(0.000E+00)	16.150409		
2	06/20/06 21:56	U-235	0	1	ALP8	ED	N	N	3.9047E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1666666	1000.0166			Y		(1.171E-02)			4%			(0.000E+00)	16.150409		
3	06/20/06 21:56	U-238	0	0	ALP8	ED	N	N	3.9047E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1666666	1000.0166			Y		(1.171E-02)			4%			(0.000E+00)	16.150409		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	U-232	R	**69.231393**		3.71589E+00	9.516406	9.516406	1.00 SA	94%				
				(5.157263)		(1.3649E-01)	(0.451325)	(0.451325)	(0.028284)					
	06/21/06	U-234	R	**-0.059331**	**U4**	-2.99995E-03	-0.008156	-0.008156	1.00 SA	94%		0.62379		
				(0.034585)		(1.7320E-03)	(0.004731)	(0.004731)	(0.028284)			0.17812		
	06/21/06	U-235	R	**-0.019777**	**U4**	-9.99983E-04	-0.002719	-0.002719	1.00 SA	94%		0.473315		
				(0.019841)		(9.9998E-04)	(0.002723)	(0.002723)	(0.028284)			0.102838		
	06/21/06	U-238	R	**0.00E00**	**U4**	0.00000E+00	0.00E00	0.00E00	1.00 SA	94%		0.267762		
				(0.121011)		(0.0000E+00)	(0.016634)	(0.016634)	(0.028284)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
9	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H5KRR1AG**	**PCI/SA**		05/04/06 12:20	06/20/06 23:36			1	1.00 SA	
536403,P-0615					,J6E170306-9 v4.8.18		FILTER		05/02/06 10:40			UITC15697 Alq		0.062437 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 21:56	U-232	692	2	ALP9	ED	Y	N	3.6670E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1666666	1000.0333			Y		(1.100E-02)						(0.000E+00)	16.016092		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:9 RADCALC v4.8.18
STL Richland

Batch Nbr: 6143227 Alpha Spec, UIso by ALP , Calculated Results 6/21/2006 7:13:05 AM

1	06/20/06 21:56	U-234	1	1	ALP9	ED	N	N	3.6670E-01	N	93%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.1666666	1000.0333			Y		(1.100E-02)		5%		(0.000E+00)	16.016092	
2	06/20/06 21:56	U-235	0	0	ALP9	ED	N	N	3.6670E-01	N	93%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.1666666	1000.0333			Y		(1.100E-02)		5%		(0.000E+00)	16.016092	
3	06/20/06 21:56	U-238	0	0	ALP9	ED	N	N	3.6670E-01	N	93%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.1666666	1000.0333			Y		(1.100E-02)		5%		(0.000E+00)	16.016092	

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	U-232	R	**67.97533**		3.45512E+00	9.42211	9.42211	1.00 SA	93%				
				(5.108077)		(1.3143E-01)	(0.456455)	(0.456455)	(0.028284)					
	06/21/06	U-234	R	**0.08445**	**U4**	3.99587E-03	0.011706	0.011706	1.00 SA	93%		0.505783		
				(0.107894)		(5.0949E-03)	(0.01494)	(0.01494)	(0.028284)			0.109892		
	06/21/06	U-235	R	**0.00E00**	**U4**	0.00000E+00	0.00E00	0.00E00	1.00 SA	93%		0.28613		
				(0.129312)		(0.0000E+00)	(0.017924)	(0.017924)	(0.028284)					
	06/21/06	U-238	R	**0.00E00**	**U4**	0.00000E+00	0.00E00	0.00E00	1.00 SA	93%		0.28613		
				(0.129312)		(0.0000E+00)	(0.017924)	(0.017924)	(0.028284)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
10	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H5KRV1AG**	**PCI/SA**		05/04/06 11:05	06/20/06 23:36			1	1.00 SA	
536403,P-0616					,J6E170306-10 v4.8.18		FILTER		05/02/06 10:40			UITC15698 Alq		0.062508 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 21:56	U-232	738	6	ALP10	ED	Y	N	3.6914E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	1000.25			Y		(1.107E-02)						(0.000E+00)	15.997884		
1	06/20/06 21:56	U-234	1	1	ALP10	ED	N	N	3.6914E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	1000.25			Y		(1.107E-02)			5%			(0.000E+00)	15.997884		
2	06/20/06 21:56	U-235	0	0	ALP10	ED	N	N	3.6914E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	1000.25			Y		(1.107E-02)			5%			(0.000E+00)	15.997884		
3	06/20/06 21:56	U-238	1	2	ALP10	ED	N	N	3.6914E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	1000.25			Y		(1.107E-02)			5%			(0.000E+00)	15.997884		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	U-232	R	**71.888054**		3.68246E+00	9.975797	9.975797	1.00 SA	99%				
				(5.360301)		(1.3580E-01)	(0.474231)	(0.474231)	(0.028284)					
	06/21/06	U-234	R	**0.079084**	**U4**	3.99817E-03	0.010974	0.010974	1.00 SA	99%		0.473507		
				(0.101018)		(5.0969E-03)	(0.014004)	(0.014004)	(0.028284)			0.102861		
	06/21/06	U-235	R	**0.00E00**	**U4**	0.00000E+00	0.00E00	0.00E00	1.00 SA	99%		0.267908		
				(0.121077)		(0.0000E+00)	(0.016802)	(0.016802)	(0.028284)					
	06/21/06	U-238	R	**0.059309**	**U4**	2.99842E-03	0.00823	0.00823	1.00 SA	99%		0.558669		
				(0.102849)		(5.1941E-03)	(0.014264)	(0.014264)	(0.028284)			0.145467		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:11 RADCALC v4.8.18 STL Richland

Batch Nbr: 6143227

Alpha Spec, UIso by ALP , Calculated Results

6/21/2006 7:13:05 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
11	Calc	SR	FILTER	*STLE	AlpIsoWoBS	H5KRX1AG	PCI/SA		05/04/06 11:20	06/20/06 23:36			1	1.00 SA	
536403,P-0617					,J6E170306-11 v4.8.18		FILTER		05/02/06 10:40			UITC15699 Alq		0.061646 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 21:56	U-232	751	8	ALP11	ED	Y	N	4.0933E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.2			Y		(1.228E-02)						(0.000E+00)	16.221529		
1	06/20/06 21:56	U-234	0	2	ALP11	ED	N	N	4.0933E-01		N	91%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.2			Y		(1.228E-02)			4%			(0.000E+00)	16.221529		
2	06/20/06 21:56	U-235	1	1	ALP11	ED	N	N	4.0933E-01		N	91%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.2			Y		(1.228E-02)			4%			(0.000E+00)	16.221529		
3	06/20/06 21:56	U-238	1	1	ALP11	ED	N	N	4.0933E-01		N	91%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.2			Y		(1.228E-02)			4%			(0.000E+00)	16.221529		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	U-232	R	**66.870862**		3.74606E+00	9.151632	9.151632	1.00 SA	91%				
				(4.976298)		(1.3702E-01)	(0.432923)	(0.432923)	(0.028284)					
	06/21/06	U-234	R	**-0.039432**	U4	-1.99960E-03	-0.005396	-0.005396	1.00 SA	91%		0.557045		
				(0.028061)		(1.4139E-03)	(0.003828)	(0.003828)	(0.028284)			0.14504		
	06/21/06	U-235	R	**0.078859**	U4	3.99895E-03	0.010792	0.010792	1.00 SA	91%		0.472133		
				(0.100726)		(5.0978E-03)	(0.013771)	(0.013771)	(0.028284)			0.102559		
	06/21/06	U-238	R	**0.078859**	U4	3.99895E-03	0.010792	0.010792	1.00 SA	91%		0.472133		
				(0.100726)		(5.0978E-03)	(0.013771)	(0.013771)	(0.028284)			0.102559		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
12	Calc	SR	FILTER	*STLE	AlpIsoWoBS	H5KR21AG	PCI/SA		05/04/06 10:35	06/20/06 23:37			1	1.00 SA	
536403,P-0618					,J6E170306-12 v4.8.18		FILTER		05/02/06 10:40			UITC15700 Alq		0.062516 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 21:57	U-232	655	12	ALP12	ED	Y	N	3.6724E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.1333			Y		(1.102E-02)						(0.000E+00)	15.995959		
1	06/20/06 21:57	U-234	0	1	ALP12	ED	N	N	3.6724E-01		N	88%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.1333			Y		(1.102E-02)			4%			(0.000E+00)	15.995959		
2	06/20/06 21:57	U-235	0	0	ALP12	ED	N	N	3.6724E-01		N	88%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.1333			Y		(1.102E-02)			4%			(0.000E+00)	15.995959		
3	06/20/06 21:57	U-238	0	0	ALP12	ED	N	N	3.6724E-01		N	88%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.1333			Y		(1.102E-02)			4%			(0.000E+00)	15.995959		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:12

RADCALC v4.8.18

STL Richland

Batch Nbr: 6143227

Alpha Spec, UIso by ALP , Calculated Results

6/21/2006 7:13:05 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	U-232	R	**64.004844**		3.26218E+00	8.882924	8.882924	1.00 SA	88%				
				(4.848804)		(1.2798E-01)	(0.438703)	(0.438703)	(0.028284)					
	06/21/06	U-234	R	**-0.022262**	U4	-9.99867E-04	-0.00309	-0.00309	1.00 SA	88%		0.533078		
				(0.022336)		(9.9987E-04)	(0.003095)	(0.003095)	(0.028284)			0.1158		
	06/21/06	U-235	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	88%		0.301616		
				(0.136311)		(0.0000E+00)	(0.018918)	(0.018918)	(0.028284)					
	06/21/06	U-238	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	88%		0.301616		
				(0.136311)		(0.0000E+00)	(0.018918)	(0.018918)	(0.028284)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
13	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H5KR41AG**	**PCI/SA**		05/04/06 10:45	06/20/06 23:37			1	1.00 SA	
536403,P-0619					,J6E170306-13 v4.8.18		FILTER		05/02/06 10:40			UITC15701 Alq		0.062743 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 21:57	U-232	489	45	ALP85	ED	Y	N	2.5840E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	2500.1166			Y		(7.752E-03)						(0.000E+00)	15.937992		
1	06/20/06 21:57	U-234	2	5	ALP85	ED	N	N	2.5840E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	2500.1166			Y		(7.752E-03)			5%			(0.000E+00)	15.937992		
2	06/20/06 21:57	U-235	0	1	ALP85	ED	N	N	2.5840E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	2500.1166			Y		(7.752E-03)			5%			(0.000E+00)	15.937992		
3	06/20/06 21:57	U-238	2	0	ALP85	ED	N	N	2.5840E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	2500.1166			Y		(7.752E-03)			5%			(0.000E+00)	15.937992		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	U-232	R	**67.391627**		2.42558E+00	9.386977	9.386977	1.00 SA	93%				
				(5.339134)		(1.1053E-01)	(0.512143)	(0.512143)	(0.028284)					
	06/21/06	U-234	R	**0.238703**	U4	7.99426E-03	0.033249	0.033249	1.00 SA	93%		0.843287		
				(0.213656)		(7.1233E-03)	(0.029699)	(0.029699)	(0.028284)			0.219595		
	06/21/06	U-235	R	**-0.011943**	U4	-3.99981E-04	-0.001664	-0.001664	1.00 SA	93%		0.600652		
				(0.011986)		(3.9998E-04)	(0.001667)	(0.001667)	(0.028284)			0.098206		
	06/21/06	U-238	R	**0.298418**	U4	9.99417E-03	0.041567	0.041567	1.00 SA	93%		0.404357		
				(0.212523)		(7.0669E-03)	(0.029506)	(0.029506)	(0.028284)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
14	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H5KR61AG**	**PCI/SA**		05/04/06 12:05	06/20/06 23:37			1	1.00 SA	
536403,P-0620					,J6E170306-14 v4.8.18		FILTER		05/02/06 10:40			UITC15702 Alq		0.061572 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 21:57	U-232	646	8	ALP87	ED	Y	N	3.4106E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.0166			Y		(1.023E-02)						(0.000E+00)	16.241226		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

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RecCnt:14 RADCALC v4.8.18

STL Richland

Batch Nbr: 6143227

Alpha Spec, UIso by ALP , Calculated Results

6/21/2006 7:13:05 AM

1	06/20/06 21:57	U-234	0	2	ALP87	ED	N	N	3.4106E-01	N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00
			200.05	1000.0166			Y		(1.023E-02)		5%			(0.000E+00)	16.241226	
2	06/20/06 21:57	U-235	0	0	ALP87	ED	N	N	3.4106E-01	N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00
			200.05	1000.0166			Y		(1.023E-02)		5%			(0.000E+00)	16.241226	
3	06/20/06 21:57	U-238	0	0	ALP87	ED	N	N	3.4106E-01	N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00
			200.05	1000.0166			Y		(1.023E-02)		5%			(0.000E+00)	16.241226	

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	U-232	R	**69.094915**		3.22119E+00	9.444537	9.444537	1.00 SA	93%				
				(5.242322)		(1.2708E-01)	(0.468096)	(0.468096)	(0.028284)					
	06/21/06	U-234	R	**-0.046242**	U4	-1.99997E-03	-0.006321	-0.006321	1.00 SA	93%		0.653159		
				(0.032915)		(1.4142E-03)	(0.004484)	(0.004484)	(0.028284)			0.170073		
	06/21/06	U-235	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	93%		0.313215		
				(0.141553)		(0.0000E+00)	(0.019349)	(0.019349)	(0.028284)					
	06/21/06	U-238	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	93%		0.313215		
				(0.141553)		(0.0000E+00)	(0.019349)	(0.019349)	(0.028284)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
15	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H50N81AA**	**PCI/SA**	**B**	05/04/06 12:10	06/20/06 23:38			1	1.00 SA	
0,INTRA-LAB BLANK					,J6E230000-227		FILTER					UITC15703 Alq		1.00 SA	

0	06/20/06 21:58	U-232	721	23	ALP69	ED	Y	N	3.7411E-01	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	2500.0166			Y		(1.122E-02)					(0.000E+00)	1.00		
1	06/20/06 21:58	U-234	0	2	ALP69	ED	N	N	3.7411E-01	N	96%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	2500.0166			Y		(1.122E-02)		5%			(0.000E+00)	1.00		
2	06/20/06 21:58	U-235	1	2	ALP69	ED	N	N	3.7411E-01	N	96%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	2500.0166			Y		(1.122E-02)		5%			(0.000E+00)	1.00		
3	06/20/06 21:58	U-238	0	6	ALP69	ED	N	N	3.7411E-01	N	96%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	2500.0166			Y		(1.122E-02)		5%			(0.000E+00)	1.00		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	U-232	R	**4.32881**		3.59520E+00	9.609968	9.609968	1.00 SA	96%				
				(0.308968)		(1.3425E-01)	(0.460312)	(0.460312)	(0.017321)					
	06/21/06	U-234	R	**-0.001003**	U4	-7.99995E-04	-0.002227	-0.002227	1.00 SA	96%		0.028648		
				(0.000714)		(5.6568E-04)	(0.00158)	(0.00158)	(0.017321)			0.005834		
	06/21/06	U-235	R	**0.005265**	U4	4.19917E-03	0.011689	0.011689	1.00 SA	96%		0.028648		
				(0.006322)		(5.0311E-03)	(0.01402)	(0.01402)	(0.017321)			0.005834		
	06/21/06	U-238	R	**-0.003009**	U4	-2.39998E-03	-0.006681	-0.006681	1.00 SA	96%		0.037184		
				(0.00125)		(9.7979E-04)	(0.002753)	(0.002753)	(0.017321)			0.010104		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:16

RADCALC v4.8.18

STL Richland

Batch Nbr: 6143227

Alpha Spec, UIso by ALP , Calculated Results

6/21/2006 7:13:05 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
16	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H50N81AC**	**PCI/SA**	**S**	05/04/06 12:10	06/20/06 23:38		UISF0371	1	1.00 SA	
0,INTRA-LAB CHECK					,J6E230000-227		FILTER					UISF0371 Alq		1.00 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 21:58	U-232	752	30	ALP71	ED	Y	N	3.6536E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	2500.0333			Y		(1.096E-02)						(0.000E+00)	1.00		
1	06/20/06 21:58	U-234	152	3	ALP71	ED	N	N	3.6536E-01		N	102%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	2500.0333			Y		(1.096E-02)			6%			(0.000E+00)	1.00		
2	06/20/06 21:58	U-235	7	4	ALP71	ED	N	N	3.6536E-01		N	102%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	2500.0333			Y		(1.096E-02)			6%			(0.000E+00)	1.00		
3	06/20/06 21:58	U-238	169	4	ALP71	ED	N	N	3.6536E-01		N	102%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	2500.0333			Y		(1.096E-02)			6%			(0.000E+00)	1.00		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	U-232	R	**4.620454**		3.74769E+00	10.257419	10.257419	1.00 SA	102%				
				(0.327976)		(1.3712E-01)	(0.485324)	(0.485324)	(0.017321)					
	06/21/06	U-234	R	**0.935433**		7.58737E-01	2.076662	2.076662	1.00 SA	102%	96%	0.030746		
				(0.110309)		(6.1643E-02)	(0.218847)	(0.218847)	(0.017321)			0.007025		
	06/21/06	U-235	R	**0.041175**		3.33971E-02	0.091408	0.091408	1.00 SA	102%	93%	0.032918		
				(0.016713)		(1.3252E-02)	(0.036786)	(0.036786)	(0.017321)			0.008112		
	06/21/06	U-238	R	**1.039726**		8.43330E-01	2.308193	2.308193	1.00 SA	102%	102%	0.032918		
				(0.119662)		(6.5000E-02)	(0.235908)	(0.235908)	(0.017321)			0.008112		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:16

RADCALC v4.8.18

STL Richland

SEVERN TRENT **STL**

URANIUM ISOTOPIC COUNTING REQUEST

6/21
0118

C.R. Technician: OD

Date Counted: 6/20/06

Counting Time
Sample: 200 Minutes
Background: See Alpha Regions Report
BRC 5/4/06

SOP's
Operating: RICHRD008
Review: RICHRD0016
6143227

WorkOrder #	U-232 (5320 KeV) Tracer	TOTAL COUNTS U-238 (4196 KeV)	U-235 (4396 KeV)	U-234 (4776 KeV)	Det #	Comments/Edits
HSKQR1AG	See Counting Room Printout for ROI information				1	
HSKQ41AG	See Counting Room Printout for ROI information				2	
HSKQ81AG	See Counting Room Printout for ROI information				3	
HSKRC1AG	See Counting Room Printout for ROI information				4	
HSKRF1AG	See Counting Room Printout for ROI information				5	
HSKRG1AG	See Counting Room Printout for ROI information				6	
HSKRJ1AG	See Counting Room Printout for ROI information				7	
HSKRL1AG	See Counting Room Printout for ROI information				8	
	See Counting Room Printout for ROI information					

Comments:

Form No: RC-011, 7/02, Rev 8

Approved by: S

Date: 6/21/06

STL RICHLAND

240

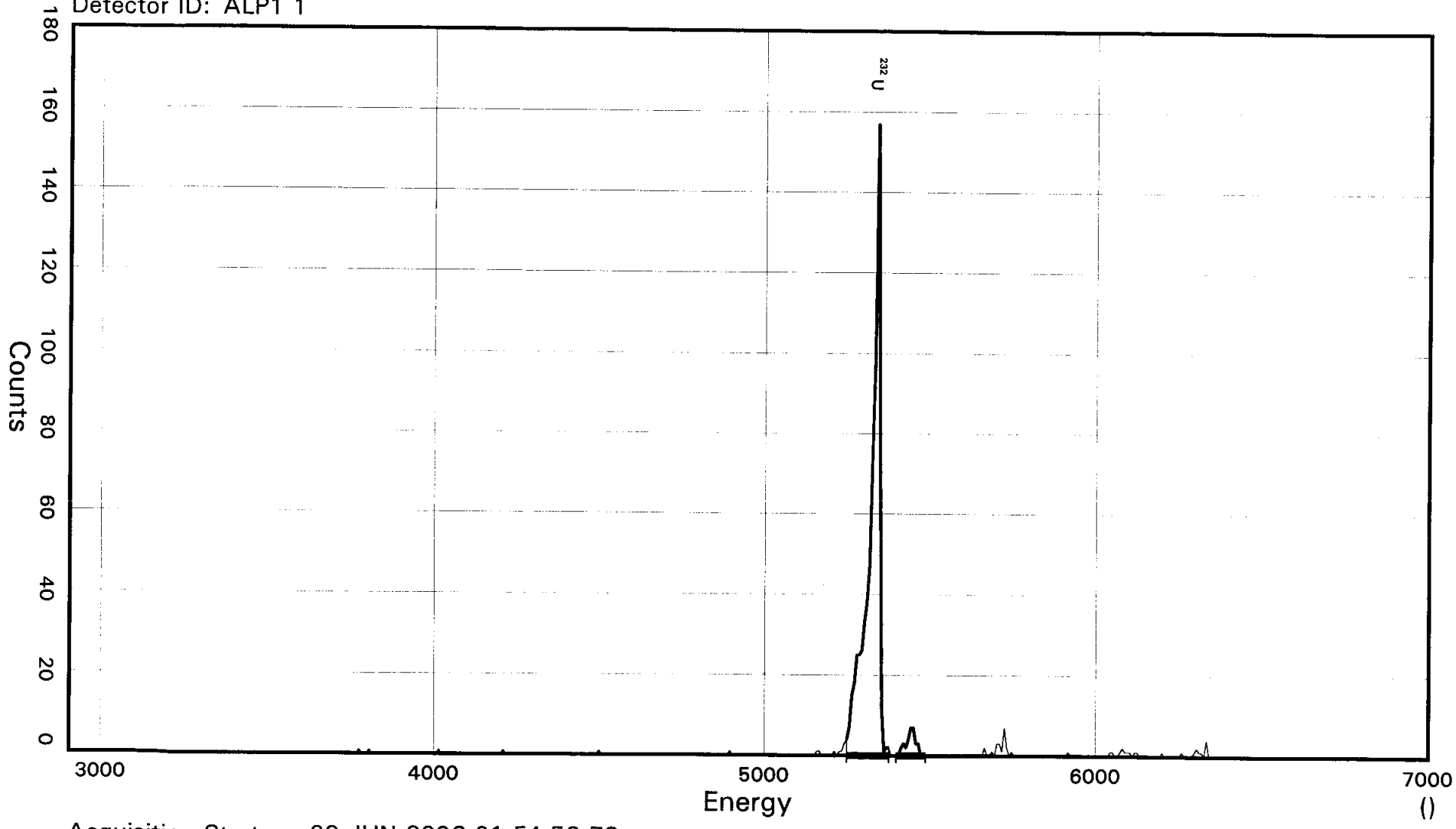
STL Richland WA.

U BRC

Sample ID: H5KQR1AG

Detector ID: ALP1 1

Batch ID: 6143227



Acquisition Start: 20-JUN-2006 21:54:53.78

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:05.00

Energy Coefficients:

Offset: 2.88299E+03

Slope: 7.51639E+00

Quadrature: -9.96225E-05

SAMPLE IDENTITY: H5KQR1AG

TITLE : U BRC

DETECTOR : ALP1 1
CONFIGURATION NAME : $DISK1:[ALP1.SAMPLE]H5KQR1AG_200662154.CNF;1

ACQUIRE DATE of BACKGROUND: 02-JUN-2006 07:26:49

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 20-JUN-2006 21:54:53 CALIB DATE : 01-JUN-2006 23:52:47

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:05

OFFSET : 2882.99 keV CONSTANT FWHM : 8.50000 Channels
SLOPE : 7.51639 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : -.996225E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H5KQR1AG

Detector: ALP1 1
Report Date: 21-Jun-06 01:15 AM
Acquire Date: 20-JUN-2006 21:54:53.78
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	675	8	0	3.366	5330.8	126.7	316	333	0.00	0.00	P
U-234	0	2	0	-0.002	4785.2	126.9	243	260	0.00	0.00	
U-235	0	1	0	-0.001	4408.4	127.1	192	209	0.00	0.00	
U-238	1	2	0	0.003	4208.6	127.2	166	183	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H5KQR1AG
Detector: ALP1 1
Report Date: 21-Jun-06 01:15 AM
Acquire Date: 20-JUN-2006 21:54:53.78

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	1		151	0	+	201	0	+	251	0		301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0	+	202	0	+	252	0		302	0		352	0		402	1		452	0		502
0		3	0		53	0		103	0		153	0	+	203	0	+	253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	0	+	254	1		304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0	+	255	1		305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	0		306	0		356	1		406	0		456	0		506
0		7	0		57	0		107	0		157	0	+	207	0	+	257	0		307	0		357	0		407	1		457	0		507
0		8	0		58	0		108	0		158	0	+	208	0	+	258	0		308	0		358	0		408	2		458	0		508
0		9	0		59	0		109	0		159	0	+	209	0	+	259	0		309	0		359	0		409	1		459	0		509
0		10	0		60	0		110	0		160	0		210	0	+	260	0		310	0		360	0		410	1		460	0		510
0		11	0		61	0		111	0		161	0		211	0		261	1		311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0		212	0		262	0		312	0		362	0		412	4		462	0		512
0		13	0		63	0		113	0		163	0		213	0		263	1		313	0		363	0		413	0		463			
0		14	0		64	0		114	0		164	0		214	0		264	1		314	0		364	0		414	0		464			
0		15	0		65	0		115	0		165	0		215	0		265	3		315	0		365	0		415	0		465			
0		16	0		66	0		116	0	+	166	1		216	0		266	4	+	316	0		366	0		416	0		466			
0		17	0		67	0		117	0	+	167	0		217	0		267	7	+	317	0		367	0		417	0		467			
0		18	0		68	0		118	0	+	168	0		218	0		268	15	+	318	0		368	0		418	0		468			
0		19	0		69	1		119	0	+	169	0		219	1		269	18	+	319	0		369	0		419	0		469			
0		20	0		70	0		120	0	+	170	0		220	0		270	25	+	320	0		370	0		420	0		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	25	+	321	0		371	0		421	0		471			
0		22	0		72	0		122	0	+	172	0		222	0		272	26	+	322	2		372	0		422	0		472			
0		23	0		73	1		123	0	+	173	0		223	0		273	33	+	323	0		373	1		423	0		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	38	+	324	0		374	1		424	0		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	47	+	325	1		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	0		276	73	+	326	0		376	0		426	0		476			
0		27	0		77	0		127	1	+	177	0		227	0		277	98	+	327	3		377	1		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	157	+	328	3		378	2		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	78	+	329	1		379	1		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	12	+	330	7		380	1		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	1	+	331	2		381	1		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	2	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	2		333	1		383	1		433	0		483			
0		34	0		84	0		134	0		184	0		234	0		284	0		334	0		384	1		434	0		484			
0		35	0		85	0		135	0		185	0		235	0		285	0		335	0		385	0		435	0		485			
0		36	0		86	0		136	0		186	0		236	0		286	0		336	0		386	0		436	0		486			
0		37	0		87	0		137	0		187	0		237	0		287	0		337	0		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	0		288	2		338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	0		289	3		339	0		389	0		439	0		489			
0		40	0		90	0		140	0		190	0		240	0		290	2		340	0		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	0		291	4		341	0		391	0		441	0		491			
0		42	0		92	0		142	0	+	192	0		242	0		292	7		342	0		392	0		442	0		492			
0		43	0		93	0		143	0	+	193	0	+	243	0		293	7		343	0		393	0		443	0		493			
0		44	0		94	0		144	0	+	194	0	+	244	0		294	3		344	0		394	1		444	0		494			
0		45	0		95	0		145	0	+	195	0	+	245	0		295	3		345	0		395	0		445	0		495			
0		46	0		96	0		146	0	+	196	0	+	246	0		296	0		346	0		396	0		446	0		496			
0		47	0		97	0		147	0	+	197	0	+	247	0		297	0		347	0		397	0		447	0		497			
0		48	0		98	0		148	0	+	198	0	+	248	0		298	0		348	0		398	0		448	0		498			
0		49	0		99	0		149	0	+	199	0	+	249	0		299	0		349	0		399	0		449	0		499			
0		50	0		100	0		150	0	+	200	0	+	250	0		300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 21-JUN-2006 01:15:14

```
Configuration     : $DISK1:[ALP1.SAMPLE]H5KQR1AG_200662154.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 4-MAY-2006 12:00:00  Acquisition date : 20-JUN-2006 21:54:53
Sample ID         : H5KQR1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP1                 Detector geometry:
Elapsed live time: 0 03:20:05.00         Elapsed real time: 0 03:20:05.00   0.0%
Start energy      :  2905.54             End energy       :  6705.26
Sensitivity       :     4.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5330.79	675	0	37.58	327.08	316	17	5.62E-02	3.8	
2	0	5444.52	31	0	45.10	342.35	336	12	2.58E-03	18.0	

VMS Nuclide Identification Report V3.0 Generated 21-JUN-2006 01:15:16

Configuration	: $DISK1:[ALP1.SAMPLE]H5KQR1AG_200662154.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:54:53
Sample ID	: H5KQR1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP1	Detector geometry	:
Elapsed live time	: 0 03:20:05.00	Elapsed real time	: 0 03:20:05.00 0.0%
Energy tolerance	: 40.00	Half life ratio	: 1.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Spline	Efficiencies at	: Peak Energy
Abundance limit	: 60.00		

Summary of Nuclide Activity

Total number of lines in spectrum	2	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	1	50.00%

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			
Grand Total Activity :			0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP1.SAMPLE]H5KQR1AG_200662154.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5330.79	316	333	675	661	0.54		
5444.51	336	348	31	31	0.00		

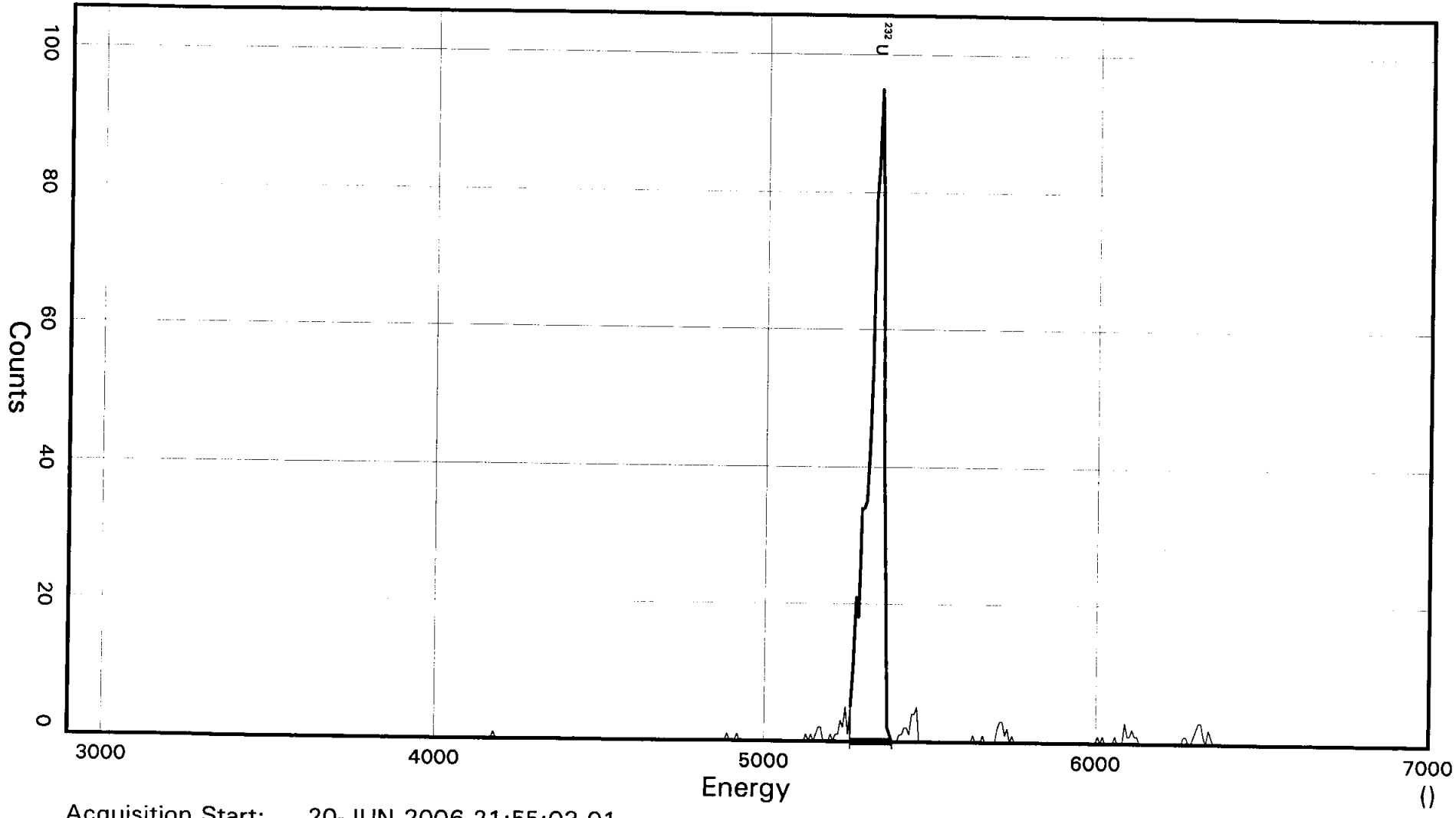
End of Report

STL Richland WA.

U BRC

Sample ID: H5KQ41AG
Detector ID: ALP2 1

Batch ID: 6143227



Acquisition Start: 20-JUN-2006 21:55:03.01
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:04.00

Energy Coefficients:
Offset: 2.87588E+03
Slope: 7.40145E+00
Quadrature: -4.99304E-06

SAMPLE IDENTIITY: H5KQ41AG

TITLE : U BRC

DETECTOR : ALP2 1
CONFIGURATION NAME : $DISK1:[ALP2.SAMPLE]H5KQ41AG_200662155.CNF;1

ACQUIRE DATE of BACKGROUND: 03-JUN-2006 09:55:02

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 20-JUN-2006 21:55:03 CALIB DATE : 02-JUN-2006 00:12:34

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:04

OFFSET : 2875.88 keV CONSTANT FWHM : 9.50000 Channels
SLOPE : 7.40145 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : -.499304E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H5KQ41AG

Detector: ALP2 1
Report Date: 21-Jun-06 01:30 AM
Acquire Date: 20-JUN-2006 21:55:03.01
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	653	9	0	3.255	5333.0	125.8	322	339	0.00	0.00	P
U-234	0	0	0	0.000	4787.4	125.8	248	265	0.00	0.00	
U-235	0	1	0	-0.001	4410.6	125.8	197	214	0.00	0.00	
U-238	1	5	0	0.000	4210.8	125.8	170	187	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H5KQ41AG
Detector: ALP2 1
Report Date: 21-Jun-06 01:30 AM
Acquire Date: 20-JUN-2006 21:55:03.01

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0	+	201	0	+	251	0		301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0	+	202	0	+	252	0		302	0		352	0		402	0		452	0		502
	0	3	0		53	0		103	0		153	0	+	203	0	+	253	0		303	0		353	0		403	0		453	0		503
	0	4	0		54	0		104	0		154	0	+	204	0	+	254	1		304	0		354	0		404	0		454	0		504
	0	5	0		55	0		105	0		155	0	+	205	0	+	255	0		305	0		355	0		405	0		455	0		505
	0	6	0		56	0		106	0		156	0	+	206	0	+	256	1		306	0		356	0		406	0		456	0		506
	0	7	0		57	0		107	0		157	0	+	207	0	+	257	0		307	0		357	0		407	0		457	0		507
	0	8	0		58	0		108	0		158	0	+	208	0	+	258	1		308	0		358	0		408	1		458	0		508
	0	9	0		59	0		109	0		159	0	+	209	0	+	259	2		309	0		359	0		409	1		459	0		509
	0	10	0		60	0		110	0		160	0	+	210	0	+	260	2		310	0		360	0		410	0		460	0		510
	0	11	0		61	0		111	0		161	0	+	211	0	+	261	0		311	0		361	0		411	0		461	0		511
	0	12	0		62	0		112	0		162	0	+	212	0	+	262	0		312	0		362	0		412	1		462	0		512
	0	13	0		63	0		113	0		163	0	+	213	0	+	263	0		313	0		363	0		413	2		463			
	0	14	0		64	0		114	0		164	0	+	214	0	+	264	1		314	0		364	0		414	3		464			
	0	15	0		65	0		115	0		165	0		215	0	+	265	0		315	0		365	0		415	3		465			
	0	16	0		66	0		116	0		166	0		216	0		266	1		316	0		366	0		416	1		466			
	0	17	0		67	0		117	0		167	0		217	0		267	1		317	0		367	0		417	0		467			
	0	18	0		68	0		118	0		168	0		218	0		268	3		318	0		368	0		418	2		468			
	0	19	0		69	0		119	0		169	0		219	0		269	2		319	0		369	0		419	1		469			
	0	20	0		70	0		120	0	+	170	0		220	0		270	5		320	0		370	0		420	0		470			
	0	21	0		71	0		121	0	+	171	0		221	0		271	1		321	0		371	0		421	0		471			
	0	22	0		72	0		122	0	+	172	0		222	1		272	5	+	322	1		372	0		422	0		472			
	0	23	0		73	0		123	0	+	173	0		223	0		273	11	+	323	0		373	1		423	0		473			
	0	24	0		74	0		124	0	+	174	0		224	0		274	21	+	324	0		374	0		424	0		474			
	0	25	0		75	0		125	0	+	175	0		225	0		275	18	+	325	0		375	1		425	0		475			
	0	26	0		76	0		126	1	+	176	0		226	1		276	34	+	326	1		376	0		426	0		476			
	0	27	0		77	0		127	0	+	177	0		227	0		277	34	+	327	0		377	0		427	0		477			
	0	28	0		78	0		128	0	+	178	0		228	0		278	35	+	328	0		378	0		428	0		478			
	0	29	0		79	0		129	0	+	179	0		229	0		279	42	+	329	0		379	0		429	0		479			
	0	30	0		80	0		130	0	+	180	0		230	0		280	54	+	330	0		380	1		430	0		480			
	0	31	0		81	0		131	0	+	181	0		231	0		281	79	+	331	0		381	0		431	0		481			
	0	32	0		82	0		132	0	+	182	0		232	0		282	84	+	332	2		382	0		432	0		482			
	0	33	0		83	0		133	0	+	183	0		233	0		283	95	+	333	3		383	0		433	0		483			
	0	34	0		84	0		134	0	+	184	0		234	0		284	76	+	334	3		384	3		434	0		484			
	0	35	0		85	0		135	0	+	185	0		235	0		285	39	+	335	1		385	1		435	0		485			
	0	36	0		86	0		136	0	+	186	0		236	0		286	20	+	336	2		386	1		436	0		486			
	0	37	0		87	0		137	0	+	187	0		237	0		287	2	+	337	0		387	2		437	0		487			
	0	38	0		88	0		138	0		188	0		238	0		288	1	+	338	1		388	1		438	0		488			
	0	39	0		89	0		139	0		189	0		239	0		289	0		339	0		389	1		439	0		489			
	0	40	0		90	0		140	0		190	0		240	0		290	0		340	0		390	0		440	0		490			
	0	41	0		91	0		141	0		191	0		241	0		291	0		341	0		391	0		441	0		491			
	0	42	0		92	0		142	0		192	0		242	0		292	1		342	0		392	0		442	0		492			
	0	43	0		93	0		143	0		193	0		243	0		293	1		343	0		393	0		443	0		493			
	0	44	0		94	0		144	0		194	0		244	0		294	2		344	0		394	0		444	0		494			
	0	45	0		95	0		145	0		195	0		245	0		295	2		345	0		395	0		445	0		495			
	0	46	0		96	0		146	0		196	0		246	0		296	1		346	0		396	0		446	0		496			
	0	47	0		97	0		147	0	+	197	0		247	0		297	4		347	0		397	0		447	0		497			
	0	48	0		98	0		148	0	+	198	0	+	248	0		298	4		348	0		398	0		448	0		498			
	0	49	0		99	0		149	0	+	199	0	+	249	0		299	5		349	0		399	0		449	0		499			
	0	50	0		100	0		150	0	+	200	0	+	250	0		300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 21-JUN-2006 01:30:13

```
Configuration     : $DISK1:[ALP2.SAMPLE]H5KQ41AG_200662155.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 4-MAY-2006 12:00:00  Acquisition date : 20-JUN-2006 21:55:03
Sample ID         : H5KQ41AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP2                 Detector geometry:
Elapsed live time: 0 03:20:04.00         Elapsed real time: 0 03:34:53.00   6.9%
Start energy      :  2898.09             End energy       :  6664.12
Sensitivity       :     4.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5332.96	653	0	51.81	332.05	322	17	5.44E-02	3.9	

VMS Nuclide Identification Report V3.0 Generated 21-JUN-2006 01:30:15

Configuration	: $DISK1:[ALP2.SAMPLE]H5KQ41AG_200662155.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:55:03
Sample ID	: H5KQ41AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP2	Detector geometry	:
Elapsed live time	: 0 03:20:04.00	Elapsed real time	: 0 03:34:53.00 6.9%
Energy tolerance	: 40.00	Half life ratio	: 1.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Spline	Efficiencies at	: Peak Energy
Abundance limit	: 60.00		

Summary of Nuclide Activity

Total number of lines in spectrum	1	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	1	100.00%

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			
Grand Total Activity :			0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP2.SAMPLE]H5KQ41AG_200662155.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5332.96	322	339	653	650	0.12		

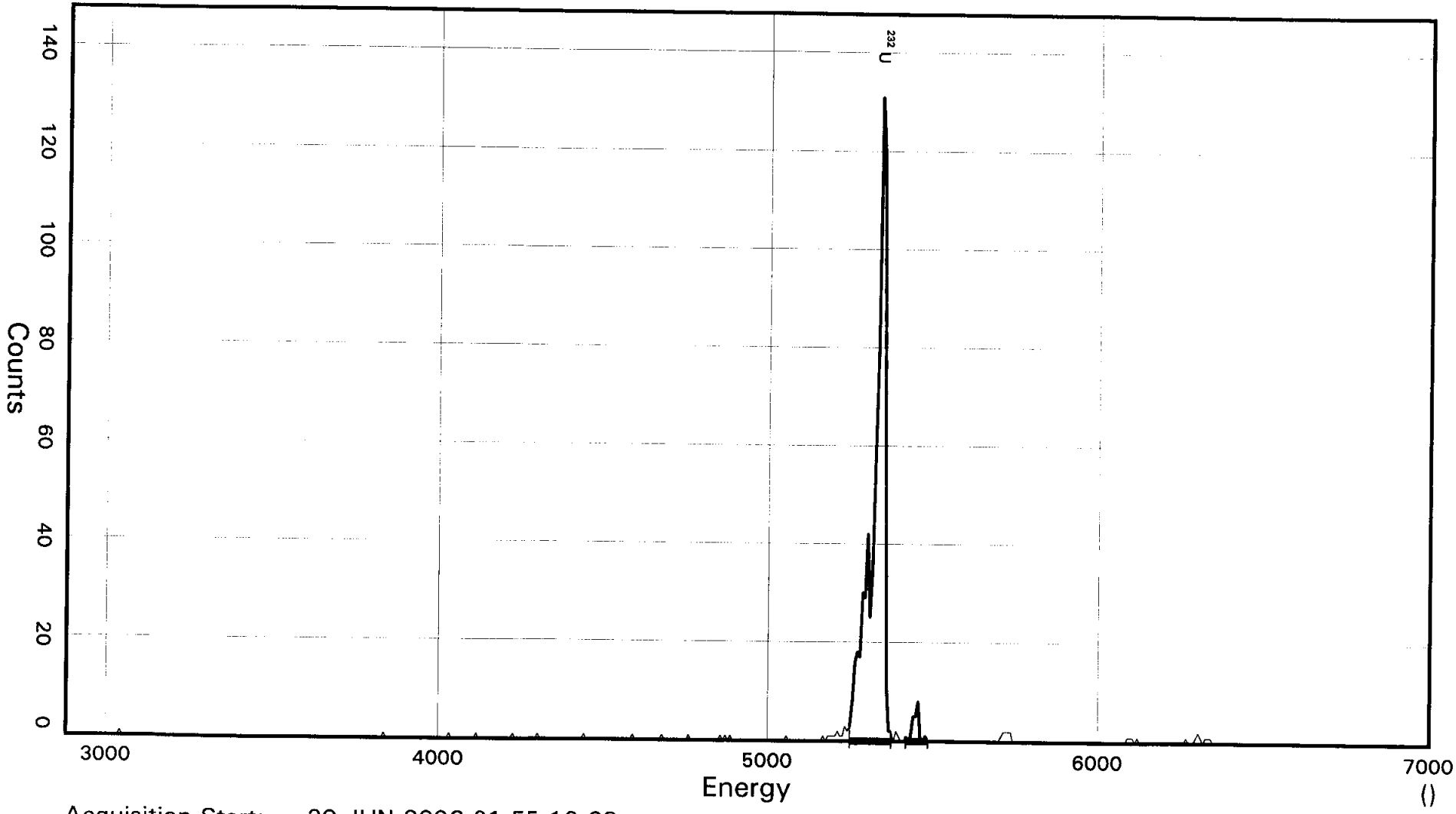
End of Report

STL Richland WA.

U BRC

Sample ID: H5KQ81AG
Detector ID: ALP3 1

Batch ID: 6143227



Acquisition Start: 20-JUN-2006 21:55:12.63
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:07.00

Energy Coefficients:
Offset: 2.85788E+03
Slope: 7.33691E+00
Quadrature: 5.98118E-05

SAMPLE IDENTITY: H5KQ81AG

TITLE : U BRC

DETECTOR : ALP3 1
CONFIGURATION NAME : $DISK1:[ALP3.SAMPLE]H5KQ81AG_200662155.CNF;1

ACQUIRE DATE of BACKGROUND: 02-JUN-2006 07:26:57

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 20-JUN-2006 21:55:12 CALIB DATE : 01-JUN-2006 23:53:16

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:07

OFFSET : 2857.88 keV CONSTANT FWHM : 8.33333 Channels
SLOPE : 7.33691 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : 5.981180E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H5KQ81AG

Detector: ALP3 1
Report Date: 21-Jun-06 01:15 AM
Acquire Date: 20-JUN-2006 21:55:12.63
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	695	15	0	3.458	5337.7	125.4	325	342	0.00	0.00	P
U-234	1	5	0	0.000	4792.2	125.3	251	268	0.00	0.00	
U-235	1	3	0	0.002	4415.4	125.2	200	217	0.00	0.00	
U-238	1	6	0	-0.001	4215.6	125.1	173	190	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H5KQ81AG
Detector: ALP3 1
Report Date: 21-Jun-06 01:15 AM
Acquire Date: 20-JUN-2006 21:55:12.63

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0	+	201	0	+	251	0		301	5		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0	+	202	0	+	252	0		302	5		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0	+	203	0	+	253	0		303	8		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	0	+	254	0		304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0	+	255	0		305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	0		306	1		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0	+	207	0	+	257	0		307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0	+	208	0	+	258	0		308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	0	+	209	1	+	259	0		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	1		160	0	+	210	0	+	260	0		310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	0		161	0	+	211	0	+	261	0		311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0	+	212	0	+	262	0		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0	+	213	0	+	263	0		313	0		363	0		413	1		463			
0		14	0		64	0		114	0		164	0	+	214	0	+	264	1		314	0		364	0		414	0		464			
0		15	0		65	0		115	0		165	0	+	215	0	+	265	0		315	0		365	0		415	0		465			
0		16	0		66	0		116	0		166	1	+	216	0	+	266	1		316	0		366	0		416	0		466			
0		17	0		67	0		117	0		167	0	+	217	0	+	267	1		317	0		367	0		417	1		467			
0		18	0		68	0		118	0		168	0		218	0	+	268	1		318	0		368	0		418	2		468			
0		19	0		69	0		119	0		169	0		219	0		269	1		319	0		369	0		419	1		469			
0		20	0		70	0		120	0		170	0		220	0		270	2		320	0		370	0		420	0		470			
0		21	0		71	0		121	1		171	0		221	0		271	1		321	0		371	0		421	1		471			
0		22	0		72	0		122	0		172	0		222	1		272	1		322	0		372	0		422	1		472			
0		23	0		73	0		123	0	+	173	0		223	0		273	3		323	0		373	0		423	1		473			
0		24	0		74	0		124	0	+	174	0		224	1		274	2		324	0		374	0		424	0		474			
1		25	0		75	0		125	0	+	175	0		225	0		275	3	+	325	0		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	1		276	8	+	326	0		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	16	+	327	0		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	18	+	328	0		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	17	+	329	0		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	30	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	29	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	42	+	332	0		382	0		432	0		482			
0		33	0		83	1		133	0	+	183	0		233	0		283	25	+	333	0		383	0		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	35	+	334	0		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	58	+	335	0		385	0		435	0		485			
0		36	0		86	0		136	1	+	186	1		236	0		286	79	+	336	0		386	0		436	0		486			
0		37	0		87	0		137	0	+	187	0		237	0		287	131	+	337	1		387	0		437	0		487			
0		38	0		88	0		138	0	+	188	0		238	0		288	120	+	338	2		388	0		438	0		488			
0		39	0		89	0		139	0	+	189	0		239	0		289	64	+	339	2		389	1		439	0		489			
0		40	0		90	0		140	0	+	190	0		240	0		290	11	+	340	2		390	1		440	0		490			
0		41	0		91	0		141	0		191	0		241	0		291	2	+	341	2		391	1		441	0		491			
0		42	0		92	0		142	0		192	0		242	0		292	2		342	0		392	0		442	0		492			
0		43	0		93	0		143	0		193	0		243	0		293	0		343	0		393	1		443	0		493			
0		44	0		94	0		144	0		194	0		244	0		294	2		344	0		394	0		444	0		494			
0		45	0		95	0		145	0		195	0		245	0		295	1		345	0		395	0		445	0		495			
0		46	0		96	0		146	0		196	0		246	0		296	0		346	0		396	0		446	0		496			
0		47	0		97	0		147	1		197	0		247	0		297	0		347	0		397	0		447	0		497			
0		48	0		98	0		148	0		198	1		248	0		298	1		348	0		398	0		448	0		498			
0		49	0		99	0		149	0		199	0		249	1		299	0		349	0		399	0		449	0		499			
0		50	0		100	0		150	0	+	200	0		250	0		300	1		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 21-JUN-2006 01:15:35

Configuration	: $DISK1:[ALP3.SAMPLE]H5KQ81AG_200662155.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: U BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:55:12
Sample ID	: H5KQ81AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP3	Detector geometry	:
Elapsed live time	: 0 03:20:07.00	Elapsed real time	: 0 03:20:07.00 0.0%
Start energy	: 2879.89	End energy	: 6630.06
Sensitivity	: 4.00	Sum Sensitivity	: 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5337.73	695	0	36.68	337.07	325	17	5.79E-02	3.8	
2	0	5448.38	22	0	22.01	352.07	348	9	1.83E-03	21.3	

VMS Nuclide Identification Report V3.0 Generated 21-JUN-2006 01:15:37

Configuration	: $DISK1:[ALP3.SAMPLE]H5KQ81AG_200662155.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:55:12
Sample ID	: H5KQ81AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP3	Detector geometry	:
Elapsed live time	: 0 03:20:07.00	Elapsed real time	: 0 03:20:07.00 0.0%
Energy tolerance	: 40.00	Half life ratio	: 1.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Spline	Efficiencies at	: Peak Energy
Abundance limit	: 60.00		

Summary of Nuclide Activity

Total number of lines in spectrum	2	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	1	50.00%

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			
Grand Total Activity :			0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP3.SAMPLE]H5KQ81AG_200662155.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5337.73	325	342	695	690	0.19		
5448.37	348	357	22	21	0.21		

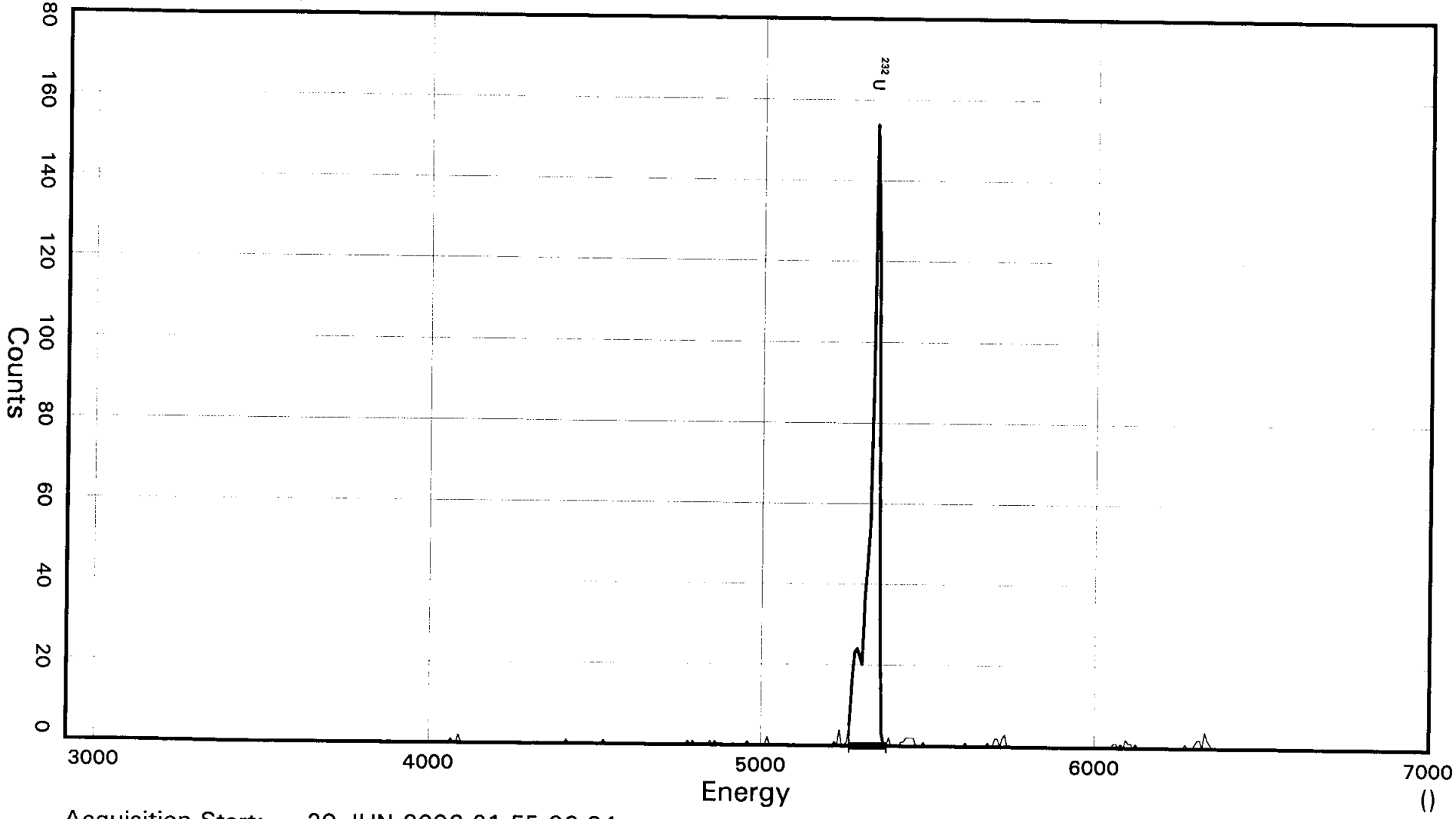
End of Report

STL Richland WA.

U BRC

Sample ID: H5KRC1AG
Detector ID: ALP4 1

Batch ID: 6143227



Acquisition Start: 20-JUN-2006 21:55:26.84
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:03.00

Energy Coefficients:
Offset: 2.89454E+03
Slope: 7.47977E+00
Quadrature: -9.32582E-05

SAMPLE IDENTIITY: H5KRC1AG

TITLE : U BRC

DETECTOR : ALP4 1
CONFIGURATION NAME : $DISK1:[ALP4.SAMPLE]H5KRC1AG_200662155.CNF;1

ACQUIRE DATE of BACKGROUND: 02-JUN-2006 07:27:01

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 20-JUN-2006 21:55:26 CALIB DATE : 01-JUN-2006 23:53:05

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:03

OFFSET : 2894.54 keV CONSTANT FWHM : 7.33333 Channels
SLOPE : 7.47977 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : -.932582E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H5KRC1AG

Detector: ALP4 1
Report Date: 21-Jun-06 01:15 AM
Acquire Date: 20-JUN-2006 21:55:26.84
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	662	6	0	3.303	5335.2	111.3	318	333	0.00	0.00	P
U-234	2	3	0	0.007	4789.6	111.5	245	260	0.00	0.00	
U-235	1	2	0	0.003	4412.8	111.6	194	209	0.00	0.00	
U-238	0	4	0	-0.004	4213.0	111.7	167	182	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H5KRC1AG
Detector: ALP4 1
Report Date: 21-Jun-06 01:15 AM
Acquire Date: 20-JUN-2006 21:55:26.84

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0	+	201	0	+	251	0		301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0	+	202	0	+	252	0		302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0	+	203	1	+	253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	1	+	204	0	+	254	0		304	0		354	0		404	1		454	0		504
0		5	0		55	0		105	0		155	0	+	205	1	+	255	0		305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	0		306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	1		157	0	+	207	0	+	257	0		307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0	+	208	0	+	258	0		308	0		358	0		408	1		458	0		508
0		9	0		59	0		109	0		159	0	+	209	0	+	259	0		309	0		359	0		409	2		459	0		509
0		10	0		60	0		110	2		160	0		210	0	+	260	0		310	0		360	0		410	2		460	0		510
0		11	0		61	0		111	0		161	0		211	0		261	0		311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0		212	1		262	1		312	0		362	0		412	4		462	0		512
0		13	0		63	0		113	0		163	0		213	0		263	0		313	0		363	0		413	2		463			
0		14	0		64	0		114	0		164	0		214	1		264	4		314	0		364	0		414	1		464			
0		15	0		65	0		115	0		165	0		215	0		265	0		315	1		365	0		415	0		465			
0		16	0		66	0		116	0		166	0		216	0		266	0		316	0		366	0		416	0		466			
0		17	0		67	0		117	0	+	167	0		217	0		267	1		317	0		367	0		417	0		467			
0		18	0		68	0		118	0	+	168	0		218	0		268	5	+	318	0		368	0		418	0		468			
0		19	0		69	0		119	0	+	169	1		219	0		269	16	+	319	0		369	0		419	0		469			
0		20	0		70	0		120	0	+	170	0		220	0		270	23	+	320	0		370	0		420	0		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	24	+	321	0		371	0		421	0		471			
0		22	0		72	0		122	0	+	172	0		222	0		272	22	+	322	0		372	0		422	0		472			
0		23	0		73	0		123	0	+	173	0		223	0		273	20	+	323	0		373	0		423	0		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	37	+	324	1		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	45	+	325	0		375	1		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	0		276	55	+	326	0		376	1		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	1		277	91	+	327	2		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	154	+	328	2		378	1		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	124	+	329	0		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	32	+	330	2		380	2		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	3	+	331	3		381	1		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	0	+	332	0		382	1		432	0		482			
0		33	0		83	0		133	0		183	0		233	0		283	0		333	0		383	0		433	0		483			
0		34	0		84	0		134	0		184	0		234	0		284	2		334	0		384	1		434	0		484			
0		35	0		85	0		135	0		185	0		235	2		285	0		335	0		385	0		435	0		485			
0		36	0		86	0		136	0		186	0		236	0		286	0		336	0		386	0		436	0		486			
0		37	0		87	0		137	0		187	0		237	0		287	0		337	0		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	0		288	0		338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	0		289	1		339	0		389	0		439	0		489			
0		40	0		90	0		140	0		190	0		240	0		290	1		340	0		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	0		291	2		341	0		391	0		441	0		491			
0		42	0		92	0		142	0		192	0		242	0		292	2		342	0		392	0		442	0		492			
0		43	0		93	0		143	0		193	0		243	0		293	2		343	0		393	0		443	0		493			
0		44	0		94	0		144	0	+	194	0		244	0		294	2		344	0		394	0		444	0		494			
0		45	0		95	0		145	0	+	195	0	+	245	0		295	0		345	0		395	0		445	0		495			
0		46	0		96	0		146	0	+	196	0	+	246	0		296	0		346	0		396	0		446	0		496			
0		47	0		97	0		147	0	+	197	0	+	247	0		297	0		347	0		397	0		447	0		497			
0		48	0		98	0		148	0	+	198	0	+	248	0		298	1		348	0		398	0		448	0		498			
0		49	0		99	0		149	0	+	199	0	+	249	0		299	0		349	0		399	0		449	0		499			
0		50	0		100	0		150	0	+	200	0	+	250	0		300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 21-JUN-2006 01:15:47

Configuration	: $DISK1:[ALP4.SAMPLE]H5KRC1AG_200662155.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: U BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:55:26
Sample ID	: H5KRC1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP4	Detector geometry	:
Elapsed live time	: 0 03:20:03.00	Elapsed real time	: 0 03:20:03.00 0.0%
Start energy	: 2916.98	End energy	: 6699.73
Sensitivity	: 4.00	Sum Sensitivity	: 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5335.17	662	0	29.92	327.64	318	15	5.52E-02	3.9	

VMS Nuclide Identification Report V3.0 Generated 21-JUN-2006 01:15:48

Configuration	: $DISK1:[ALP4.SAMPLE]H5KRC1AG_200662155.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:55:26
Sample ID	: H5KRC1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP4	Detector geometry	:
Elapsed live time	: 0 03:20:03.00	Elapsed real time	: 0 03:20:03.00 0.0%
Energy tolerance	: 40.00	Half life ratio	: 1.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Spline	Efficiencies at	: Peak Energy
Abundance limit	: 60.00		

Summary of Nuclide Activity

Total number of lines in spectrum	1	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	1	100.00%

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			
Grand Total Activity :			0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP4.SAMPLE]H5KRC1AG_200662155.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5335.16	318	333	662	651	0.43		

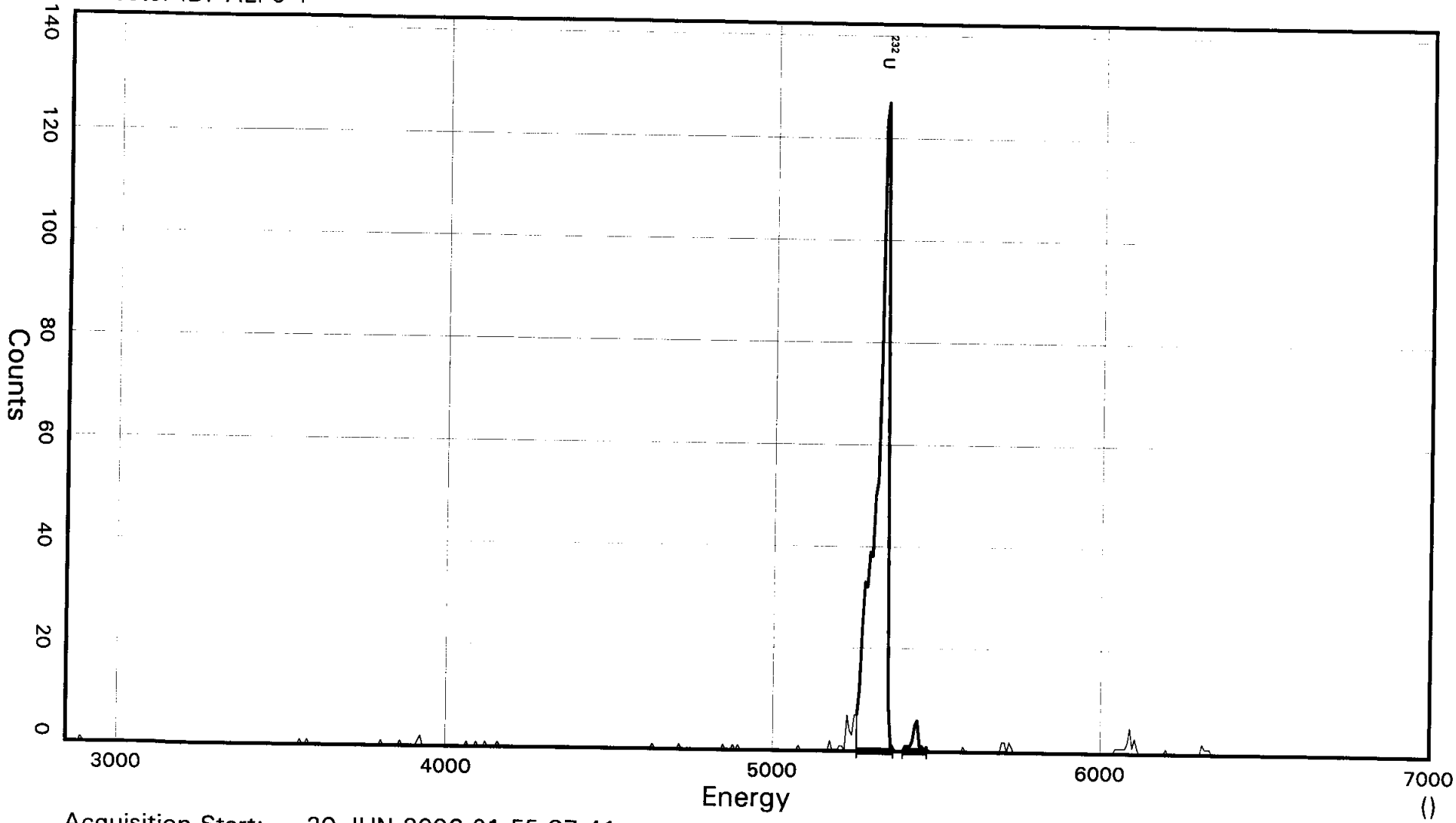
End of Report

STL Richland WA.

U BRC

Sample ID: H5KRF1AG
Detector ID: ALP5 1

Batch ID: 6143227



Acquisition Start: 20-JUN-2006 21:55:37.41
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:03.00

Energy Coefficients:
Offset: 2.82331E+03
Slope: 7.48523E+00
Quadrature: -1.38615E-04

SAMPLE IDENTIITY: H5KRF1AG

TITLE : U BRC

DETECTOR : ALP5 1
CONFIGURATION NAME : $DISK1:[ALP5.SAMPLE]H5KRF1AG_200662155.CNF;1

ACQUIRE DATE of BACKGROUND: 02-JUN-2006 07:27:06

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 20-JUN-2006 21:55:37 CALIB DATE : 01-JUN-2006 23:52:54

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:03

OFFSET : 2823.31 keV CONSTANT FWHM : 7.16667 Channels
SLOPE : 7.48523 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : -.138615E-03 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H5KRF1AG

Detector: ALP5 1
Report Date: 21-Jun-06 01:15 AM
Acquire Date: 20-JUN-2006 21:55:37.41
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	698	4	0	3.485	5330.6	110.9	327	342	0.00	0.00	P
U-234	1	9	0	-0.004	4785.0	111.2	253	268	0.00	0.00	
U-235	0	1	0	-0.001	4408.2	104.0	203	217	0.00	0.00	
U-238	1	4	0	0.001	4208.4	111.5	176	191	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H5KRF1AG
Detector: ALP5 1
Report Date: 21-Jun-06 01:15 AM
Acquire Date: 20-JUN-2006 21:55:37.41

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	1		101	0		151	0		201	0		251	0		301	5		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0		202	0		252	0		302	6		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0	+	203	0	+	253	1		303	1		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	1	+	254	0		304	1		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0	+	255	0		305	0		355	0		405	1		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	0		306	1		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0	+	207	0	+	257	0		307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0	+	208	0	+	258	0		308	0		358	0		408	0		458	0		508
1		9	0		59	0		109	0		159	0	+	209	0	+	259	0		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	0	+	210	0	+	260	0		310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	0		161	0	+	211	0	+	261	0		311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0	+	212	0	+	262	0		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0	+	213	0	+	263	0		313	0		363	0		413	0		463			
0		14	0		64	0		114	0		164	0	+	214	0	+	264	0		314	0		364	0		414	0		464			
0		15	0		65	0		115	0		165	0	+	215	0	+	265	0		315	0		365	0		415	0		465			
0		16	0		66	0		116	1		166	0	+	216	0	+	266	2		316	0		366	0		416	0		466			
0		17	0		67	0		117	0		167	0	+	217	0	+	267	0		317	0		367	0		417	0		467			
0		18	0		68	0		118	0		168	0		218	0	+	268	0		318	0		368	0		418	0		468			
0		19	0		69	0		119	0		169	0		219	0		269	0		319	0		369	0		419	0		469			
0		20	0		70	0		120	1		170	0		220	0		270	1		320	0		370	0		420	2		470			
0		21	0		71	0		121	0		171	0		221	0		271	1		321	1		371	0		421	1		471			
0		22	0		72	0		122	0		172	0		222	1		272	0		322	0		372	0		422	1		472			
0		23	0		73	0		123	0		173	0		223	0		273	7		323	0		373	0		423	1		473			
0		24	0		74	0		124	1		174	0		224	0		274	4		324	0		374	0		424	0		474			
0		25	0		75	0		125	0		175	0		225	0		275	3		325	0		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	1		276	7		326	0		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	7	+	327	0		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	1		278	12	+	328	0		378	0		428	0		478			
0		29	0		79	0		129	1	+	179	0		229	0		279	24	+	329	0		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	33	+	330	0		380	0		430	0		480			
0		31	0		81	1		131	0	+	181	0		231	0		281	32	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	39	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	38	+	333	0		383	0		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	50	+	334	0		384	1		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	53	+	335	0		385	1		435	0		485			
0		36	0		86	0		136	0	+	186	0		236	0		286	78	+	336	0		386	1		436	0		486			
0		37	0		87	0		137	0	+	187	0		237	0		287	123	+	337	2		387	1		437	0		487			
0		38	0		88	0		138	0	+	188	0		238	0		288	127	+	338	2		388	1		438	0		488			
0		39	0		89	1		139	0	+	189	0		239	0		289	65	+	339	0		389	2		439	0		489			
0		40	0		90	0		140	0	+	190	0		240	0		290	9	+	340	2		390	5		440	0		490			
0		41	0		91	0		141	0	+	191	0		241	0		291	1	+	341	1		391	1		441	0		491			
0		42	0		92	0		142	0		192	0		242	0		292	1		342	0		392	3		442	0		492			
0		43	0		93	0		143	0		193	1		243	0		293	0		343	0		393	1		443	0		493			
0		44	0		94	0		144	0		194	0		244	0		294	0		344	0		394	0		444	0		494			
0		45	0		95	0		145	0		195	0		245	0		295	0		345	0		395	0		445	0		495			
0		46	0		96	1		146	0		196	0		246	0		296	0		346	0		396	0		446	0		496			
0		47	0		97	2		147	0		197	0		247	0		297	1		347	0		397	0		447	0		497			
0		48	1		98	0		148	0		198	0		248	0		298	1		348	0		398	0		448	0		498			
0		49	0		99	0		149	0		199	0		249	0		299	1		349	0		399	0		449	0		499			
0		50	0		100	0		150	0		200	0		250	0		300	2		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 21-JUN-2006 01:15:54

Configuration	: $DISK1:[ALP5.SAMPLE]H5KRF1AG_200662155.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: U BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:55:37
Sample ID	: H5KRF1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP5	Detector geometry	:
Elapsed live time	: 0 03:20:03.00	Elapsed real time	: 0 03:20:03.00 0.0%
Start energy	: 2845.76	End energy	: 6619.41
Sensitivity	: 4.00	Sum Sensitivity	: 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5330.61	698	0	37.43	337.07	327	15	5.82E-02	3.8	
2	0	5437.24	18	0	29.94	351.50	346	10	1.50E-03	23.6	

VMS Nuclide Identification Report V3.0 Generated 21-JUN-2006 01:15:57

Configuration	: $DISK1:[ALP5.SAMPLE]H5KRF1AG_200662155.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:55:37
Sample ID	: H5KRF1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP5	Detector geometry	:
Elapsed live time	: 0 03:20:03.00	Elapsed real time	: 0 03:20:03.00 0.0%
Energy tolerance	: 40.00	Half life ratio	: 1.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Spline	Efficiencies at	: Peak Energy
Abundance limit	: 60.00		

Summary of Nuclide Activity

Total number of lines in spectrum	2	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	1	50.00%

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			
Grand Total Activity :			0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP5.SAMPLE]H5KRF1AG_200662155.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5330.61	327	342	698	692	0.23		
5437.24	346	356	18	19	-0.24		

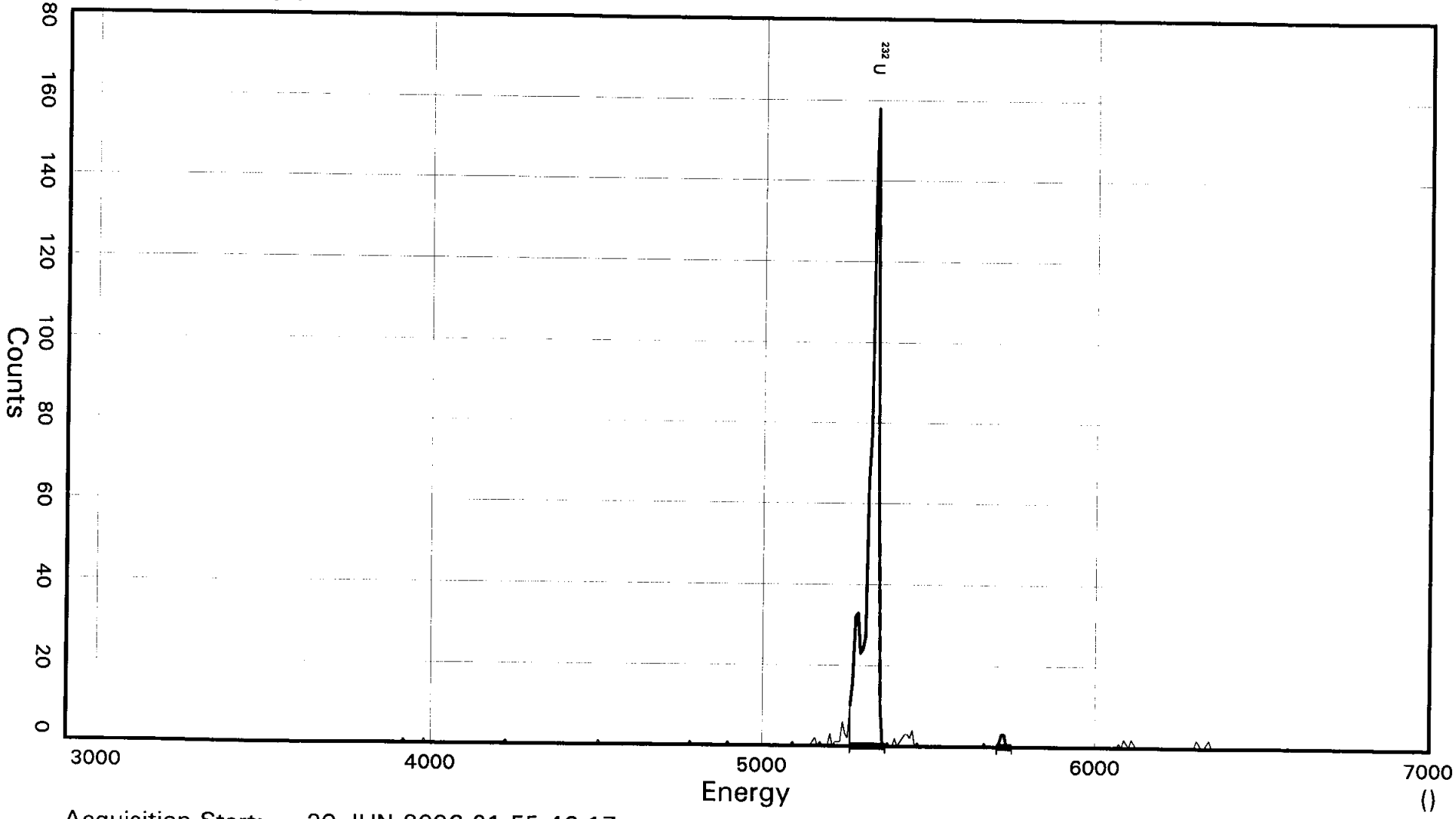
End of Report

STL Richland WA.

U BRC

Sample ID: H5KRG1AG
Detector ID: ALP6 1

Batch ID: 6143227



Acquisition Start: 20-JUN-2006 21:55:46.17
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:05.00

Energy Coefficients:
Offset: 2.88682E+03
Slope: 7.41670E+00
Quadrature: 9.64089E-05

SAMPLE IDENTITY: H5KRG1AG

TITLE : U BRC

DETECTOR : ALP6 1
CONFIGURATION NAME : $DISK1:[ALP6.SAMPLE]H5KRG1AG_200662155.CNF;1

ACQUIRE DATE of BACKGROUND: 03-JUN-2006 09:55:25

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 20-JUN-2006 21:55:46 CALIB DATE : 01-JUN-2006 23:53:37

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:05

OFFSET : 2886.82 keV CONSTANT FWHM : 7.00000 Channels
SLOPE : 7.41670 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : 9.640890E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H5KRG1AG

Detector: ALP6 1
Report Date: 21-Jun-06 01:16 AM
Acquire Date: 20-JUN-2006 21:55:46.17
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	685	4	0	3.420	5333.0	104.7	319	333	0.00	0.00	P
U-234	1	0	0	0.005	4787.5	104.5	246	260	0.00	0.00	
U-235	0	2	0	-0.002	4410.7	111.8	195	210	0.00	0.00	
U-238	1	1	0	0.004	4210.9	104.3	169	183	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H5KRG1AG
Detector: ALP6 1
Report Date: 21 Jun-06 01:16 AM
Acquire Date: 20-JUN-2006 21:55:46.17

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0	+	201	0	+	251	0		301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0	+	202	0	+	252	0		302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0	+	203	0	+	253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	0	+	254	1		304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	1	+	255	2		305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	0		306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0	+	207	0	+	257	1		307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0	+	208	0	+	258	0		308	0		358	0		408	2		458	0		508
0		9	0		59	0		109	0		159	0	+	209	0	+	259	0		309	0		359	0		409	1		459	0		509
0		10	0		60	0		110	0		160	0	+	210	0	+	260	0		310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	0		161	0		211	0		261	3		311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0		212	0		262	0		312	0		362	0		412	1		462	0		512
0		13	0		63	0		113	0		163	0		213	0		263	1		313	0		363	0		413	2		463			
0		14	0		64	0		114	0		164	0		214	0		264	1		314	0		364	0		414	0		464			
0		15	0		65	0		115	0		165	0		215	0		265	1		315	0		365	0		415	0		465			
0		16	0		66	0		116	0		166	0		216	0		266	6		316	0		366	0		416	0		466			
0		17	0		67	0		117	0		167	0		217	0		267	3		317	0		367	0		417	0		467			
0		18	0		68	0		118	0		168	1		218	0		268	2		318	0		368	0		418	0		468			
0		19	0		69	0		119	0	+	169	0		219	0		269	10	+	319	0		369	0		419	0		469			
0		20	0		70	0		120	0	+	170	0		220	1		270	16	+	320	0		370	0		420	0		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	32	+	321	0		371	0		421	0		471			
0		22	0		72	0		122	0	+	172	0		222	0		272	33	+	322	0		372	0		422	0		472			
0		23	0		73	0		123	0	+	173	0		223	0		273	23	+	323	1		373	0		423	0		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	24	+	324	0		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	27	+	325	0		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	0		276	65	+	326	0		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	77	+	327	0		377	1		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	134	+	328	0		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	158	+	329	1		379	2		429	0		479			
0		30	0		80	0		130	1	+	180	0		230	0		280	68	+	330	3		380	1		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	10	+	331	3		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	0	+	332	0		382	2		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	0		333	0		383	1		433	0		483			
0		34	0		84	0		134	0		184	0		234	0		284	1		334	0		384	0		434	0		484			
0		35	0		85	0		135	0		185	0		235	0		285	0		335	0		385	0		435	0		485			
0		36	0		86	0		136	0		186	0		236	0		286	0		336	0		386	0		436	0		486			
0		37	0		87	0		137	0		187	0		237	0		287	2		337	0		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	0		288	0		338	0		388	0		438	0		488			
0		39	0		89	1		139	0		189	0		239	0		289	1		339	0		389	0		439	0		489			
0		40	0		90	0		140	0		190	0		240	0		290	2		340	0		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	0		291	3		341	0		391	0		441	0		491			
0		42	0		92	0		142	0		192	0		242	0		292	3		342	0		392	0		442	0		492			
0		43	0		93	0		143	0		193	0		243	0		293	2		343	0		393	0		443	0		493			
0		44	0		94	0		144	0		194	0		244	0		294	4		344	0		394	0		444	0		494			
0		45	0		95	0		145	0	+	195	0		245	0		295	0		345	0		395	0		445	0		495			
0		46	0		96	0		146	0	+	196	0	+	246	1		296	1		346	0		396	0		446	0		496			
0		47	0		97	1		147	0	+	197	0	+	247	0		297	0		347	0		397	0		447	0		497			
0		48	0		98	0		148	0	+	198	0	+	248	0		298	0		348	0		398	0		448	0		498			
0		49	0		99	0		149	0	+	199	0	+	249	0		299	0		349	0		399	0		449	0		499			
0		50	0		100	0		150	0	+	200	0	+	250	0		300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 21-JUN-2006 01:16:05

Configuration : $DISK1:[ALP6.SAMPLE]H5KRG1AG_200662155.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 4-MAY-2006 12:00:00 Acquisition date : 20-JUN-2006 21:55:46
Sample ID : H5KRG1AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP6 Detector geometry:
Elapsed live time: 0 03:20:05.00 Elapsed real time: 0 03:20:05.00 0.0%
Start energy : 2909.07 End energy : 6709.44
Sensitivity : 4.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5333.05	685	0	29.67	328.42	319	14	5.71E-02	3.8	
2	0	5719.09	7	0	22.25	380.00	378	6	5.83E-04	37.8	

VMS Nuclide Identification Report V3.0 Generated 21-JUN-2006 01:16:06

Configuration	: $DISK1:[ALP6.SAMPLE]H5KRG1AG_200662155.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:55:46
Sample ID	: H5KRG1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP6	Detector geometry	:
Elapsed live time	: 0 03:20:05.00	Elapsed real time	: 0 03:20:05.00 0.0%
Energy tolerance	: 40.00	Half life ratio	: 1.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Spline	Efficiencies at	: Peak Energy
Abundance limit	: 60.00		

Summary of Nuclide Activity

Total number of lines in spectrum	2	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	1	50.00%

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			
Grand Total Activity :			0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP6.SAMPLE]H5KRG1AG_200662155.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5333.04	319	333	685	677	0.31		
5719.08	378	384	7	7	0.00		

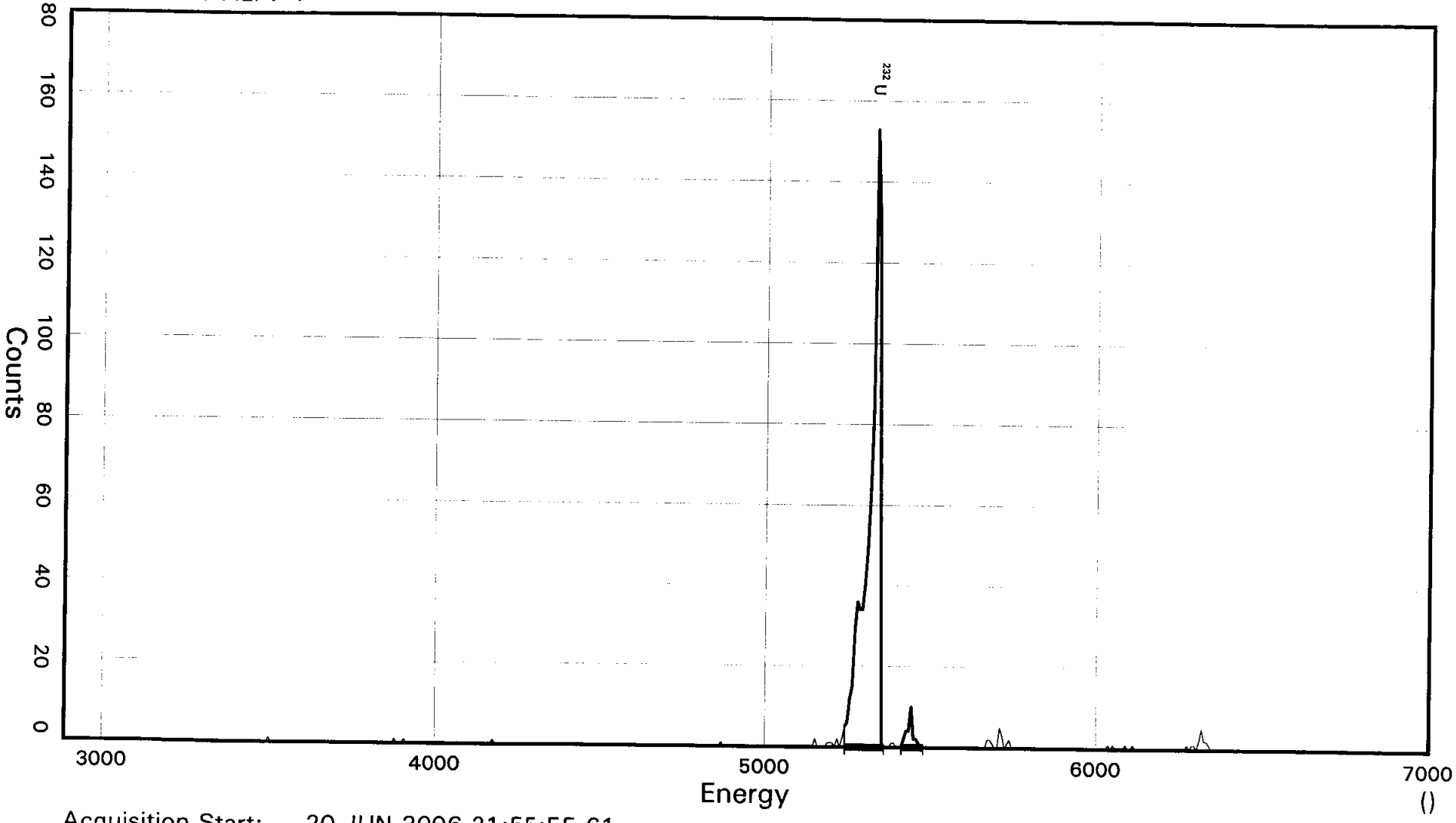
End of Report

STL Richland WA.

U BRC

Sample ID: H5KRJ1AG
Detector ID: ALP7 1

Batch ID: 6143227



Acquisition Start: 20-JUN-2006 21:55:55.61
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:05.00

Energy Coefficients:
Offset: 2.86460E+03
Slope: 7.45676E+00
Quadrature: -2.58880E-05

SAMPLE IDENTIITY: H5KRJ1AG

TITLE : U BRC

DETECTOR : ALP7 1
CONFIGURATION NAME : $DISK1:[ALP7.SAMPLE]H5KRJ1AG_200662155.CNF;1

ACQUIRE DATE of BACKGROUND: 02-JUN-2006 07:27:16

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 20-JUN-2006 21:55:55 CALIB DATE : 01-JUN-2006 23:54:09

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:05

OFFSET : 2864.60 keV CONSTANT FWHM : 6.16667 Channels
SLOPE : 7.45676 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : -.258880E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H5KRJ1AG

Detector: ALP7 1
Report Date: 21-Jun-06 01:16 AM
Acquire Date: 20-JUN-2006 21:55:55.61
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	762	2	0	3.806	5330.6	119.0	319	335	0.00	0.00	P
U-234	0	0	0	0.000	4785.0	119.1	246	262	0.00	0.00	
U-235	0	0	0	0.000	4408.2	119.1	195	211	0.00	0.00	
U-238	1	0	0	0.005	4208.4	119.2	168	184	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H5KRJ1AG
Detector: ALP7 1
Report Date: 21-Jun-06 01:16 AM
Acquire Date: 20-JUN-2006 21:55:55.61

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0	+	201	0	+	251	0		301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0	+	202	0	+	252	0		302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0	+	203	0	+	253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	0	+	254	0		304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0	+	255	0		305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	0		306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0	+	207	0	+	257	2		307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0	+	208	0	+	258	0		308	0		358	0		408	1		458	0		508
0		9	0		59	0		109	0		159	0	+	209	0	+	259	0		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	0	+	210	0	+	260	0		310	0		360	0		410	1		460	0		510
0		11	0		61	0		111	0		161	0	+	211	0	+	261	0		311	0		361	0		411	1		461	0		511
0		12	0		62	0		112	0		162	0		212	0	+	262	1		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0		213	0		263	1		313	0		363	0		413	2		463			
0		14	0		64	0		114	0		164	0		214	0		264	1		314	0		364	0		414	5		464			
0		15	0		65	0		115	0		165	0		215	0		265	0		315	0		365	0		415	2		465			
0		16	0		66	0		116	0		166	0		216	0		266	2		316	0		366	0		416	2		466			
0		17	0		67	0		117	0		167	0		217	0		267	0		317	0		367	0		417	1		467			
0		18	0		68	0		118	0	+	168	0		218	0		268	2		318	0		368	0		418	0		468			
0		19	0		69	0		119	0	+	169	0		219	1		269	5	+	319	0		369	0		419	0		469			
0		20	0		70	0		120	0	+	170	0		220	0		270	6	+	320	0		370	0		420	0		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	12	+	321	0		371	0		421	0		471			
0		22	0		72	0		122	0	+	172	0		222	0		272	15	+	322	0		372	0		422	0		472			
0		23	0		73	0		123	0	+	173	0		223	0		273	29	+	323	0		373	0		423	0		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	36	+	324	0		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	34	+	325	0		375	0		425	0		475			
0		26	0		76	0		126	1	+	176	0		226	0		276	34	+	326	0		376	1		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	40	+	327	2		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	49	+	328	2		378	1		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	63	+	329	1		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	84	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	153	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	131	+	332	5		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	64	+	333	3		383	1		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	1	+	334	0		384	0		434	0		484			
0		35	1		85	0		135	0		185	0		235	0		285	0		335	1		385	0		435	0		485			
0		36	0		86	1		136	0		186	0		236	0		286	0		336	2		386	1		436	0		486			
0		37	0		87	0		137	0		187	0		237	0		287	0		337	0		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	0		288	1		338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	0		289	1		339	0		389	0		439	0		489			
0		40	0		90	1		140	0		190	0		240	0		290	0		340	0		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	0		291	0		341	0		391	0		441	0		491			
0		42	0		92	0		142	0		192	0		242	0		292	0		342	0		392	0		442	0		492			
0		43	0		93	0		143	0		193	0		243	0		293	2		343	0		393	0		443	0		493			
0		44	0		94	0		144	0		194	0		244	0		294	4		344	0		394	0		444	0		494			
0		45	0		95	0		145	0	+	195	0		245	0		295	4		345	0		395	0		445	0		495			
0		46	0		96	0		146	0	+	196	0	+	246	0		296	10		346	0		396	0		446	0		496			
0		47	0		97	0		147	0	+	197	0	+	247	0		297	2		347	0		397	0		447	0		497			
0		48	0		98	0		148	0	+	198	0	+	248	0		298	2		348	0		398	0		448	0		498			
0		49	0		99	0		149	0	+	199	0	+	249	0		299	1		349	0		399	0		449	0		499			
0		50	0		100	0		150	0	+	200	0	+	250	0		300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 21-JUN-2006 01:16:16

Configuration	: $DISK1:[ALP7.SAMPLE]H5KRJ1AG_200662155.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: U BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:55:55
Sample ID	: H5KRJ1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP7	Detector geometry	:
Elapsed live time	: 0 03:20:05.00	Elapsed real time	: 0 03:20:05.00 0.0%
Start energy	: 2886.97	End energy	: 6675.68
Sensitivity	: 4.00	Sum Sensitivity	: 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5330.60	762	0	22.37	331.09	319	16	6.35E-02	3.6	
2	0	5438.94	24	0	29.83	345.65	342	9	2.00E-03	20.4	

VMS Nuclide Identification Report V3.0 Generated 21-JUN-2006 01:16:18

Configuration	: $DISK1:[ALP7.SAMPLE]H5KRJ1AG_200662155.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:55:55
Sample ID	: H5KRJ1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP7	Detector geometry	:
Elapsed live time	: 0 03:20:05.00	Elapsed real time	: 0 03:20:05.00 0.0%
Energy tolerance	: 40.00	Half life ratio	: 1.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Spline	Efficiencies at	: Peak Energy
Abundance limit	: 60.00		

Summary of Nuclide Activity

Total number of lines in spectrum	2	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	1	50.00%

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			
Grand Total Activity :			0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP7.SAMPLE]H5KRJ1AG_200662155.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5330.60	319	335	762	756	0.22		
5438.93	342	351	24	25	-0.20		

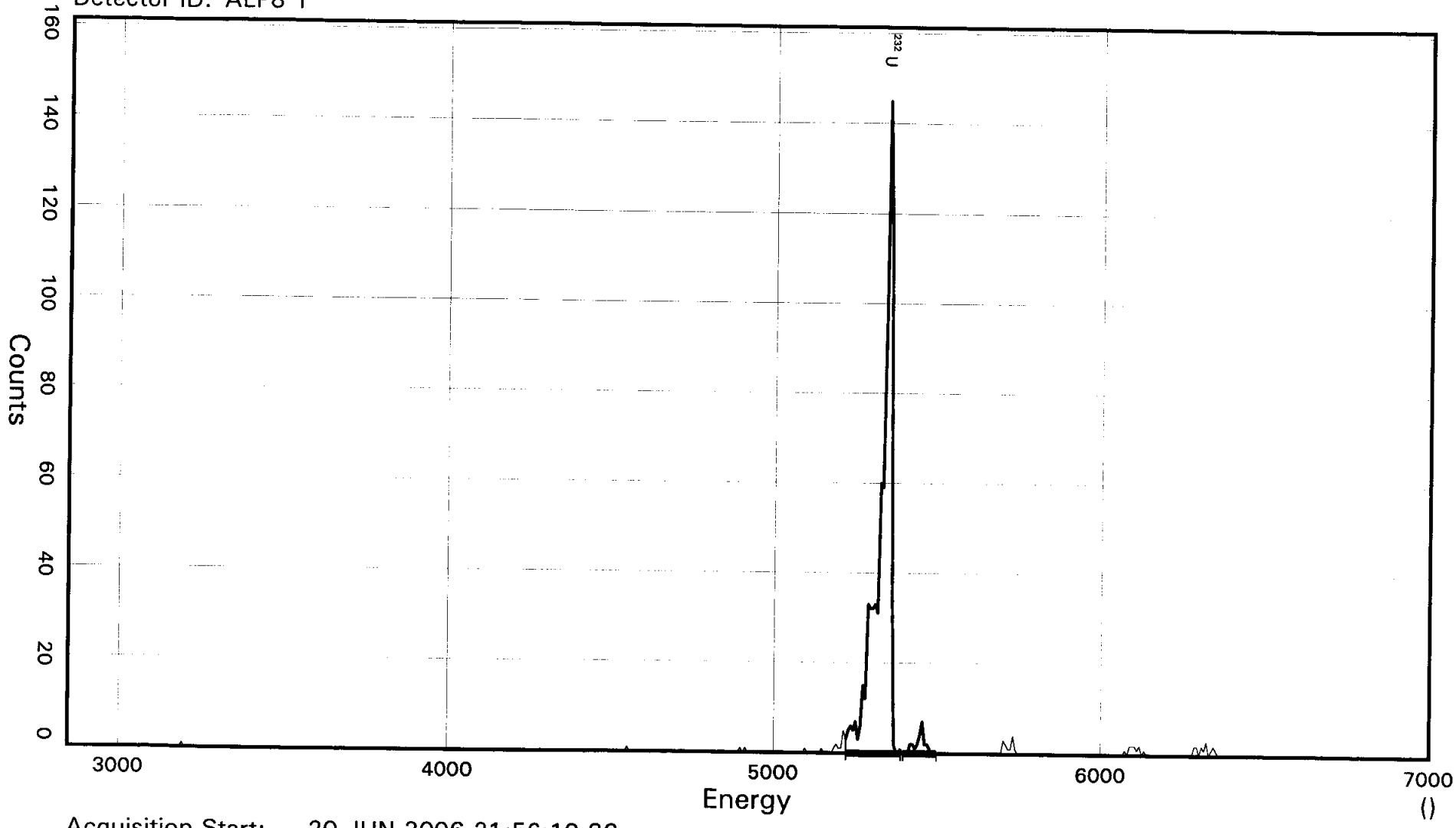
End of Report

STL Richland WA.

U BRC

Sample ID: H5KRL1AG
Detector ID: ALP8 1

Batch ID: 6143227



Acquisition Start: 20-JUN-2006 21:56:10.86
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:10.00

Energy Coefficients:
Offset: 2.82327E+03
Slope: 7.35189E+00
Quadrature: -6.84520E-05

SAMPLE IDENTIITY: H5KRL1AG

TITLE : U BRC

DETECTOR : ALP8 1
CONFIGURATION NAME : $DISK1:[ALP8.SAMPLE]H5KRL1AG_200662156.CNF;1

ACQUIRE DATE of BACKGROUND: 02-JUN-2006 07:27:19

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 20-JUN-2006 21:56:10 CALIB DATE : 01-JUN-2006 23:53:23

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:10

OFFSET : 2823.27 keV CONSTANT FWHM : 8.66667 Channels
SLOPE : 7.35189 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : -.684520E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H5KRL1AG

Detector: ALP8 1
Report Date: 21-Jun-06 01:16 AM
Acquire Date: 20-JUN-2006 21:56:10.86
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	746	11	0	3.716	5340.8	168.0	327	350	0.00	0.00	P
U-234	0	3	0	-0.003	4795.3	168.3	252	275	0.00	0.00	
U-235	0	1	0	-0.001	4418.5	168.4	201	224	0.00	0.00	
U-238	0	0	0	0.000	4218.7	168.5	174	197	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H5KRL1AG
Detector: ALP8 1
Report Date: 21-Jun-06 01:16 AM
Acquire Date: 20-JUN-2006 21:56:10.86

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0	+	201	0		251	0		301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0	+	202	0	+	252	0		302	0		352	0		402	1		452	0		502
0		3	0		53	0		103	0		153	0	+	203	0	+	253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	0	+	254	0		304	2		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0	+	255	0		305	2		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	0		306	1		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0	+	207	0	+	257	0		307	2		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0	+	208	0	+	258	0		308	4		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	0	+	209	0	+	259	0		309	7		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	0	+	210	0	+	260	1		310	2		360	0		410	0		460	0		510
0		11	0		61	0		111	0		161	0	+	211	0	+	261	0		311	2		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0	+	212	0	+	262	0		312	1		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0	+	213	0	+	263	0		313	0		363	0		413	0		463			
0		14	0		64	0		114	0		164	0	+	214	0	+	264	0		314	0		364	0		414	0		464			
0		15	0		65	0		115	0		165	0	+	215	0	+	265	0		315	0		365	0		415	0		465			
0		16	0		66	0		116	0		166	0	+	216	0	+	266	0		316	0		366	0		416	0		466			
0		17	0		67	0		117	0		167	0	+	217	0	+	267	1		317	0		367	0		417	0		467			
0		18	0		68	0		118	0		168	0	+	218	0	+	268	0		318	0		368	0		418	0		468			
0		19	0		69	0		119	0		169	0	+	219	0	+	269	0		319	0		369	0		419	0		469			
0		20	0		70	0		120	0		170	0	+	220	0	+	270	0		320	0		370	0		420	0		470			
0		21	0		71	0		121	0		171	0	+	221	0	+	271	0		321	0		371	0		421	0		471			
0		22	0		72	0		122	0		172	0	+	222	0	+	272	1		322	0		372	0		422	0		472			
0		23	0		73	0		123	0		173	0	+	223	0	+	273	2		323	0		373	0		423	2		473			
0		24	0		74	0		124	0	+	174	0	+	224	0	+	274	1		324	0		374	0		424	2		474			
0		25	0		75	0		125	0	+	175	0		225	0	+	275	1		325	0		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	0		276	5		326	0		376	0		426	2		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	3	+	327	0		377	0		427	1		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	5	+	328	0		378	0		428	3		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	6	+	329	0		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	5	+	330	0		380	0		430	1		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	7	+	331	0		381	0		431	2		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	3	+	332	0		382	0		432	1		482			
0		33	0		83	0		133	0	+	183	0		233	1		283	6	+	333	0		383	0		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	15	+	334	0		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	1		285	12	+	335	0		385	0		435	0		485			
0		36	0		86	0		136	0	+	186	1		236	0		286	33	+	336	0		386	0		436	0		486			
0		37	0		87	0		137	0	+	187	0		237	0		287	32	+	337	0		387	0		437	0		487			
0		38	0		88	0		138	0	+	188	0		238	0		288	32	+	338	0		388	0		438	0		488			
0		39	0		89	0		139	0	+	189	0		239	0		289	33	+	339	0		389	0		439	0		489			
0		40	0		90	0		140	0	+	190	0		240	0		290	31	+	340	0		390	0		440	0		490			
0		41	0		91	0		141	0	+	191	0		241	0		291	60	+	341	0		391	0		441	0		491			
0		42	0		92	0		142	0	+	192	0		242	0		292	59	+	342	0		392	0		442	0		492			
0		43	0		93	0		143	0	+	193	0		243	0		293	96	+	343	3		393	0		443	0		493			
0		44	0		94	0		144	0	+	194	0		244	0		294	145	+	344	2		394	1		444	0		494			
0		45	0		95	0		145	0	+	195	0		245	0		295	117	+	345	1		395	0		445	0		495			
0		46	0		96	0		146	0	+	196	0		246	0		296	34	+	346	1		396	2		446	0		496			
0		47	0		97	0		147	0	+	197	0		247	0		297	2	+	347	4		397	2		447	0		497			
0		48	0		98	0		148	0		198	0		248	0		298	0	+	348	1		398	2		448	0		498			
0		49	0		99	0		149	0		199	0		249	0		299	0	+	349	0		399	1		449	0		499			
1		50	0		100	0		150	0		200	0		250	0		300	1		350	0		400	2		450	0		500			

VMS Peak Search Report V1.9 Generated 21-JUN-2006 01:16:36

Configuration	: $DISK1:[ALP8.SAMPLE]H5KRL1AG_200662156.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: U BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:56:10
Sample ID	: H5KRL1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP8	Detector geometry	:
Elapsed live time	: 0 03:20:10.00	Elapsed real time	: 0 03:20:10.00 0.0%
Start energy	: 2845.33	End energy	: 6569.50
Sensitivity	: 4.00	Sum Sensitivity	: 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5340.84	746	0	44.11	343.54	327	23	6.21E-02	3.7	
2	0	5447.85	23	0	36.76	358.19	351	14	1.92E-03	20.9	

VMS Nuclide Identification Report V3.0 Generated 21-JUN-2006 01:16:38

Configuration	: $DISK1:[ALP8.SAMPLE]H5KRL1AG_200662156.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:56:10
Sample ID	: H5KRL1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP8	Detector geometry	:
Elapsed live time	: 0 03:20:10.00	Elapsed real time	: 0 03:20:10.00 0.0%
Energy tolerance	: 40.00	Half life ratio	: 1.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Spline	Efficiencies at	: Peak Energy
Abundance limit	: 60.00		

Summary of Nuclide Activity

Total number of lines in spectrum	2	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	1	50.00%

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			
Grand Total Activity :			0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP8.SAMPLE]H5KRL1AG_200662156.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5340.83	327	350	746	737	0.33		
5447.84	351	365	23	23	0.00		

End of Report

SEVERN TRENT STL

URANIUM ISOTOPIC COUNTING REQUEST

6/21
0118

C.R. Technician: OD

Date Counted: 6/20/06

Counting Time
Sample: 200 Minutes
Background: See Alpha Regions Report
BRC 5/4/06

SOP's
Operating: RICHRD008
Review: RICHRD0016
943227

WorkOrder #	U-232 (5320 KeV) Tracer	TOTAL COUNTS U-238 (4196 KeV)	U-235 (4396 KeV)	U-234 (4776 KeV)	Det #	Comments/Edits
H5KRR1AG	See Counting Room Printout for ROI information				9	
H5KRV1AG	See Counting Room Printout for ROI information				10	
H5KRX1AG	See Counting Room Printout for ROI information				11	
H5KR21AG	See Counting Room Printout for ROI information				12	
H5KR41AG	See Counting Room Printout for ROI information				85	
H5KR61AG	See Counting Room Printout for ROI information				87	
H50N81AA	See Counting Room Printout for ROI information				69	
H50N81AC	See Counting Room Printout for ROI information				71	
	See Counting Room Printout for ROI information					

Comments:

Form No: RC-011, 7/02, Rev 8

Approved by: S

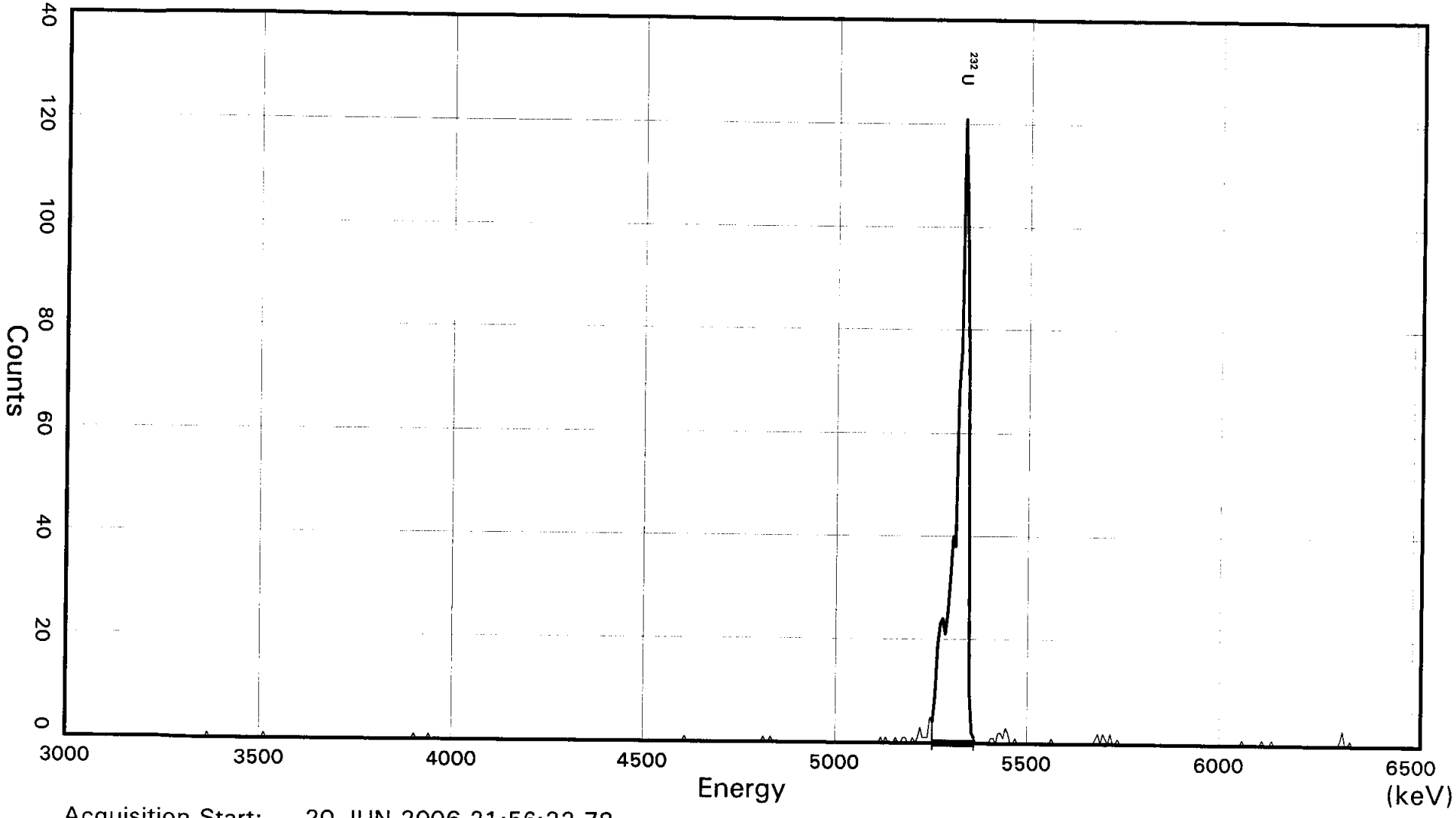
Date: 6/21/06

STL Richland WA.

U BRC

Sample ID: H5KRR1AG
Detector ID: ALP9 1

Batch ID: 6143227



Acquisition Start: 20-JUN-2006 21:56:22.78
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:10.00

Energy Coefficients:
Offset: 3.26308E+03
Slope: 6.39526E+00
Quadrature: -5.61482E-05

SAMPLE IDENTITY: H5KRR1AG

TITLE : U BRC

DETECTOR : ALP9 1
CONFIGURATION NAME : $DISK1:[ALP9.SAMPLE]H5KRR1AG_200662156.CNF;1

ACQUIRE DATE of BACKGROUND: 02-JUN-2006 07:27:21

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 20-JUN-2006 21:56:22 CALIB DATE : 01-JUN-2006 23:54:19

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:10

OFFSET : 3263.08 keV CONSTANT FWHM : 5.83333 Channels
SLOPE : 6.39526 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : -.561482E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H5KRR1AG

Detector: ALP9 1
Report Date: 21-Jun-06 01:16 AM
Acquire Date: 20-JUN-2006 21:56:22.78
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	692	2	0	3.455	5329.7	108.1	312	329	0.00	0.00	P
U-234	1	1	0	0.004	4784.2	108.3	226	243	0.00	0.00	
U-235	0	0	0	0.000	4407.4	108.4	167	184	0.00	0.00	
U-238	0	0	0	0.000	4207.6	108.4	136	153	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H5KRR1AG
Detector: ALP9 1
Report Date: 21 Jun-06 01:16 AM
Acquire Date: 20-JUN-2006 21:56:22.78

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0	+	151	0		201	0		251	1		301	0		351	0		401	1		451	0		501
		2	0		52	0		102	0	+	152	0		202	0		252	0		302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0	+	153	0		203	0		253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0		204	0		254	1		304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0		205	0		255	0		305	0		355	0		405	0		455	0		505
0		6	0		56	1		106	0		156	0		206	0		256	1		306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0		207	0		257	3		307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0		208	0		258	1		308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	0		209	0		259	1		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	0		210	0		260	1		310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	0		161	1		211	0		261	5		311	1		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0		212	0		262	4	+	312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0		213	0		263	9	+	313	0		363	0		413	0		463			
0		14	0		64	0		114	0		164	0		214	0		264	19	+	314	0		364	0		414	0		464			
0		15	0		65	0		115	0		165	0		215	0		265	23	+	315	0		365	0		415	0		465			
1		16	0		66	0		116	0		166	0		216	0		266	24	+	316	0		366	0		416	0		466			
0		17	0		67	0		117	0	+	167	0		217	0		267	21	+	317	0		367	0		417	0		467			
0		18	0		68	0		118	0	+	168	0		218	0		268	25	+	318	0		368	0		418	0		468			
0		19	0		69	0		119	0	+	169	0		219	0		269	32	+	319	0		369	0		419	0		469			
0		20	0		70	0		120	0	+	170	0		220	0		270	40	+	320	0		370	0		420	0		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	38	+	321	0		371	0		421	0		471			
0		22	0		72	0		122	0	+	172	0		222	0		272	68	+	322	0		372	0		422	0		472			
0		23	0		73	0		123	0	+	173	0		223	0		273	76	+	323	0		373	0		423	0		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	121	+	324	0		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	103	+	325	0		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0	+	226	0		276	74	+	326	0		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0	+	227	0		277	10	+	327	0		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0	+	228	0		278	2	+	328	0		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0	+	229	0		279	1		329	1		379	0		429	1		479			
0		30	0		80	0		130	0	+	180	0	+	230	0		280	0		330	2		380	0		430	3		480			
0		31	0		81	0		131	0	+	181	0	+	231	0		281	0		331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0	+	232	0		282	0		332	2		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0	+	233	0		283	0		333	1		383	0		433	1		483			
0		34	0		84	0		134	0	+	184	0	+	234	0		284	0		334	0		384	0		434	0		484			
0		35	0		85	0		135	0		185	0	+	235	0		285	0		335	2		385	0		435	0		485			
0		36	0		86	0	+	136	0		186	0	+	236	0		286	1		336	0		386	0		436	0		486			
0		37	0		87	0	+	137	0		187	0	+	237	0		287	1		337	0		387	0		437	0		487			
0		38	0		88	0	+	138	0		188	0	+	238	0		288	0		338	1		388	0		438	0		488			
1		39	0		89	0	+	139	0		189	0	+	239	0		289	2		339	0		389	1		439	0		489			
0		40	0		90	0	+	140	0		190	0	+	240	0		290	2		340	0		390	0		440	0		490			
0		41	0		91	0	+	141	0		191	0	+	241	1		291	1		341	0		391	0		441	0		491			
0		42	0		92	0	+	142	0		192	0	+	242	0		292	3		342	0		392	0		442	0		492			
0		43	0		93	0	+	143	0		193	1	+	243	1		293	2		343	0		393	0		443	0		493			
0		44	0		94	0	+	144	0		194	0		244	0		294	0		344	0		394	0		444	0		494			
0		45	0		95	0	+	145	0		195	0		245	0		295	0		345	0		395	0		445	0		495			
0		46	0		96	0	+	146	0		196	1		246	0		296	1		346	0		396	0		446	0		496			
0		47	0		97	0	+	147	0		197	0		247	1		297	0		347	0		397	1		447	0		497			
0		48	0		98	0	+	148	0		198	0		248	0		298	0		348	0		398	0		448	0		498			
0		49	0		99	0	+	149	0		199	0		249	0		299	0		349	0		399	0		449	0		499			
0		50	1		100	0	+	150	0		200	0		250	1		300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 21-JUN-2006 01:16:50

Configuration	: $DISK1:[ALP9.SAMPLE]H5KRR1AG_200662156.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: U BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:56:22
Sample ID	: H5KRR1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP9	Detector geometry	:
Elapsed live time	: 0 03:20:10.00	Elapsed real time	: 0 03:20:10.00 0.0%
Start energy	: 3282.26 keV	End energy	: 6522.74 keV
Sensitivity	: 4.00	Sum Sensitivity	: 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5329.72	692	0	31.98	324.07	312	17	5.76E-02	3.8	

VMS Nuclide Identification Report V3.0 Generated 21-JUN-2006 01:16:51

Configuration	: $DISK1:[ALP9.SAMPLE]H5KRR1AG_200662156.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:56:22
Sample ID	: H5KRR1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP9	Detector geometry	:
Elapsed live time	: 0 03:20:10.00	Elapsed real time	: 0 03:20:10.00 0.0%
Energy tolerance	: 40.00 keV	Half life ratio	: 1.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Spline	Efficiencies at	: Peak Energy
Abundance limit	: 60.00		

Summary of Nuclide Activity

Total number of lines in spectrum	1	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	1	100.00%

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
		Total Activity :	0.000E+00	0.000E+00			
		Grand Total Activity :	0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP9.SAMPLE]H5KRR1AG_200662156.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5329.72	312	329	692	690	0.08		

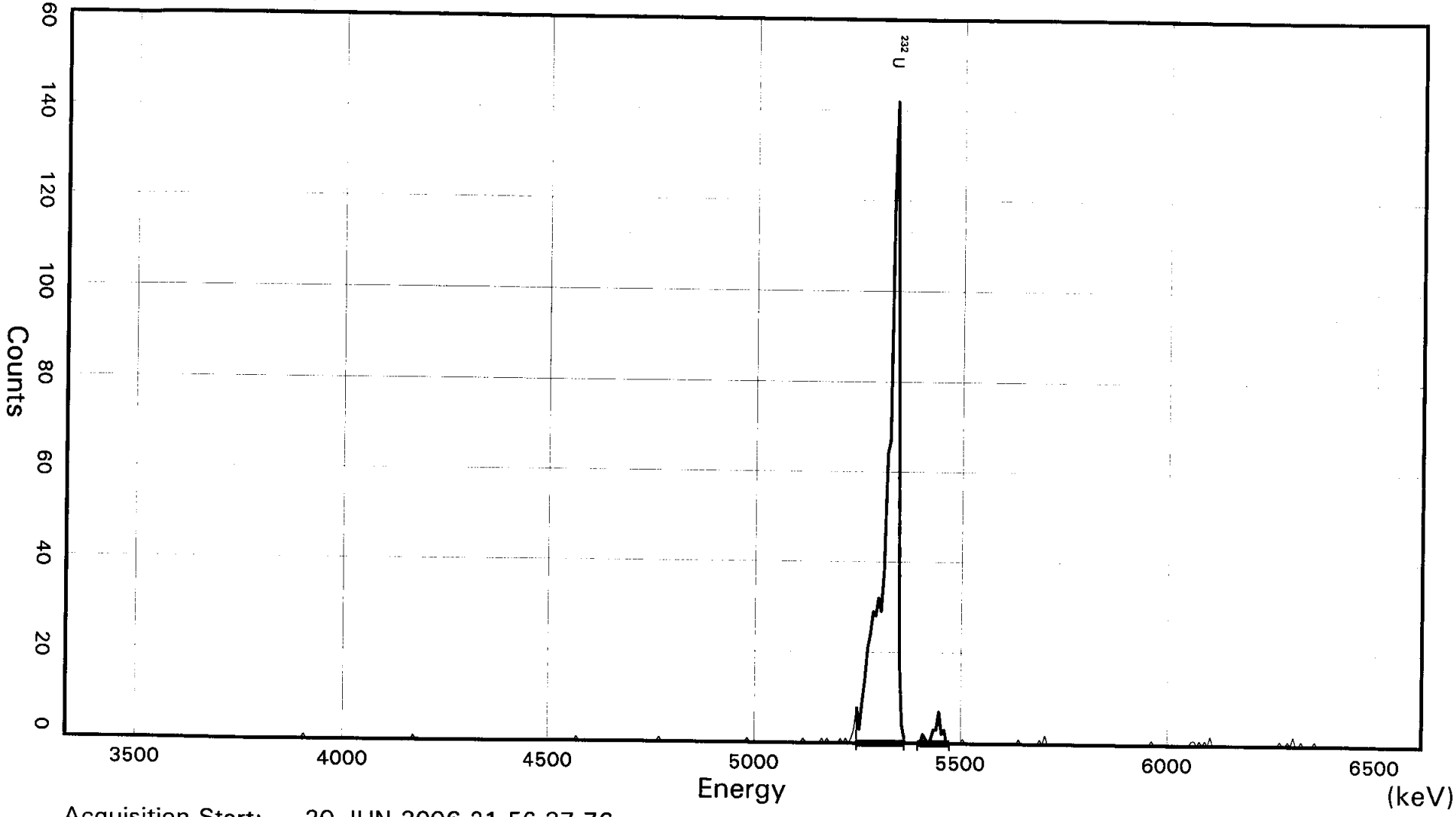
End of Report

STL Richland WA.

U BRC

Sample ID: H5KRV1AG
Detector ID: ALP10 1

Batch ID: 6143227



Acquisition Start: 20-JUN-2006 21:56:37.76
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:05.00

Energy Coefficients:
Offset: 3.31262E+03
Slope: 6.45058E+00
Quadrature: -8.95822E-06

SAMPLE IDENTITY: H5KRV1AG

TITLE : U BRC

DETECTOR : ALP10 1
CONFIGURATION NAME : $DISK1:[ALP10.SAMPLE]H5KRV1AG_200662156.CNF;
1
ACQUIRE DATE of BACKGROUND: 02-JUN-2006 07:27:26

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 20-JUN-2006 21:56:37 CALIB DATE : 01-JUN-2006 23:53:52

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:05

OFFSET : 3312.62 keV CONSTANT FWHM : 6.83333 Channels
SLOPE : 6.45058 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : -.895822E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H5KRV1AG

Detector: ALP10 1
Report Date: 21-Jun-06 01:17 AM
Acquire Date: 20-JUN-2006 21:56:37.76
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	738	6	0	3.682	5333.8	116.0	300	318	0.00	0.00	P
U-234	1	1	0	0.004	4788.3	116.0	215	233	0.00	0.00	
U-235	0	0	0	0.000	4411.5	116.1	157	175	0.00	0.00	
U-238	1	2	0	0.003	4211.7	116.1	126	144	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H5KRV1AG
Detector: ALP10 1
Report Date: 21-Jun-06 01:17 AM
Acquire Date: 20-JUN-2006 21:56:37.76

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0		201	0		251	3	+	301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0		202	0		252	9	+	302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0		203	0		253	14	+	303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0		204	0		254	21	+	304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0		205	0		255	24	+	305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0		206	0		256	29	+	306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0	+	157	0		207	0		257	28	+	307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0	+	158	0		208	0		258	32	+	308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	0	+	159	0		209	1		259	29	+	309	0		359	0		409	1		459	0		509
0		10	0		60	0		110	0	+	160	0		210	0		260	38	+	310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	0	+	161	0		211	0		261	64	+	311	1		361	1		411	0		461	0		511
0		12	0		62	0		112	0	+	162	0		212	0		262	67	+	312	0		362	0		412	1		462	0		512
0		13	0		63	0		113	0	+	163	0		213	0		263	120	+	313	0		363	0		413	0		463			
0		14	0		64	0		114	0	+	164	0		214	0		264	142	+	314	0		364	0		414	2		464			
0		15	0		65	0		115	0	+	165	0	+	215	0		265	84	+	315	0		365	0		415	0		465			
0		16	0		66	0		116	0	+	166	0	+	216	0		266	18	+	316	0		366	0		416	0		466			
0		17	0		67	0		117	0	+	167	0	+	217	0		267	4	+	317	0		367	0		417	1		467			
0		18	0		68	0		118	0	+	168	0	+	218	0		268	1		318	0		368	0		418	0		468			
0		19	0		69	0		119	0	+	169	0	+	219	0		269	0		319	1		369	0		419	0		469			
0		20	0		70	0		120	0	+	170	0	+	220	0		270	0		320	0		370	0		420	0		470			
0		21	0		71	0		121	0	+	171	0	+	221	0		271	0		321	2		371	0		421	0		471			
0		22	0		72	0		122	0	+	172	0	+	222	0		272	0		322	0		372	0		422	1		472			
0		23	0		73	0		123	0	+	173	0	+	223	0		273	0		323	0		373	0		423	0		473			
0		24	0		74	0		124	0	+	174	0	+	224	0		274	0		324	0		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	0	+	225	0		275	2		325	0		375	0		425	0		475			
0		26	0		76	0	+	126	0		176	1	+	226	0		276	1		326	0		376	1		426	0		476			
0		27	0		77	0	+	127	0		177	0	+	227	0		277	0		327	0		377	1		427	0		477			
0		28	0		78	0	+	128	0		178	0	+	228	0		278	1		328	0		378	0		428	0		478			
0		29	0		79	0	+	129	0		179	0	+	229	0		279	3		329	0		379	1		429	0		479			
0		30	0		80	0	+	130	0		180	0	+	230	1		280	3		330	0		380	0		430	0		480			
0		31	0		81	0	+	131	0		181	0	+	231	0		281	7		331	0		381	1		431	0		481			
0		32	0		82	0	+	132	0		182	0	+	232	0		282	2		332	0		382	0		432	0		482			
0		33	0		83	1	+	133	0		183	0	+	233	0		283	3		333	0		383	2		433	0		483			
0		34	0		84	0	+	134	0		184	0		234	0		284	0		334	0		384	0		434	0		484			
0		35	0		85	0	+	135	0		185	0		235	0		285	0		335	0		385	0		435	0		485			
0		36	0		86	0	+	136	0		186	0		236	0		286	0		336	0		386	0		436	0		486			
0		37	0		87	0	+	137	0		187	0		237	1		287	0		337	0		387	0		437	0		487			
0		38	0		88	0	+	138	0		188	0		238	0		288	0		338	0		388	0		438	0		488			
0		39	0		89	0	+	139	0		189	0		239	1		289	0		339	0		389	0		439	0		489			
0		40	0		90	0	+	140	0		190	0		240	0		290	1		340	0		390	0		440	0		490			
0		41	0		91	0	+	141	0		191	0		241	0		291	0		341	0		391	0		441	0		491			
0		42	1		92	0	+	142	0		192	0		242	0		292	0		342	0		392	0		442	0		492			
0		43	0		93	0	+	143	0		193	0		243	0		293	0		343	0		393	0		443	0		493			
0		44	0		94	0	+	144	0		194	0		244	1		294	0		344	0		394	0		444	0		494			
0		45	0		95	0		145	1		195	0		245	0		295	0		345	0		395	0		445	0		495			
0		46	0		96	0		146	0		196	0		246	1		296	0		346	0		396	0		446	0		496			
0		47	0		97	0		147	0		197	0		247	0		297	0		347	0		397	0		447	0		497			
0		48	0		98	0		148	0		198	0		248	1		298	0		348	0		398	0		448	0		498			
0		49	0		99	0		149	0		199	0		249	3		299	0		349	0		399	0		449	0		499			
0		50	0		100	0		150	0		200	0		250	8	+	300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 21-JUN-2006 01:17:00

Configuration	: $DISK1:[ALP10.SAMPLE]H5KRV1AG_200662156.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: U BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:56:37
Sample ID	: H5KRV1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP10	Detector geometry	:
Elapsed live time	: 0 03:20:05.00	Elapsed real time	: 0 03:20:06.00 0.0%
Start energy	: 3331.97 keV	End energy	: 6612.96 keV
Sensitivity	: 4.00	Sum Sensitivity	: 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5333.83	738	0	25.80	313.48	300	18	6.15E-02	3.7	
2	0	5444.36	23	0	25.80	330.62	323	12	1.92E-03	20.9	

VMS Nuclide Identification Report V3.0 Generated 21-JUN-2006 01:17:02

Configuration	: $DISK1:[ALP10.SAMPLE]H5KRV1AG_200662156.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:56:37
Sample ID	: H5KRV1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP10	Detector geometry	:
Elapsed live time	: 0 03:20:05.00	Elapsed real time	: 0 03:20:06.00 0.0%
Energy tolerance	: 40.00 keV	Half life ratio	: 1.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Spline	Efficiencies at	: Peak Energy
Abundance limit	: 60.00		

Summary of Nuclide Activity

Total number of lines in spectrum	2	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	1	50.00%

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
		Total Activity :	0.000E+00	0.000E+00			
		Grand Total Activity :	0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP10.SAMPLE]H5KRV1AG_200662156.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5333.83	300	318	738	735	0.11		
5444.35	323	335	23	22	0.21		

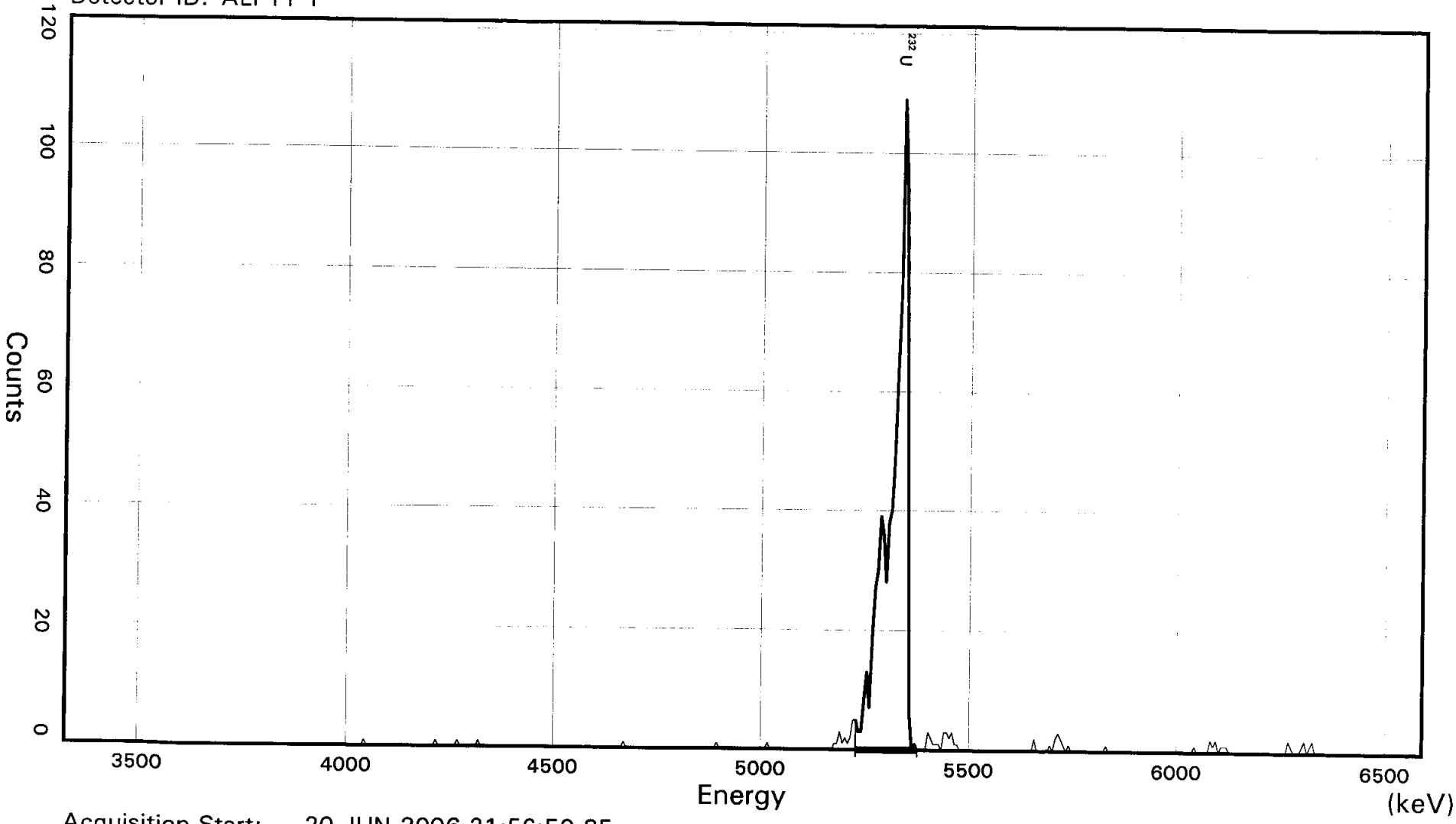
End of Report

STL Richland WA.

U BRC

Sample ID: H5KRX1AG
Detector ID: ALP11 1

Batch ID: 6143227



Acquisition Start: 20-JUN-2006 21:56:50.85
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:03.00

Energy Coefficients:
Offset: 3.30716E+03
Slope: 6.39329E+00
Quadrature: 2.85470E-05

SAMPLE IDENTIITY: H5KRX1AG

TITLE : U BRC

DETECTOR : ALP11 1
CONFIGURATION NAME : $DISK1:[ALP11.SAMPLE]H5KRX1AG_200662156.CNF;
1
ACQUIRE DATE of BACKGROUND: 02-JUN-2006 07:27:30

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 20-JUN-2006 21:56:50 CALIB DATE : 01-JUN-2006 23:54:30

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:03

OFFSET : 3307.16 keV CONSTANT FWHM : 8.66667 Channels
SLOPE : 6.39329 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : 2.854700E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H5KRX1AG

Detector: ALP11 1
Report Date: 21-Jun-06 01:17 AM
Acquire Date: 20-JUN-2006 21:56:50.85
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	751	8	0	3.746	5333.5	147.5	300	323	0.00	0.00	P
U-234	0	2	0	-0.002	4788.0	147.3	215	238	0.00	0.00	
U-235	1	1	0	0.004	4411.2	147.3	156	179	0.00	0.00	
U-238	1	1	0	0.004	4211.4	147.2	125	148	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun 92)

Sample Identity: H5KRX1AG
Detector: ALP11 1
Report Date: 21-Jun-06 01:17 AM
Acquire Date: 20-JUN-2006 21:56:50.85

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0		201	0		251	3	+	301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0		202	0		252	3	+	302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0		203	0		253	8	+	303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0		204	0		254	13	+	304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0		205	0		255	7	+	305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0	+	156	0		206	0		256	19	+	306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0	+	157	0		207	0		257	27	+	307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	1	+	158	0		208	0		258	30	+	308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	0	+	159	0		209	0		259	39	+	309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0	+	160	0		210	0		260	36	+	310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	0	+	161	0		211	0		261	28	+	311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0	+	162	0		212	0		262	38	+	312	0		362	0		412	2		462	0		512
0		13	0		63	0		113	0	+	163	1		213	0		263	40	+	313	0		363	0		413	1		463			
0		14	0		64	0		114	0	+	164	0		214	0		264	49	+	314	0		364	0		414	0		464			
0		15	0		65	1		115	0	+	165	0	+	215	0		265	64	+	315	0		365	0		415	0		465			
0		16	0		66	0		116	0	+	166	0	+	216	0		266	77	+	316	0		366	0		416	0		466			
0		17	0		67	0		117	0	+	167	0	+	217	1		267	109	+	317	2		367	0		417	1		467			
0		18	0		68	0		118	0	+	168	0	+	218	0		268	94	+	318	0		368	0		418	2		468			
0		19	0		69	0		119	0	+	169	0	+	219	0		269	48	+	319	0		369	0		419	0		469			
0		20	0		70	0		120	0	+	170	0	+	220	0		270	6	+	320	0		370	0		420	1		470			
0		21	0		71	0		121	0	+	171	0	+	221	0		271	0	+	321	0		371	0		421	2		471			
0		22	0		72	0		122	0	+	172	0	+	222	0		272	1	+	322	0		372	0		422	0		472			
0		23	0		73	0		123	0	+	173	0	+	223	0		273	0		323	1		373	0		423	0		473			
0		24	0		74	0		124	0	+	174	0	+	224	0		274	0		324	0		374	0		424	0		474			
0		25	0		75	0	+	125	0	+	175	0	+	225	0		275	0		325	2		375	0		425	0		475			
0		26	0		76	0	+	126	0	+	176	0	+	226	0		276	0		326	3		376	0		426	0		476			
0		27	0		77	0	+	127	0	+	177	0	+	227	0		277	3		327	2		377	1		427	0		477			
0		28	0		78	0	+	128	0	+	178	0	+	228	0		278	2		328	1		378	0		428	0		478			
0		29	0		79	0	+	129	0	+	179	0	+	229	0		279	1		329	0		379	0		429	0		479			
0		30	0		80	0	+	130	0		180	0	+	230	0		280	1		330	1		380	0		430	0		480			
0		31	0		81	0	+	131	0		181	0	+	231	0		281	1		331	0		381	0		431	0		481			
0		32	0		82	0	+	132	0		182	0	+	232	0		282	0		332	0		382	0		432	0		482			
0		33	0		83	0	+	133	0		183	0	+	233	0		283	3		333	0		383	2		433	0		483			
0		34	0		84	0	+	134	0		184	0	+	234	0		284	3		334	0		384	1		434	0		484			
0		35	0		85	0	+	135	0		185	0	+	235	0		285	2		335	0		385	2		435	0		485			
0		36	0		86	0	+	136	0		186	0	+	236	0		286	3		336	0		386	0		436	0		486			
0		37	0		87	0	+	137	0		187	0	+	237	0		287	1		337	0		387	1		437	0		487			
0		38	0		88	0	+	138	0		188	0	+	238	0		288	1		338	0		388	1		438	0		488			
0		39	0		89	0	+	139	0		189	0		239	0		289	0		339	0		389	1		439	0		489			
0		40	0		90	0	+	140	0		190	0		240	0		290	0		340	0		390	0		440	0		490			
0		41	0		91	0	+	141	0		191	0		241	0		291	0		341	0		391	0		441	0		491			
0		42	0		92	1	+	142	0		192	0		242	1		292	0		342	0		392	0		442	0		492			
0		43	0		93	0	+	143	0		193	0		243	1		293	0		343	0		393	0		443	0		493			
0		44	0		94	0	+	144	0		194	0		244	3		294	0		344	1		394	0		444	0		494			
0		45	0		95	0	+	145	0		195	0		245	1		295	0		345	0		395	0		445	0		495			
0		46	0		96	0	+	146	0		196	0		246	2		296	0		346	0		396	0		446	0		496			
0		47	0		97	0	+	147	0		197	0		247	1		297	0		347	0		397	0		447	0		497			
0		48	0		98	0	+	148	0		198	1		248	2		298	0		348	0		398	0		448	0		498			
0		49	0		99	0		149	0		199	0		249	5		299	0		349	0		399	0		449	0		499			
0		50	0		100	1		150	0		200	0		250	5	+	300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 21-JUN-2006 01:17:10

Configuration	: $DISK1:[ALP11.SAMPLE]H5KRX1AG_200662156.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: U BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:56:50
Sample ID	: H5KRX1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP11	Detector geometry	:
Elapsed live time	: 0 03:20:03.00	Elapsed real time	: 0 03:20:03.00 0.0%
Start energy	: 3326.34 keV	End energy	: 6588.01 keV
Sensitivity	: 4.00	Sum Sensitivity	: 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5333.54	751	0	38.36	316.51	300	23	6.26E-02	3.6	

VMS Nuclide Identification Report V3.0 Generated 21-JUN-2006 01:17:12

Configuration	: $DISK1:[ALP11.SAMPLE]H5KRX1AG_200662156.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:56:50
Sample ID	: H5KRX1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP11	Detector geometry	:
Elapsed live time	: 0 03:20:03.00	Elapsed real time	: 0 03:20:03.00 0.0%
Energy tolerance	: 40.00 keV	Half life ratio	: 1.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Spline	Efficiencies at	: Peak Energy
Abundance limit	: 60.00		

Summary of Nuclide Activity

Total number of lines in spectrum	1	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	1	100.00%

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			
Grand Total Activity :			0.000E+00	0.000E+00			

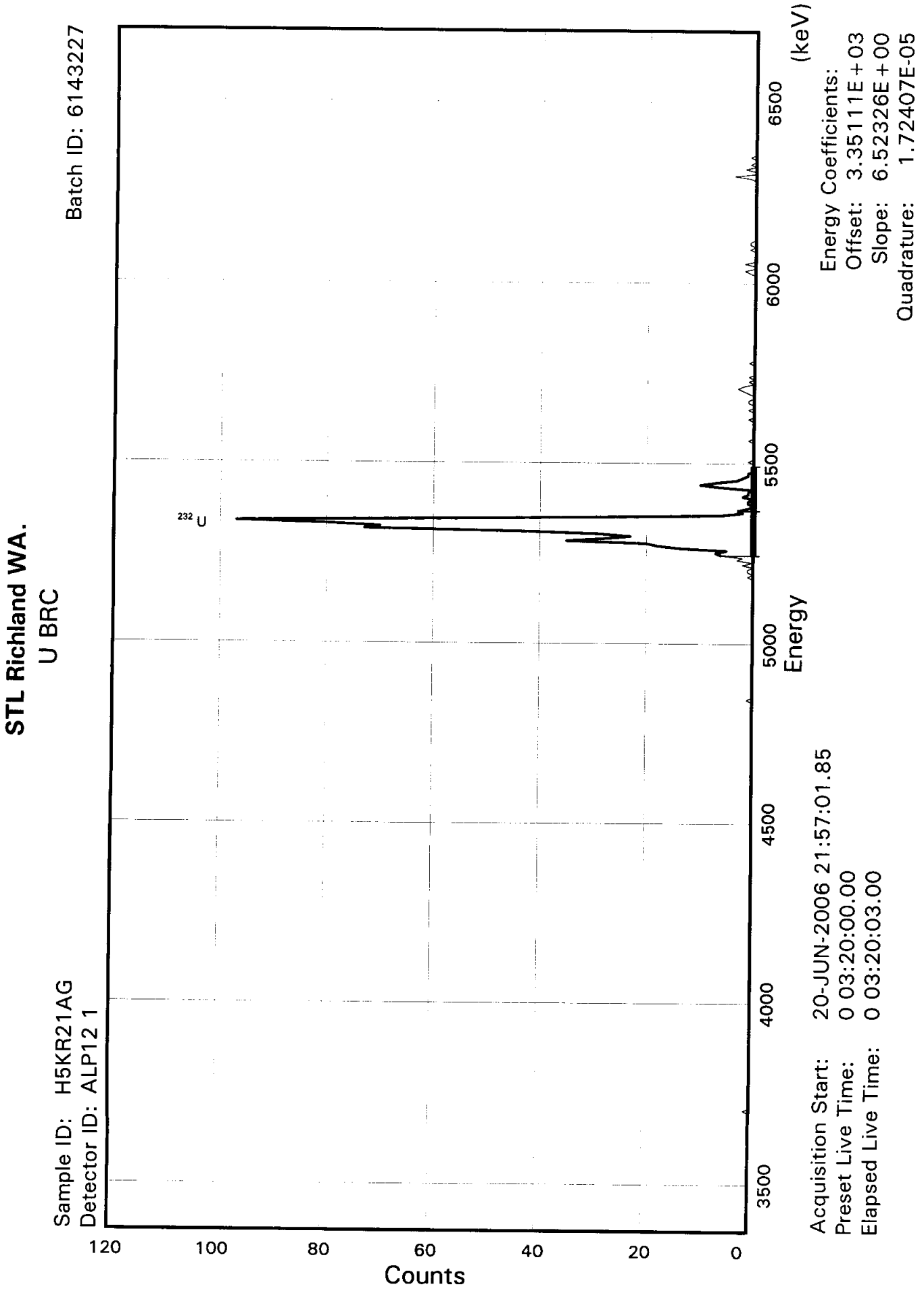
Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP11.SAMPLE]H5KRX1AG_200662156.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5333.54	300	323	751	744	0.26		

End of Report


STL Richland WA.
U BRC
Batch ID: 6143227
Sample ID: H5KR21AG
Detector ID: ALP12 1
232 U
Counts
120
100
80
60
40
20
0
Energy
3500
4000
4500
5000
5500
6000
6500
(keV)
Acquisition Start: 20-JUN-2006 21:57:01.85
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:03.00
Energy Coefficients:
Offset: 3.35111E+03
Slope: 6.52326E+00
Quadrature: 1.72407E-05

SAMPLE IDENTIITY: H5KR21AG

TITLE : U BRC

DETECTOR : ALP12 1
CONFIGURATION NAME : $DISK1:[ALP12.SAMPLE]H5KR21AG_200662157.CNF;
1
ACQUIRE DATE of BACKGROUND: 02-JUN-2006 07:27:34

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 20-JUN-2006 21:57:01 CALIB DATE : 01-JUN-2006 23:54:41

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:03

OFFSET : 3351.11 keV CONSTANT FWHM : 7.83333 Channels
SLOPE : 6.52326 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : 1.724070E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H5KR21AG

Detector: ALP12 1
Report Date: 21-Jun-06 01:17 AM
Acquire Date: 20-JUN-2006 21:57:01.85
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	655	12	0	3.262	5327.2	124.1	290	309	0.00	0.00	P
U-234	0	1	0	-0.001	4781.6	124.1	206	225	0.00	0.00	
U-235	0	0	0	0.000	4404.8	124.0	149	168	0.00	0.00	
U-238	0	0	0	0.000	4205.0	124.0	118	137	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H5KR21AG
Detector: ALP12 1
Report Date: 21-Jun-06 01:17 AM
Acquire Date: 20-JUN-2006 21:57:01.85

Flags Key

Intersect Region: @
Non-Intersect Region: +, ·

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0	+	151	0		201	0		251	73	+	301	0		351	0		401	4		451	0		501
		2	0		52	0		102	0	+	152	0		202	0		252	70	+	302	1		352	0		402	0		452	0		502
0		3	0		53	0		103	0	+	153	0		203	0		253	80	+	303	0		353	0		403	0		453	0		503
0		4	1		54	0		104	0	+	154	0		204	0		254	97	+	304	0		354	0		404	2		454	0		504
0		5	0		55	0		105	0	+	155	0		205	0		255	65	+	305	1		355	0		405	0		455	0		505
0		6	0		56	0		106	0	+	156	0	+	206	0		256	31	+	306	1		356	0		406	1		456	0		506
0		7	0		57	0		107	0	+	157	0	+	207	0		257	6	+	307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0	+	158	0	+	208	0		258	2	+	308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	0	+	159	0	+	209	0		259	3		309	1		359	0		409	1		459	0		509
0		10	0		60	0		110	0	+	160	0	+	210	0		260	1		310	2		360	1		410	0		460	0		510
0		11	0		61	0		111	0	+	161	0	+	211	0		261	0		311	3		361	2		411	0		461	0		511
0		12	0		62	0		112	0	+	162	0	+	212	0		262	1		312	2		362	0		412	0		462	0		512
0		13	0		63	0		113	0	+	163	0	+	213	0		263	1		313	0		363	0		413	0		463			
0		14	0		64	0		114	0	+	164	0	+	214	0		264	0		314	1		364	2		414	0		464			
0		15	0		65	0		115	0	+	165	0	+	215	0		265	2		315	0		365	0		415	0		465			
0		16	0		66	0		116	0	+	166	0	+	216	0		266	1		316	1		366	0		416	0		466			
0		17	0		67	0		117	0	+	167	0	+	217	0		267	1		317	0		367	0		417	0		467			
0		18	0		68	0	+	118	0	+	168	0	+	218	0		268	0		318	0		368	0		418	0		468			
0		19	0		69	0	+	119	0		169	0	+	219	0		269	6		319	0		369	0		419	0		469			
0		20	0		70	0	+	120	0		170	0	+	220	0		270	10		320	0		370	1		420	0		470			
0		21	0		71	0	+	121	0		171	0	+	221	0		271	7		321	0		371	0		421	0		471			
0		22	0		72	0	+	122	0		172	0	+	222	0		272	3		322	1		372	1		422	0		472			
0		23	0		73	0	+	123	0		173	0	+	223	0		273	2		323	0		373	1		423	0		473			
0		24	0		74	0	+	124	0		174	0	+	224	0		274	1		324	0		374	0		424	0		474			
0		25	0		75	0	+	125	0		175	0	+	225	0		275	1		325	0		375	0		425	0		475			
0		26	0		76	0	+	126	0		176	0		226	0		276	0		326	0		376	0		426	0		476			
0		27	0		77	0	+	127	0		177	0		227	0		277	0		327	0		377	0		427	0		477			
0		28	0		78	0	+	128	0		178	0		228	0		278	0		328	0		378	0		428	0		478			
0		29	0		79	0	+	129	0		179	1		229	0		279	0		329	0		379	0		429	0		479			
0		30	0		80	0	+	130	0		180	0		230	0		280	1		330	0		380	0		430	0		480			
0		31	0		81	0	+	131	0		181	0		231	1		281	0		331	0		381	0		431	0		481			
0		32	0		82	0	+	132	0		182	0		232	0		282	0		332	0		382	0		432	0		482			
0		33	0		83	0	+	133	0		183	0		233	1		283	0		333	0		383	0		433	0		483			
0		34	0		84	0	+	134	0		184	0		234	1		284	0		334	0		384	0		434	0		484			
0		35	0		85	0	+	135	0		185	0		235	0		285	0		335	0		385	0		435	0		485			
0		36	0		86	0	+	136	0		186	0		236	2		286	0		336	0		386	0		436	0		486			
0		37	0		87	0	+	137	0		187	0		237	0		287	0		337	0		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	3		288	0		338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	2		289	1		339	0		389	0		439	0		489			
0		40	0		90	0		140	0		190	0		240	6	+	290	0		340	0		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	7	+	291	0		341	0		391	0		441	0		491			
0		42	0		92	0		142	0		192	0		242	5	+	292	0		342	0		392	0		442	0		492			
0		43	0		93	0		143	0		193	0		243	14	+	293	0		343	0		393	0		443	0		493			
0		44	0		94	0		144	0		194	0		244	18	+	294	0		344	0		394	0		444	0		494			
0		45	0		95	0		145	0		195	0		245	20	+	295	0		345	0		395	0		445	0		495			
0		46	0		96	0		146	0		196	0		246	35	+	296	0		346	0		396	0		446	0		496			
0		47	0		97	0		147	0		197	0		247	28	+	297	0		347	0		397	0		447	0		497			
0		48	0		98	0		148	0		198	0		248	23	+	298	1		348	0		398	0		448	0		498			
0		49	0		99	0	+	149	0		199	0		249	29	+	299	0		349	0		399	0		449	0		499			
0		50	0		100	0	+	150	0		200	0		250	44	+	300	0		350	0		400	1		450	0		500			

VMS Peak Search Report V1.9 Generated 21-JUN-2006 01:17:21

Configuration	: $DISK1:[ALP12.SAMPLE]H5KR21AG_200662157.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: U BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:57:01
Sample ID	: H5KR21AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP12	Detector geometry	:
Elapsed live time	: 0 03:20:03.00	Elapsed real time	: 0 03:20:03.00 0.0%
Start energy	: 3370.68 keV	End energy	: 6695.54 keV
Sensitivity	: 4.00	Sum Sensitivity	: 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5327.17	655	0	39.14	302.68	290	19	5.46E-02	3.9	
2	0	5442.77	38	0	26.09	320.37	309	19	3.17E-03	16.2	

VMS Nuclide Identification Report V3.0 Generated 21-JUN-2006 01:17:23

Configuration	: $DISK1:[ALP12.SAMPLE]H5KR21AG_200662157.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:57:01
Sample ID	: H5KR21AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP12	Detector geometry	:
Elapsed live time	: 0 03:20:03.00	Elapsed real time	: 0 03:20:03.00 0.0%
Energy tolerance	: 40.00 keV	Half life ratio	: 1.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Spline	Efficiencies at	: Peak Energy
Abundance limit	: 60.00		

Summary of Nuclide Activity

Total number of lines in spectrum	2	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	1	50.00%

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			
Grand Total Activity :			0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP12.SAMPLE]H5KR21AG_200662157.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5327.17	290	309	655	656	-0.04		
5442.76	309	328	38	40	-0.32	0	0.00

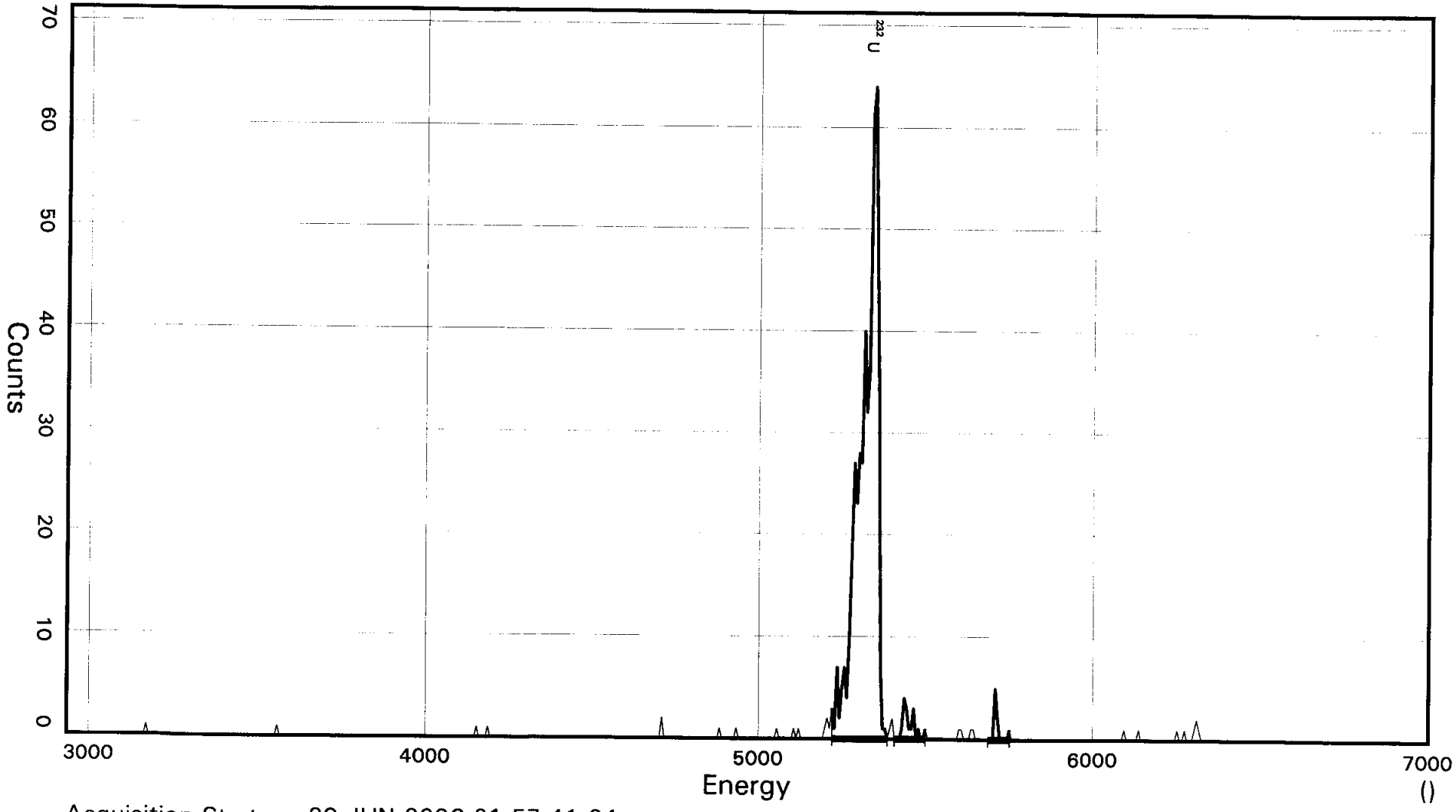
End of Report

STL Richland WA.

U BRC

Sample ID: H5KR41AG
Detector ID: ALP85 1

Batch ID: 6143227



Acquisition Start: 20-JUN-2006 21:57:41.24
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:07.00

Energy Coefficients:
Offset: 2.91304E+03
Slope: 7.16241E+00
Quadrature: 6.93387E-06

SAMPLE IDENTIITY: H5KR41AG

TITLE : U BRC

DETECTOR : ALP85 1
CONFIGURATION NAME : RDND06$DKA100:[ALP85.SAMPLE]H5KR41AG_2006621
57.CNF;1
ACQUIRE DATE of BACKGROUND: 09-JUN-2006 06:58:12

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 20-JUN-2006 21:57:41 CALIB DATE : 09-JUN-2006 06:21:45

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:07

OFFSET : 2913.04 keV CONSTANT FWHM : 9.83333 Channels
SLOPE : 7.16241 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 6.933870E-06 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H5KR41AG

Detector: ALP85 1
Report Date: 21-Jun-06 01:17 AM
Acquire Date: 20-JUN-2006 21:57:41.24
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 2500 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	489	45	0	2.426	5329.9	164.8	322	345	0.00	0.00	P
U-234	2	5	0	0.008	4784.3	164.8	246	269	0.00	0.00	
U-235	0	1	0	0.000	4407.5	164.8	193	216	0.00	0.00	
U-238	2	0	0	0.010	4207.7	164.8	165	188	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H5KR41AG
Detector: ALP85 1
Report Date: 21-Jun-06 01:17 AM
Acquire Date: 20-JUN-2006 21:57:41.24

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0	+	201	2	+	251	0		301	1		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0	+	202	0	+	252	0		302	4		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0	+	203	0	+	253	0		303	3		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	0	+	254	0		304	1		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0	+	255	0		305	1		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	1		306	3		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0	+	207	0	+	257	0		307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0	+	208	0	+	258	1		308	1		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	0	+	209	0	+	259	0		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	0	+	210	0	+	260	0		310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	0		161	0	+	211	0	+	261	0		311	1		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0	+	212	0	+	262	0		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0	+	213	0	+	263	0		313	0		363	0		413	0		463			
0		14	0		64	0		114	0		164	0	+	214	0	+	264	0		314	0		364	0		414	0		464			
0		15	0		65	0		115	0	+	165	0	+	215	0	+	265	0		315	0		365	0		415	0		465			
0		16	0		66	0		116	0	+	166	0	+	216	0	+	266	0		316	0		366	0		416	1		466			
0		17	0		67	0		117	0	+	167	0		217	0	+	267	0		317	0		367	0		417	0		467			
0		18	0		68	0		118	0	+	168	0		218	0	+	268	0		318	0		368	0		418	0		468			
0		19	0		69	0		119	0	+	169	0		219	0	+	269	1		319	0		369	0		419	1		469			
0		20	0		70	0		120	0	+	170	0		220	0		270	2		320	0		370	0		420	0		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	1		321	0		371	0		421	0		471			
0		22	0		72	0		122	0	+	172	0		222	0		272	3	+	322	0		372	0		422	0		472			
0		23	0		73	0		123	1	+	173	0		223	0		273	1	+	323	0		373	0		423	1		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	7	+	324	0		374	0		424	2		474			
0		25	0		75	0		125	0	+	175	0		225	1		275	2	+	325	1		375	0		425	1		475			
0		26	0		76	0		126	0	+	176	0		226	0		276	5	+	326	1		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	7	+	327	0		377	0		427	0		477			
0		28	0		78	0		128	1	+	178	0		228	0		278	4	+	328	0		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	10	+	329	0		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	19	+	330	1		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	27	+	331	1		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	1		282	23	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	28	+	333	0		383	0		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	27	+	334	0		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	40	+	335	0		385	0		435	0		485			
1		36	0		86	0		136	0	+	186	0		236	0		286	32	+	336	0		386	0		436	0		486			
0		37	0		87	0		137	0	+	187	0		237	0		287	36	+	337	0		387	0		437	0		487			
0		38	0		88	0		138	0	+	188	0		238	0		288	61	+	338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	0		289	64	+	339	0		389	0		439	0		489			
0		40	1		90	0		140	0		190	0		240	0		290	47	+	340	5		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	0		291	33	+	341	2		391	0		441	0		491			
0		42	0		92	0		142	0		192	0		242	0		292	7	+	342	0		392	0		442	0		492			
0		43	0		93	0		143	0	+	193	0		243	0		293	1	+	343	0		393	0		443	0		493			
0		44	0		94	0		144	0	+	194	0		244	0		294	1	+	344	0		394	1		444	0		494			
0		45	0		95	0		145	0	+	195	0		245	0		295	0		345	0		395	0		445	0		495			
0		46	0		96	0		146	0	+	196	0	+	246	0		296	1		346	1		396	0		446	0		496			
0		47	0		97	0		147	0	+	197	0	+	247	0		297	2		347	0		397	0		447	0		497			
0		48	0		98	0		148	0	+	198	0	+	248	0		298	0		348	0		398	0		448	0		498			
0		49	0		99	0		149	0	+	199	0	+	249	1		299	0		349	0		399	0		449	0		499			
0		50	0		100	0		150	0	+	200	0	+	250	0		300	0		350	0		400	1		450	0		500			

VMS Peak Search Report V1.9 Generated 21-JUN-2006 01:17:49

Configuration : RDND06$DKA100:[ALP85.SAMPLE]H5KR41AG_200662157.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 4-MAY-2006 12:00:00 Acquisition date : 20-JUN-2006 21:57:41
Sample ID : H5KR41AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP85 Detector geometry:
Elapsed live time: 0 03:20:07.00 Elapsed real time: 0 03:20:07.00 0.0%
Start energy : 2934.52 End energy : 6582.01
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5329.90	489	0	64.46	337.33	322	23	4.07E-02	4.5	
2	0	5438.97	14	0	50.14	352.55	348	13	1.17E-03	26.7	
3	0	5705.38	9	0	28.65	389.71	387	9	7.50E-04	33.3	

VMS Nuclide Identification Report V3.1 Generated 21-JUN-2006 01:17:51

```
Configuration     : RDND06$DKA100:[ALP85.SAMPLE]H5KR41AG_200662157.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : U BRC
Sample date       : 4-MAY-2006 12:00:00  Acquisition date : 20-JUN-2006 21:57:41
Sample ID         : H5KR41AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP85                Detector geometry:
Elapsed live time: 0 03:20:07.00         Elapsed real time: 0 03:20:07.00   0.0%
Energy tolerance :    80.00              Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    70.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                3
 Number of unidentified lines                     2
 Number of lines tentatively identified by NID    1       33.33%
```

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
		Total Activity :	0.000E+00	0.000E+00			
		Grand Total Activity :	0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: RDND06$DKA100:[ALP85.SAMPLE]H5KR41AG_200662157.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5329.89	322	345	489	485	0.18		
5438.97	348	361	14	15	-0.27		
5705.38	387	396	9	8	0.33		

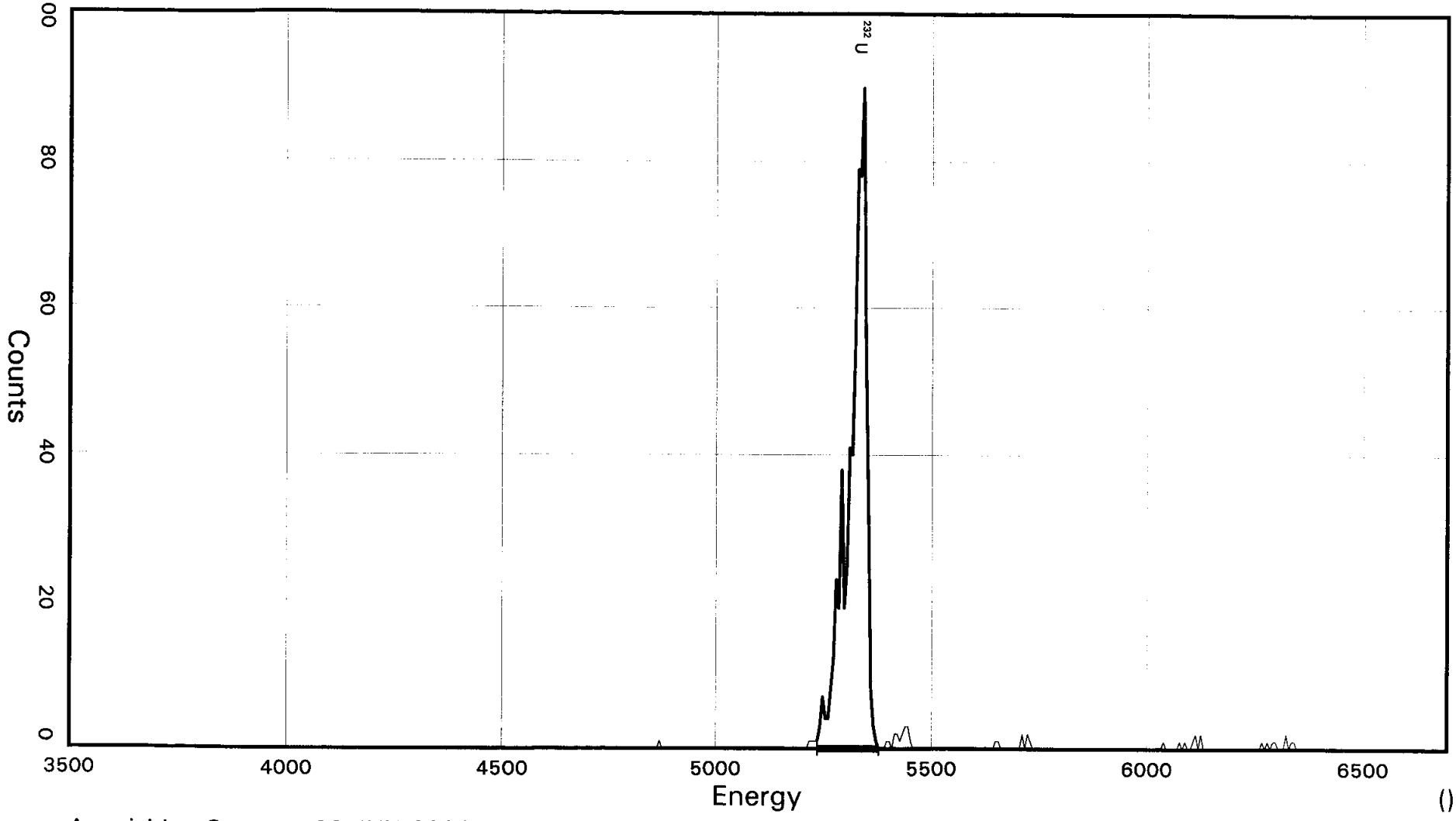
End of Report

STL Richland WA.

U BRC

Sample ID: H5KR61AG
Detector ID: ALP87 1

Batch ID: 6143227



Acquisition Start: 20-JUN-2006 21:57:53.59
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:03.00

Energy Coefficients:
Offset: 3.52509E+03
Slope: 6.19894E+00
Quadrature: -2.09215E-05

SAMPLE IDENTIITY: H5KR61AG

TITLE : U BRC

DETECTOR : ALP87 1
CONFIGURATION NAME : RDND06$DKA100:[ALP87.SAMPLE]H5KR61AG_200662157.CNF;1
ACQUIRE DATE of BACKGROUND: 09-JUN-2006 06:58:13

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 20-JUN-2006 21:57:53 CALIB DATE : 09-JUN-2006 06:21:54

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:03

OFFSET : 3525.09 keV CONSTANT FWHM : 9.33333 Channels
SLOPE : 6.19894 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : -.209215E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H5KR61AG

Detector: ALP87 1
Report Date: 21-Jun-06 01:18 AM
Acquire Date: 20-JUN-2006 21:57:53.59
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	646	8	0	3.221	5331.1	142.3	276	299	0.00	0.00	P
U-234	0	2	0	-0.002	4785.5	142.4	188	211	0.00	0.00	
U-235	0	0	0	0.000	4408.7	142.4	127	150	0.00	0.00	
U-238	0	0	0	0.000	4208.9	142.5	95	118	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H5KR61AG
Detector: ALP87 1
Report Date: 21-Jun-06 01:18 AM
Acquire Date: 20-JUN-2006 21:57:53.59

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0	+	101	0		151	0	+	201	0		251	0		301	0		351	0		401	0		451	0		501
		2	0		52	0	+	102	0		152	0	+	202	0		252	1		302	0		352	0		402	2		452	0		502
0		3	0		53	0	+	103	0		153	0	+	203	0		253	1		303	2		353	0		403	0		453	0		503
0		4	0		54	0	+	104	0		154	0	+	204	0		254	0		304	0		354	0		404	1		454	0		504
0		5	0		55	0	+	105	0		155	0	+	205	0		255	2		305	2		355	0		405	1		455	0		505
0		6	0		56	0	+	106	0		156	0	+	206	0		256	2		306	1		356	1		406	0		456	0		506
0		7	0		57	0	+	107	0		157	0	+	207	0		257	1		307	0		357	0		407	0		457	0		507
0		8	0		58	0	+	108	0		158	0	+	208	0		258	2		308	0		358	0		408	0		458	0		508
0		9	0		59	0	+	109	0		159	0	+	209	0		259	3		309	0		359	0		409	0		459	0		509
0		10	0		60	0	+	110	0		160	0	+	210	0		260	3		310	0		360	0		410	0		460	0		510
0		11	0		61	0	+	111	0		161	0	+	211	0		261	1		311	0		361	0		411	0		461	0		511
0		12	0		62	0	+	112	0		162	0		212	0		262	0		312	0		362	1		412	0		462	0		512
0		13	0		63	0	+	113	0		163	0		213	0		263	0		313	0		363	0		413	0		463			
0		14	0		64	0	+	114	0		164	0		214	0		264	0		314	0		364	1		414	0		464			
0		15	0		65	0	+	115	0		165	0		215	0		265	0		315	0		365	0		415	0		465			
0		16	0		66	0	+	116	0		166	0		216	0		266	0		316	0		366	0		416	0		466			
0		17	0		67	0	+	117	0		167	1		217	0		267	0		317	0		367	1		417	0		467			
0		18	0		68	0	+	118	0		168	0		218	0		268	0		318	0		368	2		418	0		468			
0		19	0		69	0		119	0		169	0		219	0		269	0		319	0		369	0		419	0		469			
0		20	0		70	0		120	0		170	0		220	0		270	0		320	0		370	2		420	0		470			
0		21	0		71	0		121	0		171	0		221	0		271	0		321	0		371	0		421	0		471			
0		22	0		72	0		122	0		172	0		222	0		272	0		322	0		372	0		422	0		472			
0		23	0		73	0		123	0		173	0		223	1		273	0		323	0		373	0		423	0		473			
0		24	0		74	0		124	0		174	0		224	1		274	0		324	0		374	0		424	0		474			
0		25	0		75	0		125	0		175	0		225	1		275	0		325	0		375	0		425	0		475			
0		26	0		76	0		126	0		176	0		226	1	+	276	0		326	0		376	0		426	0		476			
0		27	0		77	0	+	127	0		177	0		227	3	+	277	0		327	0		377	0		427	0		477			
0		28	0		78	0	+	128	0		178	0		228	7	+	278	0		328	0		378	0		428	0		478			
0		29	0		79	0	+	129	0		179	0		229	4	+	279	0		329	0		379	0		429	0		479			
0		30	0		80	0	+	130	0		180	0		230	4	+	280	0		330	0		380	0		430	0		480			
0		31	0		81	0	+	131	0		181	0		231	8	+	281	0		331	0		381	0		431	0		481			
0		32	0		82	0	+	132	0		182	0		232	12	+	282	0		332	0		382	0		432	0		482			
0		33	0		83	0	+	133	0		183	0		233	23	+	283	0		333	0		383	0		433	0		483			
0		34	0		84	0	+	134	0		184	0		234	19	+	284	0		334	0		384	0		434	0		484			
0		35	0		85	0	+	135	0		185	0		235	38	+	285	0		335	0		385	0		435	0		485			
0		36	0		86	0	+	136	0		186	0		236	19	+	286	0		336	0		386	0		436	0		486			
0		37	0		87	0	+	137	0		187	0		237	25	+	287	0		337	0		387	0		437	0		487			
0		38	0		88	0	+	138	0	+	188	0		238	41	+	288	0		338	0		388	0		438	0		488			
0		39	0		89	0	+	139	0	+	189	0		239	40	+	289	0		339	0		389	0		439	0		489			
0		40	0		90	0	+	140	0	+	190	0		240	55	+	290	0		340	0		390	0		440	0		490			
0		41	0		91	0	+	141	0	+	191	0		241	79	+	291	0		341	0		391	0		441	0		491			
0		42	0		92	0	+	142	0	+	192	0		242	78	+	292	0		342	0		392	0		442	0		492			
0		43	0		93	0	+	143	0	+	193	0		243	90	+	293	1		343	0		393	1		443	0		493			
0		44	0		94	0	+	144	0	+	194	0		244	54	+	294	1		344	0		394	0		444	0		494			
0		45	0	+	95	0	+	145	0	+	195	0		245	32	+	295	0		345	0		395	1		445	0		495			
0		46	0	+	96	0	+	146	0	+	196	0		246	8	+	296	0		346	0		396	0		446	0		496			
0		47	0	+	97	0	+	147	0	+	197	0		247	3	+	297	0		347	0		397	1		447	0		497			
0		48	0	+	98	0	+	148	0	+	198	0		248	1	+	298	0		348	0		398	1		448	0		498			
0		49	0	+	99	0	+	149	0	+	199	0		249	0		299	0		349	0		399	0		449	0		499			
0		50	0	+	100	0	+	150	0	+	200	0		250	0		300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 21-JUN-2006 01:17:58

Configuration	: RDND06$DKA100:[ALP87.SAMPLE]H5KR61AG_200662157.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: U BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:57:53
Sample ID	: H5KR61AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP87	Detector geometry	:
Elapsed live time	: 0 03:20:03.00	Elapsed real time	: 0 03:20:03.00 0.0%
Start energy	: 3543.68	End energy	: 6693.46
Sensitivity	: 4.00	Sum Sensitivity	: 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5331.09	646	0	37.19	291.63	276	23	5.38E-02	3.9	

VMS Nuclide Identification Report V3.1 Generated 21-JUN-2006 01:17:59

```
Configuration     : RDND06$DKA100:[ALP87.SAMPLE]H5KR61AG_200662157.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : U BRC
Sample date       : 4-MAY-2006 12:00:00  Acquisition date : 20-JUN-2006 21:57:53
Sample ID         : H5KR61AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP87                Detector geometry:
Elapsed live time: 0 03:20:03.00         Elapsed real time: 0 03:20:03.00   0.0%
Energy tolerance :    80.00              Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    60.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                 1
 Number of unidentified lines                      0
 Number of lines tentatively identified by NID     1      100.00%
```

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
		Total Activity :	0.000E+00	0.000E+00			
		Grand Total Activity :	0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: RDND06$DKA100:[ALP87.SAMPLE]H5KR61AG_200662157.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5331.09	276	299	646	644	0.08		

End of Report

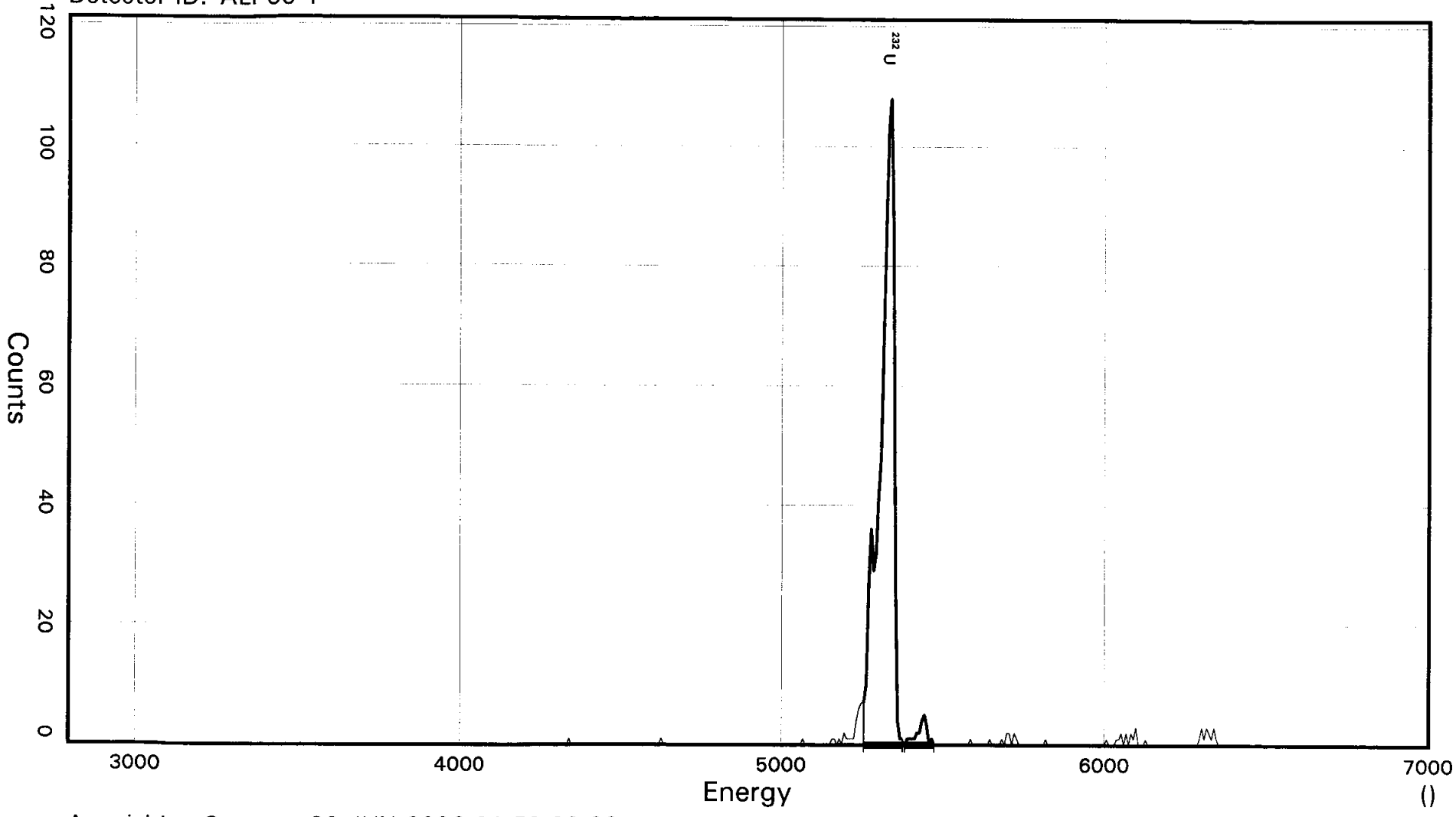
STL Richland WA.

U BRC

Sample ID: H50N81AA

Detector ID: ALP69 1

Batch ID: 6143227



Acquisition Start: 20-JUN-2006 21:58:09.92

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:02.00

Energy Coefficients:

Offset: 2.77160E+03

Slope: 7.51707E+00

Quadrature: 1.81482E-05

SAMPLE IDENTIITY: H50N81AA

TITLE : U BRC

DETECTOR : ALP69 1
CONFIGURATION NAME : RDND06$DKA100:[ALP69.SAMPLE]H50N81AA_200662158.CNF;1
ACQUIRE DATE of BACKGROUND: 12-JUN-2006 08:12:59

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 20-JUN-2006 21:58:09 CALIB DATE : 12-JUN-2006 06:25:06

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:02

OFFSET : 2771.60 keV CONSTANT FWHM : 7.50000 Channels
SLOPE : 7.51707 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 1.814820E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H50N81AA

Detector: ALP69 1
Report Date: 21-Jun-06 01:18 AM
Acquire Date: 20-JUN-2006 21:58:09.92
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 2500 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	721	23	0	3.595	5329.9	120.5	330	346	0.00	0.00	P
U-234	0	2	0	-0.001	4784.3	120.4	258	274	0.00	0.00	
U-235	1	2	0	0.004	4407.5	120.4	207	223	0.00	0.00	
U-238	0	6	0	-0.002	4207.7	120.4	181	197	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H50N81AA
Detector: ALP69 1
Report Date: 21-Jun-06 01:18 AM
Acquire Date: 20-JUN-2006 21:58:09.92

Flags Key
Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0		201	0		251	0		301	1		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0		202	0		252	0		302	2		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0		203	0		253	0		303	2		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0		204	0		254	0		304	4		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0		205	0		255	1		305	5		355	1		405	0		455	0		505
0		6	0		56	0		106	0		156	0		206	0		256	0		306	3		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0	+	207	0		257	0		307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0	+	208	0	+	258	0		308	1		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	1	+	209	0	+	259	0		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	0	+	210	0	+	260	0		310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	0		161	0	+	211	0	+	261	0		311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0	+	212	0	+	262	0		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0	+	213	0	+	263	0		313	0		363	0		413	0		463			
0		14	0		64	0		114	0		164	0	+	214	0	+	264	0		314	0		364	0		414	0		464			
0		15	0		65	0		115	0		165	0	+	215	0	+	265	0		315	0		365	0		415	0		465			
0		16	0		66	0		116	0		166	0	+	216	0	+	266	0		316	0		366	0		416	0		466			
0		17	0		67	0		117	0		167	0	+	217	0	+	267	1		317	0		367	0		417	0		467			
0		18	0		68	0		118	0		168	0	+	218	0	+	268	1		318	0		368	0		418	1		468			
0		19	0		69	0		119	0		169	0	+	219	0	+	269	0		319	0		369	0		419	3		469			
0		20	0		70	0		120	0		170	0	+	220	0	+	270	1		320	0		370	0		420	1		470			
0		21	0		71	0		121	0		171	0	+	221	0	+	271	0		321	0		371	0		421	3		471			
0		22	0		72	0		122	0		172	0	+	222	0	+	272	2		322	0		372	0		422	2		472			
0		23	0		73	0		123	0		173	0	+	223	0	+	273	1		323	0		373	0		423	1		473			
0		24	0		74	0		124	0		174	0		224	0	+	274	1		324	1		374	0		424	3		474			
0		25	0		75	0		125	0		175	0		225	0		275	1		325	0		375	0		425	1		475			
0		26	0		76	0		126	0		176	0		226	0		276	1		326	0		376	0		426	0		476			
0		27	0		77	0		127	0		177	0		227	0		277	4		327	0		377	0		427	0		477			
0		28	0		78	0		128	0		178	0		228	0		278	6		328	0		378	0		428	0		478			
0		29	0		79	0		129	0		179	0		229	0		279	7		329	0		379	0		429	0		479			
0		30	0		80	0		130	0		180	0		230	0		280	7	+	330	0		380	1		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	10	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	27	+	332	1		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	36	+	333	0		383	0		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	29	+	334	0		384	1		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	32	+	335	0		385	1		435	0		485			
0		36	0		86	0		136	0	+	186	0		236	0		286	42	+	336	0		386	2		436	0		486			
0		37	0		87	0		137	0	+	187	0		237	0		287	48	+	337	1		387	0		437	0		487			
0		38	0		88	0		138	0	+	188	0		238	0		288	68	+	338	0		388	2		438	0		488			
0		39	0		89	0		139	0	+	189	0		239	0		289	87	+	339	2		389	0		439	0		489			
0		40	0		90	0		140	0	+	190	0		240	0		290	103	+	340	2		390	2		440	0		490			
0		41	0		91	0		141	0	+	191	0		241	0		291	108	+	341	0		391	1		441	0		491			
0		42	0		92	0		142	0	+	192	0		242	0		292	85	+	342	2		392	3		442	0		492			
0		43	0		93	0		143	0	+	193	0		243	0		293	27	+	343	1		393	0		443	0		493			
0		44	0		94	0		144	0	+	194	0		244	0		294	4	+	344	0		394	0		444	0		494			
0		45	0		95	0		145	0	+	195	0		245	0		295	1	+	345	0		395	0		445	0		495			
0		46	0		96	0		146	0	+	196	0		246	0		296	1		346	0		396	1		446	0		496			
0		47	0		97	0		147	0	+	197	1		247	0		297	0		347	0		397	0		447	0		497			
0		48	0		98	0		148	0		198	0		248	0		298	1		348	0		398	0		448	0		498			
0		49	0		99	0		149	0		199	0		249	0		299	1		349	0		399	0		449	0		499			
0		50	0		100	0		150	0		200	0		250	0		300	1		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 21-JUN-2006 01:18:26

```
Configuration     : RDND06$DKA100:[ALP69.SAMPLE]H50N81AA_200662158.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 4-MAY-2006 12:00:00  Acquisition date : 20-JUN-2006 21:58:09
Sample ID         : H50N81AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP69                Detector geometry:
Elapsed live time: 0 03:20:02.00         Elapsed real time: 0 03:20:02.00   0.0%
Start energy      :  2794.15             End energy       :  6625.10
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5329.87	721	0	37.59	340.05	330	16	6.01E-02	3.7	
2	0	5436.33	21	0	37.59	354.19	347	12	1.75E-03	21.8	

VMS Nuclide Identification Report V3.1 Generated 21-JUN-2006 01:18:27

Configuration	: RDND06$DKA100:[ALP69.SAMPLE]H50N81AA_200662158.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.4		
Sample title	: U BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:58:09
Sample ID	: H50N81AA	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP69	Detector geometry	:
Elapsed live time	: 0 03:20:02.00	Elapsed real time	: 0 03:20:02.00 0.0%
Energy tolerance	: 80.00	Half life ratio	: 1.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Spline	Efficiencies at	: Peak Energy
Abundance limit	: 60.00		

Summary of Nuclide Activity

Total number of lines in spectrum	2	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	1	50.00%

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			
Grand Total Activity :			0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: RDND06$DKA100:[ALP69.SAMPLE]H50N81AA_200662158.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5329.86	330	346	721	715	0.22		
5436.33	347	359	21	21	0.00		

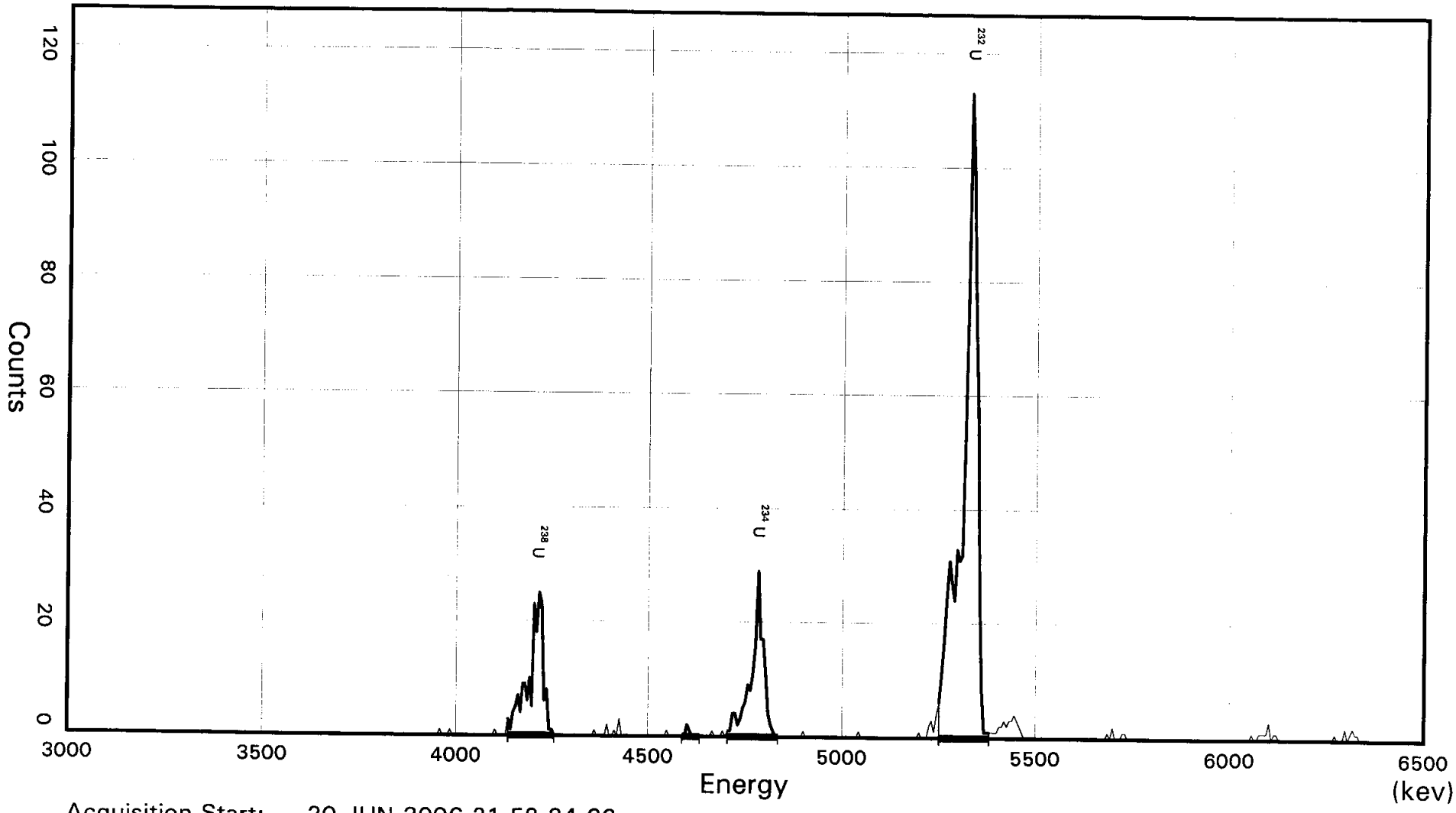
End of Report

STL Richland WA.

U BRC

Sample ID: H50N81AC
Detector ID: ALP71 1

Batch ID: 6143227



Acquisition Start: 20-JUN-2006 21:58:24.66
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:01.00

Energy Coefficients:
Offset: 3.14844E+03
Slope: 6.47574E+00
Quadrature: 3.38252E-05

SAMPLE IDENTIITY: H50N81AC

TITLE : U BRC

DETECTOR : ALP71 1
CONFIGURATION NAME : RDND06$DKA100:[ALP71.SAMPLE]H50N81AC_2006621
58.CNF;1
ACQUIRE DATE of BACKGROUND: 12-JUN-2006 08:13:05

REPORT DATE : 21-Jun-06 SAMPLE DATE: 04-MAY-2006 12:00:00
ACQUIRE DATE: 20-JUN-2006 21:58:24 CALIB DATE : 12-JUN-2006 06:25:11

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:01

OFFSET : 3148.44 keV CONSTANT FWHM : 8.66667 Channels
SLOPE : 6.47574 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 3.382520E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H50N81AC

Detector: ALP71 1
Report Date: 21-Jun-06 01:18 AM
Acquire Date: 20-JUN-2006 21:58:24.66
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 2500 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	752	30	0	3.748	5331.1	130.0	324	344	0.00	0.00	P
U-234	152	3	0	0.759	4785.5	129.9	240	260	0.00	0.00	P
U-235	7	4	0	0.033	4408.7	129.8	182	202	0.00	0.00	
U-238	169	4	0	0.843	4208.9	123.2	152	171	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H50N81AC
Detector: ALP71 1
Report Date: 21-Jun-06 01:18 AM
Acquire Date: 20-JUN-2006 21:58:24.66

Flags Key

Intersect Region: @
Non-Intersect Region: +,

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0	+	201	16	+	251	0		301	2		351	0		401	1		451	0		501
		2	0		52	0		102	3	+	152	0	+	202	29	+	252	0		302	3		352	0		402	1		452	0		502
0		3	0		53	0		103	1	+	153	0		203	17	+	253	0		303	3		353	0		403	1		453	0		503
0		4	0		54	0		104	4	+	154	0		204	17	+	254	0		304	4		354	0		404	1		454	0		504
0		5	0		55	0		105	5	+	155	0		205	11	+	255	0		305	3		355	0		405	3		455	0		505
0		6	0		56	0		106	7	+	156	0		206	4	+	256	0		306	2		356	0		406	0		456	0		506
0		7	0		57	0		107	4	+	157	0		207	2	+	257	0		307	1		357	0		407	1		457	0		507
0		8	0		58	0		108	9	+	158	0		208	1	+	258	0		308	0		358	0		408	1		458	0		508
0		9	0		59	0		109	9	+	159	0		209	0	+	259	0		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	6	+	160	0		210	0		260	0		310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	10	+	161	0		211	0		261	0		311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	5	+	162	0		212	0		262	0		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	23	+	163	0		213	0		263	0		313	0		363	0		413	0		463			
0		14	0		64	0		114	18	+	164	0		214	0		264	0		314	0		364	0		414	0		464			
0		15	0		65	0		115	25	+	165	0		215	0		265	0		315	0		365	0		415	0		465			
0		16	0		66	0		116	23	+	166	1		216	0		266	1		316	0		366	0		416	0		466			
0		17	0		67	0		117	6	+	167	0		217	0		267	0		317	0		367	0		417	0		467			
0		18	0		68	0		118	8	+	168	0		218	0		268	0		318	0		368	0		418	0		468			
0		19	0		69	0		119	1	+	169	0		219	0		269	0		319	0		369	0		419	0		469			
0		20	0		70	0		120	1	+	170	0		220	1		270	2		320	0		370	0		420	0		470			
0		21	0		71	0		121	0		171	0		221	0		271	3		321	0		371	0		421	0		471			
0		22	0		72	0		122	0		172	0		222	0		272	1		322	0		372	0		422	0		472			
0		23	0		73	0		123	0		173	0		223	0		273	4		323	0		373	0		423	0		473			
0		24	0		74	0		124	0		174	2		224	0		274	6	+	324	0		374	0		424	0		474			
0		25	0		75	1		125	0		175	1		225	0		275	11	+	325	0		375	0		425	0		475			
0		26	0		76	0		126	0		176	0		226	0		276	17	+	326	0		376	0		426	0		476			
0		27	0		77	0		127	0		177	0		227	0		277	25	+	327	0		377	0		427	0		477			
0		28	0		78	0		128	0		178	0		228	0		278	31	+	328	0		378	0		428	0		478			
0		29	0		79	1		129	0		179	0		229	0		279	27	+	329	0		379	0		429	0		479			
0		30	0		80	0		130	0		180	0		230	0		280	24	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	0		181	0		231	0		281	33	+	331	0		381	0		431	1		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	31	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	32	+	333	0		383	0		433	0		483			
0		34	0		84	0		134	0	+	184	1		234	0		284	53	+	334	0		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	78	+	335	0		385	0		435	2		485			
0		36	0		86	0		136	0	+	186	0		236	0		286	113	+	336	0		386	0		436	0		486			
0		37	0		87	0		137	1	+	187	0		237	0		287	99	+	337	0		387	0		437	1		487			
0		38	0		88	0		138	0	+	188	1		238	0		288	74	+	338	0		388	0		438	2		488			
0		39	0		89	0		139	0	+	189	0		239	0		289	58	+	339	0		389	0		439	1		489			
0		40	0		90	0		140	0	+	190	1	+	240	0		290	25	+	340	0		390	0		440	1		490			
0		41	0		91	0		141	0	+	191	1	+	241	0		291	8	+	341	1		391	0		441	0		491			
0		42	0		92	0		142	2	+	192	4	+	242	1		292	1	+	342	0		392	0		442	0		492			
0		43	0		93	0		143	0	+	193	4	+	243	0		293	1	+	343	2		393	0		443	0		493			
0		44	0		94	0		144	0	+	194	2	+	244	0		294	1		344	0		394	0		444	0		494			
0		45	0		95	0		145	1	+	195	3	+	245	0		295	1		345	0		395	0		445	0		495			
0		46	0		96	0		146	0	+	196	5	+	246	0		296	1		346	0		396	0		446	0		496			
0		47	0		97	1		147	3	+	197	6	+	247	0		297	1		347	1		397	0		447	0		497			
0		48	0		98	0		148	0	+	198	9	+	248	0		298	2		348	1		398	1		448	0		498			
0		49	0		99	0		149	0	+	199	8	+	249	0		299	2		349	0		399	0		449	0		499			
0		50	0		100	0		150	0	+	200	11	+	250	0		300	3		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 21-JUN-2006 01:18:40

Configuration	: RDND06$DKA100:[ALP71.SAMPLE]H50N81AC_200662158.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: U BRC		
Sample date	: 4-MAY-2006 12:00:00	Acquisition date	: 20-JUN-2006 21:58:24
Sample ID	: H50N81AC	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP71	Detector geometry	:
Elapsed live time	: 0 03:20:01.00	Elapsed real time	: 0 03:20:01.00 0.0%
Start energy	: 3167.87 kev	End energy	: 6472.89 kev
Sensitivity	: 3.00	Sum Sensitivity	: 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4214.65	169	0	38.85	164.50	152	19	1.41E-02	7.7	
2	0	4603.95	4	0	25.90	224.50	222	7	3.33E-04	50.0	
3	0	4782.83	152	0	45.33	252.05	240	20	1.27E-02	8.1	
4	0	5331.12	752	0	38.85	336.46	324	20	6.27E-02	3.6	

VMS Nuclide Identification Report V3.1 Generated 21-JUN-2006 01:18:41

```
Configuration     : RDND06$DKA100:[ALP71.SAMPLE]H50N81AC_200662158.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : U BRC
Sample date       : 4-MAY-2006 12:00:00  Acquisition date : 20-JUN-2006 21:58:24
Sample ID         : H50N81AC             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP71                Detector geometry:
Elapsed live time: 0 03:20:01.00         Elapsed real time: 0 03:20:01.00   0.0%
Energy tolerance :    80.00 kev          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    60.00
```

Summary of Nuclide Activity

Total number of lines in spectrum	4	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	3	75.00%

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-234	2.45E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
U-238	4.47E+09Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Grand Total Activity : 0.000E+00 0.000E+00

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: RDND06$DKA100:[ALP71.SAMPLE]H50N81AC_200662158.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4214.64	152	171	169	168	0.08		
4603.94	222	229	4	3	0.50		
4782.82	240	260	152	151	0.08		
5331.11	324	344	752	748	0.15		

End of Report

ALPHA

SAMPLE AND QC DATA

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

6/14/2006 7:08:30 AM

Lot No., Due Date: J6E170306; 06/14/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6143237; RALPHA-A Alpha by GPC-Am

SDG, Matrix: 31683; FILTER

	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 Pam Anderson **Date** 6-14-06

SEVERN TRENT **STL**

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6143237

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: Eirke Jorde Date: 6/14/6

6/5/2006 3:36:21 PM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell , Brown & Caldwell

BA Gross Alpha PrpRC5016/5014
S7 Gross Alpha by GPC using Am-241 curve
01 STANDARD TEST SET

Pipet #: _____

AnalyDueDate: 06/13/2006

Sep1 DT/Tm Tech:

Batch: 6143237 FILTER pCi/sampl PM, Quote: SA , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: HansenM Scott

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 H5KQR-1-AE J6E170306-1-SAMP 05/04/2006 12:10 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	12.51g,in		1.5	0.7	100	1B	0947	6/10/06	Scr: Alpha: Beta:
2 H5KQ4-1-AE J6E170306-2-SAMP 05/04/2006 12:15 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	12.64g,in			0.4		1C			Scr: Alpha: Beta:
3 H5KQ8-1-AE J6E170306-3-SAMP 05/04/2006 23:10 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	12.73g,in			0.4		1D			Scr: Alpha: Beta:
4 H5KRC-1-AE J6E170306-4-SAMP 05/04/2006 23:25 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	12.59g,in			0.4		1E			Scr: Alpha: Beta:
5 H5KRF-1-AE J6E170306-5-SAMP 05/04/2006 10:30 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	12.58g,in			0.2		1A	1139	6/10/06	Scr: Alpha: Beta:
6 H5KRG-1-AE J6E170306-6-SAMP 05/04/2006 10:50 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	12.66g,in			0.8		1D			Scr: Alpha: Beta:
7 H5KRJ-1-AE J6E170306-7-SAMP 05/04/2006 11:30 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	12.60g,in			0.2		1C			Scr: Alpha: Beta:

STL RICHLAND
361

STL RICHLAND

6/5/2006 3:36:22 PM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell , Brown & Caldwell

BA Gross Alpha PrpRC5016/5014
S7 Gross Alpha by GPC using Am-241 curve
01 STANDARD TEST SET

Pipet #:

AnalyDueDate: 06/13/2006

Sep1 DT/Tm Tech:

Batch: 6143237 **FILTER** **pCi/sampl** **PM, Quote: SA , 63174**

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: HansenM

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:
8 H5KRL-1-AE J6E170306-8-SAMP 05/04/2006 12:00 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	12.55g,in		1.5	0.6	100	ND	1139	6/15/06	Scr: Alpha: Beta:
9 H5KRR-1-AE J6E170306-9-SAMP 05/04/2006 12:20 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	12.66g,in			0.1		ND			Scr: Alpha: Beta:
10 H5KRV-1-AE J6E170306-10-SAMP 05/04/2006 11:05 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	12.73g,in			0.3		1.2	1322	6/15/06	Scr: Alpha: Beta:
11 H5KRX-1-AE J6E170306-11-SAMP 05/04/2006 11:20 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	12.60g,in			0.3		ND			Scr: Alpha: Beta:
12 H5KR2-1-AE J6E170306-12-SAMP 05/04/2006 10:35 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	12.52g,in			0.2		ND			Scr: Alpha: Beta:
13 H5KR4-1-AE J6E170306-13-SAMP 05/04/2006 10:45 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	12.59g,in			0.2		ND			Scr: Alpha: Beta:
14 H5KR6-1-AE J6E170306-14-SAMP 05/04/2006 12:05 Mid Pnt: 05/09/06 10:55 AmtRec: FILTER #Containers: 1	0.833sa,g	12.60g,in			0.3		ND			Scr: Alpha: Beta:

6/5/2006 3:36:23 PM

Sample Preparation/Analysis

BA Gross Alpha PrpRC5016/5014
S7 Gross Alpha by GPC using Am-241 curve
01 STANDARD TEST SET

Balance Id:1120373922

Pipet #: _____

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: ,HansenM

AnalyDueDate: 06/13/2006

Batch: 6143237 pCi/sampl
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:
15H50PG-1-AA-B J6E230000-237-BLK 05/04/2006 12:10		1.00sa,in AmtRec:	#Containers: 1	1.5	0.1	100	10A	1424	4/11/2006 GRN	
								Scr:	Alpha:	Beta:
16H50PG-1-AC-C J6E230000-237-LCS 05/04/2006 12:10		1.00sa,in AmtRec:	ASC0355 04/06/06,pd 02/09/06,r #Containers: 1		0.3		10B			
								Scr:	Alpha:	Beta:

Comments:

All Clients for Batch:
536403, Brown and Caldwell Brown & Caldwell , SA , 63174

H5KQR1AE-SAMP Constituent List:
ALPHA RDL:20 pCi/sam LCL: UCL: RPD:
H50PG1AA-BLK:
ALPHA RDL:20 pCi/sam LCL: UCL: RPD:
H50PG1AC-LCS:

H5KQR1AE-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H50PG1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H50PG1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

6/13/2006 4:02:44 PM

ICOC Fraction Transfer/Status Report

ByDate: 6/13/2005, 6/18/2006, Batch: '6143237', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6143237						
AC		**CalcC**	**HansenM**	6/5/2006 3:56:13 PM		
SC			hansenm	IsBatched	6/5/2006 2:20:22 PM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	6/5/2006 3:56:13 PM	RICH-RC-5016 REVISION 5
SC			ScottM	Prep2C	6/9/2006 9:53:12 AM	RICH-RC-5014 REVISION 6
SC			BlackCL	InCnt1	6/9/2006 10:00:08 AM	RICH-RD-0003 REVISION 4
SC			DAWKINSO	CalcC	6/11/2006 5:07:18 PM	RICH-RD-0003 REVISION 4
AC			**ScottM**	6/9/2006 9:53:12 AM		
AC			**BlackCL**	6/9/2006 10:00:08		
AC			**DAWKINSO**	6/11/2006 5:07:18 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 4

ICOCFractions v4.8.18

6/13/2006 4:02:43 PM

Rpt DB Transfer log (Batch Results)

SEVERN TRENT STL

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Sample Date / Mda	Units	Expected	Yield	Volumes	
31683	9H5KQ410			J6E1703062	000444	FILTER	5/17/2006 10:00:00	5/4/2006 12:15:00 PM					
ALPHA	BAS7	0		6/10/2006 8:56:31 AM	-8.8661E-01	6.832E-01	6.894E-01	5.657E+00	PCI/SA		1.0	1.0E+0	2.094E-2
31683	9H5KQ810			J6E1703063	000445	FILTER	5/17/2006 10:00:00	5/4/2006 11:10:00 PM					
ALPHA	BAS7	0		6/10/2006 8:56:31 AM	1.0276E+00	1.657E+00	1.66E+00	7.714E+00	PCI/SA		1.0	1.0E+0	2.119E-2
31683	9H5KQR10			J6E1703061	000443	FILTER	5/17/2006 10:00:00	5/4/2006 12:10:00 PM					
ALPHA	BAS7	0		6/10/2006 8:56:31 AM	2.9595E+00	1.6E+00	1.629E+00	5.595E+00	PCI/SA		1.0	1.0E+0	2.049E-2
31683	9H5KR210			J6E17030612	P-0618	FILTER	5/17/2006 10:00:00	5/4/2006 10:35:00 AM					
ALPHA	BAS7	0		6/10/2006 12:41:20 PM	1.3347E+00	1.307E+00	1.314E+00	5.677E+00	PCI/SA		1.0	1.0E+0	2.084E-2
31683	9H5KR410			J6E17030613	P-0619	FILTER	5/17/2006 10:00:00	5/4/2006 10:45:00 AM					
ALPHA	BAS7	0		6/10/2006 12:41:20 PM	2.5934E+00	1.899E+00	1.917E+00	7.787E+00	PCI/SA		1.0	1.0E+0	2.097E-2
31683	9H5KR610			J6E17030614	P-0620	FILTER	5/17/2006 10:00:00	5/4/2006 12:05:00 PM					
ALPHA	BAS7	0		6/10/2006 12:41:20 PM	2.9338E+00	1.763E+00	1.788E+00	6.643E+00	PCI/SA		1.0	1.0E+0	2.069E-2
31683	9H5KRC10			J6E1703064	000446	FILTER	5/17/2006 10:00:00	5/4/2006 11:25:00 PM					
ALPHA	BAS7	0		6/10/2006 8:56:31 AM	1.7865E+00	1.555E+00	1.566E+00	6.574E+00	PCI/SA		1.0	1.0E+0	2.092E-2
31683	9H5KRF10			J6E1703065	000447	FILTER	5/17/2006 10:00:00	5/4/2006 10:30:00 AM					
ALPHA	BAS7	0		6/10/2006 10:49:19	2.0716E+00	1.828E+00	1.84E+00	7.789E+00	PCI/SA		1.0	1.0E+0	2.087E-2
31683	9H5KRG10			J6E1703066	000448	FILTER	5/17/2006 10:00:00	5/4/2006 10:50:00 AM					
ALPHA	BAS7	0		6/10/2006 10:49:19	1.2809E+00	1.254E+00	1.261E+00	5.448E+00	PCI/SA		1.0	1.0E+0	2.105E-2
31683	9H5KRJ10			J6E1703067	000449	FILTER	5/17/2006 10:00:00	5/4/2006 11:30:00 AM					
ALPHA	BAS7	0		6/10/2006 10:49:19	1.8858E+00	1.416E+00	1.43E+00	5.662E+00	PCI/SA		1.0	1.0E+0	2.09E-2
31683	9H5KRL10			J6E1703068	P-0614	FILTER	5/17/2006 10:00:00	5/4/2006 12:00:00 PM					
ALPHA	BAS7	0		6/10/2006 10:49:19	5.2837E-01	1.62E+00	1.621E+00	7.932E+00	PCI/SA		1.0	1.0E+0	2.062E-2
31683	9H5KRR10			J6E1703069	P-0615	FILTER	5/17/2006 10:00:00	5/4/2006 12:20:00 PM					
ALPHA	BAS7	0		6/10/2006 10:49:19	1.7747E+00	1.545E+00	1.556E+00	6.53E+00	PCI/SA		1.0	1.0E+0	2.103E-2
31683	9H5KRV10			J6E17030610	P-0616	FILTER	5/17/2006 10:00:00	5/4/2006 11:05:00 AM					
ALPHA	BAS7	0		6/10/2006 12:41:20 PM	3.6551E+00	2.028E+00	2.064E+00	7.68E+00	PCI/SA		1.0	1.0E+0	2.117E-2
31683	9H5KRX10			J6E17030611	P-0617	FILTER	5/17/2006 10:00:00	5/4/2006 11:20:00 AM					
ALPHA	BAS7	0		6/10/2006 12:41:20 PM	2.9229E+00	1.58E+00	1.609E+00	5.525E+00	PCI/SA		1.0	1.0E+0	2.071E-2
31683	H50PG1AB			J6E230000237	INTRA-LAB BLANK	FILTER	5/17/2006 10:00:00	5/4/2006 12:10:00 PM					
ALPHA	BAS7	0	B	6/11/2006 1:34:04 PM	5.0026E-02	3.991E-02	4.023E-02	1.666E-01	PCI/SA		1.0	1.0E+0	1.0E+0
31683	H50PG1CS			J6E230000237	INTRA-LAB CHECK	FILTER	5/17/2006 10:00:00	5/4/2006 12:10:00 PM					
ALPHA	BAS7	0	S	6/11/2006 1:34:04 PM	1.9149E+00	1.477E-01	2.443E-01	1.077E-01	PCI/SA	2.3786E+00	1.0	1.0E+0	1.0E+0

6143237, **Samples Inserted | Updated | NotUpdated => 16 | 0 | 0,
**Results Inserted | ReTestInserted | Updated | NotInserted => 16 | 0 | 0 | 0.
**Diff RptDb | Qtims => .

Batch Nbr: 6143237

Alpha Beta, Alpha by GPC-Am , Results
Summary Report

6/11/2006 4:04:44 PM

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Alpha by GPC-Am				Richland Standard Gross Alpha/Beta Wo Blk Subt										
Calc	S7	FILTER	H5KQR1AE	ALPHA	2.96E+00	(1.63E+00)		PCI/SA	R	2.06E+00	5.59E+00	RDL	100%	
Calc	S7	FILTER	H5KQ41AE	ALPHA	-8.87E-01	(6.89E-01)	U4	PCI/SA	R	2.08E+00	5.66E+00	mt	100%	
Calc	S7	FILTER	H5KQ81AE	ALPHA	1.03E+00	(1.66E+00)	U4	PCI/SA	R	3.16E+00	7.71E+00		100%	
Calc	S7	FILTER	H5KRC1AE	ALPHA	1.79E+00	(1.57E+00)	U4	PCI/SA	R	2.53E+00	6.57E+00		100%	
Calc	S7	FILTER	H5KRF1AE	ALPHA	2.07E+00	(1.84E+00)	U4	PCI/SA	R	3.16E+00	7.79E+00		100%	
Calc	S7	FILTER	H5KRG1AE	ALPHA	1.28E+00	(1.26E+00)	U4	PCI/SA	R	2.00E+00	5.45E+00		100%	
Calc	S7	FILTER	H5KRJ1AE	ALPHA	1.89E+00	(1.43E+00)	U4	PCI/SA	R	2.08E+00	5.66E+00		100%	
Calc	S7	FILTER	H5KRL1AE	ALPHA	5.28E-01	(1.62E+00)	U4	PCI/SA	R	3.25E+00	7.93E+00		100%	
Calc	S7	FILTER	H5KRR1AE	ALPHA	1.77E+00	(1.56E+00)	U4	PCI/SA	R	2.52E+00	6.53E+00		100%	
Calc	S7	FILTER	H5KRV1AE	ALPHA	3.66E+00	(2.06E+00)		PCI/SA	R	3.11E+00	7.68E+00		100%	
Calc	S7	FILTER	H5KRX1AE	ALPHA	2.92E+00	(1.61E+00)		PCI/SA	R	2.03E+00	5.53E+00		100%	
Calc	S7	FILTER	H5KR21AE	ALPHA	1.33E+00	(1.31E+00)	U4	PCI/SA	R	2.09E+00	5.68E+00		100%	
Calc	S7	FILTER	H5KR41AE	ALPHA	2.59E+00	(1.92E+00)	U4	PCI/SA	R	3.19E+00	7.79E+00		100%	
Calc	S7	FILTER	H5KR61AE	ALPHA	2.93E+00	(1.79E+00)	U4	PCI/SA	R	2.56E+00	6.64E+00		100%	
Calc	S7	FILTER	H50PG1AA	ALPHA	5.00E-02	(4.02E-02)	U4	PCI/SA	R	6.80E-02	1.67E-01	B	100%	
Calc	S7	FILTER	H50PG1AC	ALPHA	1.91E+00	(2.44E-01)		PCI/SA	R	3.87E-02	1.08E-01	S	100%	81%

PAnderson
6-13-06

() - (1s Uncertainities)
IDC - Instrument Detection Level in Conc Units
MLcC- Method Decision Level in Conc Units
MDC - Minimum Detectable Concentration
*Std - Lc, MDC using StdDev for Set of Blanks

Q - Qualifier, U is Less Than Lc = 1.645*TPU
All Results Displayed to Three Digits Reguardless of Significants
Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:16
RADCALC v4.8.24
STL Richland

Batch Nbr: 6143237

Alpha Beta, Alpha by GPC-Am , Calculated Results
Detailed Report

6/11/2006 4:04:45 PM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
1	Calc	S7	FILTER	*STLE	GabWoBS	**H5KQR1AE**	**PCI/SA**		05/04/06 12:10	06/10/06 08:56			1	1.00 Sa	
536403,000443					,J6E170306-1 v4.8.24		FILTER		05/02/06 10:40	00.7				0.020493 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/10/06 09:46	ALPHA	8	13	GPC10B	1.5	N	N	4.0106E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(1.346E-02)	(0.000E+00)		8%			(0.000E+00)	48.796497		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/11/06	ALPHA	R	**2.959545**		5.40000E-02	0.134645	0.134645	1.00 Sa	100%		5.594581		
				(1.629116)		(2.9189E-02)	(0.073712)	(0.073712)	(0.028284)			2.055885		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
2	Calc	S7	FILTER	*STLE	GabWoBS	**H5KQ41AE**	**PCI/SA**		05/04/06 12:15	06/10/06 08:56			1	1.00 Sa	
536403,000444					,J6E170306-2 v4.8.24		FILTER		05/02/06 10:40	00.4				0.020938 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/10/06 09:46	ALPHA	1	13	GPC10C	1.5	N	N	3.8825E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(1.293E-02)	(0.000E+00)		8%			(0.000E+00)	47.760877		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/11/06	ALPHA	R	**-0.886609**	**U4**	-1.60000E-02	-0.041211	-0.041211	1.00 Sa	100%		5.656511		
				(0.689369)		(1.2329E-02)	(0.031955)	(0.031955)	(0.028284)			2.078643		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
3	Calc	S7	FILTER	*STLE	GabWoBS	**H5KQ81AE**	**PCI/SA**		05/04/06 23:10	06/10/06 08:56			1	1.00 Sa	
536403,000445					,J6E170306-3 v4.8.24		FILTER		05/02/06 10:40	00.4				0.021188 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/10/06 09:46	ALPHA	9	35	GPC10D	1.5	N	N	4.1377E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(1.204E-02)	(0.000E+00)		8%			(0.000E+00)	47.19594		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/11/06	ALPHA	R	**1.027607**	**U4**	2.00000E-02	0.048337	0.048337	1.00 Sa	100%		7.713597		
				(1.660323)		(3.2249E-02)	(0.078049)	(0.078049)	(0.028284)			3.162473		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
4	Calc	S7	FILTER	*STLE	GabWoBS	**H5KRC1AE**	**PCI/SA**		05/04/06 23:25	06/10/06 08:56			1	1.00 Sa	
536403,000446					,J6E170306-4 v4.8.24		FILTER		05/02/06 10:40	00.4				0.020921 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/10/06 09:46	ALPHA	7	19	GPC10E	1.5	N	N	3.8565E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(1.141E-02)	(0.000E+00)		8%			(0.000E+00)	47.797991		

RecCnt:4 RADCALC v4.8.24
STL Richland

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

Batch Nbr: 6143237

Alpha Beta, Alpha by GPC-Am , Calculated Results

6/11/2006 4:04:45 PM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/11/06	ALPHA	R	**1.786535**	**U4**	3.20000E-02	0.082977	0.082977	1.00 Sa	100%		6.573623		
				(1.566037)		(2.7857E-02)	(0.072579)	(0.072579)	(0.028284)			2.531829		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
5	Calc	S7	FILTER	*STLE	GabWoBS	**H5KRF1AE**	**PCI/SA**		05/04/06 10:30	06/10/06 10:49			1	1.00 Sa	
536403,000447					,J6E170306-5 v4.8.24		FILTER		05/02/06 10:40	00.2				0.020867 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/10/06 11:39	ALPHA	10	31	GPC10A	1.5	N	N	3.9598E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(1.368E-02)	(0.000E+00)		8%			(0.000E+00)	47.922826		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/11/06	ALPHA	R	**2.071554**	**U4**	3.80000E-02	0.095964	0.095964	1.00 Sa	100%		7.789264		
				(1.840405)		(3.3526E-02)	(0.085077)	(0.085077)	(0.028284)			3.157834		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
6	Calc	S7	FILTER	*STLE	GabWoBS	**H5KRG1AE**	**PCI/SA**		05/04/06 10:50	06/10/06 10:49			1	1.00 Sa	
536403,000448					,J6E170306-6 v4.8.24		FILTER		05/02/06 10:40	00.8				0.021054 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/10/06 11:39	ALPHA	5	13	GPC10B	1.5	N	N	4.0087E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(1.346E-02)	(0.000E+00)		8%			(0.000E+00)	47.497672		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/11/06	ALPHA	R	**1.28093**	**U4**	2.40000E-02	0.05987	0.05987	1.00 Sa	100%		5.448169		
				(1.261024)		(2.3495E-02)	(0.058839)	(0.058839)	(0.028284)			2.002082		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
7	Calc	S7	FILTER	*STLE	GabWoBS	**H5KRJ1AE**	**PCI/SA**		05/04/06 11:30	06/10/06 10:49			1	1.00 Sa	
536403,000449					,J6E170306-7 v4.8.24		FILTER		05/02/06 10:40	00.2				0.020901 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/10/06 11:39	ALPHA	6	13	GPC10C	1.5	N	N	3.8858E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(1.294E-02)	(0.000E+00)		8%			(0.000E+00)	47.844852		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/11/06	ALPHA	R	**1.885752**	**U4**	3.40000E-02	0.087499	0.087499	1.00 Sa	100%		5.661638		
				(1.429722)		(2.5534E-02)	(0.066148)	(0.066148)	(0.028284)			2.080527		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
8	Calc	S7	FILTER	*STLE	GabWoBS	**H5KRL1AE**	**PCI/SA**		05/04/06 12:00	06/10/06 10:49			1	1.00 Sa	
536403,P-0614					,J6E170306-8 v4.8.24		FILTER		05/02/06 10:40	00.6				0.020623 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn

RecCnt:8 RADCALC v4.8.24
STL Richland

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

Batch Nbr: 6143237

Alpha Beta, Alpha by GPC-Am , Calculated Results

6/11/2006 4:04:45 PM

0	06/10/06 11:39	ALPHA	8	35	GPC10D	1.5	N	N	4.1339E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00
			100	500				Y	(1.203E-02)	(0.000E+00)		8%			(0.000E+00)	48.489834	

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/11/06	ALPHA	R	**0.528369**	**U4**	1.00000E-02	0.02419	0.02419	1.00 Sa	100%		7.932275		
				(1.620859)		(3.0659E-02)	(0.074194)	(0.074194)	(0.028284)			3.252128		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
9	Calc	S7	FILTER	*STLE	GabWoBS	**H5KRR1AE**	**PCI/SA**		05/04/06 12:20	06/10/06 10:49			1	1.00 Sa	
536403,P-0615					,J6E170306-9 v4.8.24		FILTER		05/02/06 10:40	00.1				0.021034 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/10/06 11:39	ALPHA	7	19	GPC10E	1.5	N	N	3.8614E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(1.143E-02)	(0.000E+00)		8%			(0.000E+00)	47.54224		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/11/06	ALPHA	R	**1.774726**	**U4**	3.20000E-02	0.082871	0.082871	1.00 Sa	100%		6.530168		
				(1.555684)		(2.7857E-02)	(0.072487)	(0.072487)	(0.028284)			2.515092		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
10	Calc	S7	FILTER	*STLE	GabWoBS	**H5KRV1AE**	**PCI/SA**		05/04/06 11:05	06/10/06 12:41			1	1.00 Sa	
536403,P-0616					,J6E170306-10 v4.8.24		FILTER		05/02/06 10:40	00.3				0.021174 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/10/06 13:31	ALPHA	13	31	GPC10A	1.5	N	N	3.9577E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(1.367E-02)	(0.000E+00)		8%			(0.000E+00)	47.227061		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/11/06	ALPHA	R	**3.655114**		6.80000E-02	0.171816	0.171816	1.00 Sa	100%		7.680258		
				(2.063931)		(3.7736E-02)	(0.096516)	(0.096516)	(0.028284)			3.113642		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
11	Calc	S7	FILTER	*STLE	GabWoBS	**H5KRX1AE**	**PCI/SA**		05/04/06 11:20	06/10/06 12:41			1	1.00 Sa	
536403,P-0617					,J6E170306-11 v4.8.24		FILTER		05/02/06 10:40	00.3				0.020713 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/10/06 13:31	ALPHA	8	13	GPC10B	1.5	N	N	4.0178E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(1.349E-02)	(0.000E+00)		8%			(0.000E+00)	48.278359		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/11/06	ALPHA	R	**2.922867**		5.40000E-02	0.134403	0.134403	1.00 Sa	100%		5.525247		
				(1.608926)		(2.9189E-02)	(0.07358)	(0.07358)	(0.028284)			2.030406		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:12

RADCALC v4.8.24
STL Richland

Batch Nbr: 6143237

Alpha Beta, Alpha by GPC-Am , Calculated Results

6/11/2006 4:04:46 PM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PpptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
12	Calc	S7	FILTER	*STLE	GabWoBS	**H5KR21AE**	**PCI/SA**		05/04/06 10:35	06/10/06 12:41			1	1.00 Sa	
536403,P-0618					,J6E170306-12 v4.8.24		FILTER		05/02/06 10:40	00.2				0.020844 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/10/06 13:31	ALPHA	5	13	GPC10C	1.5	N	N	3.8858E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(1.294E-02)	(0.000E+00)		8%			(0.000E+00)	47.975101		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/11/06	ALPHA	R	**1.334743**	**U4**	2.40000E-02	0.061764	0.061764	1.00 Sa	100%		5.677051		
				(1.313988)		(2.3495E-02)	(0.0607)	(0.0607)	(0.028284)			2.08619		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PpptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
13	Calc	S7	FILTER	*STLE	GabWoBS	**H5KR41AE**	**PCI/SA**		05/04/06 10:45	06/10/06 12:41			1	1.00 Sa	
536403,P-0619					,J6E170306-13 v4.8.24		FILTER		05/02/06 10:40	00.2				0.02097 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/10/06 13:31	ALPHA	12	35	GPC10D	1.5	N	N	4.1414E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(1.205E-02)	(0.000E+00)		8%			(0.000E+00)	47.687383		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/11/06	ALPHA	R	**2.593447**	**U4**	5.00000E-02	0.120733	0.120733	1.00 Sa	100%		7.786952		
				(1.917304)		(3.6606E-02)	(0.088987)	(0.088987)	(0.028284)			3.192547		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PpptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
14	Calc	S7	FILTER	*STLE	GabWoBS	**H5KR61AE**	**PCI/SA**		05/04/06 12:05	06/10/06 12:41			1	1.00 Sa	
536403,P-0620					,J6E170306-14 v4.8.24		FILTER		05/02/06 10:40	00.3				0.020694 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/10/06 13:31	ALPHA	9	19	GPC10E	1.5	N	N	3.8582E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(1.142E-02)	(0.000E+00)		8%			(0.000E+00)	48.324092		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/11/06	ALPHA	R	**2.933821**	**U4**	5.20000E-02	0.134779	0.134779	1.00 Sa	100%		6.643142		
				(1.788241)		(3.1241E-02)	(0.081786)	(0.081786)	(0.028284)			2.558604		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PpptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
15	Calc	S7	FILTER	*STLE	GabWoBS	**H50PG1AA**	**PCI/SA**	**B**	05/04/06 12:10	06/11/06 13:34			1	1.00 Sa	
0,INTRA-LAB BLANK					,J6E230000-237		FILTER			00.1				1.00 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/11/06 14:24	ALPHA	11	33	GPC10A	1.5	N	N	3.9619E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(1.368E-02)	(0.000E+00)		8%			(0.000E+00)	1.00		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:15

RADCALC v4.8.24
STL Richland

Batch Nbr: 6143237

Alpha Beta, Alpha by GPC-Am , Calculated Results

6/11/2006 4:04:46 PM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/11/06	ALPHA	R	**0.050026**	**U4**	4.40000E-02	0.111057	0.111057	1.00 Sa	100%		0.166632		
				(0.040231)		(3.5100E-02)	(0.08912)	(0.08912)	(0.017321)			0.067951		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
16	Calc	S7	FILTER	*STLE	GabWoBS	**H50PG1AC**	**PCI/SA**	**S**	05/04/06 12:10	06/11/06 13:34		ASC0355	1	1.00 Sa	
0,INTRA-LAB CHECK					,J6E230000-237		FILTER			00.3		ASC0355 Alq		1.00 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/11/06 14:24	ALPHA	173	11	GPC10B	1.5	N	N	4.0178E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(1.349E-02)	(0.000E+00)		8%			(0.000E+00)	1.00		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/11/06	ALPHA	R	**1.91492**		1.70800E+00	4.251127	4.251127	1.00 Sa	100%	81%	0.107709		
				(0.244272)		(1.3170E-01)	(0.493428)	(0.493428)	(0.017321)			0.038686		

RecCnt:16

RADCALC v4.8.24
STL Richland

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
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Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

UST Number: H5KQR1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-B File: [quad10.sample.B]H5KQR1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.B_15;4213

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00008	00000	0100	00000	1000	10-JUN-2006 09:46:31.81

Bkg File: [quad10.bkgrnd]2006-06-10_0456.B_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00013	0500	0.03	00000	1000	10-JUN-2006 04:56:12.18

UST Number: H5KQ41AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-C File: [quad10.sample.C]H5KQ41AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.C_15;4222

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00001	00000	0100	00000	1000	10-JUN-2006 09:46:31.81

Bkg File: [quad10.bkgrnd]2006-06-10_0456.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00013	0500	0.03	00000	1000	10-JUN-2006 04:56:12.18

UST Number: H5KQ81AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-D File: [quad10.sample.D]H5KQ81AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.D_15;4216

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00009	00000	0100	00000	1000	10-JUN-2006 09:46:31.81

Bkg File: [quad10.bkgrnd]2006-06-10_0456.D_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00035	0500	0.07	00000	1000	10-JUN-2006 04:56:12.18

UST Number: H5KRC1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-E File: [quad10.sample.E]H5KRC1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.E_15;4211

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00007	00000	0100	00000	1000	10-JUN-2006 09:46:31.81

Bkg File: [quad10.bkgrnd]2006-06-10_0456.E_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00019	0500	0.04	00000	1000	10-JUN-2006 04:56:12.18

UST Number: H5KRF1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-A File: [quad10.sample.A]H5KRF1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.A_15;4216

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00010	00000	0100	00000	1000	10-JUN-2006 11:39:19.69

Bkg File: [quad10.bkgrnd]2006-06-10_0456.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00031	0500	0.06	00000	1000	10-JUN-2006 04:56:12.18

UST Number: H5KRG1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-B File: [quad10.sample.B]H5KRG1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.B_15;4213

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00005	00000	0100	00000	1000	10-JUN-2006 11:39:19.69

Bkg File: [quad10.bkgrnd]2006-06-10_0456.B_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00013	0500	0.03	00000	1000	10-JUN-2006 04:56:12.18

UST Number: H5KRJ1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-C File: [quad10.sample.C]H5KRJ1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.C_15;4222

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00006	00000	0100	00000	1000	10-JUN-2006 11:39:19.69

Bkg File: [quad10.bkgrnd]2006-06-10_0456.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00013	0500	0.03	00000	1000	10-JUN-2006 04:56:12.18

UST Number: H5KRL1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-D File: [quad10.sample.D]H5KRL1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.D_15;4216

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00008	00000	0100	00000	1000	10-JUN-2006 11:39:19.69

Bkg File: [quad10.bkgrnd]2006-06-10_0456.D_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00035	0500	0.07	00000	1000	10-JUN-2006 04:56:12.18

UST Number: H5KRR1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-E File: [quad10.sample.E]H5KRR1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.E_15;4211

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00007	00000	0100	00000	1000	10-JUN-2006 11:39:19.69

Bkg File: [quad10.bkgrnd]2006-06-10_0456.E_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00019	0500	0.04	00000	1000	10-JUN-2006 04:56:12.18

UST Number: H5KRV1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-A File: [quad10.sample.A]H5KRV1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.A_15;4216

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00013	00000	0100	00000	1000	10-JUN-2006 13:31:20.76

Bkg File: [quad10.bkgrnd]2006-06-10_0456.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00031	0500	0.06	00000	1000	10-JUN-2006 04:56:12.18

UST Number: H5KRX1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-B File: [quad10.sample.B]H5KRX1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.B_15;4213

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00008	00000	0100	00000	1000	10-JUN-2006 13:31:20.76

Bkg File: [quad10.bkgrnd]2006-06-10_0456.B_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00013	0500	0.03	00000	1000	10-JUN-2006 04:56:12.18

UST Number: H5KR21AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-C File: [quad10.sample.C]H5KR21AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.C_15;4222

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00005	00000	0100	00000	1000	10-JUN-2006 13:31:20.76

Bkg File: [quad10.bkgrnd]2006-06-10_0456.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00013	0500	0.03	00000	1000	10-JUN-2006 04:56:12.18

UST Number: H5KR41AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-D File: [quad10.sample.D]H5KR41AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.D_15;4216

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00012	00000	0100	00000	1000	10-JUN-2006 13:31:20.76

Bkg File: [quad10.bkgrnd]2006-06-10_0456.D_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00035	0500	0.07	00000	1000	10-JUN-2006 04:56:12.18

UST Number: H5KR61AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-E File: [quad10.sample.E]H5KR61AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.E_15;4211

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00009	00000	0100	00000	1000	10-JUN-2006 13:31:20.76

Bkg File: [quad10.bkgrnd]2006-06-10_0456.E_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00019	0500	0.04	00000	1000	10-JUN-2006 04:56:12.18

UST Number: H50PG1AA Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-A File: [quad10.sample.A]H50PG1AA.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.A_15;4217

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00011	00000	0100	00000	1000	11-JUN-2006 14:24:04.43

Bkg File: [quad10.bkgrnd]2006-06-10_2214.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00033	0500	0.07	00000	1000	10-JUN-2006 22:14:05.89

UST Number: H50PG1AC Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-B File: [quad10.sample.B]H50PG1AC.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.B_15;4214

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00173	00000	0100	00000	1000	11-JUN-2006 14:24:04.43

Bkg File: [quad10.bkgrnd]2006-06-10_2214.B_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00011	0500	0.02	00000	1000	10-JUN-2006 22:14:05.89

BETA

SAMPLE AND QC DATA

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

6/14/2006 7:09:08 AM

Lot No., Due Date: J6E170306; 06/14/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6143240; RBETA-SR Beta by GPC-Sr/Y

SDG, Matrix: 31683; FILTER

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:
See NCM. 10-08179

First Level Review Pam Anderson **Date** 6-14-06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6143240

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: See NCM

Second Level Review: Erika [illegible] Date: 6/14/16

STL RICHLAND

6/5/2006 3:36:24 PM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell , Brown & Caldwell

BD Gross Beta PrpRC5016/5014
S8 Gross Beta by GPC using Sr/Y-90 curve
01 STANDARD TEST SET

Pipet #: _____

AnalyDueDate: 06/13/2006

Sep1 DT/Tm Tech:

Batch: 6143240 FILTER pCi/sampl PM, Quote: SA , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: HansenM Scott

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 H5KQR-1-AF J6E170306-1-SAMP	0.833sa,g	508.50sa,g	50.17g,in	0.0822g	Disk 1.5 PPT 2.9	100	26B	1455	6/9/06	
05/04/2006 12:10	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
2 H5KQ4-1-AF J6E170306-2-SAMP	0.833sa,g	502.88sa,g	50.16g,in	0.0831g	2.1		26C			
05/04/2006 12:15	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
3 H5KQ8-1-AF J6E170306-3-SAMP	0.833sa,g	500.47sa,g	50.06g,in	0.0833g	2.1		26D			
05/04/2006 23:10	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
4 H5KRC-1-AF J6E170306-4-SAMP	0.833sa,g	501.28sa,g	50.73g,in	0.0843g	2.8		28B			
05/04/2006 23:25	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
5 H5KRF-1-AF J6E170306-5-SAMP	0.833sa,g	502.19sa,g	50.41g,in	0.0836g	2.1		28C			
05/04/2006 10:30	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
6 H5KRG-1-AF J6E170306-6-SAMP	0.833sa,g	500.90sa,g	50.35g,in	0.0837g	2.5		28D			
05/04/2006 10:50	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
7 H5KRJ-1-AF J6E170306-7-SAMP	0.833sa,g	502.17sa,g	50.04g,in	0.083g	0.8		31A			
05/04/2006 11:30	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#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

Prep_SamplePrep v4.8.24

STL RICHLAND

6/5/2006 3:36:24 PM

Sample Preparation/Analysis

536403, Brown and Caldwell , Brown & Caldwell

BD Gross Beta PrpRC5016/5014
S8 Gross Beta by GPC using Sr/Y-90 curve
01 STANDARD TEST SET

Balance Id:1120373922

Pipet #:

AnalyDueDate: 06/13/2006

Sep1 DT/Tm Tech:

Batch: 6143240 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 H5KRL-1-AF J6E170306-8-SAMP	0.833sa,g	506.92sa,g	50.33g,in	0.0827g	Dup 1.5 PPT 1.0	100	31B	1455	6/9/06	
05/04/2006 12:00	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
9 H5KRR-1-AF J6E170306-9-SAMP	0.833sa,g	501.37sa,g	50.50g,in	0.0839g	1.0		31C			
05/04/2006 12:20	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
10 H5KRV-1-AF J6E170306-10-SAMP	0.833sa,g	500.80sa,g	50.05g,in	0.0833g	1.5		31D			
05/04/2006 11:05	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
11 H5KRX-1-AF J6E170306-11-SAMP	0.833sa,g	506.72sa,g	50.08g,in	0.0823g	1.0		32A			
05/04/2006 11:20	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
12 H5KR2-1-AF J6E170306-12-SAMP	0.833sa,g	500.34sa,g	50.12g,in	0.0834g	1.1		32B			
05/04/2006 10:35	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
13 H5KR4-1-AF J6E170306-13-SAMP	0.833sa,g	500.12sa,g	50.03g,in	0.0833g	1.2		32C			
05/04/2006 10:45	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
14 H5KR6-1-AF J6E170306-14-SAMP	0.833sa,g	507.20sa,g	50.26g,in	0.0825g	1.1		32D			
05/04/2006 12:05	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:

6/5/2006 3:36:25 PM

Sample Preparation/Analysis

BD Gross Beta PrpRC5016/5014
S8 Gross Beta by GPC using Sr/Y-90 curve
01 STANDARD TEST SET

Balance Id:1120373922

Pipet #: _____

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: ,HansenM

AnalyDueDate: 06/13/2006

Batch: 6143240 **pCi/sampl**
SEQ Batch, Test: None

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
15H50PP-1-AA-B J6E230000-240-BLK 05/04/2006 12:10			1.00sa,in	1.00sa	Dbl 115	0.1	100	26C	1659	6/9/06 OD
		AmtRec:	#Containers: 1				Scr:	Alpha:		Beta:
16H50PP-1-AC-C J6E230000-240-LCS 05/04/2006 12:10			1.00sa,in	1.00sa	BESB2815 05/24/06,pd 12/28/05,r	0.2	24D			
		AmtRec:	#Containers: 1				Scr:	Alpha:		Beta:

Comments:

All Clients for Batch:
536403, Brown and Caldwell Brown & Caldwell , SA , 63174

H5KQR1AF-SAMP Constituent List:
BETA RDL:5 pCi/sam LCL: UCL: RPD:
H50PP1AA-BLK:
BETA RDL:5 pCi/sam LCL: UCL: RPD:
H50PP1AC-LCS:
Cs-137 RDL: pCi/sam LCL:70 UCL:130 RPD:20 Cs-137DA RDL: pCi/sam LCL:70 UCL:130 RPD:20
Sr-90 RDL: pCi/sam LCL:70 UCL:130 RPD:20
H5KQR1AF-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H50PP1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H50PP1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

Clouseau
Nonconformance Memo

SEVERN TRENT SERVICES

NCM #: **10-08179**
NCM Initiated By: Pam Anderson
Date Opened: 06/14/2006
Date Closed:

Classification: **Anomaly**
Status: **GLREVIEW**
Production Area: Environmental - Sep
Tests: Beta by GPC-Sr/Y
Lot #'s (Sample #'s): J6E170306 (1,10,11,12,13,14,2,3,4,5,6,7, 8,9),
QC Batches: 6143240

Nonconformance: MDA not met
Subcategory: Data accepted

Problem Description / Root Cause

Name	Date	Description
Pam Anderson	06/14/2006	None of the samples meet CRDL. All results of the samples except H5KRX1AF have results >MDA>CRDL. H5KRX1AF MDA is just over CRDL at 6.8 pCi/sa

Corrective Action

Name	Date	Corrective Action
Pam Anderson	06/14/2006	None at this time.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note	Response	Response Note

Quality Assurance Verification

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

Approval History

Date Approved	Approved By	Position

Date Printed: 6/14/2006

6/13/2006 4:03:39 PM

ICOC Fraction Transfer/Status Report

ByDate: 6/13/2005, 6/18/2006, Batch: '6143240', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6143240						
AC		**CalcC**	**HansenM**	6/5/2006 3:56:17 PM		
SC			hansenm	IsBatched	6/5/2006 2:20:22 PM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	6/5/2006 3:56:17 PM	RICH-RC-5016 REVISION 5
SC			ScottM	Prep2C	6/9/2006 9:20:16 AM	RICH-RC-5014 REVISION 6
SC			BlackCL	InCnt1	6/9/2006 9:31:30 AM	RICH-RD-0003 REVISION 4
SC			DAWKINSO	CalcC	6/9/2006 8:08:25 PM	RICH-RD-0003 REVISION 4
AC			**ScottM**	6/9/2006 9:20:16 AM		
AC			**BlackCL**	6/9/2006 9:31:30 AM		
AC			**DAWKINSO**	6/9/2006 8:08:25 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

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Grp Rec Cnt: 4

ICOCFractions v4.8.18

6/13/2006 4:03:38 PM

Rpt DB Transfer log (Batch Results)

SEVERN TRENT STL

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Mda	Sample Date / Units	Expected	Yield	Volumes
31683	**9H5KQ410**			**J6E1703062**	000444	FILTER	5/17/2006 10:00:00		5/4/2006 12:15:00 PM			
ALPHA	BAS7	0		6/10/2006 8:56:31 AM	**-8.8661E-01**	6.832E-01	6.894E-01	5.657E+00	PCI/SA	1.0	1.0E+0	2.094E-2
BETA	BDS8	0		6/9/2006 2:07:59 PM	**1.8388E+01**	2.097E+00	2.455E+00	6.372E+00	PCI/SA	1.0	1.0E+0	3.309E-2
31683	**9H5KQ810**			**J6E1703063**	000445	FILTER	5/17/2006 10:00:00		5/4/2006 11:10:00 PM			
ALPHA	BAS7	0		6/10/2006 8:56:31 AM	**1.0276E+00**	1.657E+00	1.66E+00	7.714E+00	PCI/SA	1.0	1.0E+0	2.119E-2
BETA	BDS8	0		6/9/2006 2:07:59 PM	**1.4485E+01**	1.96E+00	2.193E+00	6.353E+00	PCI/SA	1.0	1.0E+0	3.332E-2
31683	**9H5KQR10**			**J6E1703061**	000443	FILTER	5/17/2006 10:00:00		5/4/2006 12:10:00 PM			
ALPHA	BAS7	0		6/10/2006 8:56:31 AM	**2.9595E+00**	1.6E+00	1.629E+00	5.595E+00	PCI/SA	1.0	1.0E+0	2.049E-2
BETA	BDS8	0		6/9/2006 2:07:59 PM	**1.8558E+01**	2.115E+00	2.487E+00	6.552E+00	PCI/SA	1.0	1.0E+0	3.219E-2
31683	**9H5KR210**			**J6E17030612**	P-0618	FILTER	5/17/2006 10:00:00		5/4/2006 10:35:00 AM			
ALPHA	BAS7	0		6/10/2006 12:41:20 PM	**1.3347E+00**	1.307E+00	1.314E+00	5.677E+00	PCI/SA	1.0	1.0E+0	2.084E-2
BETA	BDS8	0		6/9/2006 2:08:11 PM	**1.9537E+01**	2.063E+00	2.467E+00	6.118E+00	PCI/SA	1.0	1.0E+0	3.344E-2
31683	**9H5KR410**			**J6E17030613**	P-0619	FILTER	5/17/2006 10:00:00		5/4/2006 10:45:00 AM			
ALPHA	BAS7	0		6/10/2006 12:41:20 PM	**2.5934E+00**	1.899E+00	1.917E+00	7.787E+00	PCI/SA	1.0	1.0E+0	2.097E-2
BETA	BDS8	0		6/9/2006 2:08:11 PM	**1.2783E+01**	1.846E+00	2.174E+00	6.103E+00	PCI/SA	1.0	1.0E+0	3.333E-2
31683	**9H5KR610**			**J6E17030614**	P-0620	FILTER	5/17/2006 10:00:00		5/4/2006 12:05:00 PM			
ALPHA	BAS7	0		6/10/2006 12:41:20 PM	**2.9338E+00**	1.763E+00	1.788E+00	6.643E+00	PCI/SA	1.0	1.0E+0	2.069E-2
BETA	BDS8	0		6/9/2006 2:08:11 PM	**1.158E+01**	1.99E+00	2.157E+00	7.045E+00	PCI/SA	1.0	1.0E+0	3.254E-2
31683	**9H5KRC10**			**J6E1703064**	000446	FILTER	5/17/2006 10:00:00		5/4/2006 11:25:00 PM			
ALPHA	BAS7	0		6/10/2006 8:56:31 AM	**1.7865E+00**	1.555E+00	1.566E+00	6.574E+00	PCI/SA	1.0	1.0E+0	2.092E-2
BETA	BDS8	0		6/9/2006 2:07:57 PM	**1.5346E+01**	1.94E+00	2.214E+00	6.154E+00	PCI/SA	1.0	1.0E+0	3.43E-2
31683	**9H5KRF10**			**J6E1703065**	000447	FILTER	5/17/2006 10:00:00		5/4/2006 10:30:00 AM			
ALPHA	BAS7	0		6/10/2006 10:49:19	**2.0716E+00**	1.828E+00	1.84E+00	7.789E+00	PCI/SA	1.0	1.0E+0	2.087E-2
BETA	BDS8	0		6/9/2006 2:07:57 PM	**2.4139E+01**	2.255E+00	2.988E+00	6.538E+00	PCI/SA	1.0	1.0E+0	3.362E-2
31683	**9H5KRG10**			**J6E1703066**	000448	FILTER	5/17/2006 10:00:00		5/4/2006 10:50:00 AM			
ALPHA	BAS7	0		6/10/2006 10:49:19	**1.2809E+00**	1.254E+00	1.261E+00	5.448E+00	PCI/SA	1.0	1.0E+0	2.105E-2
BETA	BDS8	0		6/9/2006 2:07:57 PM	**1.6696E+01**	2.066E+00	2.49E+00	6.57E+00	PCI/SA	1.0	1.0E+0	3.373E-2
31683	**9H5KRJ10**			**J6E1703067**	000449	FILTER	5/17/2006 10:00:00		5/4/2006 11:30:00 AM			
ALPHA	BAS7	0		6/10/2006 10:49:19	**1.8858E+00**	1.416E+00	1.43E+00	5.662E+00	PCI/SA	1.0	1.0E+0	2.09E-2
BETA	BDS8	0		6/9/2006 2:07:59 PM	**1.466E+01**	1.97E+00	2.23E+00	6.45E+00	PCI/SA	1.0	1.0E+0	3.301E-2
31683	**9H5KRL10**			**J6E1703068**	P-0614	FILTER	5/17/2006 10:00:00		5/4/2006 12:00:00 PM			
ALPHA	BAS7	0		6/10/2006 10:49:19	**5.2837E-01**	1.62E+00	1.621E+00	7.932E+00	PCI/SA	1.0	1.0E+0	2.062E-2
BETA	BDS8	0		6/9/2006 2:07:59 PM	**1.4517E+01**	1.943E+00	2.303E+00	6.345E+00	PCI/SA	1.0	1.0E+0	3.271E-2
31683	**9H5KRR10**			**J6E1703069**	P-0615	FILTER	5/17/2006 10:00:00		5/4/2006 12:20:00 PM			
ALPHA	BAS7	0		6/10/2006 10:49:19	**1.7747E+00**	1.545E+00	1.556E+00	6.53E+00	PCI/SA	1.0	1.0E+0	2.103E-2
BETA	BDS8	0		6/9/2006 2:07:59 PM	**1.5927E+01**	2.002E+00	2.28E+00	6.452E+00	PCI/SA	1.0	1.0E+0	3.39E-2
31683	**9H5KRV10**			**J6E17030610**	P-0616	FILTER	5/17/2006 10:00:00		5/4/2006 11:05:00 AM			
ALPHA	BAS7	0		6/10/2006 12:41:20 PM	**3.6551E+00**	2.028E+00	2.064E+00	7.68E+00	PCI/SA	1.0	1.0E+0	2.117E-2
BETA	BDS8	0		6/9/2006 2:07:59 PM	**1.5504E+01**	1.956E+00	2.239E+00	6.19E+00	PCI/SA	1.0	1.0E+0	3.325E-2
31683	**9H5KRX10**			**J6E17030611**	P-0617	FILTER	5/17/2006 10:00:00		5/4/2006 11:20:00 AM			
ALPHA	BAS7	0		6/10/2006 12:41:20 PM	**2.9229E+00**	1.58E+00	1.609E+00	5.525E+00	PCI/SA	1.0	1.0E+0	2.071E-2
BETA	BDS8	0		6/9/2006 2:08:11 PM	**-4.5773E-01**	1.504E+00	1.504E+00	6.81E+00	PCI/SA	1.0	1.0E+0	3.233E-2
31683	**H50PP1AB**			**J6E230000240**	INTRA-LAB BLANK	FILTER	5/17/2006 10:00:00		5/4/2006 12:10:00 PM			
BETA	BDS8	0	B	6/9/2006 4:09:45 PM	**2.6493E-01**	1.292E-01	1.303E-01	5.285E-01	PCI/SA	1.0	1.0E+0	1.0E+0
31683	**H50PP1CS**			**J6E230000240**	INTRA-LAB CHECK	FILTER	5/17/2006 10:00:00		5/4/2006 12:10:00 PM			
BETA	BDS8	0	S	6/9/2006 4:09:45 PM	**3.8005E+00**	2.323E-01	3.369E-01	5.284E-01	PCI/SA	4.5901E+00 1.0	1.0E+0	1.0E+0

6143240, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 14,
**Results Inserted | ReTestInserted | Updated | NotInserted => 16 | 0 | 0 | 0.
**Diff RptDb | Qtims => .

Batch Nbr: 6143240

Alpha Beta, Beta by GPC-Sr/Y , Results
Summary Report

6/9/2006 7:40:57 PM

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Beta by GPC-Sr/Y				Richland Standard Gross Alpha/Beta Wo Blk Subt										
Calc	S8	FILTER	H5KQR1AF	BETA	1.86E+01	(2.49E+00)		PCI/SA	R	3.11E+00	6.55E+00		100%	
Calc	S8	FILTER	H5KQ41AF	BETA	1.84E+01	(2.45E+00)		PCI/SA	R	3.01E+00	6.37E+00		100%	
Calc	S8	FILTER	H5KQ81AF	BETA	1.45E+01	(2.19E+00)		PCI/SA	R	3.01E+00	6.35E+00		100%	
Calc	S8	FILTER	H5KRC1AF	BETA	1.53E+01	(2.21E+00)		PCI/SA	R	2.91E+00	6.15E+00		100%	
Calc	S8	FILTER	H5KRF1AF	BETA	2.41E+01	(2.99E+00)		PCI/SA	R	3.11E+00	6.54E+00		100%	
Calc	S8	FILTER	H5KRG1AF	BETA	1.67E+01	(2.49E+00)		PCI/SA	R	3.12E+00	6.57E+00		100%	
Calc	S8	FILTER	H5KRJ1AF	BETA	1.47E+01	(2.23E+00)		PCI/SA	R	3.06E+00	6.45E+00		100%	
Calc	S8	FILTER	H5KRL1AF	BETA	1.45E+01	(2.30E+00)		PCI/SA	R	3.01E+00	6.34E+00		100%	
Calc	S8	FILTER	H5KRR1AF	BETA	1.59E+01	(2.28E+00)		PCI/SA	R	3.06E+00	6.45E+00		100%	
Calc	S8	FILTER	H5KRV1AF	BETA	1.55E+01	(2.24E+00)		PCI/SA	R	2.93E+00	6.19E+00		100%	
Calc	S8	FILTER	H5KRX1AF	BETA	-4.58E-01	(1.50E+00)	U4	PCI/SA	R	3.23E+00	6.81E+00	N	100%	
Calc	S8	FILTER	H5KR21AF	BETA	1.95E+01	(2.47E+00)		PCI/SA	R	2.89E+00	6.12E+00		100%	
Calc	S8	FILTER	H5KR41AF	BETA	1.28E+01	(2.17E+00)		PCI/SA	R	2.89E+00	6.10E+00		100%	
Calc	S8	FILTER	H5KR61AF	BETA	1.16E+01	(2.16E+00)		PCI/SA	R	3.35E+00	7.04E+00		100%	
Calc	S8	FILTER	H50PP1AA	BETA	2.65E-01	(1.30E-01)		PCI/SA	R	2.50E-01	5.28E-01	B	100%	
Calc	S8	FILTER	H50PP1AC	BETA	3.80E+00	(3.37E-01)		PCI/SA	R	2.50E-01	5.28E-01	S	100%	83%

all have results > MDA > CRDL except H5KRX1AF

P Anderson
6-13-06

() - (1s Uncertainities)
IDC - Instrument Detection Level in Conc Units
MLcC- Method Decision Level in Conc Units
MDC - Minimum Detectable Concentration
*Std - Lc, MDC using StdDev for Set of Blanks

Page 1

Q - Qualifier, U is Less Than Lc = 1.645*TPU
All Results Displayed to Three Digits Reguardless of Significants
Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:16
RADCALC v4.8.24
STL Richland

Batch Nbr: 6143240

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

Detailed Report

6/9/2006 7:40:57 PM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
1	Calc	S8	FILTER	*STLE	GabWoBS	H5KQR1AF	PCI/SA		05/04/06 12:10	06/09/06 14:07			1	1.00 Sa	
536403,000443					,J6E170306-1 v4.8.24		FILTER		05/02/06 10:40	02.9				0.082186 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/09/06 14:57	BETA	261	566	GPC26B	1.5	N	N	4.3651E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(1.219E-02)	(0.000E+00)		5%			(0.000E+00)	12.167514		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/09/06	BETA	R	**18.557765**		1.47800E+00	3.385924	3.385924	1.00 Sa	100%		6.55221		
				(2.487321)		(1.6842E-01)	(0.431813)	(0.431813)	(0.028284)			3.107816		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
2	Calc	S8	FILTER	*STLE	GabWoBS	H5KQ41AF	PCI/SA		05/04/06 12:15	06/09/06 14:07			1	1.00 Sa	
536403,000444					,J6E170306-2 v4.8.24		FILTER		05/02/06 10:40	02.1				0.083088 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/09/06 14:57	BETA	241	497	GPC26C	1.5	N	N	4.1748E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(1.031E-02)	(0.000E+00)		5%			(0.000E+00)	12.035436		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/09/06	BETA	R	**18.387997**		1.41600E+00	3.391767	3.391767	1.00 Sa	100%		6.372206		
				(2.454725)		(1.6152E-01)	(0.43065)	(0.43065)	(0.028284)			3.011933		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
3	Calc	S8	FILTER	*STLE	GabWoBS	H5KQ81AF	PCI/SA		05/04/06 23:10	06/09/06 14:07			1	1.00 Sa	
536403,000445					,J6E170306-3 v4.8.24		FILTER		05/02/06 10:40	02.1				0.083322 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/09/06 14:57	BETA	218	519	GPC26D	1.5	N	N	4.2623E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(8.755E-03)	(0.000E+00)		5%			(0.000E+00)	12.001684		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/09/06	BETA	R	**14.484895**		1.14200E+00	2.679332	2.679332	1.00 Sa	100%		6.352712		
				(2.193369)		(1.5452E-01)	(0.390387)	(0.390387)	(0.028284)			3.006276		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
4	Calc	S8	FILTER	*STLE	GabWoBS	H5KRC1AF	PCI/SA		05/04/06 23:25	06/09/06 14:07			1	1.00 Sa	
536403,000446					,J6E170306-4 v4.8.24		FILTER		05/02/06 10:40	02.8				0.0843 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/09/06 14:57	BETA	229	520	GPC28B	1.5	N	N	4.3525E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(1.083E-02)	(0.000E+00)		5%			(0.000E+00)	11.862344		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:4

RADCALC v4.8.24
STL Richland

Batch Nbr: 6143240

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

6/9/2006 7:40:58 PM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/09/06	BETA	R	**15.345732**		1.25000E+00	2.871908	2.871908	1.00 Sa	100%		6.154361		
				(2.21355)		(1.5805E-01)	(0.396975)	(0.396975)	(0.028284)			2.912562		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
5	Calc	S8	FILTER	*STLE	GabWoBS	**H5KRF1AF**	**PCI/SA**		05/04/06 10:30	06/09/06 14:07			1	1.00 Sa	
536403,000447					,J6E170306-5 v4.8.24		FILTER		05/02/06 10:40	02.1				0.083617 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/09/06 14:57	BETA	317	597	GPC28C	1.5	N	N	4.4098E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(2.157E-02)	(0.000E+00)		5%			(0.000E+00)	11.959317		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/09/06	BETA	R	**24.13925**		1.97600E+00	4.480957	4.480957	1.00 Sa	100%		6.538205		
				(2.988146)		(1.8463E-01)	(0.523015)	(0.523015)	(0.028284)			3.105417		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
6	Calc	S8	FILTER	*STLE	GabWoBS	**H5KRG1AF**	**PCI/SA**		05/04/06 10:50	06/09/06 14:07			1	1.00 Sa	
536403,000448					,J6E170306-6 v4.8.24		FILTER		05/02/06 10:40	02.5				0.083732 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/09/06 14:57	BETA	243	557	GPC28D	1.5	N	N	4.2403E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(2.216E-02)	(0.000E+00)		5%			(0.000E+00)	11.942811		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/09/06	BETA	R	**16.696082**		1.31600E+00	3.103569	3.103569	1.00 Sa	100%		6.570464		
				(2.490392)		(1.6287E-01)	(0.444892)	(0.444892)	(0.028284)			3.115173		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
7	Calc	S8	FILTER	*STLE	GabWoBS	**H5KRJ1AF**	**PCI/SA**		05/04/06 11:30	06/09/06 14:07			1	1.00 Sa	
536403,000449					,J6E170306-7 v4.8.24		FILTER		05/02/06 10:40	00.8				0.083006 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/09/06 14:57	BETA	233	570	GPC31A	1.5	N	N	4.4050E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(1.296E-02)	(0.000E+00)		5%			(0.000E+00)	12.047265		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/09/06	BETA	R	**14.660029**		1.19000E+00	2.701468	2.701468	1.00 Sa	100%		6.450217		
				(2.229513)		(1.5994E-01)	(0.395455)	(0.395455)	(0.028284)			3.059998		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
8	Calc	S8	FILTER	*STLE	GabWoBS	**H5KRL1AF**	**PCI/SA**		05/04/06 12:00	06/09/06 14:07			1	1.00 Sa	
536403,P-0614					,J6E170306-8 v4.8.24		FILTER		05/02/06 10:40	01.0				0.082705 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:8

RADCALC v4.8.24
STL Richland

Batch Nbr: 6143240

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

6/9/2006 7:40:58 PM

1	06/09/06 14:57	BETA	232	564	GPC31B	1.5	N	N	4.4720E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00
			100	500			Y		(2.469E-02)	(0.000E+00)		5%			(0.000E+00)	12.091147	

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/09/06	BETA	R	**14.517398**		1.19200E+00	2.665476	2.665476	1.00 Sa	100%		6.344836		
				(2.302919)		(1.5955E-01)	(0.408297)	(0.408297)	(0.028284)			3.009179		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
9	Calc	S8	FILTER	*STLE	GabWoBS	**H5KRR1AF**	**PCI/SA**		05/04/06 12:20	06/09/06 14:07			1	1.00 Sa	
536403,P-0615					,J6E170306-9 v4.8.24		FILTER		05/02/06 10:40	01.0				0.083903 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/09/06 14:57	BETA	250	592	GPC31C	1.5	N	N	4.4359E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(9.865E-03)	(0.000E+00)		5%			(0.000E+00)	11.91851		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/09/06	BETA	R	**15.927229**		1.31600E+00	2.966687	2.966687	1.00 Sa	100%		6.451674		
				(2.280283)		(1.6543E-01)	(0.406743)	(0.406743)	(0.028284)			3.063664		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
10	Calc	S8	FILTER	*STLE	GabWoBS	**H5KRV1AF**	**PCI/SA**		05/04/06 11:05	06/09/06 14:07			1	1.00 Sa	
536403,P-0616					,J6E170306-10 v4.8.24		FILTER		05/02/06 10:40	01.5				0.08325 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/09/06 14:57	BETA	228	515	GPC31D	1.5	N	N	4.3623E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(1.191E-02)	(0.000E+00)		5%			(0.000E+00)	12.011998		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/09/06	BETA	R	**15.504381**		1.25000E+00	2.865448	2.865448	1.00 Sa	100%		6.18964		
				(2.239065)		(1.5767E-01)	(0.39659)	(0.39659)	(0.028284)			2.928491		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
11	Calc	S8	FILTER	*STLE	GabWoBS	**H5KRX1AF**	**PCI/SA**		05/04/06 11:20	06/09/06 14:08			1	1.00 Sa	
536403,P-0617					,J6E170306-11 v4.8.24		FILTER		05/02/06 10:40	01.0				0.082327 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/09/06 14:58	BETA	116	598	GPC32A	1.5	N	N	4.3033E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(1.035E-02)	(0.000E+00)		5%			(0.000E+00)	12.146712		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/09/06	BETA	R	**-0.45773**	**U4**	-3.60000E-02	-0.083657	-0.083657	1.00 Sa	100%		6.810416		
				(1.504329)		(1.1829E-01)	(0.274918)	(0.274918)	(0.028284)			3.234844		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:12

RADCALC v4.8.24

STL Richland

Batch Nbr: 6143240

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

6/9/2006 7:40:58 PM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
12	Calc	S8	FILTER	*STLE	GabWoBS	**H5KR21AF**	**PCI/SA**		05/04/06 10:35	06/09/06 14:08			1	1.00 Sa	
536403,P-0618					,J6E170306-12 v4.8.24		FILTER		05/02/06 10:40	01.1				0.083443 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/09/06 14:58	BETA	262	514	GPC32B	1.5	N	N	4.3990E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(1.069E-02)	(0.000E+00)		5%			(0.000E+00)	11.984203		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/09/06	BETA	R	**19.536592**		1.59200E+00	3.619037	3.619037	1.00 Sa	100%		6.118255		
				(2.466505)		(1.6810E-01)	(0.431853)	(0.431853)	(0.028284)			2.894564		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
13	Calc	S8	FILTER	*STLE	GabWoBS	**H5KR41AF**	**PCI/SA**		05/04/06 10:45	06/09/06 14:08			1	1.00 Sa	
536403,P-0619					,J6E170306-13 v4.8.24		FILTER		05/02/06 10:40	01.2				0.08333 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/09/06 14:58	BETA	209	520	GPC32C	1.5	N	N	4.4402E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(2.770E-02)	(0.000E+00)		5%			(0.000E+00)	12.000483		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/09/06	BETA	R	**12.782956**		1.05000E+00	2.364754	2.364754	1.00 Sa	100%		6.103056		
				(2.174411)		(1.5159E-01)	(0.390255)	(0.390255)	(0.028284)			2.888282		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
14	Calc	S8	FILTER	*STLE	GabWoBS	**H5KR61AF**	**PCI/SA**		05/04/06 12:05	06/09/06 14:08			1	1.00 Sa	
536403,P-0620					,J6E170306-14 v4.8.24		FILTER		05/02/06 10:40	01.1				0.082545 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/09/06 14:58	BETA	220	644	GPC32D	1.5	N	N	4.2979E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(1.331E-02)	(0.000E+00)		5%			(0.000E+00)	12.114675		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/09/06	BETA	R	**11.57966**		9.12000E-01	2.121961	2.121961	1.00 Sa	100%		7.04466		
				(2.15726)		(1.5677E-01)	(0.385513)	(0.385513)	(0.028284)			3.352276		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
15	Calc	S8	FILTER	*STLE	GabWoBS	**H50PP1AA**	**PCI/SA**	**B**	05/04/06 12:10	06/09/06 16:09			1	1.00 Sa	
0,INTRA-LAB BLANK					,J6E230000-240		FILTER			00.1				1.00 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/09/06 16:59	BETA	124	497	GPC26C	1.5	N	N	4.1826E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(1.033E-02)	(0.000E+00)		5%			(0.000E+00)	1.00		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:15

RADCALC v4.8.24

STL Richland

Batch Nbr: 6143240

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

6/9/2006 7:40:58 PM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/09/06	BETA	R	**0.264932**		2.46000E-01	0.58815	0.58815	1.00 Sa	100%		0.528467		
				(0.130347)		(1.1995E-01)	(0.288652)	(0.288652)	(0.017321)			0.249789		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
16	Calc	S8	FILTER	*STLE	GabWoBS	**H50PP1AC**	**PCI/SA**	**S**	05/04/06 12:10	06/09/06 16:09		BESB2815	1	1.00 Sa	
0,INTRA-LAB CHECK					,J6E230000-240		FILTER			00.2		BESB2815 Alq		1.00 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/09/06 16:59	BETA	464	519	GPC26D	1.5	N	N	4.2693E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			100	500			Y		(8.769E-03)	(0.000E+00)		5%			(0.000E+00)	1.00		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/09/06	BETA	R	**3.800471**		3.60200E+00	8.437054	8.437054	1.00 Sa	100%	83%	0.52845		
				(0.336898)		(2.2017E-01)	(0.688443)	(0.688443)	(0.017321)			0.250077		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:16

RADCALC v4.8.24

STL Richland

STL RICHLAND
Richland, WA

GPC Report
09-JUN-2006 14:57:59.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H5KQR1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
09-JUN-2006 14:57:59.00	261	100.00	566	500.00	26B

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
11	15	3269	1500

Bkg Count Date/Time
09-JUN-2006 04:39:32.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
09-JUN-2006 14:57:59.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H5KQ41AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
09-JUN-2006 14:57:59.00	241	100.00	497	500.00	26C

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
3	15	3269	1500

Bkg Count Date/Time
09-JUN-2006 04:39:32.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
09-JUN-2006 14:57:59.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H5KQ81AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
09-JUN-2006 14:57:59.00	218	100.00	519	500.00	26D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
6	22	3269	1500

Bkg Count Date/Time
09-JUN-2006 04:39:32.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
09-JUN-2006 14:57:57.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H5KRC1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
09-JUN-2006 14:57:57.00	229	100.00	520	500.00	28B

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
2	35	3157	1500

Bkg Count Date/Time
09-JUN-2006 04:39:33.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
09-JUN-2006 14:57:57.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H5KRF1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
09-JUN-2006 14:57:57.00	317	100.00	597	500.00	28C

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV	Bkg Count Date/Time
22	19	3157	1500	09-JUN-2006 04:39:33.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
09-JUN-2006 14:57:57.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H5KRG1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
09-JUN-2006 14:57:57.00	243	100.00	557	500.00	28D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
2	26	3157	1500

Bkg Count Date/Time
09-JUN-2006 04:39:33.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
09-JUN-2006 14:57:59.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H5KRJ1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
09-JUN-2006 14:57:59.00	233	100.00	570	500.00	31A

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
5	23	3287	1492

Bkg Count Date/Time
09-JUN-2006 05:57:52.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
09-JUN-2006 14:57:59.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H5KRL1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
09-JUN-2006 14:57:59.00	232	100.00	564	500.00	31B

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
4	21	3287	1492

Bkg Count Date/Time
09-JUN-2006 05:57:52.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
09-JUN-2006 14:57:59.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H5KRR1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
09-JUN-2006 14:57:59.00	250	100.00	592	500.00	31C

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
3	12	3287	1492

Bkg Count Date/Time
09-JUN-2006 05:57:52.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
09-JUN-2006 14:57:59.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H5KRV1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
09-JUN-2006 14:57:59.00	228	100.00	515	500.00	31D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
4	16	3287	1492

Bkg Count Date/Time
09-JUN-2006 05:57:52.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
09-JUN-2006 14:58:11.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H5KRX1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
09-JUN-2006 14:58:11.00	116	100.00	598	500.00	32A

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
1	19	3125	1492

Bkg Count Date/Time
09-JUN-2006 05:58:23.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
09-JUN-2006 14:58:11.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H5KR21AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
09-JUN-2006 14:58:11.00	262	100.00	514	500.00	32B

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
9	16	3125	1492

Bkg Count Date/Time
09-JUN-2006 05:58:23.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
09-JUN-2006 14:58:11.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H5KR41AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
09-JUN-2006 14:58:11.00	209	100.00	520	500.00	32C

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
5	10	3125	1492

Bkg Count Date/Time
09-JUN-2006 05:58:23.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
09-JUN-2006 14:58:11.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H5KR61AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
09-JUN-2006 14:58:11.00	220	100.00	644	500.00	32D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
4	11	3125	1492

Bkg Count Date/Time
09-JUN-2006 05:58:23.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
09-JUN-2006 16:59:45.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H50PP1AA	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
09-JUN-2006 16:59:45.00	124	100.00	497	500.00	26C

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
4	15	3272	1500

Bkg Count Date/Time
09-JUN-2006 04:39:32.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
09-JUN-2006 16:59:45.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H50PP1AC	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
09-JUN-2006 16:59:45.00	464	100.00	519	500.00	26D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
3	22	3272	1500

Bkg Count Date/Time
09-JUN-2006 04:39:32.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

RADIUM 228

SAMPLE AND QC DATA

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

6/21/2006 4:27:44 PM

Lot No., Due Date: J6E170306; 06/14/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6143287; RRA228 Ra-228 by GPC

SDG, Matrix: 31683; FILTER

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 Pam Anderson **Date** 6-21-06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6143287

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: 6-22-06

05/23/2006 9:48:53 AM

Sample Preparation/Analysis

536403, Brown and Caldwell , Brown & Caldwell

BX Ra-226/228 PrpRC5016, SepRC5005
TF Radium-228 by GPC
01 STANDARD TEST SET

AnalyDueDate: 06/13/2006

Batch: 6143287 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: 6143242, BXTE

Balance Id:

Pipet #:

Sep1 DT/Tm Tech: 6-14-06M 11:45

Sep2 DT/Tm Tech: 6-20-06M 14:37

Prep Tech:

STL RICHLAND

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 H5KQR-1-AD J6E170306-1-SAMP	0.2462	RATA 22522 6-13-06 0.9384	In	30.2	3x50	7A 4A	1958 decay	6/20/06 OP 6/21/06		
05/04/2006 12:10	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1			Scr:	Alpha:	Beta:		
2 H5KQ4-1-AD J6E170306-2-SAMP	0.2485	22523 0.9847		31.1		7B 4B	1958 decay	6/20/06 OP 6/21/06		
05/04/2006 12:15	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1			Scr:	Alpha:	Beta:		
3 H5KQ8-1-AD J6E170306-3-SAMP	0.2504	22524 1.0875		30.6		1C 4C	1958 decay	6/20/06 OP 6/21/06		
05/04/2006 23:10	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1			Scr:	Alpha:	Beta:		
4 H5KRC-1-AD J6E170306-4-SAMP	0.2499	22525 0.9944		30.6		1D 4D	1958 decay	6/20/06 OP 6/21/06		
05/04/2006 23:25	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1			Scr:	Alpha:	Beta:		

5/23/2006 9:48:54 AM

Sample Preparation/Analysis

536403, Brown and Caldwell , Brown & Caldwell

BX Ra-226/228 PrpRC5016, SepRC5005
TF Radium-228 by GPC
01 STANDARD TEST SET

AnalyDueDate: 06/13/2006

Batch: 6143287 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: 6143242, BXTE

Balance Id:

Pipet #:

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech:

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
5 H5KRF-1-AD J6E170306-5-SAMP		0.2495		RATA 22526 6-13-06 1.1037	in	30.4		3x50 2A 7A	1958 0720	6/20/06 OP 6/21/06
05/04/2006 10:30	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
6 H5KRG-1-AD J6E170306-6-SAMP		0.2496		22527 1.1234		30.6		2B 7B	1958 0720	6/20/06 OP 6/21/06
05/04/2006 10:50	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
7 H5KRJ-1-AD J6E170306-7-SAMP		0.2489		22528 1.0581		31.0		2C 7C	1958 0720	6/20/06 OP 6/21/06
05/04/2006 11:30	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
8 H5KRL-1-AD J6E170306-8-SAMP		0.2466		22529 1.0367		30.9		2D 1A	1958 0720	6/20/06 OP 6/21/06
05/04/2006 12:00	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:

5/23/2006 9:48:54 AM

Sample Preparation/Analysis

536403, Brown and Caldwell , Brown & Caldwell

BX Ra-226/228 PrpRC5016, SepRC5005
TF Radium-228 by GPC
01 STANDARD TEST SET

AnalyDueDate: 06/13/2006

Batch: 6143287 FILTER pCi/sampl PM, Quote: SA , 63174
SEQ Batch, Test: 6143242, BXTE

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

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
9 H5KRR-1-AD J6E170306-9-SAMP	0.2494	RATA 22530 6-13-06 0.9464	1in	30.7	3x50	3A 1C	1958 0720	6/20/06 0000 6/21/06		
05/04/2006 12:20	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1			Scr:		Alpha:		Beta:
10 H5KRV-1-AD J6E170306-10-SAMP	0.2499	22531 0.9951		30.6		3B 1D	1958 0720	6/20/06 0000 6/21/06		
05/04/2006 11:05	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1			Scr:		Alpha:		Beta:
11 H5KRX-1-AD J6E170306-11-SAMP	0.2476	22532 0.8577		30.8		3C 2A	1958 0720	6/20/06 0000 6/21/06		
05/04/2006 11:20	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1			Scr:		Alpha:		Beta:
12 H5KR2-1-AD J6E170306-12-SAMP	0.2502	22533 0.9658		31.1		3D 2B	1958 0720	6/20/06 0000 6/21/06		
05/04/2006 10:35	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1			Scr:		Alpha:		Beta:

STL RICHLAND

424

STL RICHLAND

5/23/2006 9:48:54 AM

Sample Preparation/Analysis

536403, Brown and Caldwell , Brown & Caldwell

BX Ra-226/228 PrpRC5016, SepRC5005
TF Radium-228 by GPC
01 STANDARD TEST SET

AnalyDueDate: 06/13/2006

Batch: 6143287 FILTER pCi/sampl PM, Quote: SA , 63174
SEQ Batch, Test: 6143242, BXTE

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

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
13H5KR4-1-AD J6E170306-13-SAMP	0.2506		RATA 22534 6-13-6 0.9861			lin	29.9	3x50	4A 1958 2C 0720	6/20/06 0P 6/21/06
05/04/2006 10:45	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
14H5KR6-1-AD J6E170306-14-SAMP	0.2467		22535 0.9647				30.0		4B 1958 2D 0720	6/20/06 0P 6/21/06
05/04/2006 12:05	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
15H50TF-1-AA-B J6E230000-287-BLK	1.00		.22536 0.9738				30.8		4C 1958 3A 0720	6/20/06 0P 6/21/06
05/04/2006 12:10		AmtRec:	#Containers: 1				Scr:	Alpha:		Beta:
16H50TF-1-AC-C J6E230000-287-LCS	1.00		RASC 4131 6-9-06 0.9329				31.2		4D 1958 3B 0720	6/20/06 0P 6/21/06
05/04/2006 12:10		AmtRec:	#Containers: 1				Scr:	Alpha:		Beta:

6/21/2006 4:08:18 PM

ICOC Fraction Transfer/Status Report

ByDate: 6/21/2005, 6/26/2006, Batch: '6143287', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6143287						
AC		**CalcC**	**HansenM**	6/12/2006 3:26:57 PM		
SC			HansenM	InPrep2	6/12/2006 3:26:57 PM	RICH-RC-5016 REVISION 5
SC			HansenM	Prep2C	6/12/2006 3:27:51 PM	RICH-RC-5016 REVISION 5
SC			TamosaitisM	Sep2C	6/20/2006 2:03:49 PM	RICH-RC-5005 REVISION 4
SC			tamosaitism	IsBatched	6/20/2006 2:04:39 PM	ICOC_RADCALC v4.8.24
SC			DAWKINSO	InCnt1	6/20/2006 5:14:18 PM	RICH-RD-0003 REVISION 4
SC			BlackCL	CalcC	6/21/2006 7:35:03 AM	RICH-RD-0003 REVISION 4
AC			**HansenM**	6/12/2006 3:27:51 PM		
AC			**TamosaitisM**	6/20/2006 2:03:49 PM		
AC			**DAWKINSO**	6/20/2006 5:14:18 PM		
AC			**BlackCL**	6/21/2006 7:35:03		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 5

ICOCFractions v4.8.18

6/21/2006 4:08:18 PM

Rpt DB Transfer log (Batch Results)

SEVERN TRENT STL

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Sample Date / Mda	Units	Expected	Yield	Volumes
31683	**9H5KQ410**			**J6E1703062**	000444	FILTER	5/17/2006 10:00:00	5/4/2006 12:15:00 PM				
ALPHA	BAS7		0	6/10/2006 8:56:31 AM	**-8.8661E-01**	6.832E-01	6.894E-01	5.657E+00	PCI/SA	1.0	1.0E+0	2.094E-2
BETA	BDS8		0	6/9/2006 2:07:59 PM	**1.8388E+01**	2.097E+00	2.455E+00	6.372E+00	PCI/SA	1.0	1.0E+0	3.309E-2
RA-226	BXTE		0	6/18/2006 5:03:00 PM	**1.3353E-01**	2.129E-01	2.134E-01	7.847E-01	PCI/SA	0.985	8.33E-1	2.485E-1
RA-228	BXTF		0	6/21/2006 6:29:15 AM	**3.1343E+00**	5.695E-01	6.244E-01	2.249E+00	PCI/SA	0.89	1.0E+0	2.485E-1
U-234	7YSR		0	6/20/2006 11:35:05 PM	**0.0E+00**	0.0E+00	1.363E-01	3.016E-01	PCI/SA	0.897	1.0E+0	3.232E-2
U-235	7YSR		0	6/20/2006 11:35:05 PM	**-2.2265E-02**	2.227E-02	2.234E-02	5.331E-01	PCI/SA	0.897	1.0E+0	3.232E-2
U-238	7YSR		0	6/20/2006 11:35:05 PM	**-1.8548E-05**	1.219E-01	1.219E-01	8.193E-01	PCI/SA	0.897	1.0E+0	3.232E-2
31683	**9H5KQ810**			**J6E1703063**	000445	FILTER	5/17/2006 10:00:00	5/4/2006 11:10:00 PM				
ALPHA	BAS7		0	6/10/2006 8:56:31 AM	**1.0276E+00**	1.657E+00	1.66E+00	7.714E+00	PCI/SA	1.0	1.0E+0	2.119E-2
BETA	BDS8		0	6/9/2006 2:07:59 PM	**1.4485E+01**	1.96E+00	2.193E+00	6.353E+00	PCI/SA	1.0	1.0E+0	3.332E-2
RA-226	BXTE		0	6/18/2006 5:06:00 PM	**1.5586E-01**	2.222E-01	2.228E-01	8.092E-01	PCI/SA	1.087	8.33E-1	2.504E-1
RA-228	BXTF		0	6/21/2006 6:29:15 AM	**2.7691E+00**	4.593E-01	5.154E-01	1.741E+00	PCI/SA	0.967	1.0E+0	2.504E-1
U-234	7YSR		0	6/20/2006 11:35:16 PM	**-5.2515E-05**	1.151E-01	1.151E-01	7.732E-01	PCI/SA	0.912	1.0E+0	3.243E-2
U-235	7YSR		0	6/20/2006 11:35:16 PM	**4.1984E-02**	1.112E-01	1.112E-01	6.631E-01	PCI/SA	0.912	1.0E+0	3.243E-2
U-238	7YSR		0	6/20/2006 11:35:16 PM	**-2.1071E-02**	1.17E-01	1.17E-01	8.198E-01	PCI/SA	0.912	1.0E+0	3.243E-2
31683	**9H5KQR10**			**J6E1703061**	000443	FILTER	5/17/2006 10:00:00	5/4/2006 12:10:00 PM				
ALPHA	BAS7		0	6/10/2006 8:56:31 AM	**2.9595E+00**	1.6E+00	1.629E+00	5.595E+00	PCI/SA	1.0	1.0E+0	2.049E-2
BETA	BDS8		0	6/9/2006 2:07:59 PM	**1.8558E+01**	2.115E+00	2.487E+00	6.552E+00	PCI/SA	1.0	1.0E+0	3.219E-2
RA-226	BXTE		0	6/18/2006 5:06:00 PM	**3.7852E-01**	1.545E-01	1.596E-01	4.51E-01	PCI/SA	0.938	8.33E-1	2.462E-1
RA-228	BXTF		0	6/21/2006 6:29:15 AM	**1.4499E+00**	5.732E-01	6.15E-01	2.622E+00	PCI/SA	0.824	1.0E+0	2.462E-1
U-234	7YSR		0	6/20/2006 11:34:56 PM	**-4.3929E-02**	3.106E-02	3.127E-02	6.205E-01	PCI/SA	0.91	1.0E+0	3.158E-2
U-235	7YSR		0	6/20/2006 11:34:56 PM	**-2.1964E-02**	2.196E-02	2.204E-02	5.259E-01	PCI/SA	0.91	1.0E+0	3.158E-2
U-238	7YSR		0	6/20/2006 11:34:56 PM	**6.5871E-02**	1.141E-01	1.142E-01	6.205E-01	PCI/SA	0.91	1.0E+0	3.158E-2
31683	**9H5KR210**			**J6E17030612**	P-0618	FILTER	5/17/2006 10:00:00	5/4/2006 10:35:00 AM				
ALPHA	BAS7		0	6/10/2006 12:41:20 PM	**1.3347E+00**	1.307E+00	1.314E+00	5.677E+00	PCI/SA	1.0	1.0E+0	2.084E-2
BETA	BDS8		0	6/9/2006 2:08:11 PM	**1.9537E+01**	2.063E+00	2.467E+00	6.118E+00	PCI/SA	1.0	1.0E+0	3.344E-2
RA-226	BXTE		0	6/18/2006 5:45:00 PM	**2.0616E-01**	1.338E-01	1.356E-01	4.504E-01	PCI/SA	0.966	8.33E-1	2.502E-1
RA-228	BXTF		0	6/21/2006 7:26:01 AM	**2.1852E+00**	4.167E-01	4.476E-01	1.464E+00	PCI/SA	0.873	1.0E+0	2.502E-1
U-234	7YSR		0	6/20/2006 11:37:03 PM	**-2.2262E-02**	2.226E-02	2.234E-02	5.331E-01	PCI/SA	0.881	1.0E+0	3.252E-2
U-235	7YSR		0	6/20/2006 11:37:03 PM	**0.0E+00**	0.0E+00	1.363E-01	3.016E-01	PCI/SA	0.881	1.0E+0	3.252E-2
U-238	7YSR		0	6/20/2006 11:37:03 PM	**0.0E+00**	0.0E+00	1.363E-01	3.016E-01	PCI/SA	0.881	1.0E+0	3.252E-2
31683	**9H5KR410**			**J6E17030613**	P-0619	FILTER	5/17/2006 10:00:00	5/4/2006 10:45:00 AM				
ALPHA	BAS7		0	6/10/2006 12:41:20 PM	**2.5934E+00**	1.899E+00	1.917E+00	7.787E+00	PCI/SA	1.0	1.0E+0	2.097E-2
BETA	BDS8		0	6/9/2006 2:08:11 PM	**1.2783E+01**	1.846E+00	2.174E+00	6.103E+00	PCI/SA	1.0	1.0E+0	3.333E-2
RA-226	BXTE		0	6/18/2006 5:42:02 PM	**2.8573E-01**	1.521E-01	1.547E-01	4.976E-01	PCI/SA	0.986	8.33E-1	2.506E-1
RA-228	BXTF		0	6/21/2006 7:26:01 AM	**3.7422E+00**	5.228E-01	5.817E-01	1.692E+00	PCI/SA	0.857	1.0E+0	2.506E-1
U-234	7YSR		0	6/20/2006 11:37:45 PM	**2.387E-01**	2.127E-01	2.137E-01	8.433E-01	PCI/SA	0.93	1.0E+0	3.274E-2
U-235	7YSR		0	6/20/2006 11:37:45 PM	**-1.1943E-02**	1.194E-02	1.199E-02	6.007E-01	PCI/SA	0.93	1.0E+0	3.274E-2
U-238	7YSR		0	6/20/2006 11:37:45 PM	**2.9842E-01**	2.11E-01	2.125E-01	4.044E-01	PCI/SA	0.93	1.0E+0	3.274E-2
31683	**9H5KR610**			**J6E17030614**	P-0620	FILTER	5/17/2006 10:00:00	5/4/2006 12:05:00 PM				
ALPHA	BAS7		0	6/10/2006 12:41:20 PM	**2.9338E+00**	1.763E+00	1.788E+00	6.643E+00	PCI/SA	1.0	1.0E+0	2.069E-2
BETA	BDS8		0	6/9/2006 2:08:11 PM	**1.158E+01**	1.99E+00	2.157E+00	7.045E+00	PCI/SA	1.0	1.0E+0	3.254E-2
RA-226	BXTE		0	6/18/2006 5:43:00 PM	**-5.4494E-02**	1.262E-01	1.263E-01	5.355E-01	PCI/SA	0.965	8.33E-1	2.467E-1
RA-228	BXTF		0	6/21/2006 7:26:01 AM	**2.1036E+00**	4.43E-01	4.675E-01	1.614E+00	PCI/SA	0.841	1.0E+0	2.467E-1
U-234	7YSR		0	6/20/2006 11:37:55 PM	**-4.6242E-02**	3.27E-02	3.291E-02	6.532E-01	PCI/SA	0.928	1.0E+0	3.157E-2
U-235	7YSR		0	6/20/2006 11:37:55 PM	**0.0E+00**	0.0E+00	1.416E-01	3.132E-01	PCI/SA	0.928	1.0E+0	3.157E-2
U-238	7YSR		0	6/20/2006 11:37:55 PM	**0.0E+00**	0.0E+00	1.416E-01	3.132E-01	PCI/SA	0.928	1.0E+0	3.157E-2
31683	**9H5KRC10**			**J6E1703064**	000446	FILTER	5/17/2006 10:00:00	5/4/2006 11:25:00 PM				
ALPHA	BAS7		0	6/10/2006 8:56:31 AM	**1.7865E+00**	1.555E+00	1.566E+00	6.574E+00	PCI/SA	1.0	1.0E+0	2.092E-2
BETA	BDS8		0	6/9/2006 2:07:57 PM	**1.5346E+01**	1.94E+00	2.214E+00	6.154E+00	PCI/SA	1.0	1.0E+0	3.43E-2
RA-226	BXTE		0	6/18/2006 5:04:00 PM	**-7.7853E-02**	1.694E-01	1.696E-01	6.902E-01	PCI/SA	0.994	8.33E-1	2.499E-1

6143287, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 14,
**Results Inserted | ReTestInserted | Updated | NotInserted => 16 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H50TF1AA=> , mat:FILTER | Air *wo:H50TF1AC=> , mat:FILTER | Air.

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Mda	Sample Date / Units	Expected	Yield	Volumes	
RA-228	BXTF	0		6/21/2006 6:29:15 AM	**2.4174E+00**	4.914E-01	5.103E-01	1.811E+00	PCI/SA		0.885	1.0E+0	2.499E-1
U-234	7YSR	0		6/20/2006 11:35:28 PM	**1.5368E-01**	1.598E-01	1.603E-01	6.93E-01	PCI/SA		0.864	1.0E+0	3.253E-2
U-235	7YSR	0		6/20/2006 11:35:28 PM	**6.5859E-02**	1.141E-01	1.142E-01	6.204E-01	PCI/SA		0.864	1.0E+0	3.253E-2
U-238	7YSR	0		6/20/2006 11:35:28 PM	**-8.7846E-02**	4.392E-02	4.45E-02	7.542E-01	PCI/SA		0.864	1.0E+0	3.253E-2
31683	**9H5KRF10**			**J6E1703065**	000447	FILTER	5/17/2006 10:00:00		5/4/2006 10:30:00 AM				
ALPHA	BAS7	0		6/10/2006 10:49:19	**2.0716E+00**	1.828E+00	1.84E+00	7.789E+00	PCI/SA		1.0	1.0E+0	2.087E-2
BETA	BDS8	0		6/9/2006 2:07:57 PM	**2.4139E+01**	2.255E+00	2.988E+00	6.538E+00	PCI/SA		1.0	1.0E+0	3.362E-2
RA-226	BXTE	0		6/18/2006 5:04:00 PM	**-2.7322E-02**	1.393E-01	1.393E-01	6.031E-01	PCI/SA		1.104	8.33E-1	2.495E-1
RA-228	BXTF	0		6/21/2006 7:25:39 AM	**2.4817E+00**	4.228E-01	4.573E-01	1.402E+00	PCI/SA		0.975	1.0E+0	2.495E-1
U-234	7YSR	0		6/20/2006 11:35:39 PM	**-8.378E-02**	1.221E-01	1.223E-01	9.371E-01	PCI/SA		0.881	1.0E+0	3.225E-2
U-235	7YSR	0		6/20/2006 11:35:39 PM	**-2.0944E-02**	2.094E-02	2.101E-02	5.016E-01	PCI/SA		0.881	1.0E+0	3.225E-2
U-238	7YSR	0		6/20/2006 11:35:39 PM	**2.0943E-02**	1.128E-01	1.128E-01	7.193E-01	PCI/SA		0.881	1.0E+0	3.225E-2
31683	**9H5KRG10**			**J6E1703066**	000448	FILTER	5/17/2006 10:00:00		5/4/2006 10:50:00 AM				
ALPHA	BAS7	0		6/10/2006 10:49:19	**1.2809E+00**	1.254E+00	1.261E+00	5.448E+00	PCI/SA		1.0	1.0E+0	2.105E-2
BETA	BDS8	0		6/9/2006 2:07:57 PM	**1.6696E+01**	2.066E+00	2.49E+00	6.57E+00	PCI/SA		1.0	1.0E+0	3.373E-2
RA-226	BXTE	0		6/18/2006 5:05:00 PM	**5.0386E-01**	2.498E-01	2.559E-01	8.274E-01	PCI/SA		1.123	8.33E-1	2.496E-1
RA-228	BXTF	0		6/21/2006 7:25:39 AM	**3.3673E+00**	4.731E-01	5.188E-01	1.478E+00	PCI/SA		0.999	1.0E+0	2.496E-1
U-234	7YSR	0		6/20/2006 11:35:49 PM	**1.0679E-01**	1.068E-01	1.071E-01	2.894E-01	PCI/SA		0.899	1.0E+0	3.236E-2
U-235	7YSR	0		6/20/2006 11:35:49 PM	**-4.2731E-02**	3.022E-02	3.041E-02	6.035E-01	PCI/SA		0.899	1.0E+0	3.236E-2
U-238	7YSR	0		6/20/2006 11:35:49 PM	**8.5425E-02**	1.089E-01	1.091E-01	5.115E-01	PCI/SA		0.899	1.0E+0	3.236E-2
31683	**9H5KRJ10**			**J6E1703067**	000449	FILTER	5/17/2006 10:00:00		5/4/2006 11:30:00 AM				
ALPHA	BAS7	0		6/10/2006 10:49:19	**1.8858E+00**	1.416E+00	1.43E+00	5.662E+00	PCI/SA		1.0	1.0E+0	2.09E-2
BETA	BDS8	0		6/9/2006 2:07:59 PM	**1.466E+01**	1.97E+00	2.23E+00	6.45E+00	PCI/SA		1.0	1.0E+0	3.301E-2
RA-226	BXTE	0		6/18/2006 5:03:00 PM	**1.7732E-01**	1.181E-01	1.197E-01	4.009E-01	PCI/SA		1.058	8.33E-1	2.489E-1
RA-228	BXTF	0		6/21/2006 7:25:39 AM	**3.7028E+00**	5.151E-01	5.649E-01	1.595E+00	PCI/SA		0.954	1.0E+0	2.489E-1
U-234	7YSR	0		6/20/2006 11:35:58 PM	**0.0E+00**	0.0E+00	1.216E-01	2.692E-01	PCI/SA		1.038	1.0E+0	3.24E-2
U-235	7YSR	0		6/20/2006 11:35:58 PM	**0.0E+00**	0.0E+00	1.216E-01	2.692E-01	PCI/SA		1.038	1.0E+0	3.24E-2
U-238	7YSR	0		6/20/2006 11:35:58 PM	**9.9318E-02**	9.932E-02	9.964E-02	2.692E-01	PCI/SA		1.038	1.0E+0	3.24E-2
31683	**9H5KRL10**			**J6E1703068**	P-0614	FILTER	5/17/2006 10:00:00		5/4/2006 12:00:00 PM				
ALPHA	BAS7	0		6/10/2006 10:49:19	**5.2837E-01**	1.62E+00	1.621E+00	7.932E+00	PCI/SA		1.0	1.0E+0	2.062E-2
BETA	BDS8	0		6/9/2006 2:07:59 PM	**1.4517E+01**	1.943E+00	2.303E+00	6.345E+00	PCI/SA		1.0	1.0E+0	3.271E-2
RA-226	BXTE	0		6/18/2006 5:02:00 PM	**1.6434E-01**	1.591E-01	1.601E-01	5.71E-01	PCI/SA		1.037	8.33E-1	2.466E-1
RA-228	BXTF	0		6/21/2006 7:20:48 AM	**5.8088E+00**	5.904E-01	7.082E-01	1.536E+00	PCI/SA		0.931	1.0E+0	2.466E-1
U-234	7YSR	0		6/20/2006 11:36:16 PM	**-5.9331E-02**	3.426E-02	3.458E-02	6.238E-01	PCI/SA		0.942	1.0E+0	3.192E-2
U-235	7YSR	0		6/20/2006 11:36:16 PM	**-1.9777E-02**	1.978E-02	1.984E-02	4.733E-01	PCI/SA		0.942	1.0E+0	3.192E-2
U-238	7YSR	0		6/20/2006 11:36:16 PM	**0.0E+00**	0.0E+00	1.21E-01	2.678E-01	PCI/SA		0.942	1.0E+0	3.192E-2
31683	**9H5KRR10**			**J6E1703069**	P-0615	FILTER	5/17/2006 10:00:00		5/4/2006 12:20:00 PM				
ALPHA	BAS7	0		6/10/2006 10:49:19	**1.7747E+00**	1.545E+00	1.556E+00	6.53E+00	PCI/SA		1.0	1.0E+0	2.103E-2
BETA	BDS8	0		6/9/2006 2:07:59 PM	**1.5927E+01**	2.002E+00	2.28E+00	6.452E+00	PCI/SA		1.0	1.0E+0	3.39E-2
RA-226	BXTE	0		6/18/2006 5:46:00 PM	**2.9957E-01**	1.721E-01	1.749E-01	5.61E-01	PCI/SA		0.946	8.33E-1	2.494E-1
RA-228	BXTF	0		6/21/2006 7:20:48 AM	**3.536E+00**	5.033E-01	5.562E-01	1.561E+00	PCI/SA		0.845	1.0E+0	2.494E-1
U-234	7YSR	0		6/20/2006 11:36:28 PM	**8.445E-02**	1.077E-01	1.079E-01	5.058E-01	PCI/SA		0.931	1.0E+0	3.244E-2
U-235	7YSR	0		6/20/2006 11:36:28 PM	**0.0E+00**	0.0E+00	1.293E-01	2.861E-01	PCI/SA		0.931	1.0E+0	3.244E-2
U-238	7YSR	0		6/20/2006 11:36:28 PM	**0.0E+00**	0.0E+00	1.293E-01	2.861E-01	PCI/SA		0.931	1.0E+0	3.244E-2
31683	**9H5KRV10**			**J6E17030610**	P-0616	FILTER	5/17/2006 10:00:00		5/4/2006 11:05:00 AM				
ALPHA	BAS7	0		6/10/2006 12:41:20 PM	**3.6551E+00**	2.028E+00	2.064E+00	7.68E+00	PCI/SA		1.0	1.0E+0	2.117E-2
BETA	BDS8	0		6/9/2006 2:07:59 PM	**1.5504E+01**	1.956E+00	2.239E+00	6.19E+00	PCI/SA		1.0	1.0E+0	3.325E-2
RA-226	BXTE	0		6/18/2006 5:44:00 PM	**2.9394E-01**	1.923E-01	1.948E-01	6.558E-01	PCI/SA		0.995	8.33E-1	2.499E-1
RA-228	BXTF	0		6/21/2006 7:20:48 AM	**3.6329E+00**	4.834E-01	5.39E-01	1.452E+00	PCI/SA		0.885	1.0E+0	2.499E-1
U-234	7YSR	0		6/20/2006 11:36:40 PM	**7.9084E-02**	1.008E-01	1.01E-01	4.735E-01	PCI/SA		0.987	1.0E+0	3.251E-2
U-235	7YSR	0		6/20/2006 11:36:40 PM	**0.0E+00**	0.0E+00	1.211E-01	2.679E-01	PCI/SA		0.987	1.0E+0	3.251E-2
U-238	7YSR	0		6/20/2006 11:36:40 PM	**5.9309E-02**	1.027E-01	1.028E-01	5.587E-01	PCI/SA		0.987	1.0E+0	3.251E-2
31683	**9H5KRX10**			**J6E17030611**	P-0617	FILTER	5/17/2006 10:00:00		5/4/2006 11:20:00 AM				
ALPHA	BAS7	0		6/10/2006 12:41:20 PM	**2.9229E+00**	1.58E+00	1.609E+00	5.525E+00	PCI/SA		1.0	1.0E+0	2.071E-2

6143287, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 14,
**Results Inserted | ReTestInserted | Updated | NotInserted => 16 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H50TF1AA=> , mat:FILTER | Air *wo:H50TF1AC=> , mat:FILTER | Air.

SDG or Batch Isotope	Rpt Db Id Method	RTst	Qc	LotSample Analysis Date	Client Id Result	Matrix Cnt Uncert	Received Date Tot Uncert	Mda	Sample Date Units	Expected	Yield	Volumes	
BETA	BDS8	0		6/9/2006 2:08:11 PM	**-4.5773E-01**	1.504E+00	1.504E+00	6.81E+00	PCI/SA		1.0	1.0E+0	3.233E-2
RA-226	BXTE	0		6/18/2006 5:45:00 PM	**5.2308E-01**	1.941E-01	2.023E-01	5.538E-01	PCI/SA		0.858	8.33E-1	2.476E-1
RA-228	BXTF	0		6/21/2006 7:26:01 AM	**4.1395E+00**	5.756E-01	6.339E-01	1.75E+00	PCI/SA		0.768	1.0E+0	2.476E-1
U-234	7YSR	0		6/20/2006 11:36:52 PM	**-3.9432E-02**	2.788E-02	2.806E-02	5.57E-01	PCI/SA		0.905	1.0E+0	3.165E-2
U-235	7YSR	0		6/20/2006 11:36:52 PM	**7.8859E-02**	1.005E-01	1.007E-01	4.721E-01	PCI/SA		0.905	1.0E+0	3.165E-2
U-238	7YSR	0		6/20/2006 11:36:52 PM	**7.8859E-02**	1.005E-01	1.007E-01	4.721E-01	PCI/SA		0.905	1.0E+0	3.165E-2
31683	**H50TF1AB**			**J6E230000287**	INTRA-LAB BLANK	FILTER	5/17/2006 10:00:00	5/4/2006 12:10:00 PM					
RA-228	BXTF	0	B	6/21/2006 7:21:06 AM	**5.4641E-01**	1.101E-01	1.163E-01	3.988E-01	PCI/SA		0.872	1.0E+0	1.0E+0
31683	**H50TF1CS**			**J6E230000287**	INTRA-LAB CHECK	FILTER	5/17/2006 10:00:00	5/4/2006 12:10:00 PM					
RA-228	BXTF	0	S	6/21/2006 7:21:06 AM	**4.7469E+00**	2.56E-01	3.724E-01	4.14E-01	PCI/SA	5.1474E+00	0.846	1.0E+0	1.0E+0

6143287, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 14,
**Results Inserted | ReTestInserted | Updated | NotInserted => 16 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H50TF1AA=> , mat:FILTER | Air *wo:H50TF1AC=> , mat:FILTER | Air.

Batch Nbr: 6143287

Alpha Beta, Ra-228 by GPC , Results

Summary Report

6/21/2006 7:34:47 AM

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Ra-228 by GPC				Ra-226/Ra-228 Deem With Out Blk Subt.										
Calc	TF	FILTER	H5KQR1AD	RA-228	3.11E+00	(1.10E+00)		PCI/SA	R	1.87E+00	4.08E+00	CRDL mck	82%	
Calc	TF	FILTER	H5KQR1AD	RA-228	4.44E-01	(9.80E-01)	U4	PCI/SA	R	2.08E+00	4.52E+00		82%	
Calc	TF	FILTER	H5KQR1AD	RA-228	7.96E-01	(1.11E+00)	U4	PCI/SA	R	2.31E+00	5.02E+00		82%	
Calc	TF	FILTER	H5KQR1AD	RA-228	1.45E+00	(6.15E-01)		PCI/SA	A	1.20E+00	2.62E+00		82%	
Calc	TF	FILTER	H5KQR1AD	RA-228	6.76E+00	(3.01E+00)		PCI/SA	R	4.88E+00	1.12E+01		82%	
Calc	TF	FILTER	H5KQ41AD	RA-228	5.44E+00	(1.20E+00)		PCI/SA	R	1.60E+00	3.50E+00		89%	
Calc	TF	FILTER	H5KQ41AD	RA-228	2.27E+00	(9.96E-01)		PCI/SA	R	1.77E+00	3.88E+00		89%	
Calc	TF	FILTER	H5KQ41AD	RA-228	1.69E+00	(1.03E+00)	U4	PCI/SA	R	1.97E+00	4.31E+00		89%	
Calc	TF	FILTER	H5KQ41AD	RA-228	3.13E+00	(6.24E-01)		PCI/SA	A	1.03E+00	2.25E+00		89%	
Calc	TF	FILTER	H5KQ41AD	RA-228	3.58E+00	(2.28E+00)	U4	PCI/SA	R	3.95E+00	9.27E+00		89%	
Calc	TF	FILTER	H5KQ81AD	RA-228	5.25E+00	(1.06E+00)		PCI/SA	R	1.22E+00	2.71E+00		97%	
Calc	TF	FILTER	H5KQ81AD	RA-228	2.41E+00	(8.44E-01)		PCI/SA	R	1.35E+00	3.00E+00		97%	
Calc	TF	FILTER	H5KQ81AD	RA-228	6.48E-01	(7.43E-01)	U4	PCI/SA	R	1.50E+00	3.33E+00		97%	
Calc	TF	FILTER	H5KQ81AD	RA-228	2.77E+00	(5.15E-01)		PCI/SA	A	7.81E-01	1.74E+00		97%	
Calc	TF	FILTER	H5KQ81AD	RA-228	1.15E+00	(1.94E+00)	U4	PCI/SA	R	3.94E+00	9.12E+00		97%	
Calc	TF	FILTER	H5KRC1AD	RA-228	1.55E+00	(7.25E-01)		PCI/SA	R	1.26E+00	2.82E+00		88%	
Calc	TF	FILTER	H5KRC1AD	RA-228	2.58E+00	(8.89E-01)		PCI/SA	R	1.40E+00	3.13E+00		88%	
Calc	TF	FILTER	H5KRC1AD	RA-228	3.13E+00	(1.01E+00)		PCI/SA	R	1.55E+00	3.47E+00		88%	
Calc	TF	FILTER	H5KRC1AD	RA-228	2.42E+00	(5.10E-01)		PCI/SA	A	8.10E-01	1.81E+00		88%	
Calc	TF	FILTER	H5KRC1AD	RA-228	-7.81E-01	(1.76E+00)	U4	PCI/SA	R	4.11E+00	9.63E+00		88%	
Calc	TF	FILTER	H5KRF1AD	RA-228	3.60E+00	(8.72E-01)		PCI/SA	R	9.22E-01	2.18E+00		98%	
Calc	TF	FILTER	H5KRF1AD	RA-228	2.33E+00	(7.73E-01)		PCI/SA	R	1.02E+00	2.42E+00		98%	
Calc	TF	FILTER	H5KRF1AD	RA-228	1.51E+00	(7.24E-01)		PCI/SA	R	1.14E+00	2.68E+00		98%	
Calc	TF	FILTER	H5KRF1AD	RA-228	2.48E+00	(4.57E-01)		PCI/SA	A	5.93E-01	1.40E+00		98%	
Calc	TF	FILTER	H5KRF1AD	RA-228	6.78E+00	(3.56E+00)		PCI/SA	R	6.61E+00	1.45E+01		98%	
Calc	TF	FILTER	H5KRG1AD	RA-228	4.19E+00	(9.35E-01)		PCI/SA	R	9.91E-01	2.30E+00		100%	
Calc	TF	FILTER	H5KRG1AD	RA-228	3.21E+00	(8.80E-01)		PCI/SA	R	1.10E+00	2.55E+00		100%	
Calc	TF	FILTER	H5KRG1AD	RA-228	2.70E+00	(8.80E-01)		PCI/SA	R	1.22E+00	2.83E+00		100%	
Calc	TF	FILTER	H5KRG1AD	RA-228	3.37E+00	(5.19E-01)		PCI/SA	A	6.37E-01	1.48E+00		100%	
Calc	TF	FILTER	H5KRG1AD	RA-228	4.09E+00	(3.21E+00)	U4	PCI/SA	R	6.33E+00	1.39E+01		100%	
Calc	TF	FILTER	H5KRJ1AD	RA-228	4.33E+00	(9.90E-01)		PCI/SA	R	1.07E+00	2.48E+00		95%	
Calc	TF	FILTER	H5KRJ1AD	RA-228	3.96E+00	(1.01E+00)		PCI/SA	R	1.19E+00	2.75E+00		95%	
Calc	TF	FILTER	H5KRJ1AD	RA-228	2.82E+00	(9.39E-01)		PCI/SA	R	1.31E+00	3.05E+00		95%	
Calc	TF	FILTER	H5KRJ1AD	RA-228	3.70E+00	(5.65E-01)		PCI/SA	A	6.87E-01	1.59E+00		95%	
Calc	TF	FILTER	H5KRJ1AD	RA-228	8.28E+00	(3.72E+00)		PCI/SA	R	6.64E+00	1.46E+01		95%	
Calc	TF	FILTER	H5KRL1AD	RA-228	9.25E+00	(1.52E+00)		PCI/SA	R	1.02E+00	2.39E+00		93%	
Calc	TF	FILTER	H5KRL1AD	RA-228	5.24E+00	(1.14E+00)		PCI/SA	R	1.13E+00	2.65E+00		93%	
Calc	TF	FILTER	H5KRL1AD	RA-228	2.94E+00	(9.42E-01)		PCI/SA	R	1.26E+00	2.94E+00		93%	

() - (1s Uncertainities)
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MDC - Minimum Detectable Concentration
*Std - Lc, MDC using StdDev for Set of Blanks

Q - Qualifier, U is Less Than Lc = 1.645*TPU
All Results Displayed to Three Digits Reguardless of Significants
Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:39
RADCALC v4.8.24
STL Richland

Batch Nbr: 6143287

Alpha Beta, Ra-228 by GPC , Results

6/21/2006 7:34:47 AM

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Calc	TF	FILTER	**H5KRL1AD**	RA-228	**5.81E+00**	**(7.08E-01)**		PCI/SA	A	6.56E-01	1.54E+00		93%	
Calc	TF	FILTER	**H5KRL1AD**	RA-228	**6.68E+00**	**(3.38E+00)**		PCI/SA	R	6.12E+00	1.35E+01		93%	
Calc	TF	FILTER	**H5KRR1AD**	RA-228	**4.37E+00**	**(9.98E-01)**		PCI/SA	R	1.04E+00	2.43E+00		84%	
Calc	TF	FILTER	**H5KRR1AD**	RA-228	**4.41E+00**	**(1.06E+00)**		PCI/SA	R	1.15E+00	2.69E+00		84%	
Calc	TF	FILTER	**H5KRR1AD**	RA-228	**1.83E+00**	**(8.18E-01)**		PCI/SA	R	1.28E+00	2.99E+00		84%	
Calc	TF	FILTER	**H5KRR1AD**	RA-228	**3.54E+00**	**(5.56E-01)**		PCI/SA	A	6.67E-01	1.56E+00		84%	
Calc	TF	FILTER	**H5KRR1AD**	RA-228	**-1.96E-01**	**(2.99E+00)**	**U4**	PCI/SA	R	6.60E+00	1.46E+01		84%	
Calc	TF	FILTER	**H5KRV1AD**	RA-228	**5.28E+00**	**(1.06E+00)**		PCI/SA	R	9.65E-01	2.26E+00		89%	
Calc	TF	FILTER	**H5KRV1AD**	RA-228	**3.02E+00**	**(8.60E-01)**		PCI/SA	R	1.07E+00	2.51E+00		89%	
Calc	TF	FILTER	**H5KRV1AD**	RA-228	**2.60E+00**	**(8.67E-01)**		PCI/SA	R	1.19E+00	2.78E+00		89%	
Calc	TF	FILTER	**H5KRV1AD**	RA-228	**3.63E+00**	**(5.39E-01)**		PCI/SA	A	6.20E-01	1.45E+00		89%	
Calc	TF	FILTER	**H5KRV1AD**	RA-228	**-1.04E+00**	**(3.00E+00)**	**U4**	PCI/SA	R	6.75E+00	1.48E+01		89%	
Calc	TF	FILTER	**H5KRX1AD**	RA-228	**5.46E+00**	**(1.17E+00)**		PCI/SA	R	1.17E+00	2.72E+00		77%	
Calc	TF	FILTER	**H5KRX1AD**	RA-228	**2.38E+00**	**(8.87E-01)**		PCI/SA	R	1.29E+00	3.02E+00		77%	
Calc	TF	FILTER	**H5KRX1AD**	RA-228	**4.59E+00**	**(1.21E+00)**		PCI/SA	R	1.44E+00	3.35E+00		77%	
Calc	TF	FILTER	**H5KRX1AD**	RA-228	**4.14E+00**	**(6.34E-01)**		PCI/SA	A	7.50E-01	1.75E+00		77%	
Calc	TF	FILTER	**H5KRX1AD**	RA-228	**4.74E+00**	**(3.28E+00)**	**U4**	PCI/SA	R	5.85E+00	1.36E+01		77%	
Calc	TF	FILTER	**H5KR21AD**	RA-228	**3.55E+00**	**(8.79E-01)**		PCI/SA	R	9.68E-01	2.28E+00		87%	
Calc	TF	FILTER	**H5KR21AD**	RA-228	**1.28E+00**	**(6.60E-01)**		PCI/SA	R	1.07E+00	2.53E+00		87%	
Calc	TF	FILTER	**H5KR21AD**	RA-228	**1.73E+00**	**(7.71E-01)**		PCI/SA	R	1.19E+00	2.80E+00		87%	
Calc	TF	FILTER	**H5KR21AD**	RA-228	**2.19E+00**	**(4.48E-01)**		PCI/SA	A	6.22E-01	1.46E+00		87%	
Calc	TF	FILTER	**H5KR21AD**	RA-228	**8.39E+00**	**(3.25E+00)**		PCI/SA	R	4.83E+00	1.13E+01		87%	
Calc	TF	FILTER	**H5KR41AD**	RA-228	**5.90E+00**	**(1.17E+00)**		PCI/SA	R	1.15E+00	2.64E+00		86%	
Calc	TF	FILTER	**H5KR41AD**	RA-228	**2.25E+00**	**(8.38E-01)**		PCI/SA	R	1.28E+00	2.93E+00		86%	
Calc	TF	FILTER	**H5KR41AD**	RA-228	**3.08E+00**	**(9.88E-01)**		PCI/SA	R	1.40E+00	3.22E+00		86%	
Calc	TF	FILTER	**H5KR41AD**	RA-228	**3.74E+00**	**(5.82E-01)**		PCI/SA	A	7.38E-01	1.69E+00		86%	
Calc	TF	FILTER	**H5KR41AD**	RA-228	**5.38E+00**	**(2.86E+00)**		PCI/SA	R	4.68E+00	1.10E+01		86%	
Calc	TF	FILTER	**H5KR61AD**	RA-228	**2.57E+00**	**(8.09E-01)**		PCI/SA	R	1.08E+00	2.52E+00		84%	
Calc	TF	FILTER	**H5KR61AD**	RA-228	**2.41E+00**	**(8.46E-01)**		PCI/SA	R	1.20E+00	2.80E+00		84%	
Calc	TF	FILTER	**H5KR61AD**	RA-228	**1.33E+00**	**(7.72E-01)**		PCI/SA	R	1.31E+00	3.07E+00		84%	
Calc	TF	FILTER	**H5KR61AD**	RA-228	**2.10E+00**	**(4.67E-01)**		PCI/SA	A	6.91E-01	1.61E+00		84%	
Calc	TF	FILTER	**H5KR61AD**	RA-228	**4.95E+00**	**(2.85E+00)**		PCI/SA	R	4.75E+00	1.12E+01		84%	
Calc	TF	FILTER	**H50TF1AA**	RA-228	**6.20E-01**	**(1.96E-01)**		PCI/SA	R	2.69E-01	6.23E-01	**B**	87%	
Calc	TF	FILTER	**H50TF1AA**	RA-228	**6.87E-01**	**(2.17E-01)**		PCI/SA	R	2.98E-01	6.91E-01	**B**	87%	
Calc	TF	FILTER	**H50TF1AA**	RA-228	**3.32E-01**	**(1.90E-01)**		PCI/SA	R	3.28E-01	7.59E-01	**B**	87%	
Calc	TF	FILTER	**H50TF1AA**	RA-228	**5.46E-01**	**(1.16E-01)**		PCI/SA	A	1.72E-01	3.99E-01	**B**	87%	
Calc	TF	FILTER	**H50TF1AA**	RA-228	**8.83E-02**	**(5.59E-01)**	**U4**	PCI/SA	R	1.20E+00	2.78E+00	**B**	87%	
Calc	TF	FILTER	**H50TF1AC**	RA-228	**4.31E+00**	**(5.83E-01)**		PCI/SA	R	2.78E-01	6.46E-01	**S**	85%	84%
Calc	TF	FILTER	**H50TF1AC**	RA-228	**4.75E+00**	**(6.43E-01)**		PCI/SA	R	3.08E-01	7.17E-01	**S**	85%	92%

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Q - Qualifier, U is Less Than Lc = 1.645*TPU
All Results Displayed to Three Digits Reguardless of Significants
Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:78
RADCALC v4.8.24
STL Richland

Batch Nbr: 6143287

Alpha Beta, Ra-228 by GPC , Results

6/21/2006 7:34:47 AM

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Calc	TF	FILTER	**H50TF1AC**	RA-228	**5.18E+00**	**(7.03E-01)**		PCI/SA	R	3.39E-01	7.88E-01	**S**	85%	101%
Calc	TF	FILTER	**H50TF1AC**	RA-228	**4.75E+00**	**(3.72E-01)**		PCI/SA	A	1.78E-01	4.14E-01	**S**	85%	92%
Calc	TF	FILTER	**H50TF1AC**	RA-228	**4.37E+00**	**(1.05E+00)**		PCI/SA	R	1.20E+00	2.79E+00	**S**	85%	85%

P Anderson
6-21-06

() - (1s Uncertainities)
IDC - Instrument Detection Level in Conc Units
MLcC- Method Decision Level in Conc Units
MDC - Minimum Detectable Concentration
*Std - Lc, MDC using StdDev for Set of Blanks

Q - Qualifier, U is Less Than Lc = 1.645*TPU
All Results Displayed to Three Digits Reguardless of Significants
Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:80
RADCALC v4.8.24
STL Richland

Batch Nbr: 6143287

Alpha Beta, Ra-228 by GPC , Calculated Results

Detailed Report

6/21/2006 7:34:48 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
1	Calc	TF	FILTER	*STLE	Ra228WoBS	H5KQR1AD	PCI/SA		05/04/06 12:10	06/21/06 06:29	06/14/06 11:45		1	1.00 SA	
536403,000443					,J6E170306-1 v4.8.24		FILTER		05/02/06 10:40	30.2	06/20/06 14:37		94%	0.246181 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 18:07	RA-228	68	342	GPC7A	1	N	N	5.2007E-01	1.0000E+00	N	82%	N		1.4221E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.202E-02)	(0.000E+00)		7%			(0.000E+00)	4.062045		
1	06/20/06 19:03	RA-228	46	342	GPC7A	1	N	N	5.2007E-01	1.0000E+00	N	82%	N		1.5777E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.202E-02)	(0.000E+00)		7%			(0.000E+00)	4.062045		
2	06/20/06 19:58	RA-228	48	342	GPC7A	1	N	N	5.2007E-01	1.0000E+00	N	82%	N		1.7503E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.202E-02)	(0.000E+00)		7%			(0.000E+00)	4.062045		
3	06/21/06 06:29	RA-228	28	123	GPC4A	1	N	N	4.8160E-01	1.0000E+00	N	82%	N		5.7241E+00	4.5045E-01	1.0139E+00	
			50	400			N		(1.103E-02)	(0.000E+00)		7%			(0.000E+00)	4.062045		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	RA-228	R	**3.10982**		5.05000E-01	1.676225	1.676225	1.00 SA	82%		4.078276		
				(1.100682)		(1.7128E-01)	(0.585413)	(0.585413)	(0.028284)			1.873367		
	06/21/06	RA-228	R	**0.444062**	U4	6.50000E-02	0.239354	0.239354	1.00 SA	82%		4.524422		
				(0.980079)		(1.4331E-01)	(0.528093)	(0.528093)	(0.028284)			2.078305		
	06/21/06	RA-228	R	**0.795804**	U4	1.05000E-01	0.428947	0.428947	1.00 SA	82%		5.019375		
				(1.110028)		(1.4607E-01)	(0.597809)	(0.597809)	(0.028284)			2.305663		
	06/21/06	RA-228	A	**1.449896**		2.25000E-01	0.781509	0.781509	1.00 SA	82%		2.621569		
				(0.615017)		(8.8952E-02)	(0.329809)	(0.329809)	(0.01633)			1.204225		
	06/21/06	RA-228	R	**6.75844**		2.52500E-01	3.642869	3.642869	1.00 SA	82%		11.211302		
				(3.006945)		(1.0940E-01)	(1.607207)	(1.607207)	(0.028284)			4.883189		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
2	Calc	TF	FILTER	*STLE	Ra228WoBS	H5KQ41AD	PCI/SA		05/04/06 12:15	06/21/06 06:29	06/14/06 11:45		1	1.00 SA	
536403,000444					,J6E170306-2 v4.8.24		FILTER		05/02/06 10:40	31.1	06/20/06 14:37		98%	0.248519 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 18:07	RA-228	85	295	GPC7B	1	N	N	5.1927E-01	1.0000E+00	N	89%	N		1.4221E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.257E-02)	(0.000E+00)		7%			(0.000E+00)	4.023845		
1	06/20/06 19:03	RA-228	55	295	GPC7B	1	N	N	5.1927E-01	1.0000E+00	N	89%	N		1.5777E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.257E-02)	(0.000E+00)		7%			(0.000E+00)	4.023845		
2	06/20/06 19:58	RA-228	49	295	GPC7B	1	N	N	5.1927E-01	1.0000E+00	N	89%	N		1.7503E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.257E-02)	(0.000E+00)		7%			(0.000E+00)	4.023845		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:2

RADCALC v4.8.24

STL Richland

Batch Nbr: 6143287

Alpha Beta, Ra-228 by GPC , Calculated Results

6/21/2006 7:34:48 AM

3	06/21/06 06:29	RA-228	18	88	GPC4B	1	N	N	4.6207E-01	1.0000E+00	N	89%	N	5.7241E+00	4.5045E-01	1.0139E+00
			50	400			N		(1.048E-02)	(0.000E+00)		7%		(0.000E+00)	4.023845	

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	RA-228	R	**5.441757**		9.62500E-01	2.961011	2.961011	1.00 SA	89%		3.49935		
				(1.204299)		(1.8932E-01)	(0.632831)	(0.632831)	(0.028284)			1.597406		
	06/21/06	RA-228	R	**2.273699**		3.62500E-01	1.237182	1.237182	1.00 SA	89%		3.882164		
				(0.995601)		(1.5441E-01)	(0.537052)	(0.537052)	(0.028284)			1.772156		
	06/21/06	RA-228	R	**1.68742**	U4	2.42500E-01	0.918172	0.918172	1.00 SA	89%		4.306856		
				(1.033242)		(1.4644E-01)	(0.559736)	(0.559736)	(0.028284)			1.966022		
	06/21/06	RA-228	A	**3.134292**		5.22500E-01	1.705455	1.705455	1.00 SA	89%		2.249428		
				(0.624424)		(9.4945E-02)	(0.3337)	(0.3337)	(0.01633)			1.026834		
	06/21/06	RA-228	R	**3.580311**	U4	1.40000E-01	1.948146	1.948146	1.00 SA	89%		9.274185		
				(2.280245)		(8.8034E-02)	(1.235687)	(1.235687)	(0.028284)			3.94639		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
3	Calc	TF	FILTER	*STLE	Ra228WoBS	**H5KQ81AD**	**PCI/SA**		05/04/06 23:10	06/21/06 06:29	06/14/06 11:45		1	1.00 SA	
536403,000445					,J6E170306-3 v4.8.24		FILTER		05/02/06 10:40	30.6	06/20/06 14:37		109%	0.250364 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 18:08	RA-228	77	207	GPC1C	1	N	N	5.2236E-01	1.0000E+00	N	97%	N		1.4228E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.169E-02)	(0.000E+00)		8%			(0.000E+00)	3.994178		
1	06/20/06 19:03	RA-228	47	207	GPC1C	1	N	N	5.2236E-01	1.0000E+00	N	97%	N		1.5785E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.169E-02)	(0.000E+00)		8%			(0.000E+00)	3.994178		
2	06/20/06 19:58	RA-228	31	207	GPC1C	1	N	N	5.2236E-01	1.0000E+00	N	97%	N		1.7511E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.169E-02)	(0.000E+00)		8%			(0.000E+00)	3.994178		
3	06/21/06 06:29	RA-228	16	108	GPC4C	1	N	N	4.6870E-01	1.0000E+00	N	97%	N		5.7241E+00	4.5045E-01	1.0139E+00	
			50	400			N		(1.147E-02)	(0.000E+00)		8%			(0.000E+00)	3.994178		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	RA-228	R	**5.251862**		1.02250E+00	2.879124	2.879124	1.00 SA	97%		2.708202		
				(1.062094)		(1.7915E-01)	(0.558266)	(0.558266)	(0.028284)			1.215629		
	06/21/06	RA-228	R	**2.407483**		4.22500E-01	1.319807	1.319807	1.00 SA	97%		3.004467		
				(0.843537)		(1.4175E-01)	(0.456178)	(0.456178)	(0.028284)			1.348614		
	06/21/06	RA-228	R	**0.647938**	U4	1.02500E-01	0.355206	0.355206	1.00 SA	97%		3.333039		
				(0.742615)		(1.1702E-01)	(0.406597)	(0.406597)	(0.028284)			1.496099		
	06/21/06	RA-228	A	**2.769094**		5.15833E-01	1.518046	1.518046	1.00 SA	97%		1.740847		
				(0.515437)		(8.5558E-02)	(0.275899)	(0.275899)	(0.01633)			0.781413		
	06/21/06	RA-228	R	**1.151439**	U4	5.00000E-02	0.63123	0.63123	1.00 SA	97%		9.117178		
				(1.940541)		(8.4113E-02)	(1.063206)	(1.063206)	(0.028284)			3.936847		

RecCnt:4 RADCALC v4.8.24
STL Richland

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

Batch Nbr: 6143287

Alpha Beta, Ra-228 by GPC , Calculated Results

6/21/2006 7:34:48 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
4	Calc	TF	FILTER	*STLE	Ra228WoBS	H5KRC1AD	PCI/SA		05/04/06 23:25	06/21/06 06:29	06/14/06 11:45		1	1.00 SA	
536403,000446					,J6E170306-4 v4.8.24		FILTER		05/02/06 10:40	30.6	06/20/06 14:37		99%	0.249927 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 18:08	RA-228	38	192	GPC1D	1	N	N	5.3178E-01	1.0000E+00	N	88%	N		1.4228E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.368E-02)	(0.000E+00)		7%			(0.000E+00)	4.001175		
1	06/20/06 19:03	RA-228	45	192	GPC1D	1	N	N	5.3178E-01	1.0000E+00	N	88%	N		1.5785E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.368E-02)	(0.000E+00)		7%			(0.000E+00)	4.001175		
2	06/20/06 19:58	RA-228	47	192	GPC1D	1	N	N	5.3178E-01	1.0000E+00	N	88%	N		1.7511E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.368E-02)	(0.000E+00)		7%			(0.000E+00)	4.001175		
3	06/21/06 06:29	RA-228	10	92	GPC4D	1	N	N	4.5395E-01	1.0000E+00	N	88%	N		5.7241E+00	4.5045E-01	1.0139E+00	
			50	400			N		(9.347E-03)	(0.000E+00)		7%			(0.000E+00)	4.001175		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	RA-228	R	**1.547649**		2.80000E-01	0.846955	0.846955	1.00 SA	88%		2.817855		
				(0.725162)		(1.2806E-01)	(0.393853)	(0.393853)	(0.028284)			1.259885		
	06/21/06	RA-228	R	**2.575433**		4.20000E-01	1.409413	1.409413	1.00 SA	88%		3.126117		
				(0.889198)		(1.3856E-01)	(0.479833)	(0.479833)	(0.028284)			1.397712		
	06/21/06	RA-228	R	**3.129189**		4.60000E-01	1.712457	1.712457	1.00 SA	88%		3.467992		
				(1.013393)		(1.4142E-01)	(0.545788)	(0.545788)	(0.028284)			1.550567		
	06/21/06	RA-228	A	**2.417424**		3.86667E-01	1.322941	1.322941	1.00 SA	88%		1.811333		
				(0.510283)		(7.8599E-02)	(0.275529)	(0.275529)	(0.01633)			0.809861		
	06/21/06	RA-228	R	**-0.781467**	U4	-3.00000E-02	-0.42766	-0.42766	1.00 SA	88%		9.627105		
				(1.763668)		(6.7639E-02)	(0.964859)	(0.964859)	(0.028284)			4.110068		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
5	Calc	TF	FILTER	*STLE	Ra228WoBS	H5KRF1AD	PCI/SA		05/04/06 10:30	06/21/06 07:25	06/14/06 11:45		1	1.00 SA	
536403,000447					,J6E170306-5 v4.8.24		FILTER		05/02/06 10:40	30.4	06/20/06 14:37		110%	0.24949 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 18:08	RA-228	39	81	GPC2A	1	N	N	4.2898E-01	1.0000E+00	N	98%	N		1.4240E+00	4.5045E-01	1.0140E+00	
			50	400			Y		(1.187E-02)	(0.000E+00)		8%			(0.000E+00)	4.008172		
1	06/20/06 19:03	RA-228	27	81	GPC2A	1	N	N	4.2898E-01	1.0000E+00	N	98%	N		1.5797E+00	4.5045E-01	1.0140E+00	
			50	400			Y		(1.187E-02)	(0.000E+00)		8%			(0.000E+00)	4.008172		
2	06/20/06 19:59	RA-228	20	81	GPC2A	1	N	N	4.2898E-01	1.0000E+00	N	98%	N		1.7525E+00	4.5045E-01	1.0140E+00	
			50	400			Y		(1.187E-02)	(0.000E+00)		8%			(0.000E+00)	4.008172		
3	06/21/06 07:25	RA-228	53	306	GPC7A	1	N	N	5.1973E-01	1.0000E+00	N	98%	N		6.3638E+00	4.5045E-01	1.0140E+00	
			50	400			N		(1.201E-02)	(0.000E+00)		8%			(0.000E+00)	4.008172		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:5

RADCALC v4.8.24
STL Richland

Batch Nbr: 6143287

Alpha Beta, Ra-228 by GPC , Calculated Results

6/21/2006 7:34:48 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	RA-228	R	**3.59806**		5.77500E-01	1.965436	1.965436	1.00 SA	98%		2.181416		
				(0.872185)		(1.2691E-01)	(0.462859)	(0.462859)	(0.028284)			0.922412		
	06/21/06	RA-228	R	**2.332722**		3.37500E-01	1.274247	1.274247	1.00 SA	98%		2.419978		
				(0.77271)		(1.0633E-01)	(0.415696)	(0.415696)	(0.028284)			1.023288		
	06/21/06	RA-228	R	**1.514408**		1.97500E-01	0.827244	0.827244	1.00 SA	98%		2.684713		
				(0.723976)		(9.2229E-02)	(0.392605)	(0.392605)	(0.028284)			1.135231		
	06/21/06	RA-228	A	**2.48173**		3.70833E-01	1.355642	1.355642	1.00 SA	98%		1.402212		
				(0.457278)		(6.3174E-02)	(0.245217)	(0.245217)	(0.01633)			0.592925		
	06/21/06	RA-228	R	**6.779621**		2.95000E-01	3.70336	3.70336	1.00 SA	98%		14.464109		
				(3.560551)		(1.5203E-01)	(1.933277)	(1.933277)	(0.028284)			6.613175		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
6	Calc	TF	FILTER	*STLE	Ra228WoBS	**H5KRG1AD**	**PCI/SA**		05/04/06 10:50	06/21/06 07:25	06/14/06 11:45		1	1.00 SA	
536403,000448					,J6E170306-6 v4.8.24		FILTER		05/02/06 10:40	30.6	06/20/06 14:37		112%	0.249634 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 18:08	RA-228	49	106	GPC2B	1	N	N	4.4537E-01	1.0000E+00	N	100%	N		1.4240E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.051E-02)	(0.000E+00)		8%			(0.000E+00)	4.005866		
1	06/20/06 19:03	RA-228	38	106	GPC2B	1	N	N	4.4537E-01	1.0000E+00	N	100%	N		1.5797E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.051E-02)	(0.000E+00)		8%			(0.000E+00)	4.005866		
2	06/20/06 19:59	RA-228	32	106	GPC2B	1	N	N	4.4537E-01	1.0000E+00	N	100%	N		1.7525E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.051E-02)	(0.000E+00)		8%			(0.000E+00)	4.005866		
3	06/21/06 07:25	RA-228	46	295	GPC7B	1	N	N	5.2025E-01	1.0000E+00	N	100%	N		6.3638E+00	4.5045E-01	1.0139E+00	
			50	400			N		(1.259E-02)	(0.000E+00)		8%			(0.000E+00)	4.005866		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	RA-228	R	**4.185559**		7.15000E-01	2.287678	2.287678	1.00 SA	100%		2.298985		
				(0.934905)		(1.4235E-01)	(0.493798)	(0.493798)	(0.028284)			0.99144		
	06/21/06	RA-228	R	**3.21459**		4.95000E-01	1.756981	1.756981	1.00 SA	100%		2.550404		
				(0.880321)		(1.2595E-01)	(0.470447)	(0.470447)	(0.028284)			1.099864		
	06/21/06	RA-228	R	**2.701706**		3.75000E-01	1.476657	1.476657	1.00 SA	100%		2.829408		
				(0.87957)		(1.1603E-01)	(0.473198)	(0.473198)	(0.028284)			1.220185		
	06/21/06	RA-228	A	**3.367285**		5.28333E-01	1.840438	1.840438	1.00 SA	100%		1.477785		
				(0.518829)		(7.4228E-02)	(0.276701)	(0.276701)	(0.01633)			0.637296		
	06/21/06	RA-228	R	**4.087253**	**U4**	1.82500E-01	2.233947	2.233947	1.00 SA	100%		13.861734		
				(3.21335)		(1.4228E-01)	(1.751608)	(1.751608)	(0.028284)			6.327695		

RecCnt:7

RADCALC v4.8.24
STL Richland

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

Batch Nbr: 6143287

Alpha Beta, Ra-228 by GPC , Calculated Results

6/21/2006 7:34:48 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
7	Calc	TF	FILTER	*STLE	Ra228WoBS	**H5KRJ1AD**	**PCI/SA**		05/04/06 11:30	06/21/06 07:25	06/14/06 11:45		1	1.00 SA	
536403,000449					,J6E170306-7 v4.8.24		FILTER		05/02/06 10:40	31.0	06/20/06 14:37		106%	0.248853 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 18:08	RA-228	47	104	GPC2C	1	N	N	4.3040E-01	1.0000E+00	N	95%	N		1.4240E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(9.361E-03)	(0.000E+00)		8%			(0.000E+00)	4.018432		
1	06/20/06 19:03	RA-228	41	104	GPC2C	1	N	N	4.3040E-01	1.0000E+00	N	95%	N		1.5797E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(9.361E-03)	(0.000E+00)		8%			(0.000E+00)	4.018432		
2	06/20/06 19:59	RA-228	31	104	GPC2C	1	N	N	4.3040E-01	1.0000E+00	N	95%	N		1.7525E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(9.361E-03)	(0.000E+00)		8%			(0.000E+00)	4.018432		
3	06/21/06 07:25	RA-228	52	279	GPC7C	1	N	N	5.0668E-01	1.0000E+00	N	95%	N		6.3638E+00	4.5045E-01	1.0139E+00	
			50	400			N		(1.090E-02)	(0.000E+00)		8%			(0.000E+00)	4.018432		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	RA-228	R	**4.330484**		6.80000E-01	2.359498	2.359498	1.00 SA	95%		2.480579		
				(0.989743)		(1.3946E-01)	(0.521957)	(0.521957)	(0.028284)			1.068341		
	06/21/06	RA-228	R	**3.956293**		5.60000E-01	2.155617	2.155617	1.00 SA	95%		2.751858		
				(1.005098)		(1.3058E-01)	(0.533452)	(0.533452)	(0.028284)			1.185176		
	06/21/06	RA-228	R	**2.821561**		3.60000E-01	1.53735	1.53735	1.00 SA	95%		3.0529		
				(0.939489)		(1.1424E-01)	(0.504212)	(0.504212)	(0.028284)			1.31483		
	06/21/06	RA-228	A	**3.702779**		5.33333E-01	2.017488	2.017488	1.00 SA	95%		1.594514		
				(0.564944)		(7.4199E-02)	(0.30023)	(0.30023)	(0.01633)			0.686729		
	06/21/06	RA-228	R	**8.280062**		3.42500E-01	4.511457	4.511457	1.00 SA	95%		14.587706		
				(3.724571)		(1.5015E-01)	(2.012745)	(2.012745)	(0.028284)			6.642645		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
8	Calc	TF	FILTER	*STLE	Ra228WoBS	**H5KRL1AD**	**PCI/SA**		05/04/06 12:00	06/21/06 07:20	06/14/06 11:45		1	1.00 SA	
536403,P-0614					,J6E170306-8 v4.8.24		FILTER		05/02/06 10:40	30.9	06/20/06 14:37		104%	0.246604 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 18:08	RA-228	83	92	GPC2D	1	N	N	4.3803E-01	1.0000E+00	N	93%	N		1.4240E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.309E-02)	(0.000E+00)		7%			(0.000E+00)	4.05509		
1	06/20/06 19:03	RA-228	48	92	GPC2D	1	N	N	4.3803E-01	1.0000E+00	N	93%	N		1.5797E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.309E-02)	(0.000E+00)		7%			(0.000E+00)	4.05509		
2	06/20/06 19:59	RA-228	30	92	GPC2D	1	N	N	4.3803E-01	1.0000E+00	N	93%	N		1.7525E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.309E-02)	(0.000E+00)		7%			(0.000E+00)	4.05509		
3	06/21/06 07:20	RA-228	45	247	GPC1A	1	N	N	5.3004E-01	1.0000E+00	N	93%	N		6.3061E+00	4.5045E-01	1.0139E+00	
			50	400			N		(1.446E-02)	(0.000E+00)		7%			(0.000E+00)	4.05509		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:8

RADCALC v4.8.24

STL Richland

Batch Nbr: 6143287

Alpha Beta, Ra-228 by GPC , Calculated Results

6/21/2006 7:34:48 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	RA-228	R	**9.245932**		1.43000E+00	4.992194	4.992194	1.00 SA	93%		2.389578		
				(1.522356)		(1.8378E-01)	(0.770322)	(0.770322)	(0.028284)			1.020175		
	06/21/06	RA-228	R	**5.23613**		7.30000E-01	2.827165	2.827165	1.00 SA	93%		2.650905		
				(1.143608)		(1.4062E-01)	(0.595732)	(0.595732)	(0.028284)			1.131742		
	06/21/06	RA-228	R	**2.944258**		3.70000E-01	1.589705	1.589705	1.00 SA	93%		2.940902		
				(0.942387)		(1.1214E-01)	(0.500565)	(0.500565)	(0.028284)			1.25555		
	06/21/06	RA-228	A	**5.808773**		8.43333E-01	3.136355	3.136355	1.00 SA	93%		1.536018		
				(0.708167)		(8.5716E-02)	(0.364974)	(0.364974)	(0.01633)			0.655767		
	06/21/06	RA-228	R	**6.684545**		2.82500E-01	3.609214	3.609214	1.00 SA	93%		13.510048		
				(3.377745)		(1.3980E-01)	(1.811936)	(1.811936)	(0.028284)			6.117413		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
9	Calc	TF	FILTER	*STLE	Ra228WoBS	**H5KRR1AD**	**PCI/SA**		05/04/06 12:20	06/21/06 07:20	06/14/06 11:45		1	1.00 SA	
536403,P-0615					,J6E170306-9 v4.8.24		FILTER		05/02/06 10:40	30.7	06/20/06 14:37		95%	0.24935 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 18:04	RA-228	45	93	GPC3A	1	N	N	4.6800E-01	1.0000E+00	N	84%	N		1.4118E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.324E-02)	(0.000E+00)		7%			(0.000E+00)	4.010426		
1	06/20/06 18:59	RA-228	42	93	GPC3A	1	N	N	4.6800E-01	1.0000E+00	N	84%	N		1.5663E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.324E-02)	(0.000E+00)		7%			(0.000E+00)	4.010426		
2	06/20/06 19:54	RA-228	23	93	GPC3A	1	N	N	4.6800E-01	1.0000E+00	N	84%	N		1.7376E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.324E-02)	(0.000E+00)		7%			(0.000E+00)	4.010426		
3	06/21/06 07:20	RA-228	29	235	GPC1C	1	N	N	5.2220E-01	1.0000E+00	N	84%	N		6.3061E+00	4.5045E-01	1.0139E+00	
			50	400			N		(1.169E-02)	(0.000E+00)		7%			(0.000E+00)	4.010426		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	RA-228	R	**4.367007**		6.67500E-01	2.384162	2.384162	1.00 SA	84%		2.429088		
				(0.997786)		(1.3631E-01)	(0.527241)	(0.527241)	(0.028284)			1.037863		
	06/21/06	RA-228	R	**4.409257**		6.07500E-01	2.407228	2.407228	1.00 SA	84%		2.69482		
				(1.058198)		(1.3184E-01)	(0.560927)	(0.560927)	(0.028284)			1.151401		
	06/21/06	RA-228	R	**1.831781**		2.27500E-01	1.000058	1.000058	1.00 SA	84%		2.989528		
				(0.818147)		(9.8900E-02)	(0.442957)	(0.442957)	(0.028284)			1.277319		
	06/21/06	RA-228	A	**3.536015**		5.00833E-01	1.930483	1.930483	1.00 SA	84%		1.561432		
				(0.55625)		(7.1293E-02)	(0.296054)	(0.296054)	(0.01633)			0.667144		
	06/21/06	RA-228	R	**-0.196416**	**U4**	-7.50000E-03	-0.107233	-0.107233	1.00 SA	84%		14.619852		
				(2.993935)		(1.1432E-01)	(1.634523)	(1.634523)	(0.028284)			6.60413		

RecCnt:10 RADCALC v4.8.24 STL Richland

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

Batch Nbr: 6143287 — Alpha Beta, Ra-228 by GPC , Calculated Results — 6/21/2006 7:34:48 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
10	Calc	TF	FILTER	*STLE	Ra228WoBS	**H5KRV1AD**	**PCI/SA**		05/04/06 11:05	06/21/06 07:20	06/14/06 11:45		1	1.00 SA	
536403,P-0616					,J6E170306-10 v4.8.24		FILTER		05/02/06 10:40	30.6	06/20/06 14:37		100%	0.24985 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 18:04	RA-228	55	93	GPC3B	1	N	N	4.7930E-01	1.0000E+00	N	89%	N		1.4118E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.181E-02)	(0.000E+00)		7%			(0.000E+00)	4.0024		
1	06/20/06 18:59	RA-228	34	93	GPC3B	1	N	N	4.7930E-01	1.0000E+00	N	89%	N		1.5663E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.181E-02)	(0.000E+00)		7%			(0.000E+00)	4.0024		
2	06/20/06 19:54	RA-228	29	93	GPC3B	1	N	N	4.7930E-01	1.0000E+00	N	89%	N		1.7376E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.181E-02)	(0.000E+00)		7%			(0.000E+00)	4.0024		
3	06/21/06 07:20	RA-228	33	281	GPC1D	1	N	N	5.3178E-01	1.0000E+00	N	89%	N		6.3061E+00	4.5045E-01	1.0139E+00	
			50	400			N		(1.368E-02)	(0.000E+00)		7%			(0.000E+00)	4.0024		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	RA-228	R	**5.277147**		8.67500E-01	2.886804	2.886804	1.00 SA	89%		2.258605		
				(1.059547)		(1.5027E-01)	(0.555383)	(0.555383)	(0.028284)			0.965022		
	06/21/06	RA-228	R	**3.020016**		4.47500E-01	1.652066	1.652066	1.00 SA	89%		2.505687		
				(0.86016)		(1.1909E-01)	(0.460871)	(0.460871)	(0.028284)			1.070591		
	06/21/06	RA-228	R	**2.60162**		3.47500E-01	1.423187	1.423187	1.00 SA	89%		2.779712		
				(0.867481)		(1.1037E-01)	(0.46745)	(0.46745)	(0.028284)			1.187672		
	06/21/06	RA-228	A	**3.632928**		5.54167E-01	1.987352	1.987352	1.00 SA	89%		1.451844		
				(0.539036)		(7.3744E-02)	(0.28662)	(0.28662)	(0.01633)			0.620321		
	06/21/06	RA-228	R	**-1.040807**	**U4**	-4.25000E-02	-0.569362	-0.569362	1.00 SA	89%		14.825426		
				(2.996844)		(1.2230E-01)	(1.639064)	(1.639064)	(0.028284)			6.753055		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
11	Calc	TF	FILTER	*STLE	Ra228WoBS	**H5KRX1AD**	**PCI/SA**		05/04/06 11:20	06/21/06 07:26	06/14/06 11:45		1	1.00 SA	
536403,P-0617					,J6E170306-11 v4.8.24		FILTER		05/02/06 10:40	30.8	06/20/06 14:37		86%	0.247605 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 18:04	RA-228	50	97	GPC3C	1	N	N	4.7091E-01	1.0000E+00	N	77%	N		1.4118E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.100E-02)	(0.000E+00)		6%			(0.000E+00)	4.038689		
1	06/20/06 18:59	RA-228	27	97	GPC3C	1	N	N	4.7091E-01	1.0000E+00	N	77%	N		1.5663E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.100E-02)	(0.000E+00)		6%			(0.000E+00)	4.038689		
2	06/20/06 19:54	RA-228	38	97	GPC3C	1	N	N	4.7091E-01	1.0000E+00	N	77%	N		1.7376E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.100E-02)	(0.000E+00)		6%			(0.000E+00)	4.038689		
3	06/21/06 07:26	RA-228	19	99	GPC2A	1	N	N	4.2799E-01	1.0000E+00	N	77%	N		6.3682E+00	4.5045E-01	1.0139E+00	
			50	400			N		(1.185E-02)	(0.000E+00)		6%			(0.000E+00)	4.038689		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:11 RADCALC v4.8.24
STL Richland

Batch Nbr: 6143287

Alpha Beta, Ra-228 by GPC , Calculated Results

6/21/2006 7:34:48 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	RA-228	R	**5.455095**		7.57500E-01	2.95734	2.95734	1.00 SA	77%		2.722399		
				(1.171985)		(1.4355E-01)	(0.612228)	(0.612228)	(0.028284)			1.166733		
	06/21/06	RA-228	R	**2.376803**		2.97500E-01	1.288523	1.288523	1.00 SA	77%		3.020218		
				(0.886521)		(1.0680E-01)	(0.474871)	(0.474871)	(0.028284)			1.294369		
	06/21/06	RA-228	R	**4.586585**		5.17500E-01	2.4865	2.4865	1.00 SA	77%		3.350512		
				(1.207125)		(1.2572E-01)	(0.638633)	(0.638633)	(0.028284)			1.435922		
	06/21/06	RA-228	A	**4.139495**		5.24167E-01	2.244121	2.244121	1.00 SA	77%		1.749973		
				(0.633914)		(7.2892E-02)	(0.334693)	(0.334693)	(0.01633)			0.749983		
	06/21/06	RA-228	R	**4.735606**	**U4**	1.32500E-01	2.567287	2.567287	1.00 SA	77%		13.629843		
				(3.276151)		(9.0657E-02)	(1.769947)	(1.769947)	(0.028284)			5.849829		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
12	Calc	**TF**	FILTER	*STLE	Ra228WoBS	**H5KR21AD**	**PCI/SA**		05/04/06 10:35	06/21/06 07:26	06/14/06 11:45		1	1.00 SA	
536403,P-0618					,J6E170306-12 v4.8.24		FILTER		05/02/06 10:40	31.1	06/20/06 14:37		97%	0.25018 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 18:04	RA-228	39	87	GPC3D	1	N	N	4.6776E-01	1.0000E+00	N	87%	N		1.4118E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.145E-02)	(0.000E+00)		7%			(0.000E+00)	3.997127		
1	06/20/06 18:59	RA-228	20	87	GPC3D	1	N	N	4.6776E-01	1.0000E+00	N	87%	N		1.5663E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.145E-02)	(0.000E+00)		7%			(0.000E+00)	3.997127		
2	06/20/06 19:54	RA-228	22	87	GPC3D	1	N	N	4.6776E-01	1.0000E+00	N	87%	N		1.7376E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.145E-02)	(0.000E+00)		7%			(0.000E+00)	3.997127		
3	06/21/06 07:26	RA-228	26	96	GPC2B	1	N	N	4.4452E-01	1.0000E+00	N	87%	N		6.3682E+00	4.5045E-01	1.0139E+00	
			50	400			N		(1.049E-02)	(0.000E+00)		7%			(0.000E+00)	3.997127		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	RA-228	R	**3.549852**		5.62500E-01	1.944462	1.944462	1.00 SA	87%		2.277513		
				(0.879053)		(1.2706E-01)	(0.468373)	(0.468373)	(0.028284)			0.968307		
	06/21/06	RA-228	R	**1.277724**		1.82500E-01	0.699884	0.699884	1.00 SA	87%		2.526663		
				(0.660003)		(9.2432E-02)	(0.35928)	(0.35928)	(0.028284)			1.074236		
	06/21/06	RA-228	R	**1.728133**		2.22500E-01	0.9466	0.9466	1.00 SA	87%		2.802982		
				(0.770983)		(9.6663E-02)	(0.418797)	(0.418797)	(0.028284)			1.191716		
	06/21/06	RA-228	A	**2.185236**		3.22500E-01	1.196982	1.196982	1.00 SA	87%		1.463998		
				(0.447555)		(6.1492E-02)	(0.241257)	(0.241257)	(0.01633)			0.622433		
	06/21/06	RA-228	R	**8.386987**		2.80000E-01	4.594044	4.594044	1.00 SA	87%		11.273352		
				(3.254352)		(1.0488E-01)	(1.762956)	(1.762956)	(0.028284)			4.827802		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:13

RADCALC v4.8.24

STL Richland

Batch Nbr: 6143287

Alpha Beta, Ra-228 by GPC , Calculated Results

6/21/2006 7:34:49 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
13	Calc	TF	FILTER	*STLE	Ra228WoBS	**H5KR41AD**	**PCI/SA**		05/04/06 10:45	06/21/06 07:26	06/14/06 11:45		1	1.00 SA	
536403,P-0619					,J6E170306-13 v4.8.24		FILTER		05/02/06 10:40	29.9	06/20/06 14:37		99%	0.250606 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 18:04	RA-228	63	126	GPC4A	1	N	N	4.8160E-01	1.0000E+00	N	86%	N		1.4132E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.103E-02)	(0.000E+00)		7%			(0.000E+00)	3.990324		
1	06/20/06 18:59	RA-228	32	126	GPC4A	1	N	N	4.8160E-01	1.0000E+00	N	86%	N		1.5677E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.103E-02)	(0.000E+00)		7%			(0.000E+00)	3.990324		
2	06/20/06 19:50	RA-228	36	126	GPC4A	1	N	N	4.8160E-01	1.0000E+00	N	86%	N		1.7229E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.103E-02)	(0.000E+00)		7%			(0.000E+00)	3.990324		
3	06/21/06 07:26	RA-228	19	83	GPC2C	1	N	N	4.3383E-01	1.0000E+00	N	86%	N		6.3682E+00	4.5045E-01	1.0139E+00	
			50	400			N		(9.436E-03)	(0.000E+00)		7%			(0.000E+00)	3.990324		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	RA-228	R	**5.896239**		9.45000E-01	3.235225	3.235225	1.00 SA	86%		2.64103		
				(1.169255)		(1.6121E-01)	(0.614053)	(0.614053)	(0.028284)			1.152111		
	06/21/06	RA-228	R	**2.24957**		3.25000E-01	1.234323	1.234323	1.00 SA	86%		2.929856		
				(0.838289)		(1.1657E-01)	(0.454465)	(0.454465)	(0.028284)			1.278107		
	06/21/06	RA-228	R	**3.080811**		4.05000E-01	1.69042	1.69042	1.00 SA	86%		3.219884		
				(0.987865)		(1.2324E-01)	(0.533265)	(0.533265)	(0.028284)			1.404628		
	06/21/06	RA-228	A	**3.742207**		5.58333E-01	2.053323	2.053323	1.00 SA	86%		1.691784		
				(0.581737)		(7.8005E-02)	(0.31055)	(0.31055)	(0.01633)			0.738017		
	06/21/06	RA-228	R	**5.384201**		1.72500E-01	2.954274	2.954274	1.00 SA	86%		11.041679		
				(2.864349)		(9.0104E-02)	(1.562459)	(1.562459)	(0.028284)			4.677751		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
14	Calc	TF	FILTER	*STLE	Ra228WoBS	**H5KR61AD**	**PCI/SA**		05/04/06 12:05	06/21/06 07:26	06/14/06 11:45		1	1.00 SA	
536403,P-0620					,J6E170306-14 v4.8.24		FILTER		05/02/06 10:40	30.0	06/20/06 14:37		96%	0.246697 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 18:04	RA-228	31	95	GPC4B	1	N	N	4.6240E-01	1.0000E+00	N	84%	N		1.4132E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.048E-02)	(0.000E+00)		7%			(0.000E+00)	4.053549		
1	06/20/06 18:59	RA-228	28	95	GPC4B	1	N	N	4.6240E-01	1.0000E+00	N	84%	N		1.5677E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.048E-02)	(0.000E+00)		7%			(0.000E+00)	4.053549		
2	06/20/06 19:50	RA-228	20	95	GPC4B	1	N	N	4.6240E-01	1.0000E+00	N	84%	N		1.7229E+00	4.5045E-01	1.0139E+00	
			50	400			Y		(1.048E-02)	(0.000E+00)		7%			(0.000E+00)	4.053549		
3	06/21/06 07:26	RA-228	18	82	GPC2D	1	N	N	4.3904E-01	1.0000E+00	N	84%	N		6.3682E+00	4.5045E-01	1.0139E+00	
			50	400			N		(1.312E-02)	(0.000E+00)		7%			(0.000E+00)	4.053549		

RecCnt:14

RADCALC v4.8.24
STL Richland

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

Batch Nbr: 6143287

Alpha Beta, Ra-228 by GPC , Calculated Results

6/21/2006 7:34:49 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	RA-228	R	**2.572421**		3.82500E-01	1.389467	1.389467	1.00 SA	84%		2.519823		
				(0.809499)		(1.1399E-01)	(0.429896)	(0.429896)	(0.028284)			1.078297		
	06/21/06	RA-228	R	**2.406097**		3.22500E-01	1.299629	1.299629	1.00 SA	84%		2.795394		
				(0.845936)		(1.0860E-01)	(0.450783)	(0.450783)	(0.028284)			1.19622		
	06/21/06	RA-228	R	**1.332388**		1.62500E-01	0.719676	0.719676	1.00 SA	84%		3.072111		
				(0.771932)		(9.2702E-02)	(0.414897)	(0.414897)	(0.028284)			1.314635		
	06/21/06	RA-228	A	**2.103635**		2.89167E-01	1.136257	1.136257	1.00 SA	84%		1.614142		
				(0.467473)		(6.0902E-02)	(0.249478)	(0.249478)	(0.01633)			0.690733		
	06/21/06	RA-228	R	**4.947453**		1.55000E-01	2.672316	2.672316	1.00 SA	84%		11.233759		
				(2.849034)		(8.7821E-02)	(1.5312)	(1.5312)	(0.028284)			4.754696		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
15	Calc	TF	FILTER	*STLE	Ra228WoBS	**H50TF1AA**	**PCI/SA**	**B**	05/04/06 12:10	06/21/06 07:21	06/14/06 11:45		1	1.00 SA	
0,INTRA-LAB BLANK					,J6E230000-287		FILTER			30.8	06/20/06 14:37		97%	1.00 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 18:04	RA-228	33	107	GPC4C	1	N	N	4.6870E-01	1.0000E+00	N	87%	N		1.4132E+00	4.5045E-01	1.0136E+00	
			50	400			Y		(1.147E-02)	(0.000E+00)		7%			(0.000E+00)	1.00		
1	06/20/06 18:59	RA-228	33	107	GPC4C	1	N	N	4.6870E-01	1.0000E+00	N	87%	N		1.5677E+00	4.5045E-01	1.0136E+00	
			50	400			Y		(1.147E-02)	(0.000E+00)		7%			(0.000E+00)	1.00		
2	06/20/06 19:50	RA-228	22	107	GPC4C	1	N	N	4.6870E-01	1.0000E+00	N	87%	N		1.7229E+00	4.5045E-01	1.0136E+00	
			50	400			Y		(1.147E-02)	(0.000E+00)		7%			(0.000E+00)	1.00		
3	06/21/06 07:21	RA-228	14	107	GPC3A	1	N	N	4.6800E-01	1.0000E+00	N	87%	N		6.3096E+00	4.5045E-01	1.0136E+00	
			50	400			N		(1.324E-02)	(0.000E+00)		7%			(0.000E+00)	1.00		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	RA-228	R	**0.619707**		3.92500E-01	1.357299	1.357299	1.00 SA	87%		0.622577		
				(0.195795)		(1.1777E-01)	(0.422779)	(0.422779)	(0.017321)			0.268661		
	06/21/06	RA-228	R	**0.687478**		3.92500E-01	1.505735	1.505735	1.00 SA	87%		0.690663		
				(0.217208)		(1.1777E-01)	(0.469014)	(0.469014)	(0.017321)			0.298042		
	06/21/06	RA-228	R	**0.332049**		1.72500E-01	0.727263	0.727263	1.00 SA	87%		0.759032		
				(0.190172)		(9.7308E-02)	(0.414738)	(0.414738)	(0.017321)			0.327545		
	06/21/06	RA-228	A	**0.546411**		3.19167E-01	1.196766	1.196766	1.00 SA	87%		0.398809		
				(0.116276)		(6.4296E-02)	(0.251821)	(0.251821)	(0.01)			0.172098		
	06/21/06	RA-228	R	**0.08825**	**U4**	1.25000E-02	0.193289	0.193289	1.00 SA	87%		2.783901		
				(0.559051)		(7.9175E-02)	(1.224407)	(1.224407)	(0.017321)			1.201337		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:16

RADCALC v4.8.24
STL Richland

Batch Nbr: 6143287

Alpha Beta, Ra-228 by GPC , Calculated Results

6/21/2006 7:34:49 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
16	Calc	TF	FILTER	*STLE	Ra228WoBS	**H50TF1AC**	**PCI/SA**	**S**	05/04/06 12:10	06/21/06 07:21	06/14/06 11:45	RASC4131	1	1.00 SA	
0,INTRA-LAB CHECK					,J6E230000-287		FILTER			31.2	06/20/06 14:37		93%	1.00 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/20/06 18:04	RA-228	141	101	GPC4D	1	N	N	4.5382E-01	1.0000E+00	N	85%	N		1.4132E+00	4.5045E-01	1.0136E+00	
			50	400			Y		(9.344E-03)	(0.000E+00)		7%			(0.000E+00)	1.00		
1	06/20/06 18:59	RA-228	140	101	GPC4D	1	N	N	4.5382E-01	1.0000E+00	N	85%	N		1.5677E+00	4.5045E-01	1.0136E+00	
			50	400			Y		(9.344E-03)	(0.000E+00)		7%			(0.000E+00)	1.00		
2	06/20/06 19:50	RA-228	139	101	GPC4D	1	N	N	4.5382E-01	1.0000E+00	N	85%	N		1.7229E+00	4.5045E-01	1.0136E+00	
			50	400			Y		(9.344E-03)	(0.000E+00)		7%			(0.000E+00)	1.00		
3	06/21/06 07:21	RA-228	44	106	GPC3B	1	N	N	4.7930E-01	1.0000E+00	N	85%	N		6.3096E+00	4.5045E-01	1.0136E+00	
			50	400			N		(1.181E-02)	(0.000E+00)		7%			(0.000E+00)	1.00		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/21/06	RA-228	R	**4.314205**		2.56750E+00	9.449093	9.449093	1.00 SA	85%	84%	0.646324		
				(0.583223)		(2.3881E-01)	(1.175471)	(1.175471)	(0.017321)			0.27779		
	06/21/06	RA-228	R	**4.74873**		2.54750E+00	10.400801	10.400801	1.00 SA	85%	92%	0.717006		
				(0.643277)		(2.3797E-01)	(1.296985)	(1.296985)	(0.017321)			0.30817		
	06/21/06	RA-228	R	**5.177836**		2.52750E+00	11.340644	11.340644	1.00 SA	85%	101%	0.787983		
				(0.702856)		(2.3713E-01)	(1.417636)	(1.417636)	(0.017321)			0.338675		
	06/21/06	RA-228	A	**4.746924**		2.54750E+00	10.396846	10.396846	1.00 SA	85%	92%	0.41402		
				(0.372374)		(1.3739E-01)	(0.750821)	(0.750821)	(0.01)			0.177946		
	06/21/06	RA-228	R	**4.368691**		6.15000E-01	9.568431	9.568431	1.00 SA	85%	85%	2.789748		
				(1.052949)		(1.3514E-01)	(2.249932)	(2.249932)	(0.017321)			1.203082		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

RecCnt:16

RADCALC v4.8.24

STL Richland

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

UST Number: H5KQR1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 7-A File: [quad7.sample.A]H5KQR1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.A_1;2923

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00068	0050	01145	1700	20-JUN-2006 18:07:56.73
2	00000	00046	0050	01150	1700	20-JUN-2006 19:03:12.46
3	00000	00048	0050	01152	1700	20-JUN-2006 19:58:28.07

Bkg File: [quad7.bkgrnd]2006-06-20_0337.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00342	0400	0.86	09148	1700	20-JUN-2006 03:37:02.48

UST Number: H5KQR1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-A File: [quad4.sample.A]H5KQR1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.A_1;5446

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00028	0050	01200	1850	21-JUN-2006 06:29:15.03

Bkg File: [quad4.bkgrnd]2006-06-21_0337.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00123	0400	0.31	09643	1850	21-JUN-2006 03:37:33.49

UST Number: H5KQ41AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 7-B File: [quad7.sample.B]H5KQ41AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.B_1;2910

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00085	0050	01145	1700	20-JUN-2006 18:07:56.73
2	00000	00055	0050	01150	1700	20-JUN-2006 19:03:12.46
3	00000	00049	0050	01152	1700	20-JUN-2006 19:58:28.07

Bkg File: [quad7.bkgrnd]2006-06-20_0337.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00295	0400	0.74	09148	1700	20-JUN-2006 03:37:02.48

UST Number: H5KQ41AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-B File: [quad4.sample.B]H5KQ41AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.B_1;5445

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00018	0050	01200	1850	21-JUN-2006 06:29:15.03

Bkg File: [quad4.bkgrnd]2006-06-21_0337.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00088	0400	0.22	09643	1850	21-JUN-2006 03:37:33.49

UST Number: H5KQ81AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-C File: [quad1.sample.C]H5KQ81AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.C_1;2968

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00077	0050	01155	1650	20-JUN-2006 18:08:12.63
2	00000	00047	0050	01135	1650	20-JUN-2006 19:03:28.23
3	00000	00031	0050	01142	1650	20-JUN-2006 19:58:43.80

Bkg File: [quad1.bkgrnd]2006-06-20_0341.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00207	0400	0.52	09217	1650	20-JUN-2006 03:41:21.96

UST Number: H5KQ81AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-C File: [quad4.sample.C]H5KQ81AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.C_1;5448

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00016	0050	01200	1850	21-JUN-2006 06:29:15.03

Bkg File: [quad4.bkgrnd]2006-06-21_0337.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00108	0400	0.27	09643	1850	21-JUN-2006 03:37:33.49

UST Number: H5KRC1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-D File: [quad1.sample.D]H5KRC1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.D_1;2971

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00038	0050	01155	1650	20-JUN-2006 18:08:12.63
2	00000	00045	0050	01135	1650	20-JUN-2006 19:03:28.23
3	00000	00047	0050	01142	1650	20-JUN-2006 19:58:43.80

Bkg File: [quad1.bkgrnd]2006-06-20_0341.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00192	0400	0.48	09217	1650	20-JUN-2006 03:41:21.96

UST Number: H5KRC1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-D File: [quad4.sample.D]H5KRC1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.D_1;5462

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00010	0050	01200	1850	21-JUN-2006 06:29:15.03

Bkg File: [quad4.bkgrnd]2006-06-21_0337.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00092	0400	0.23	09643	1850	21-JUN-2006 03:37:33.49

UST Number: H5KRF1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 2-A File: [quad2.sample.A]H5KRF1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.A_1;3513

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00039	0050	01166	1810	20-JUN-2006 18:08:38.11
2	00000	00027	0050	01150	1810	20-JUN-2006 19:03:53.81
3	00000	00020	0050	01167	1810	20-JUN-2006 19:59:09.80

Bkg File: [quad2.bkgrnd]2006-06-20_0341.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00081	0400	0.20	09284	1810	20-JUN-2006 03:41:26.06

UST Number: H5KRF1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 7-A File: [quad7.sample.A]H5KRF1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.A_1;2924

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00053	0050	01126	1700	21-JUN-2006 07:25:39.92

Bkg File: [quad7.bkgrnd]2006-06-21_0333.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00306	0400	0.77	09163	1700	21-JUN-2006 03:33:24.46

UST Number: H5KRG1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 2-B File: [quad2.sample.B]H5KRG1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.B_1;3510

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00049	0050	01166	1810	20-JUN-2006 18:08:38.11
2	00000	00038	0050	01150	1810	20-JUN-2006 19:03:53.81
3	00000	00032	0050	01167	1810	20-JUN-2006 19:59:09.80

Bkg File: [quad2.bkgrnd]2006-06-20_0341.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00106	0400	0.27	09284	1810	20-JUN-2006 03:41:26.06

UST Number: H5KRG1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 7-B File: [quad7.sample.B]H5KRG1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.B_1;2911

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00046	0050	01126	1700	21-JUN-2006 07:25:39.92

Bkg File: [quad7.bkgrnd]2006-06-21_0333.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00295	0400	0.74	09163	1700	21-JUN-2006 03:33:24.46

UST Number: H5KRJ1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 2-C File: [quad2.sample.C]H5KRJ1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.C_1;3511

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00047	0050	01166	1810	20-JUN-2006 18:08:38.11
2	00000	00041	0050	01150	1810	20-JUN-2006 19:03:53.81
3	00000	00031	0050	01167	1810	20-JUN-2006 19:59:09.80

Bkg File: [quad2.bkgrnd]2006-06-20_0341.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00104	0400	0.26	09284	1810	20-JUN-2006 03:41:26.06

UST Number: H5KRJ1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 7-C File: [quad7.sample.C]H5KRJ1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.C_1;2916

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00052	0050	01126	1700	21-JUN-2006 07:25:39.92

Bkg File: [quad7.bkgrnd]2006-06-21_0333.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00279	0400	0.70	09163	1700	21-JUN-2006 03:33:24.46

UST Number: H5KRL1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 2-D File: [quad2.sample.D]H5KRL1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.D_1;3510

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00083	0050	01166	1810	20-JUN-2006 18:08:38.11
2	00000	00048	0050	01150	1810	20-JUN-2006 19:03:53.81
3	00000	00030	0050	01167	1810	20-JUN-2006 19:59:09.80

Bkg File: [quad2.bkgrnd]2006-06-20_0341.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00092	0400	0.23	09284	1810	20-JUN-2006 03:41:26.06

UST Number: H5KRL1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-A File: [quad1.sample.A]H5KRL1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.A_1;2973

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00045	0050	01133	1650	21-JUN-2006 07:20:48.72

Bkg File: [quad1.bkgrnd]2006-06-21_0337.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00247	0400	0.62	09226	1650	21-JUN-2006 03:37:20.68

UST Number: H5KRR1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-A File: [quad3.sample.A]H5KRR1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.A_1;5427

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00045	0050	01235	1920	20-JUN-2006 18:04:04.47
2	00000	00042	0050	01223	1920	20-JUN-2006 18:59:20.16
3	00000	00023	0050	01240	1920	20-JUN-2006 19:54:35.92

Bkg File: [quad3.bkgrnd]2006-06-20_0341.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00093	0400	0.23	09878	1920	20-JUN-2006 03:41:36.03

UST Number: H5KRR1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-C File: [quad1.sample.C]H5KRR1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.C_1;2969

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00029	0050	01133	1650	21-JUN-2006 07:20:48.72

Bkg File: [quad1.bkgrnd]2006-06-21_0337.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00235	0400	0.59	09226	1650	21-JUN-2006 03:37:20.68

UST Number: H5KRV1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-B File: [quad3.sample.B]H5KRV1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.B_1;5436

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00055	0050	01235	1920	20-JUN-2006 18:04:04.47
2	00000	00034	0050	01223	1920	20-JUN-2006 18:59:20.16
3	00000	00029	0050	01240	1920	20-JUN-2006 19:54:35.92

Bkg File: [quad3.bkgrnd]2006-06-20_0341.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00093	0400	0.23	09878	1920	20-JUN-2006 03:41:36.03

UST Number: H5KRV1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-D File: [quad1.sample.D]H5KRV1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.D_1;2972

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00033	0050	01133	1650	21-JUN-2006 07:20:48.72

Bkg File: [quad1.bkgrnd]2006-06-21_0337.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00281	0400	0.70	09226	1650	21-JUN-2006 03:37:20.68

UST Number: H5KRX1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-C File: [quad3.sample.C]H5KRX1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.C_1;5441

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00050	0050	01235	1920	20-JUN-2006 18:04:04.47
2	00000	00027	0050	01223	1920	20-JUN-2006 18:59:20.16
3	00000	00038	0050	01240	1920	20-JUN-2006 19:54:35.92

Bkg File: [quad3.bkgrnd]2006-06-20_0341.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00097	0400	0.24	09878	1920	20-JUN-2006 03:41:36.03

UST Number: H5KRX1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-A File: [quad2.sample.A]H5KRX1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.A_1;3514

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00019	0050	01168	1810	21-JUN-2006 07:26:01.11

Bkg File: [quad2.bkgrnd]2006-06-21_0337.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00099	0400	0.25	09309	1810	21-JUN-2006 03:37:23.52

UST Number: H5KR21AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-D File: [quad3.sample.D]H5KR21AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.D_1;5421

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00039	0050	01235	1920	20-JUN-2006 18:04:04.47
2	00000	00020	0050	01223	1920	20-JUN-2006 18:59:20.16
3	00000	00022	0050	01240	1920	20-JUN-2006 19:54:35.92

Bkg File: [quad3.bkgrnd]2006-06-20_0341.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00087	0400	0.22	09878	1920	20-JUN-2006 03:41:36.03

UST Number: H5KR21AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-B File: [quad2.sample.B]H5KR21AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.B_1;3511

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00026	0050	01168	1810	21-JUN-2006 07:26:01.11

Bkg File: [quad2.bkgrnd]2006-06-21_0337.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00096	0400	0.24	09309	1810	21-JUN-2006 03:37:23.52

UST Number: H5KR41AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-A File: [quad4.sample.A]H5KR41AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.A_1;5445

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00063	0050	01198	1850	20-JUN-2006 18:04:34.00
2	00000	00032	0050	01196	1850	20-JUN-2006 18:59:49.77
3	00000	00036	0050	01198	1850	20-JUN-2006 19:50:04.71

Bkg File: [quad4.bkgrnd]2006-06-20_0341.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00126	0400	0.32	09523	1850	20-JUN-2006 03:41:40.91

UST Number: H5KR41AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-C File: [quad2.sample.C]H5KR41AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.C_1;3512

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00019	0050	01168	1810	21-JUN-2006 07:26:01.11

Bkg File: [quad2.bkgrnd]2006-06-21_0337.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00083	0400	0.21	09309	1810	21-JUN-2006 03:37:23.52

UST Number: H5KR61AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-B File: [quad4.sample.B]H5KR61AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.B_1;5444

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00031	0050	01198	1850	20-JUN-2006 18:04:34.00
2	00000	00028	0050	01196	1850	20-JUN-2006 18:59:49.77
3	00000	00020	0050	01198	1850	20-JUN-2006 19:50:04.71

Bkg File: [quad4.bkgrnd]2006-06-20_0341.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00095	0400	0.24	09523	1850	20-JUN-2006 03:41:40.91

UST Number: H5KR61AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-D File: [quad2.sample.D]H5KR61AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.D_1;3511

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00018	0050	01168	1810	21-JUN-2006 07:26:01.11

Bkg File: [quad2.bkgrnd]2006-06-21_0337.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00082	0400	0.21	09309	1810	21-JUN-2006 03:37:23.52

UST Number: H50TF1AA Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-C File: [quad4.sample.C]H50TF1AA.180
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.C_1;5447

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00033	0050	01198	1850	20-JUN-2006 18:04:34.00
2	00000	00033	0050	01196	1850	20-JUN-2006 18:59:49.77
3	00000	00022	0050	01198	1850	20-JUN-2006 19:50:04.71

Bkg File: [quad4.bkgrnd]2006-06-20_0341.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00107	0400	0.27	09523	1850	20-JUN-2006 03:41:40.91

UST Number: H50TF1AA Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-A File: [quad3.sample.A]H50TF1AA.430
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.A_1;5428

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00014	0050	01261	1920	21-JUN-2006 07:21:06.95

Bkg File: [quad3.bkgrnd]2006-06-21_0337.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00107	0400	0.27	10055	1920	21-JUN-2006 03:37:28.96

UST Number: H50TF1AC Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-D File: [quad4.sample.D]H50TF1AC.180
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.D_1;5461

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00141	0050	01198	1850	20-JUN-2006 18:04:34.00
2	00000	00140	0050	01196	1850	20-JUN-2006 18:59:49.77
3	00000	00139	0050	01198	1850	20-JUN-2006 19:50:04.71

Bkg File: [quad4.bkgrnd]2006-06-20_0341.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00101	0400	0.25	09523	1850	20-JUN-2006 03:41:40.91

UST Number: H50TF1AC Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-B File: [quad3.sample.B]H50TF1AC.430
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.B_1;5437

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00044	0050	01261	1920	21-JUN-2006 07:21:06.95

Bkg File: [quad3.bkgrnd]2006-06-21_0337.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00106	0400	0.27	10055	1920	21-JUN-2006 03:37:28.96

RADIUM 226

SAMPLE AND QC DATA

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

6/19/2006 11:26:44 AM

Lot No., Due Date: J6E170306; 06/14/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6143242; RRA2267 Ra-226 by ASC-7

SDG, Matrix: 31683; FILTER

1.0 COC

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

2.0 QC Batch

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

3.0 QC & Samples

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

4.0 Raw Data

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

5.0 Other

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

6.0 Comments on any No response:

First Level Review Steven E. Richland **Date** 6/19/06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 614324Z

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: Sherryl R Adam Date: 6-20-06

6/19/2006 11:26:05 AM

Rpt DB Transfer log (Batch Results)

SEVERN TRENT STL

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot uncert	Sample Date / Mda	Units	Expected	Yield	Volumes
31683	**9H5KQ410**			**J6E1703062**	000444	FILTER	5/17/2006 10:00:00	5/4/2006 12:15:00 PM				
ALPHA	BAS7	0		6/10/2006 8:56:31 AM	**-8.8661E-01**	6.832E-01	6.894E-01	5.657E+00	PCI/SA	1.0	1.0E+0	2.094E-2
BETA	BDS8	0		6/9/2006 2:07:59 PM	**1.8388E+01**	2.097E+00	2.455E+00	6.372E+00	PCI/SA	1.0	1.0E+0	8.309E-2
RA-226	BXTE	0		6/18/2006 5:03:00 PM	**1.3353E-01**	2.129E-01	2.134E-01	7.847E-01	PCI/SA	0.985	8.33E-1	2.485E-1
31683	**9H5KQ810**			**J6E1703063**	000445	FILTER	5/17/2006 10:00:00	5/4/2006 11:10:00 PM				
ALPHA	BAS7	0		6/10/2006 8:56:31 AM	**1.0276E+00**	1.657E+00	1.66E+00	7.714E+00	PCI/SA	1.0	1.0E+0	2.119E-2
BETA	BDS8	0		6/9/2006 2:07:59 PM	**1.4485E+01**	1.96E+00	2.193E+00	6.353E+00	PCI/SA	1.0	1.0E+0	8.332E-2
RA-226	BXTE	0		6/18/2006 5:06:00 PM	**1.5586E-01**	2.222E-01	2.228E-01	8.092E-01	PCI/SA	1.087	8.33E-1	2.504E-1
31683	**9H5KQR10**			**J6E1703061**	000443	FILTER	5/17/2006 10:00:00	5/4/2006 12:10:00 PM				
ALPHA	BAS7	0		6/10/2006 8:56:31 AM	**2.9595E+00**	1.6E+00	1.629E+00	5.595E+00	PCI/SA	1.0	1.0E+0	2.049E-2
BETA	BDS8	0		6/9/2006 2:07:59 PM	**1.8558E+01**	2.115E+00	2.487E+00	6.552E+00	PCI/SA	1.0	1.0E+0	8.219E-2
RA-226	BXTE	0		6/18/2006 5:06:00 PM	**3.7852E-01**	1.545E-01	1.596E-01	4.51E-01	PCI/SA	0.938	8.33E-1	2.462E-1
31683	**9H5KR210**			**J6E17030612**	P-0618	FILTER	5/17/2006 10:00:00	5/4/2006 10:35:00 AM				
ALPHA	BAS7	0		6/10/2006 12:41:20 PM	**1.3347E+00**	1.307E+00	1.314E+00	5.677E+00	PCI/SA	1.0	1.0E+0	2.084E-2
BETA	BDS8	0		6/9/2006 2:08:11 PM	**1.9537E+01**	2.063E+00	2.467E+00	6.118E+00	PCI/SA	1.0	1.0E+0	8.344E-2
RA-226	BXTE	0		6/18/2006 5:45:00 PM	**2.0616E-01**	1.338E-01	1.356E-01	4.504E-01	PCI/SA	0.966	8.33E-1	2.502E-1
31683	**9H5KR410**			**J6E17030613**	P-0619	FILTER	5/17/2006 10:00:00	5/4/2006 10:45:00 AM				
ALPHA	BAS7	0		6/10/2006 12:41:20 PM	**2.5934E+00**	1.899E+00	1.917E+00	7.787E+00	PCI/SA	1.0	1.0E+0	2.097E-2
BETA	BDS8	0		6/9/2006 2:08:11 PM	**1.2783E+01**	1.846E+00	2.174E+00	6.103E+00	PCI/SA	1.0	1.0E+0	8.333E-2
RA-226	BXTE	0		6/18/2006 5:42:02 PM	**2.8573E-01**	1.521E-01	1.547E-01	4.976E-01	PCI/SA	0.986	8.33E-1	2.506E-1
31683	**9H5KR610**			**J6E17030614**	P-0620	FILTER	5/17/2006 10:00:00	5/4/2006 12:05:00 PM				
ALPHA	BAS7	0		6/10/2006 12:41:20 PM	**2.9338E+00**	1.763E+00	1.788E+00	6.643E+00	PCI/SA	1.0	1.0E+0	2.069E-2
BETA	BDS8	0		6/9/2006 2:08:11 PM	**1.158E+01**	1.99E+00	2.157E+00	7.045E+00	PCI/SA	1.0	1.0E+0	8.254E-2
RA-226	BXTE	0		6/18/2006 5:43:00 PM	**-5.4494E-02**	1.262E-01	1.263E-01	5.355E-01	PCI/SA	0.965	8.33E-1	2.467E-1
31683	**9H5KRC10**			**J6E1703064**	000446	FILTER	5/17/2006 10:00:00	5/4/2006 11:25:00 PM				
ALPHA	BAS7	0		6/10/2006 8:56:31 AM	**1.7865E+00**	1.555E+00	1.566E+00	6.574E+00	PCI/SA	1.0	1.0E+0	2.092E-2
BETA	BDS8	0		6/9/2006 2:07:57 PM	**1.5346E+01**	1.94E+00	2.214E+00	6.154E+00	PCI/SA	1.0	1.0E+0	8.43E-2
RA-226	BXTE	0		6/18/2006 5:04:00 PM	**-7.7853E-02**	1.694E-01	1.696E-01	6.902E-01	PCI/SA	0.994	8.33E-1	2.499E-1
31683	**9H5KRF10**			**J6E1703065**	000447	FILTER	5/17/2006 10:00:00	5/4/2006 10:30:00 AM				
ALPHA	BAS7	0		6/10/2006 10:49:19	**2.0716E+00**	1.828E+00	1.84E+00	7.789E+00	PCI/SA	1.0	1.0E+0	2.087E-2
BETA	BDS8	0		6/9/2006 2:07:57 PM	**2.4139E+01**	2.255E+00	2.988E+00	6.538E+00	PCI/SA	1.0	1.0E+0	8.362E-2
RA-226	BXTE	0		6/18/2006 5:04:00 PM	**-2.7322E-02**	1.393E-01	1.393E-01	6.031E-01	PCI/SA	1.104	8.33E-1	2.495E-1
31683	**9H5KRG10**			**J6E1703066**	000448	FILTER	5/17/2006 10:00:00	5/4/2006 10:50:00 AM				
ALPHA	BAS7	0		6/10/2006 10:49:19	**1.2809E+00**	1.254E+00	1.261E+00	5.448E+00	PCI/SA	1.0	1.0E+0	2.105E-2
BETA	BDS8	0		6/9/2006 2:07:57 PM	**1.6696E+01**	2.066E+00	2.49E+00	6.57E+00	PCI/SA	1.0	1.0E+0	8.373E-2
RA-226	BXTE	0		6/18/2006 5:05:00 PM	**5.0386E-01**	2.498E-01	2.559E-01	8.274E-01	PCI/SA	1.123	8.33E-1	2.496E-1
31683	**9H5KRJ10**			**J6E1703067**	000449	FILTER	5/17/2006 10:00:00	5/4/2006 11:30:00 AM				
ALPHA	BAS7	0		6/10/2006 10:49:19	**1.8858E+00**	1.416E+00	1.43E+00	5.662E+00	PCI/SA	1.0	1.0E+0	2.09E-2
BETA	BDS8	0		6/9/2006 2:07:59 PM	**1.466E+01**	1.97E+00	2.23E+00	6.45E+00	PCI/SA	1.0	1.0E+0	8.301E-2
RA-226	BXTE	0		6/18/2006 5:03:00 PM	**1.7732E-01**	1.181E-01	1.197E-01	4.009E-01	PCI/SA	1.058	8.33E-1	2.489E-1
31683	**9H5KRL10**			**J6E1703068**	P-0614	FILTER	5/17/2006 10:00:00	5/4/2006 12:00:00 PM				
ALPHA	BAS7	0		6/10/2006 10:49:19	**5.2837E-01**	1.62E+00	1.621E+00	7.932E+00	PCI/SA	1.0	1.0E+0	2.062E-2
BETA	BDS8	0		6/9/2006 2:07:59 PM	**1.4517E+01**	1.943E+00	2.303E+00	6.345E+00	PCI/SA	1.0	1.0E+0	8.271E-2
RA-226	BXTE	0		6/18/2006 5:02:00 PM	**1.6434E-01**	1.591E-01	1.601E-01	5.71E-01	PCI/SA	1.037	8.33E-1	2.466E-1
31683	**9H5KRR10**			**J6E1703069**	P-0615	FILTER	5/17/2006 10:00:00	5/4/2006 12:20:00 PM				
ALPHA	BAS7	0		6/10/2006 10:49:19	**1.7747E+00**	1.545E+00	1.556E+00	6.53E+00	PCI/SA	1.0	1.0E+0	2.103E-2
BETA	BDS8	0		6/9/2006 2:07:59 PM	**1.5927E+01**	2.002E+00	2.28E+00	6.452E+00	PCI/SA	1.0	1.0E+0	8.39E-2
RA-226	BXTE	0		6/18/2006 5:46:00 PM	**2.9957E-01**	1.721E-01	1.749E-01	5.61E-01	PCI/SA	0.946	8.33E-1	2.494E-1
31683	**9H5KRV10**			**J6E17030610**	P-0616	FILTER	5/17/2006 10:00:00	5/4/2006 11:05:00 AM				
ALPHA	BAS7	0		6/10/2006 12:41:20 PM	**3.6551E+00**	2.028E+00	2.064E+00	7.68E+00	PCI/SA	1.0	1.0E+0	2.117E-2
BETA	BDS8	0		6/9/2006 2:07:59 PM	**1.5504E+01**	1.956E+00	2.239E+00	6.19E+00	PCI/SA	1.0	1.0E+0	8.325E-2
RA-226	BXTE	0		6/18/2006 5:44:00 PM	**2.9394E-01**	1.923E-01	1.948E-01	6.558E-01	PCI/SA	0.995	8.33E-1	2.499E-1

6143242, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 14,
**Results Inserted | ReTestInserted | Updated | NotInserted => 16 | 0 | 0 | 0.
**Diff RptDb | Qtims => .

STL Richland, Wa Calc Review v4.8.18

Page 1

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Cnt Uncert	Tot uncert	mda	Matrix / Units	Received Date / Expected	Sample Date / Yield		Volumes	
31683	**9H5KRX10**			**J6E17030611**	P-0617				FILTER	5/17/2006 10:00:00	5/4/2006 11:20:00 AM			
ALPHA	BAS7	0		6/10/2006 12:41:20 PM	**2.9229E+00**	1.58E+00	1.609E+00	5.525E+00	PCI/SA		1.0	1.0E+0	2.071E-2	
BETA	BDS8	0		6/9/2006 2:08:11 PM	**-4.5773E-01**	1.504E+00	1.504E+00	6.81E+00	PCI/SA		1.0	1.0E+0	8.233E-2	
RA-226	BXTE	0		6/18/2006 5:45:00 PM	**5.2308E-01**	1.941E-01	2.023E-01	5.538E-01	PCI/SA		0.858	8.33E-1	2.476E-1	
31683	**H50P11AB**			**J6E230000242**	INTRA-LAB BLANK				FILTER	5/17/2006 10:00:00	5/4/2006 12:10:00 PM			
RA-226	BXTE	0	B	6/18/2006 5:42:00 PM	**4.3628E-03**	4.222E-02	4.223E-02	1.671E-01	PCI/SA		0.974	1.0E+0	1.0E+0	
31683	**H50P11CS**			**J6E230000242**	INTRA-LAB CHECK				FILTER	5/17/2006 10:00:00	5/4/2006 12:10:00 PM			
RA-226	BXTE	0	S	6/18/2006 8:06:00 PM	**1.5684E+00**	1.393E-01	2.205E-01	1.857E-01	PCI/SA	1.3927E+00	0.933	1.0E+0	1.0E+0	

6143242, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 14,
**Results Inserted | ReTestInserted | Updated | NotInserted => 16 | 0 | 0 | 0.
**Diff RptDb | Qtims => .

6/19/2006 11:26:08 AM

ICOC Fraction Transfer/Status Report

ByDate: 6/19/2005, 6/24/2006, Batch: '6143242', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6143242						
AC		**CalcC**	**HansenM**	6/12/2006 3:26:47 PM		
SC			hansenm	IsBatched	6/12/2006 3:14:15 PM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	6/12/2006 3:26:47 PM	RICH-RC-5016 REVISION 5
SC			HansenM	Prep2C	6/12/2006 3:27:43 PM	RICH-RC-5016 REVISION 5
SC			TamosaitisM	InPrep	6/13/2006 8:24:16 AM	RICH-RC-5005 Revision 5
SC			TamosaitisM	Sep1C	6/14/2006 12:05:25 PM	RICH-RC-5005 REVISION 4
SC			BlackCL	InCnt1	6/14/2006 12:33:10 PM	RICH-RD-0007 REVISION 5
SC			DAWKINSO	Cnt1C	6/14/2006 7:19:41 PM	RICH-RD-0007 REVISION 5
SC			TamosaitisM	InSep2	6/15/2006 7:28:48 AM	RICH-RC-5005 REVISION 4
SC			StringerR	InSep2	6/15/2006 9:53:25 AM	RICH-RC-5005 REVISION 5
SC			StringerR	CalcC	6/18/2006 7:49:34 PM	RICH-RC-5005 REVISION 5
AC			**HansenM**	6/12/2006 3:27:43 PM		
AC			**TamosaitisM**	6/13/2006 8:24:16		
AC			**TamosaitisM**	6/14/2006 12:05:25		
AC			**BlackCL**	6/14/2006 12:33:10		
AC			**DAWKINSO**	6/14/2006 7:19:41 PM		
AC			**TamosaitisM**	6/15/2006 7:28:48		
AC			**StringerR**	6/15/2006 9:53:25		
AC			**StringerR**	6/18/2006 7:49:34 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 9

ICOCFractions v4.8.18

Batch Nbr: 6143242

Alpha Beta, Ra-226 by ASC-7 , Results Summary Report

6/19/2006 11:20:45 AM

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Ra-226 by ASC-7				Richland Standard Ra-226/Ra-228 Deem Wo Blk Subt.										
Calc	TE	FILTER	**H5KQR1AC**	RA-226	**3.79E-01**	**(1.60E-01)**		PCI/SA	R	1.79E-01	4.51E-01		94%	
Calc	TE	FILTER	**H5KQ41AC**	RA-226	**1.34E-01**	**(2.13E-01)**	**U4**	PCI/SA	R	3.47E-01	7.85E-01		98%	
Calc	TE	FILTER	**H5KQ81AC**	RA-226	**1.56E-01**	**(2.23E-01)**	**U4**	PCI/SA	R	3.63E-01	8.09E-01		109%	
Calc	TE	FILTER	**H5KRC1AC**	RA-226	**-7.79E-02**	**(1.70E-01)**	**U4**	PCI/SA	R	3.03E-01	6.90E-01		99%	
Calc	TE	FILTER	**H5KRF1AC**	RA-226	**-2.73E-02**	**(1.39E-01)**	**U4**	PCI/SA	R	2.46E-01	6.03E-01		110%	
Calc	TE	FILTER	**H5KRG1AC**	RA-226	**5.04E-01**	**(2.56E-01)**		PCI/SA	R	3.73E-01	8.27E-01		112%	
Calc	TE	FILTER	**H5KRJ1AC**	RA-226	**1.77E-01**	**(1.20E-01)**	**U4**	PCI/SA	R	1.62E-01	4.01E-01		106%	
Calc	TE	FILTER	**H5KRL1AC**	RA-226	**1.64E-01**	**(1.60E-01)**	**U4**	PCI/SA	R	2.46E-01	5.71E-01		104%	
Calc	TE	FILTER	**H5KRR1AC**	RA-226	**3.00E-01**	**(1.75E-01)**		PCI/SA	R	2.23E-01	5.61E-01		95%	
Calc	TE	FILTER	**H5KRV1AC**	RA-226	**2.94E-01**	**(1.95E-01)**	**U4**	PCI/SA	R	2.80E-01	6.56E-01		100%	
Calc	TE	FILTER	**H5KRX1AC**	RA-226	**5.23E-01**	**(2.02E-01)**		PCI/SA	R	2.23E-01	5.54E-01		86%	
Calc	TE	FILTER	**H5KR21AC**	RA-226	**2.06E-01**	**(1.36E-01)**	**U4**	PCI/SA	R	1.79E-01	4.50E-01		97%	
Calc	TE	FILTER	**H5KR41AC**	RA-226	**2.86E-01**	**(1.55E-01)**		PCI/SA	R	2.10E-01	4.98E-01		99%	
Calc	TE	FILTER	**H5KR61AC**	RA-226	**-5.45E-02**	**(1.26E-01)**	**U4**	PCI/SA	R	2.28E-01	5.35E-01		96%	
Calc	TE	FILTER	**H50P11AA**	RA-226	**4.36E-03**	**(4.22E-02)**	**U4**	PCI/SA	R	7.18E-02	1.67E-01	**B**	97%	
Calc	TE	FILTER	**H50P11AC**	RA-226	**1.77E+00**	**(2.42E-01)**		PCI/SA	R	7.65E-02	1.82E-01	**S**	93%	~~127%~~
Calc	TE	FILTER	**H50P11AC**	RA-226	**1.57E+00**	**(2.20E-01)**		PCI/SA	R	7.79E-02	1.86E-01	**S**	93%	113%

6/19/06

() - (1s Uncertainities)
IDC - Instrument Detection Level in Conc Units
MLcC- Method Decision Level in Conc Units
MDC - Minimum Detectable Concentration
*Std - Lc, MDC using StdDev for Set of Blanks

Q - Qualifier, U is Less Than Lc = 1.645*TPU
All Results Displayed to Three Digits Reguardless of Significants
Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:17
RADCALC v4.8.24
STL Richland

Batch Nbr: 6143242

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

6/19/2006 11:20:46 AM

Detailed Report

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
1	Calc	TE	FILTER	*STLE	Ra226WoBS	**H5KQR1AC**	**PCI/SA**		05/04/06 12:10	06/18/06 17:06	06/15/06 09:27	RATA22522	1	0.833 Sa	
CID:000443LOT:J6E1703061 v4.8.24							FILTER				06/18/06 14:06	RATA22522 Alq	94%	0.246181 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/18/06 17:06	RA-226	16	6	ASC3RC	ASC		N	2.2010E+00	1.0000E+00	N	94%	N		2.3315E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(8.122E-02)	(0.000E+00)		8%			(0.000E+00)	3.383684		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/18/06	RA-226	R	**0.378517**		2.20000E-01	0.248329	0.248329	0.833 Sa	94%		0.451045		
				(0.159574)		(8.9815E-02)	(0.103714)	(0.103714)	(0.023561)			0.179002		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
2	Calc	TE	FILTER	*STLE	Ra226WoBS	**H5KQ41AC**	**PCI/SA**		05/04/06 12:15	06/18/06 17:03	06/15/06 09:27	RATA22523	1	0.833 Sa	
CID:000444LOT:J6E1703062 v4.8.24							FILTER				06/18/06 14:03	RATA22523 Alq	98%	0.248519 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/18/06 17:03	RA-226	24	24	ASC4UA	ASC		N	2.1431E+00	1.0000E+00	N	98%	N		2.3326E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(1.080E-01)	(0.000E+00)		8%			(0.000E+00)	3.351863		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/18/06	RA-226	R	**0.133527**	**U4**	8.00000E-02	0.088433	0.088433	0.833 Sa	98%		0.784652		
				(0.213389)		(1.2754E-01)	(0.141233)	(0.141233)	(0.023561)			0.3473		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
3	Calc	TE	FILTER	*STLE	Ra226WoBS	**H5KQ81AC**	**PCI/SA**		05/04/06 23:10	06/18/06 17:06	06/15/06 09:27	RATA22524	1	0.833 Sa	
CID:000445LOT:J6E1703063 v4.8.24							FILTER				06/18/06 14:06	RATA22524 Alq	109%	0.250364 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/18/06 17:06	RA-226	30	30	ASC7RH	ASC		N	2.2420E+00	1.0000E+00	N	109%	N		2.3315E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(3.946E-02)	(0.000E+00)		9%			(0.000E+00)	3.327151		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/18/06	RA-226	R	**0.15586**	**U4**	1.00000E-01	0.10399	0.10399	0.833 Sa	109%		0.809224		
				(0.222794)		(1.4259E-01)	(0.14853)	(0.14853)	(0.023561)			0.362589		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
4	Calc	TE	FILTER	*STLE	Ra226WoBS	**H5KRC1AC**	**PCI/SA**		05/04/06 23:25	06/18/06 17:04	06/15/06 09:27	RATA22525	1	0.833 Sa	
CID:000446LOT:J6E1703064 v4.8.24							FILTER				06/18/06 14:04	RATA22525 Alq	99%	0.249927 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/18/06 17:04	RA-226	15	21	ASC9RA	ASC		N	2.2615E+00	1.0000E+00	N	99%	N		2.3322E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(4.229E-02)	(0.000E+00)		8%			(0.000E+00)	3.332979		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:4

RADCALC v4.8.24

STL Richland

Batch Nbr: 6143242

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

6/19/2006 11:20:47 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/18/06	RA-226	R	**-0.077853**	U4	-5.00000E-02	-0.051853	-0.051853	0.833 Sa	99%		0.690159		
				(0.169558)		(1.0878E-01)	(0.112893)	(0.112893)	(0.023561)			0.303063		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
5	Calc	TE	FILTER	*STLE	Ra226WoBS	**H5KRF1AC**	**PCI/SA**		05/04/06 10:30	06/18/06 17:04	06/15/06 09:27	RATA22526	1	0.833 Sa	
CID:000447LOT:J6E1703065 v4.8.24							FILTER				06/18/06 14:04	RATA22526 Alq	110%	0.24949 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/18/06 17:04	RA-226	6	8	ASCASC	ASC		N	1.7118E+00	1.0000E+00	N	110%	N		2.3322E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(9.244E-02)	(0.000E+00)		9%			(0.000E+00)	3.338807		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/18/06	RA-226	R	**-0.027322**	U4	-1.33333E-02	-0.018166	-0.018166	0.833 Sa	110%		0.603118		
				(0.13935)		(6.7987E-02)	(0.092644)	(0.092644)	(0.023561)			0.246173		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
6	Calc	TE	FILTER	*STLE	Ra226WoBS	**H5KRG1AC**	**PCI/SA**		05/04/06 10:50	06/18/06 17:05	06/15/06 09:27	RATA22527	1	0.833 Sa	
CID:000448LOT:J6E1703066 v4.8.24							FILTER				06/18/06 14:05	RATA22527 Alq	112%	0.249634 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/18/06 17:05	RA-226	44	33	ASC1HA	ASC		N	2.2957E+00	1.0000E+00	N	112%	N		2.3318E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(1.157E-01)	(0.000E+00)		9%			(0.000E+00)	3.336886		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/18/06	RA-226	R	**0.503861**		3.30000E-01	0.335198	0.335198	0.833 Sa	112%		0.827394		
				(0.255945)		(1.6361E-01)	(0.169177)	(0.169177)	(0.023561)			0.372541		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
7	Calc	TE	FILTER	*STLE	Ra226WoBS	**H5KRJ1AC**	**PCI/SA**		05/04/06 11:30	06/18/06 17:03	06/15/06 09:27	RATA22528	1	0.833 Sa	
CID:000449LOT:J6E1703067 v4.8.24							FILTER				06/18/06 14:03	RATA22528 Alq	106%	0.248853 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/18/06 17:03	RA-226	12	7	ASC2MA	ASC		N	2.4464E+00	1.0000E+00	N	106%	N		2.3326E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(1.275E-01)	(0.000E+00)		8%			(0.000E+00)	3.347354		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/18/06	RA-226	R	**0.177324**	U4	1.23333E-01	0.117598	0.117598	0.833 Sa	106%		0.400872		
				(0.119717)		(8.2125E-02)	(0.079106)	(0.079106)	(0.023561)			0.161569		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
8	Calc	TE	FILTER	*STLE	Ra226WoBS	**H5KRL1AC**	**PCI/SA**		05/04/06 12:00	06/18/06 17:02	06/15/06 09:27	RATA22529	1	0.833 Sa	
CID:P-0614LOT:J6E1703068 v4.8.24							FILTER				06/18/06 14:02	RATA22529 Alq	104%	0.246604 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:8

RADCALC v4.8.24

STL Richland

Batch Nbr: 6143242

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

6/19/2006 11:20:47 AM

1	06/18/06 17:02	RA-226	19	16	ASC8HC	ASC		N	2.4482E+00	1.0000E+00	N	104%	N		2.3330E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(1.148E-01)	(0.000E+00)		8%			(0.000E+00)	3.37789		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/18/06	RA-226	R	**0.164339**	**U4**	1.13333E-01	0.108001	0.108001	0.833 Sa	104%		0.571011		
				(0.160145)		(1.0975E-01)	(0.105062)	(0.105062)	(0.023561)			0.246356		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
9	Calc	TE	FILTER	*STLE	Ra226WoBS	**H5KRR1AC**	**PCI/SA**		05/04/06 12:20	06/18/06 17:46	06/15/06 09:47	RATA22530	1	0.833 Sa	
CID:P-0615LOT:J6E1703069 v4.8.24							FILTER				06/18/06 14:46	RATA22530 Alq	95%	0.24935 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/18/06 17:46	RA-226	12	6	ASCCSD	ASC		N	1.7270E+00	1.0000E+00	N	95%	N		2.3240E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(5.958E-02)	(0.000E+00)		8%			(0.000E+00)	3.340685		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/18/06	RA-226	R	**0.299569**		1.40000E-01	0.199064	0.199064	0.833 Sa	95%		0.560953		
				(0.174888)		(8.0416E-02)	(0.11565)	(0.11565)	(0.023561)			0.22262		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
10	Calc	TE	FILTER	*STLE	Ra226WoBS	**H5KRV1AC**	**PCI/SA**		05/04/06 11:05	06/18/06 17:44	06/15/06 09:47	RATA22531	1	0.833 Sa	
CID:P-0616LOT:J6E17030610 v4.8.24							FILTER				06/18/06 14:44	RATA22531 Alq	100%	0.24985 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/18/06 17:44	RA-226	20	14	ASCGSB	ASC		N	1.9894E+00	1.0000E+00	N	100%	N		2.3248E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(7.938E-02)	(0.000E+00)		8%			(0.000E+00)	3.333999		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/18/06	RA-226	R	**0.293945**	**U4**	1.66667E-01	0.195719	0.195719	0.833 Sa	100%		0.65583		
				(0.194824)		(1.0904E-01)	(0.129232)	(0.129232)	(0.023561)			0.280286		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
11	Calc	TE	FILTER	*STLE	Ra226WoBS	**H5KRX1AC**	**PCI/SA**		05/04/06 11:20	06/18/06 17:45	06/15/06 09:47	RATA22532	1	0.833 Sa	
CID:P-0617LOT:J6E17030611 v4.8.24							FILTER				06/18/06 14:45	RATA22532 Alq	86%	0.247605 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/18/06 17:45	RA-226	19	7	ASCKMD	ASC		N	2.0676E+00	1.0000E+00	N	86%	N		2.3244E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(9.676E-02)	(0.000E+00)		7%			(0.000E+00)	3.364228		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/18/06	RA-226	R	**0.523081**		2.63333E-01	0.345156	0.345156	0.833 Sa	86%		0.553836		
				(0.20227)		(9.7696E-02)	(0.131987)	(0.131987)	(0.023561)			0.22322		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:12

RADCALC v4.8.24

STL Richland

Batch Nbr: 6143242

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

6/19/2006 11:20:47 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
12	Calc	TE	FILTER	*STLE	Ra226WoBS	**H5KR21AC**	**PCI/SA**		05/04/06 10:35	06/18/06 17:45	06/15/06 09:47	RATA22533	1	0.833 Sa	
CID:P-0618LOT:J6E17030612 v4.8.24							FILTER				06/18/06 14:45	RATA22533 Alq	97%	0.25018 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/18/06 17:45	RA-226	11	6	ASCJSB	ASC		N	2.1011E+00	1.0000E+00	N	97%	N		2.3244E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(7.837E-02)	(0.000E+00)		8%			(0.000E+00)	3.329607		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/18/06	RA-226	R	**0.206159**	**U4**	1.20000E-01	0.137449	0.137449	0.833 Sa	97%		0.450379		
				(0.135562)		(7.7889E-02)	(0.090036)	(0.090036)	(0.023561)			0.178738		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
13	Calc	TE	FILTER	*STLE	Ra226WoBS	**H5KR41AC**	**PCI/SA**		05/04/06 10:45	06/18/06 17:42	06/15/06 09:47	RATA22534	1	0.833 Sa	
CID:P-0619LOT:J6E17030613 v4.8.24							FILTER				06/18/06 14:42	RATA22534 Alq	99%	0.250606 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/18/06 17:42	RA-226	20	12	ASCBMB	ASC		N	2.4717E+00	1.0000E+00	N	99%	N		2.3255E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(2.991E-02)	(0.000E+00)		8%			(0.000E+00)	3.32394		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/18/06	RA-226	R	**0.285729**		2.00000E-01	0.190824	0.190824	0.833 Sa	99%		0.497586		
				(0.154711)		(1.0646E-01)	(0.102741)	(0.102741)	(0.023561)			0.210201		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
14	Calc	TE	FILTER	*STLE	Ra226WoBS	**H5KR61AC**	**PCI/SA**		05/04/06 12:05	06/18/06 17:43	06/15/06 09:47	RATA22535	1	0.833 Sa	
CID:P-0620LOT:J6E17030614 v4.8.24							FILTER				06/18/06 14:43	RATA22535 Alq	96%	0.246697 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/18/06 17:43	RA-226	9	13	ASCHAC	ASC		N	2.4668E+00	1.0000E+00	N	96%	N		2.3251E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(1.105E-01)	(0.000E+00)		8%			(0.000E+00)	3.376606		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/18/06	RA-226	R	**-0.054494**	**U4**	-3.66667E-02	-0.035826	-0.035826	0.833 Sa	96%		0.535482		
				(0.126344)		(8.4918E-02)	(0.083037)	(0.083037)	(0.023561)			0.2276		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
15	Calc	TE	FILTER	*STLE	Ra226WoBS	**H50P11AA**	**PCI/SA**	**B**	05/04/06 12:10	06/18/06 17:42	06/15/06 09:47	RATA22536	1	1.00 Sa	
CID:INTRA-LAB BLANKLOT:J6E230000242 v4.8.24							FILTER				06/18/06 14:42	RATA22536 Alq	97%	1.00 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/18/06 17:42	RA-226	13	15	ASCLMD	ASC		N	2.4657E+00	1.0000E+00	N	97%	N		2.3255E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(1.223E-01)	(0.000E+00)		8%			(0.000E+00)	1.00		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:15

RADCALC v4.8.24
STL Richland

Batch Nbr: 6143242

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

6/19/2006 11:20:47 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/18/06	RA-226	R	**0.004363**	**U4**	1.00000E-02	0.009685	0.009685	1.00 Sa	97%		0.167098		
				(0.042227)		(9.6782E-02)	(0.093737)	(0.093737)	(0.017321)			0.071768		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
16	Calc	TE	FILTER	*STLE	Ra226WoBS	**H50P11AC**	**PCI/SA**	**S**	05/04/06 12:10	06/18/06 20:06	06/15/06 09:47	RASC4131	1	1.00 Sa	
CID:INTRA-LAB CHECKLOT:J6E230000242 v4.8.24							FILTER				06/18/06 17:06	RASC4131 Alq	93%	1.00 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/18/06 17:45	RA-226	172	11	ASCQMA	ASC		N	1.9856E+00	1.0000E+00	N	93%	N		2.2337E+00	4.5045E-01	1.0000E+00	
			50	60			N		(1.027E-01)	(0.000E+00)		7%			(0.000E+00)	1.00		
2	06/18/06 20:06	RA-226	151	11	ASCQMA	ASC		N	1.9856E+00	1.0000E+00	N	93%	N		2.2736E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(1.027E-01)	(0.000E+00)		7%			(0.000E+00)	1.00		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	06/19/06	RA-226	R	**1.76898**		3.25667E+00	3.926945	3.926945	1.00 Sa	93%	127%	0.182387		
				(0.241568)		(2.6806E-01)	(0.494358)	(0.494358)	(0.017321)			0.076518		
	06/19/06	RA-226	R	**1.568433**		2.83667E+00	3.481751	3.481751	1.00 Sa	93%	113%	0.185653		
				(0.220468)		(2.5190E-01)	(0.453415)	(0.453415)	(0.017321)			0.077889		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:16

RADCALC v4.8.24

STL Richland

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H5KQR1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6143242 Activity Unit: PCI/SA Multiplier: 1.0656
Technician: RS

Analysis Size: 0.2462 Analysis Unit: SA

Report Date: 18-JUN-2006 17:56:00.70
First Separation Date: 15-JUN-2006 09:27:00.00
Second Separation Date: 18-JUN-2006 14:06:00.00

Detector ID: 3 Cell ID: 3RC

Bkg Date: 17-JUN-2006 14:14:30.81
Bkg Counts: 000006 Bkg Duration: 000060.0

Count Date: 18-JUN-2006 17:06:00.31
Counts: 000016 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H5KQ41AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6143242 Activity Unit: PCI/SA Multiplier: 1.0156
Technician: RS

Analysis Size: 0.2485 Analysis Unit: SA

Report Date: 18-JUN-2006 17:53:00.75
First Separation Date: 15-JUN-2006 09:27:00.00
Second Separation Date: 18-JUN-2006 14:03:00.00

Detector ID: 4 Cell ID: 4UA

Bkg Date: 16-JUN-2006 15:26:54.82
Bkg Counts: 000024 Bkg Duration: 000060.0

Count Date: 18-JUN-2006 17:03:00.34
Counts: 000024 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H5KQ81AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6143242 Activity Unit: PCI/SA Multiplier: 0.9196
Technician: RS

Analysis Size: 0.2504 Analysis Unit: SA

Report Date: 18-JUN-2006 17:56:00.81
First Separation Date: 15-JUN-2006 09:27:00.00
Second Separation Date: 18-JUN-2006 14:06:00.00

Detector ID: 7 Cell ID: 7RH

Bkg Date: 16-JUN-2006 19:09:49.32
Bkg Counts: 000030 Bkg Duration: 000060.0

Count Date: 18-JUN-2006 17:06:00.36
Counts: 000030 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H5KRC1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6143242 Activity Unit: PCI/SA Multiplier: 1.0056
Technician: RS

Analysis Size: 0.2499 Analysis Unit: SA

Report Date: 18-JUN-2006 17:54:00.72
First Separation Date: 15-JUN-2006 09:27:00.00
Second Separation Date: 18-JUN-2006 14:04:00.00

Detector ID: 9 Cell ID: 9RA

Bkg Date: 16-JUN-2006 15:27:20.80
Bkg Counts: 000021 Bkg Duration: 000060.0

Count Date: 18-JUN-2006 17:04:00.31
Counts: 000015 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H5KRF1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6143242 Activity Unit: PCI/SA Multiplier: 0.9061
Technician: RS

Analysis Size: 0.2495 Analysis Unit: SA

Report Date: 18-JUN-2006 17:54:00.80
First Separation Date: 15-JUN-2006 09:27:00.00
Second Separation Date: 18-JUN-2006 14:04:00.00

Detector ID: 10 Cell ID: ASC

Bkg Date: 12-MAY-2006 07:28:51.30
Bkg Counts: 000008 Bkg Duration: 000060.0

Count Date: 18-JUN-2006 17:04:00.37
Counts: 000006 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H5KRG1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6143242 Activity Unit: PCI/SA Multiplier: 0.8902
Technician: RS

Analysis Size: 0.2496 Analysis Unit: SA

Report Date: 18-JUN-2006 17:55:00.56
First Separation Date: 15-JUN-2006 09:27:00.00
Second Separation Date: 18-JUN-2006 14:05:00.00

Detector ID: 1 Cell ID: 1HA

Bkg Date: 17-JUN-2006 08:38:13.96
Bkg Counts: 000033 Bkg Duration: 000060.0

Count Date: 18-JUN-2006 17:05:00.25
Counts: 000044 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H5KRJ1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6143242 Activity Unit: PCI/SA Multiplier: 0.9451
Technician: RS

Analysis Size: 0.2489 Analysis Unit: SA

Report Date: 18-JUN-2006 17:53:00.85
First Separation Date: 15-JUN-2006 09:27:00.00
Second Separation Date: 18-JUN-2006 14:03:00.00

Detector ID: 2 Cell ID: 2MA

Bkg Date: 15-JUN-2006 07:18:46.21
Bkg Counts: 000007 Bkg Duration: 000060.0

Count Date: 18-JUN-2006 17:03:00.40
Counts: 000012 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H5KRL1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6143242 Activity Unit: PCI/SA Multiplier: 0.9646
Technician: RS

Analysis Size: 0.2466 Analysis Unit: SA

Report Date: 18-JUN-2006 17:52:00.62
First Separation Date: 15-JUN-2006 09:27:00.00
Second Separation Date: 18-JUN-2006 14:02:00.00

Detector ID: 8 Cell ID: 8HC

Bkg Date: 16-JUN-2006 19:10:02.20
Bkg Counts: 000016 Bkg Duration: 000060.0

Count Date: 18-JUN-2006 17:02:00.30
Counts: 000019 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H5KRR1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6143242 Activity Unit: PCI/SA Multiplier: 1.0566
Technician: RS

Analysis Size: 0.2494 Analysis Unit: SA

Report Date: 18-JUN-2006 18:36:00.56
First Separation Date: 15-JUN-2006 09:47:00.00
Second Separation Date: 18-JUN-2006 14:46:00.00

Detector ID: 12 Cell ID: CSD

Bkg Date: 11-MAY-2006 14:35:52.63
Bkg Counts: 000006 Bkg Duration: 000060.0

Count Date: 18-JUN-2006 17:46:00.24
Counts: 000012 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H5KRV1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6143242 Activity Unit: PCI/SA Multiplier: 1.0049
Technician: RS

Analysis Size: 0.2499 Analysis Unit: SA

Report Date: 18-JUN-2006 18:34:00.55
First Separation Date: 15-JUN-2006 09:47:00.00
Second Separation Date: 18-JUN-2006 14:44:00.00

Detector ID: 16 Cell ID: GSB

Bkg Date: 16-JUN-2006 15:27:34.77
Bkg Counts: 000014 Bkg Duration: 000060.0

Count Date: 18-JUN-2006 17:44:00.24
Counts: 000020 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H5KRX1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6143242 Activity Unit: PCI/SA Multiplier: 1.1659
Technician: RS

Analysis Size: 0.2476 Analysis Unit: SA

Report Date: 18-JUN-2006 18:35:00.82
First Separation Date: 15-JUN-2006 09:47:00.00
Second Separation Date: 18-JUN-2006 14:45:00.00

Detector ID: 19 Cell ID: KMD

Bkg Date: 16-JUN-2006 19:11:26.24
Bkg Counts: 000007 Bkg Duration: 000060.0

Count Date: 18-JUN-2006 17:45:00.37
Counts: 000019 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H5KR21AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6143242 Activity Unit: PCI/SA Multiplier: 1.0354
Technician: RS

Analysis Size: 0.2502 Analysis Unit: SA

Report Date: 18-JUN-2006 18:35:01.12
First Separation Date: 15-JUN-2006 09:47:00.00
Second Separation Date: 18-JUN-2006 14:45:00.00

Detector ID: 18 Cell ID: JSB

Bkg Date: 16-JUN-2006 15:28:13.23
Bkg Counts: 000006 Bkg Duration: 000060.0

Count Date: 18-JUN-2006 17:45:00.46
Counts: 000011 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H5KR41AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6143242 Activity Unit: PCI/SA Multiplier: 1.0141
Technician: RS

Analysis Size: 0.2506 Analysis Unit: SA

Report Date: 18-JUN-2006 18:32:02.74
First Separation Date: 15-JUN-2006 09:47:00.00
Second Separation Date: 18-JUN-2006 14:42:00.00

Detector ID: 11 Cell ID: BMB

Bkg Date: 14-JUN-2006 14:47:32.81
Bkg Counts: 000012 Bkg Duration: 000060.0

Count Date: 18-JUN-2006 17:42:02.45
Counts: 000020 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H5KR61AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6143242 Activity Unit: PCI/SA Multiplier: 1.0366
Technician: RS

Analysis Size: 0.2467 Analysis Unit: SA

Report Date: 18-JUN-2006 18:33:00.52
First Separation Date: 15-JUN-2006 09:47:00.00
Second Separation Date: 18-JUN-2006 14:43:00.00

Detector ID: 17 Cell ID: HAC

Bkg Date: 16-JUN-2006 15:27:49.73
Bkg Counts: 000013 Bkg Duration: 000060.0

Count Date: 18-JUN-2006 17:43:00.22
Counts: 000009 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H50P11AA Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6143242 Activity Unit: PCI/SA Multiplier: 1.0269
Technician: RS

Analysis Size: 1.0 Analysis Unit: SA

Report Date: 18-JUN-2006 18:32:00.83
First Separation Date: 15-JUN-2006 09:47:00.00
Second Separation Date: 18-JUN-2006 14:42:00.00

Detector ID: 20 Cell ID: LMD

Bkg Date: 16-JUN-2006 19:11:39.92
Bkg Counts: 000015 Bkg Duration: 000060.0

Count Date: 18-JUN-2006 17:42:00.42
Counts: 000013 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H50P11AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6143242 Activity Unit: PCI/SA Multiplier: 1.0719
Technician: RS

Analysis Size: 1.0 Analysis Unit: SA

Report Date: 18-JUN-2006 20:56:00.66
First Separation Date: 15-JUN-2006 09:47:00.00
Second Separation Date: 18-JUN-2006 17:06:00.00

Detector ID: 24 Cell ID: QMA

Bkg Date: 16-JUN-2006 19:12:10.06
Bkg Counts: 000011 Bkg Duration: 000060.0

Count Date: 18-JUN-2006 20:06:00.34
Counts: 000151 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H50P11AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6143242 Activity Unit: PCI/SA Multiplier: 1.0719
Technician: RS

Analysis Size: 1.0 Analysis Unit: SA

Report Date: 18-JUN-2006 18:35:01.25
First Separation Date: 15-JUN-2006 09:47:00.00
Second Separation Date: 18-JUN-2006 14:45:00.00

Detector ID: 24 Cell ID: QMA

Bkg Date: 16-JUN-2006 19:12:10.06
Bkg Counts: 000011 Bkg Duration: 000060.0

Count Date: 18-JUN-2006 17:45:00.53
Counts: 000172 Count Duration: 000050.0

End of Report

STL RICHLAND

6/13/2006 8:30:12 AM

Sample Preparation/Analysis

536403, Brown and Caldwell , Brown & Caldwell

BX Ra-226/228 PrpRC5016, SepRC5005
TE Ba-133 by NaI & Ra-226 by Alpha Scint 7 day ingrow
01 STANDARD TEST SET

Balance Id:1120373922,1120373922,2061

Pipet #:

Sep1 DT/Tm Tech: 6-14-06 M 11:45

Sep2 DT/Tm Tech:

Prep Tech: HansenM,TamosaitisM

AnalyDueDate: 06/13/2006

Batch: 6143242 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: 6143287, BXTF All Tests: 6143227 7YSR, 6143229 9NS1, 6143237 BAS7, 6143240 BDS8, 6143242 BXTE, 6143287 BXTF,

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 H5KQR-1-AC J6E170306-1-SAMP	0.833sa,g	508.50sa,g	150.28g,in	0.2462g 7.5465 7.082 = 1.0656	RATA22522 06/13/06		G5	1547	6/14/06 00 6/15/06 0927 r 3RC 6/18/06 1406 r	
05/04/2006 12:10	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1					Scr:	Alpha:	Beta:
2 H5KQ4-1-AC J6E170306-2-SAMP	0.833sa,g	502.88sa,g	150.03g,in	0.2485g 7.5762 7.460 = 1.0156	RATA22523 06/13/06		G4	1548	6/14/06 00 6/15/06 0927 r 4UA 6/18/06 1403 r	
05/04/2006 12:15	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1					Scr:	Alpha:	Beta:
3 H5KQ8-1-AC J6E170306-3-SAMP	0.833sa,g	500.47sa,g	150.42g,in	0.2504g 7.5267 8.185 = 0.9196	RATA22524 06/13/06		G7	1548	6/14/06 00 6/15/06 0927 r 7RH 6/18/06 1406 r	
05/04/2006 23:10	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1					Scr:	Alpha:	Beta:
4 H5KRC-1-AC J6E170306-4-SAMP	0.833sa,g	501.28sa,g	150.40g,in	0.2499g 7.5168 7.475 = 1.0056	RATA22525 06/13/06		G10	1544	6/14/06 00 6/15/06 0927 r 9RA 6/18/06 1404 r	
05/04/2006 23:25	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1					Scr:	Alpha:	Beta:

STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1 ISV - Insufficient Volume for Analysis WO Cnt: 4
Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Prep_SamplePrep v4.8.24

505

STL RICHLAND

6/13/2006 8:30:13 AM

Sample Preparation/Analysis

536403, Brown and Caldwell , Brown & Caldwell

BX Ra-226/228 PrpRC5016, SepRC5005
TE Ba-133 by NaI & Ra-226 by Alpha Scint 7 day ingrow
01 STANDARD TEST SET

Balance Id:1120373922,1120373922,1120

Pipet #:

AnalyDueDate: 06/13/2006

Sep1 DT/Tm Tech:

Batch: 6143242 FILTER pCi/sampl PM, Quote: SA , 63174
SEQ Batch, Test: 6143287, BXTF

Sep2 DT/Tm Tech:

Prep Tech: HansenM,TamosaitisM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
5 H5KRF-1-AC J6E170306-5-SAMP	0.833sa,g	502.19sa,g	150.41g,in	0.2495g	RATA22526 06/13/06		G11	1549	6/14/06 0600	
			7.5267 / 8.307 = 0.9061					ASC	6/15/06 0927r 6/18/06 1404	
05/04/2006 10:30	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
6 H5KRG-1-AC J6E170306-6-SAMP	0.833sa,g	500.90sa,g	150.11g,in	0.2496g	RATA22527 06/13/06		G12	1549	6/14/06 0600	
			7.5168 / 8.444 = 0.8902					IHA	6/15/06 0927r 6/18/06 1405 R	
05/04/2006 10:50	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
7 H5KRJ-1-AC J6E170306-7-SAMP	0.833sa,g	502.17sa,g	150.02g,in	0.2489g	RATA22528 06/13/06		G13	1550	6/14/06 0600	
			7.6356 / 8.079 = 0.9451					2MA	6/15/06 0927r 6/18/06 1403 R	
05/04/2006 11:30	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
8 H5KRL-1-AC J6E170306-8-SAMP	0.833sa,g	506.92sa,g	150.07g,in	0.2466g	RATA22529 06/13/06		G6	1550	6/14/06 0600	
			7.5564 / 7.834 = 0.9646					8HC	6/15/06 0927r 6/18/06 1402r	
05/04/2006 12:00	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:

STL RICHLAND

6/13/2006 8:30:13 AM

Sample Preparation/Analysis

536403, Brown and Caldwell , Brown & Caldwell

BX Ra-226/228 PrpRC5016, SepRC5005
TE Ba-133 by NaI & Ra-226 by Alpha Scint 7 day ingrow
01 STANDARD TEST SET

Balance Id:1120373922,1120373922,1120

Pipet #: _____

AnalyDueDate: 06/13/2006

Sep1 DT/Tm Tech:

Batch: 6143242 FILTER pCi/sampl PM, Quote: SA , 63174
SEQ Batch, Test: 6143287, BXTF

Sep2 DT/Tm Tech:

Prep Tech: HansenM,TamosaitisM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
9 H5KRR-1-AC J6E170306-9-SAMP	0.833sa,g	501.37sa,g	150.08g,in	0.2494g	RATA22530 06/13/06		G8	1550	6/8/06 6/14/06	
			7.5465 / 7.142 = 1.0566					CSD	6/15/06 0947 r; 6/18/06 1446 r	
05/04/2006 12:20	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
10 H5KRV-1-AC J6E170306-10-SAMP	0.833sa,g	500.80sa,g	150.21g,in	0.2499g	RATA22531 06/13/06		9"	1626	6/14/06	
			7.5366 / 7.50 = 1.0049					GSB	6/15/06 0947 r; 6/18/06 1444 r	
05/04/2006 11:05	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
11 H5KRX-1-AC J6E170306-11-SAMP	0.833sa,g	506.72sa,g	150.62g,in	0.2476g	RATA22532 06/13/06		G13	1627	6/14/06	
			7.5366 / 6.464 = 1.1659					KMD	6/15/06 0947 r; 6/18/06 1445 r	
05/04/2006 11:20	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
12 H5KR2-1-AC J6E170306-12-SAMP	0.833sa,g	500.34sa,g	150.27g,in	0.2502g	RATA22533 06/13/06		9"	1702	6/14/06	
			7.5168 / 7.26 = 1.0354					JSB	6/15/06 0947 r; 6/18/06 1445 r	
05/04/2006 10:35	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:

6/13/2006 8:30:13 AM

536403, Brown and Caldwell , Brown & Caldwell

AnalyDueDate: 06/13/2006

Sample Preparation/Analysis

BX Ra-226/228 PrpRC5016, SepRC5005
TE Ba-133 by NaI & Ra-226 by Alpha Scint 7 day ingrow
01 STANDARD TEST SET

Balance Id:1120373922,1120373922,1120

Pipet #: _____

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: HansenM,TamosaitisM

Batch: 6143242 FILTER pCi/sampl PM, Quote: SA , 63174
SEQ Batch, Test: 6143287, BXTF

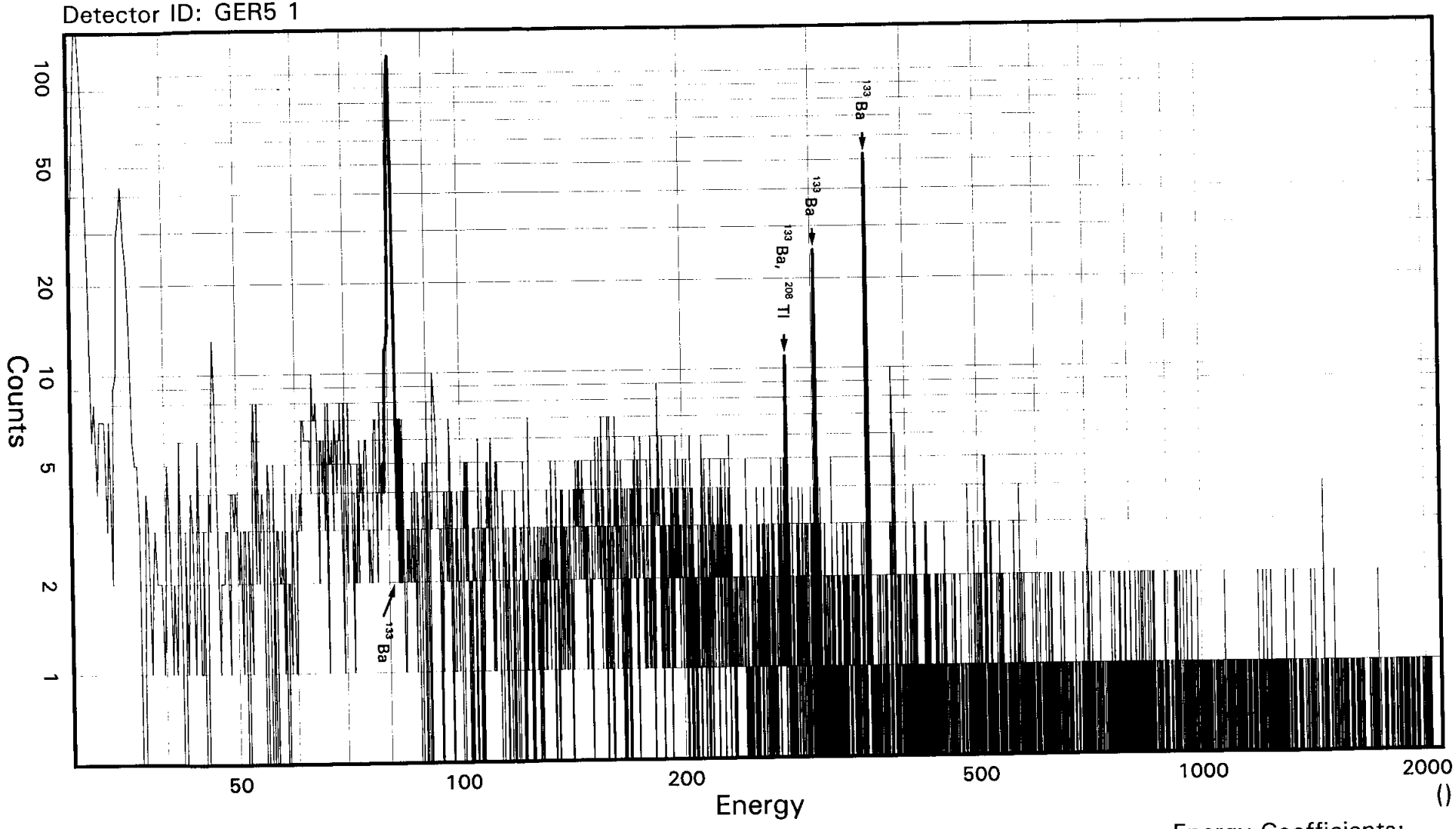
Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
13H5KR4-1-AC J6E170306-13-SAMP	0.833sa,g	500.12sa,g	150.46g,in	0.2506g	RATA22534 06/13/06		G13	1703	6/14/06 OD	
				7.5366 / 7.432 = 1.0141					6/15/06 0947 BMB 6/18/06 1442	
05/04/2006 10:45	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:	
14H5KR6-1-AC J6E170306-14-SAMP	0.833sa,g	507.20sa,g	150.21g,in	0.2467g	RATA22535 06/13/06		9"	1739	6/14/06 OD	
				7.5465 / 7.28 = 1.0366					6/15/06 0947 HAC 6/18/06 1443	
05/04/2006 12:05	Mid Pnt: 05/09/06 10:55	AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:	
15H50P1-1-AA-B J6E230000-242-BLK			1.00sa,in	1.00sa	RATA22536 06/13/06		G13	1739	6/14/06 OD	
				7.5366 / 7.339 = 1.0269					6/15/06 0947 LMD 6/18/06 1442	
05/04/2006 12:10		AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:	
16H50P1-1-AC-C J6E230000-242-LCS			1.00sa,in	1.00sa	RASC4131 06/09/06		9"	1814	6/14/06 OD	
				7.4925 / 6.99 = 1.0719					6/15/06 0947 QMA 6/18/06 1445	
05/04/2006 12:10		AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:	

STL Richland WA.

BA133

Sample ID: H5KQR1AC
Detector ID: GER5 1

Batch ID: 6143242



Acquisition Start: 14-JUN-2006 15:17:07.97
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -3.90595E-01
Slope: 2.49428E-01
Quadrature: -2.97805E-09

SAMPLE IDENTIFICATION: H5KQR1AC

CONFIGURATION ID: GER5:H5KQR1AC_140661517
TITLE : BA133
SAMPLE ID : H5KQR1AC

REPORT DATE: 14-JUN-06
ACQUIRE DATE: 14-JUN-06 15:17:07
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 13-JUN-2006 12:00:00.00
CALIB DATE: 14-JUN-2006 05:22:50.27
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: -.3906E+00 keV
ENERGY SLOPE: 2.4943E-01 keV/C
ENERGY Q COEFF: -.2978E-08 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 8.0617E-01 keV
FWHM SLOPE: 2.2993E-02 sqr keV
ITERATIONS: 10
GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %
ENERGY TOLERANCE: 1.500 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 14-JUN-2006 15:47:24

Configuration : RDND06$DKA100:[GER5.SAMPLE]H5KQR1AC_140661517.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 15:17:07
Sample ID : H5KQR1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Start energy : 19.56 End energy : 2042.73
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	21.08	28	38	0.36	86.09	81	10	1.56E-02	45.1	
2	0	30.93	540	123	0.90	125.57	118	16	3.00E-01	6.3	
3	0	35.42	182	39	1.10	143.57	136	16	1.01E-01	11.0	
4	0	46.30*	13	21	0.53	187.19	178	14	7.24E-03	87.3	
5	0	80.95	463	65	0.89	326.09	316	20	2.57E-01	6.3	
6	0	276.31	30	16	0.71	1109.35	1104	11	1.68E-02	31.5	
7	0	303.02	81	30	1.00	1216.44	1206	17	4.49E-02	19.1	
8	0	355.98	274	9	1.18	1428.76	1420	17	1.52E-01	6.5	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 14-JUN-2006 15:47:24

Configuration : RDND06$DKA100:[GER5.SAMPLE]H5KQR1AC_140661517.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 15:17:07
Sample ID : H5KQR1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	463	33.00	1.924E+00	2.431E+03	2.432E+03	8.33
	276.40	30	6.90	2.077E+00	7.049E+02	7.050E+02	32.00
	302.84	81	17.80	2.080E+00	7.282E+02	7.284E+02	19.80
	356.00	274	62.05*	2.082E+00	7.081E+02	7.082E+02	8.45
	383.85	------	8.70	2.081E+00	------	Line Not Found	------

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H5KQR1AC

Acquisition date : 14-JUN-2006 15:17:07

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	21.08	28	38	0.36	86.09	81	10	1.56E-02	45.1	1.56E+00	
0	30.93	540	123	0.90	125.57	118	16	3.00E-01	6.3	1.68E+00	
0	35.42	182	39	1.10	143.57	136	16	1.01E-01	11.0	1.72E+00	
0	46.30	13	21	0.53	187.19	178	14	7.24E-03	87.3	1.79E+00	

Flags: "T" = Tentatively associated

Sample ID : H5KQR1AC Acquisition date : 14-JUN-2006 15:17:07

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	7.153E+02	32.00	Abun.
			510.84	21.60	--- Not Found ---		
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		5.44			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.1 Generated 14-JUN-2006 15:47:25

Configuration : RDND06$DKA100:[GER5.SAMPLE]H5KQR1AC_140661517.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,WTMEAN/KEY V1.8
Analyses by : MINACT V2.8
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 15:17:07
Sample ID : H5KQR1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.082E+02	5.984E+01	4.202E+01	8.403E-01	16.856

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	1.339E+00		4.395E+01	1.882E+02	3.775E+00	0.007
NA-22	1.737E+00		2.925E+00	1.577E+01	3.345E-01	0.110
NA-24	-6.078E+00		6.087E+00	1.649E+01	3.519E-01	-0.369
K-40	1.137E+02		7.343E+01	3.703E+02	7.956E+00	0.307
SC-46	1.426E+00		4.588E+00	2.034E+01	4.265E-01	0.070
CR-51	-1.662E+02		9.343E+01	2.915E+02	5.832E+00	-0.570
MN-54	-7.982E+00		5.887E+00	1.978E+01	4.061E-01	-0.404
CO-57	1.787E+01		1.206E+02	4.355E+02	9.002E+00	0.041
CO-58	-6.201E+00		5.233E+00	1.822E+01	3.733E-01	-0.340
FE-59	-2.903E-01		6.187E+00	2.802E+01	5.866E-01	-0.010
CO-60	6.839E+00		4.187E+00	2.234E+01	4.757E-01	0.306
ZN-65	-7.494E+00		9.698E+00	3.568E+01	7.479E-01	-0.210
SE-75	1.840E+01		1.612E+01	6.493E+01	1.303E+00	0.283
SR-85	-1.474E+01		1.026E+01	3.395E+01	6.823E-01	-0.434
Y-88	-5.253E+00		3.047E+00	4.833E+00	1.065E-01	-1.087
NB-94	4.944E+00		2.867E+00	1.773E+01	3.649E-01	0.279
NB-95	-1.373E+00		4.929E+00	2.012E+01	4.109E-01	-0.068
TC-95M	-8.605E-01		1.747E+01	6.431E+01	1.301E+00	-0.013
ZR-95	2.515E+00		9.589E+00	4.115E+01	8.400E-01	0.061
ZRNB-95	-2.718E+00		9.756E+00	3.982E+01	8.134E-01	-0.068
MO-99	-3.815E+01		1.976E+01	6.107E+01	1.260E+00	-0.625
RH-101	-5.276E+00		1.889E+01	6.756E+01	1.368E+00	-0.078
RH-102M	-6.563E+00		5.298E+00	1.820E+01	3.651E-01	-0.361
RU-103	-1.103E+01		7.336E+00	2.400E+01	4.819E-01	-0.459
RU-106DA	6.317E+01		6.288E+01	2.758E+02	5.577E+00	0.229
AG-108M	-1.604E+01		7.532E+00	2.247E+01	4.501E-01	-0.714
AG-110M	2.289E+00		3.944E+00	2.115E+01	4.358E-01	0.108

---- Non-Identified Nuclides ----

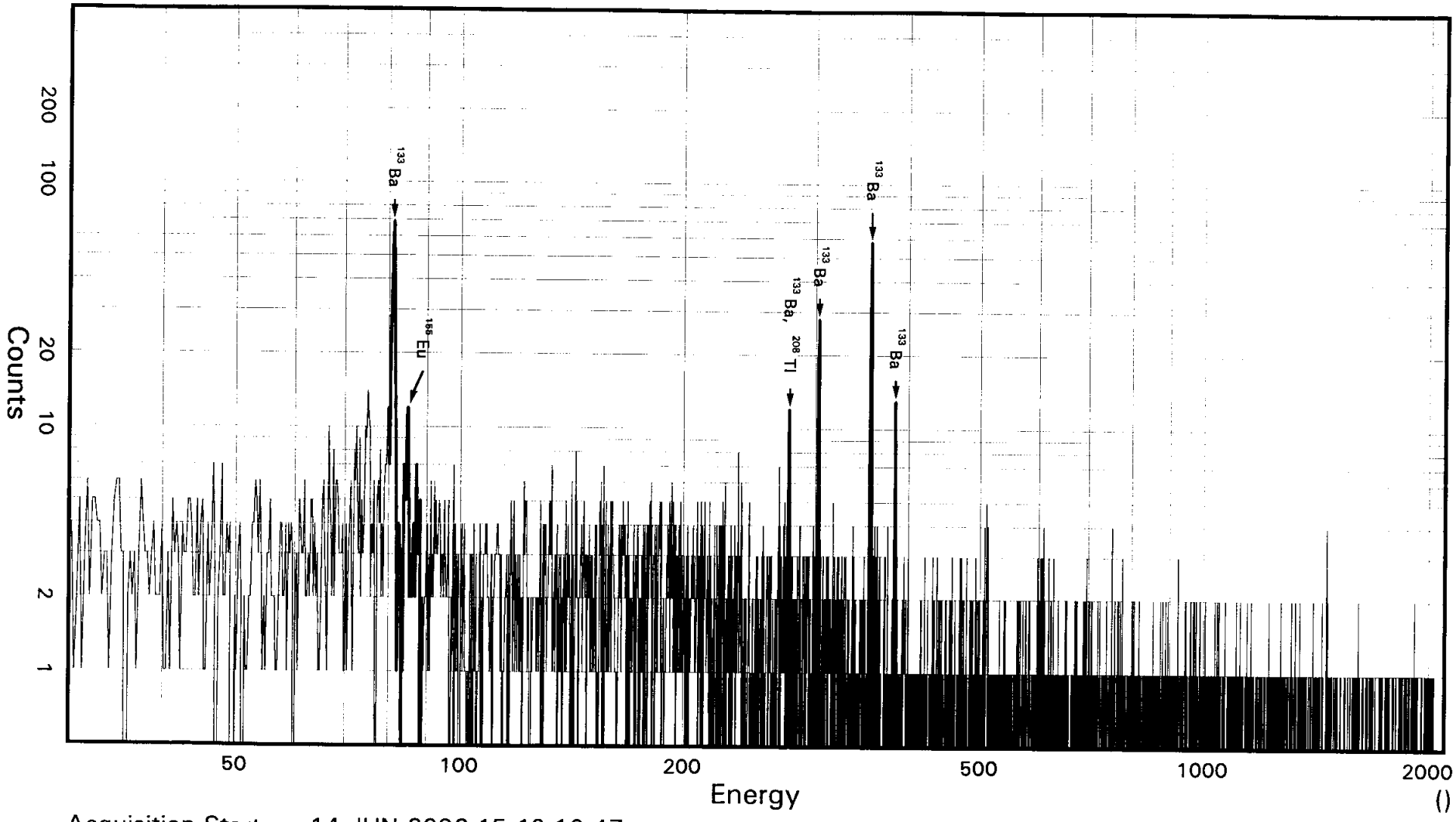
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	6.390E+00		1.189E+01	4.838E+01	9.680E-01	0.132
SB-124	1.284E+01		5.277E+00	2.749E+01	5.553E-01	0.467
SB-125	8.060E-01		2.615E+01	1.018E+02	2.039E+00	0.008
SN-126DA	-2.542E-01		4.085E+00	1.748E+01	3.545E-01	-0.015
I-131	5.761E+00		9.279E+00	3.811E+01	7.622E-01	0.151
CS-134	-1.653E+00		5.675E+00	2.306E+01	4.720E-01	-0.072
CS-137DA	3.623E+00		4.758E+00	2.290E+01	4.644E-01	0.158
LA-138	0.000E+00		1.287E-01	6.958E+00	1.492E-01	0.000
CE-139	-8.730E+00		1.638E+01	5.833E+01	1.191E+00	-0.150
BA-140	1.905E+01		2.986E+01	1.235E+02	2.485E+00	0.154
BALA-140	-4.158E+00		6.873E+00	2.845E+01	6.170E-01	-0.146
LA-140	-6.172E+00		6.018E+00	2.149E+01	4.659E-01	-0.287
CE-141	3.529E+01		3.131E+01	1.200E+02	2.470E+00	0.294
CE-144	1.362E+02		1.173E+02	4.495E+02	9.306E+00	0.303
CEPR-144	3.358E+02		2.300E+02	8.979E+02	1.859E+01	0.374
PM-144	-3.742E+00		6.255E+00	2.307E+01	4.665E-01	-0.162
PM-146	-2.149E+01		8.774E+00	2.288E+01	4.586E-01	-0.939
EU-152	6.434E+01		2.964E+01	1.322E+02	2.644E+00	0.487
EU-154	4.886E+00		8.230E+00	4.438E+01	9.410E-01	0.110
EU-155	3.198E+01		6.065E+01	2.264E+02	4.776E+00	0.141
HF-181	-3.449E+00		7.376E+00	2.812E+01	5.643E-01	-0.123
BI-207	8.895E+00		6.555E+00	2.933E+01	5.912E-01	0.303
TL-208	7.450E+00		7.250E+00	3.195E+01	6.446E-01	0.233
BI-210M	-4.559E+01		2.122E+01	6.502E+01	1.304E+00	-0.701
BI-212	-3.218E+01		7.789E+01	3.093E+02	9.455E+00	-0.104
PB-212	-1.292E+01		2.598E+01	9.941E+01	2.000E+00	-0.130
BI-214	1.014E+01		1.061E+01	4.925E+01	9.952E-01	0.206
PB-214	-2.331E+01		2.808E+01	7.901E+01	1.580E+00	-0.295
RA-223	8.836E+01		7.882E+01	3.107E+02	6.232E+00	0.284
RA-224DA	-1.294E+01		2.601E+01	9.953E+01	2.002E+00	-0.130
RA-226DA	1.014E+01		1.061E+01	4.925E+01	9.952E-01	0.206
AC-227DA	-1.100E+02		9.222E+01	3.120E+02	6.279E+00	-0.353
AC-228	8.441E+00		1.625E+01	8.409E+01	1.736E+00	0.100
RA-228DA	8.444E+00		1.625E+01	8.413E+01	1.737E+00	0.100
TH-228DA	2.076E+01		2.020E+01	8.903E+01	1.796E+00	0.233
TH-232DA	1.848E+02		6.825E+01	3.078E+02	6.156E+00	0.600
TH-234DA	-3.438E+02		7.696E+02	3.007E+03	6.248E+01	-0.114
U-234DA	-7.701E+01		4.945E+01	1.596E+02	3.196E+00	-0.483
U-235HP	1.952E+02		1.398E+02	5.422E+02	1.117E+01	0.360
NP-237DA	1.412E+01		2.201E+01	8.832E+01	1.767E+00	0.160
U-238DA	-2.331E+01		2.808E+01	7.901E+01	1.580E+00	-0.295
U-238DHP	5.705E+01		5.352E+02	1.995E+03	4.442E+01	0.029
AM-241HP	-1.275E+02		4.426E+01	1.316E+02	2.953E+00	-0.969

STL Richland WA.

BA133

Sample ID: H5KQ41AC
Detector ID: GER4 1

Batch ID: 6143242



Acquisition Start: 14-JUN-2006 15:18:10.47
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -1.20822E-01
Slope: 2.48870E-01
Quadrature: 1.07398E-08

SAMPLE IDENTIFICATION: H5KQ41AC

CONFIGURATION ID: GER4:H5KQ41AC_140661518
TITLE : BA133
SAMPLE ID : H5KQ41AC

REPORT DATE: 14-JUN-06
ACQUIRE DATE: 14-JUN-06 15:18:10
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 13-JUN-2006 12:00:00.00
CALIB DATE: 14-JUN-2006 05:23:11.01
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: -.1208E+00 keV
ENERGY SLOPE: 2.4887E-01 keV/C
ENERGY Q COEFF: 1.0740E-08 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 3.0346E-01 keV
FWHM SLOPE: 4.4942E-02 sqr keV
ITERATIONS: 10
GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %
ENERGY TOLERANCE: 1.500 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 14-JUN-2006 15:48:24

```
Configuration     : $DISK1:[GER4.SAMPLE]H5KQ41AC_140661518.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 15:18:10
Sample ID         : H5KQ41AC             Sample quantity  : 1.0000 SAMPL
Sample type       :                      Sample geometry  : BA133T15
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.41   0.0%
Start energy      :    19.79             End energy       :  2039.34
Sensitivity       :     5.00             Gaussian         :    10.00
Critical level    : No
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.19	175	71	0.61	326.70	322	12	9.74E-02	12.6	
2	0	85.80*	48	27	2.68	345.25	335	22	2.67E-02	32.7	
3	0	276.78	25	22	0.61	1112.58	1105	11	1.38E-02	41.7	
4	0	302.91	100	7	0.94	1217.54	1210	13	5.54E-02	11.3	
5	0	355.92	307	9	1.24	1430.53	1423	17	1.70E-01	6.1	
6	0	383.64	47	0	0.43	1541.91	1533	16	2.61E-02	14.6	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 14-JUN-2006 15:48:24

Configuration	: $DISK1:[GER4.SAMPLE]H5KQ41AC_140661518.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3		
Sample title	: BA133		
Sample date	: 13-JUN-2006 12:00:00	Acquisition date	: 14-JUN-2006 15:18:10
Sample ID	: H5KQ41AC	Sample quantity	: 1.0000 SAMPL
Sample type	:	Sample geometry	: BA133T15
Elapsed live time	: 0 00:30:00.00	Elapsed real time	: 0 00:30:00.41 0.0%
Energy tolerance	: 1.50	Half life ratio	: 8.00
Errors propagated	: Yes	Systematic Error	: 5.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 80.00		

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	175	33.00	2.043E+00	8.670E+02	8.672E+02	13.79
	276.40	25	6.90	2.203E+00	5.458E+02	5.459E+02	42.03
	302.84	100	17.80	2.205E+00	8.469E+02	8.471E+02	12.62
	356.00	307	62.05*	2.207E+00	7.459E+02	7.460E+02	9.09
	383.85	47	8.70	2.207E+00	8.159E+02	8.161E+02	15.84

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H5KQ41AC

Acquisition date : 14-JUN-2006 15:18:10

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	85.80	48	27	2.68	345.25	335	22	2.67E-02	32.7	2.05E+00	T

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : H5KQ41AC

Acquisition date : 14-JUN-2006 15:18:10

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
EU-155	4.96Y	0.00	42.90	21.16	--- Not Found ---		Abun.
			86.54	30.90	2.527E+02	33.15	
			105.31*	20.70	--- Not Found ---		
		% Abundances Found =		42.47			
TL-208	1.41E+10Y	0.00	277.35	6.80	5.538E+02	42.03	Abun.
			510.84	21.60	--- Not Found ---		
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		5.44			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 14-JUN-2006 15:48:27

Configuration : $DISK1:[GER4.SAMPLE]H5KQ41AC_140661518.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3,WTMEAN/KEY V1.8
Analyses by : MINACT V2.8
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00
Sample ID : H5KQ41AC
Sample type :
Elapsed live time: 0 00:30:00.00
Peak Width (FWHM): 3.00
Energy tolerance : 1.50
Errors propagated: Yes
Efficiency type : Empirical
Abundance limit : 80.00

Acquisition date : 14-JUN-2006 15:18:10
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.41 0.0%
Confidence level : 5.00 %
Half life ratio : 8.00
Systematic Error : 5.00 %
Efficiencies at : Peak Energy
WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.460E+02	6.779E+01	3.845E+01	1.802E+00	19.401

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	1.285E+01		4.760E+01	2.039E+02	7.443E+00	0.063
NA-22	-1.893E+00		4.350E+00	1.723E+01	6.643E-01	-0.110
NA-24	-1.129E+01		1.142E+01	4.229E+01	1.641E+00	-0.267
K-40	7.369E+00		7.598E+01	3.722E+02	1.454E+01	0.020
SC-46	8.046E+00		5.764E+00	2.660E+01	1.014E+00	0.303
CR-51	1.875E+01		9.319E+01	3.578E+02	8.305E+00	0.052
MN-54	7.508E-01		4.906E+00	2.085E+01	7.786E-01	0.036
CO-57	-6.055E+01		9.549E+01	3.380E+02	8.102E+00	-0.179
CO-58	-7.219E+00		5.513E+00	1.889E+01	7.041E-01	-0.382
FE-59	-8.242E+00		8.455E+00	3.061E+01	1.165E+00	-0.269
CO-60	-1.531E+00		2.741E+00	1.181E+01	4.573E-01	-0.130
ZN-65	-1.531E+01		1.122E+01	3.752E+01	1.430E+00	-0.408
SE-75	-2.063E+01		1.353E+01	4.359E+01	1.015E+00	-0.473
SR-85	-2.149E+01		1.032E+01	3.205E+01	1.172E+00	-0.671
Y-88	-5.641E-02		2.421E+00	1.238E+01	4.956E-01	-0.005
NB-94	-7.575E+00		4.621E+00	1.441E+01	5.397E-01	-0.526
NB-95	-3.559E+00		5.594E+00	2.070E+01	7.693E-01	-0.172
TC-95M	-4.529E+00		1.490E+01	5.479E+01	1.285E+00	-0.083
ZR-95	-1.487E+01		1.193E+01	3.995E+01	1.484E+00	-0.372
ZRNB-95	-1.029E+01		1.155E+01	4.097E+01	1.523E+00	-0.251
MO-99	1.390E+01		1.496E+01	5.864E+01	1.403E+00	0.237
RH-101	8.324E+00		1.448E+01	5.585E+01	1.312E+00	0.149
RH-102M	-8.987E+00		6.261E+00	2.090E+01	7.630E-01	-0.430
RU-103	4.429E+00		7.411E+00	3.078E+01	1.125E+00	0.144
RU-106DA	-1.162E+02		6.073E+01	1.874E+02	6.896E+00	-0.620
AG-108M	-8.183E+00		7.836E+00	2.659E+01	9.692E-01	-0.308
AG-110M	-4.150E+00		6.753E+00	2.579E+01	9.666E-01	-0.161

---- Non-Identified Nuclides ----

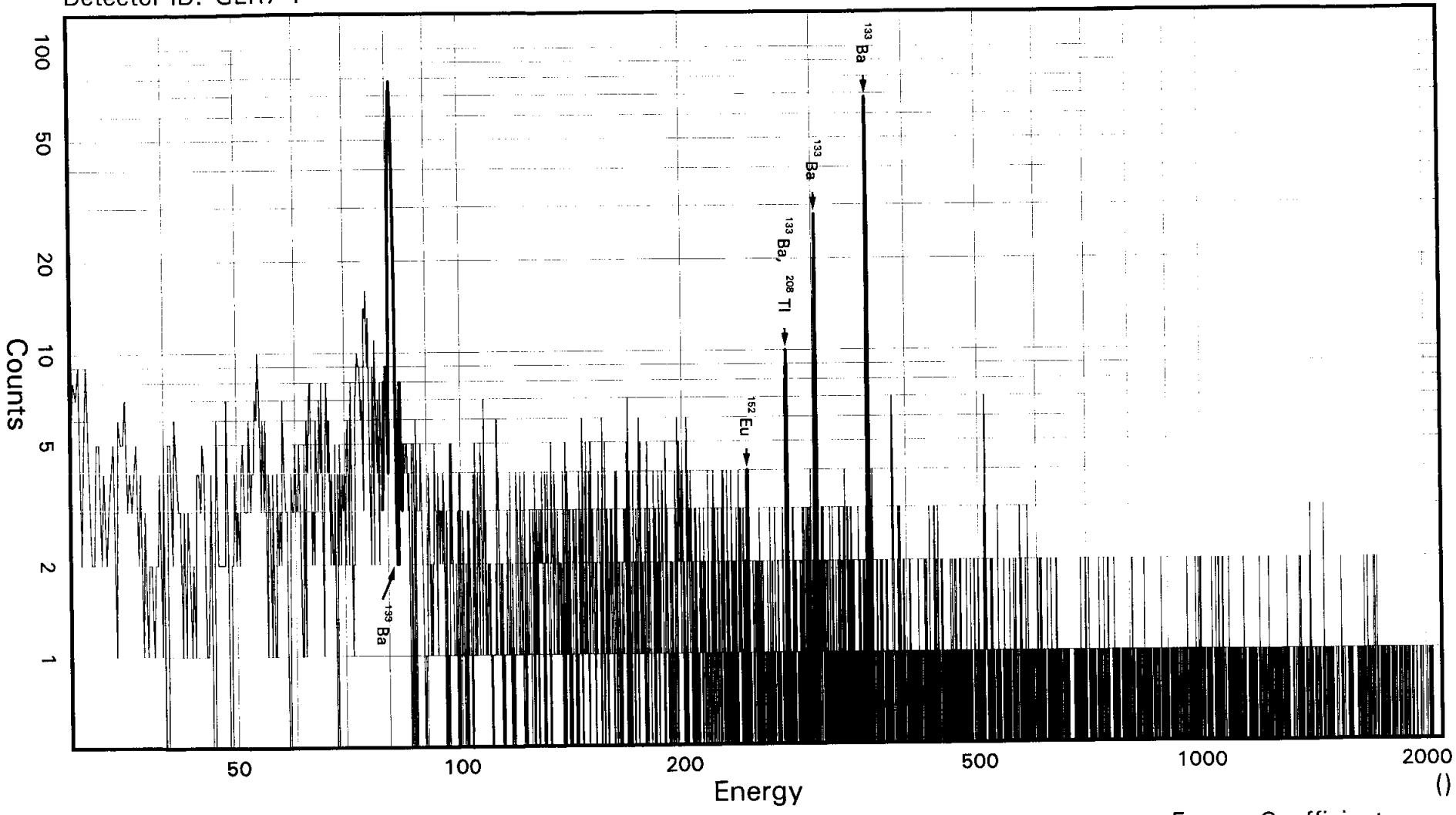
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	-9.046E+00		1.024E+01	3.606E+01	1.313E+00	-0.251
SB-124	-2.619E+00		7.467E+00	2.748E+01	1.010E+00	-0.095
SB-125	-2.514E+01		1.841E+01	5.958E+01	2.171E+00	-0.422
SN-126DA	7.595E+00		4.579E+00	2.288E+01	8.443E-01	0.332
I-131	-3.221E+00		1.169E+01	4.305E+01	1.567E+00	-0.075
CS-134	-6.001E+00		5.637E+00	1.948E+01	7.255E-01	-0.308
CS-137DA	-1.231E+01		4.714E+00	4.862E+00	1.794E-01	-2.531
LA-138	-6.658E+00		4.442E+00	1.250E+01	4.873E-01	-0.533
CE-139	1.495E+01		1.502E+01	5.697E+01	1.349E+00	0.262
BA-140	-7.164E+00		2.523E+01	9.703E+01	3.553E+00	-0.074
BALA-140	-6.898E+00		8.780E+00	3.382E+01	1.333E+00	-0.204
LA-140	-7.891E+00		7.163E+00	2.555E+01	1.007E+00	-0.309
CE-141	-4.210E+01		2.498E+01	8.038E+01	1.919E+00	-0.524
CE-144	1.117E+02		1.039E+02	4.057E+02	9.740E+00	0.275
CEPR-144	2.281E+02		2.082E+02	8.134E+02	1.953E+01	0.280
PM-144	1.250E+01		5.361E+00	2.687E+01	9.886E-01	0.465
PM-146	-1.046E+01		8.732E+00	3.046E+01	1.111E+00	-0.343
EU-152	-5.935E+00		2.687E+01	1.021E+02	2.370E+00	-0.058
EU-154	-5.324E+00		1.224E+01	4.848E+01	1.869E+00	-0.110
EU-155	3.550E+00		4.253E+01	1.644E+02	4.021E+00	0.022
HF-181	-1.606E+01		6.659E+00	1.754E+01	6.405E-01	-0.916
BI-207	-4.714E+00		4.284E+00	1.485E+01	5.446E-01	-0.318
TL-208	1.118E+01		7.329E+00	3.522E+01	1.293E+00	0.317
BI-210M	-3.677E+01		1.900E+01	5.868E+01	1.366E+00	-0.627
BI-212	2.869E+01		5.392E+01	2.593E+02	1.128E+01	0.111
PB-212	-1.621E+01		2.521E+01	9.486E+01	2.214E+00	-0.171
BI-214	1.815E+00		1.808E+01	7.569E+01	2.783E+00	0.024
PB-214	-5.104E+01		2.702E+01	7.030E+01	1.631E+00	-0.726
RA-223	9.439E+01		7.822E+01	3.058E+02	7.114E+00	0.309
RA-224DA	-1.623E+01		2.524E+01	9.497E+01	2.216E+00	-0.171
RA-226DA	1.815E+00		1.808E+01	7.569E+01	2.783E+00	0.024
AC-227DA	6.404E+01		1.009E+02	3.816E+02	8.907E+00	0.168
AC-228	1.561E+01		1.901E+01	9.366E+01	3.517E+00	0.167
RA-228DA	1.561E+01		1.902E+01	9.370E+01	3.519E+00	0.167
TH-228DA	3.115E+01		2.042E+01	9.814E+01	3.603E+00	0.317
TH-232DA	1.152E+02		6.101E+01	2.681E+02	6.221E+00	0.430
TH-234DA	-1.042E+03		8.606E+02	2.896E+03	1.095E+02	-0.360
U-234DA	-4.258E+01		5.097E+01	1.735E+02	4.031E+00	-0.245
U-235HP	-3.772E+01		1.054E+02	3.763E+02	8.988E+00	-0.100
NP-237DA	2.099E+01		2.464E+01	9.888E+01	2.296E+00	0.212
U-238DA	-5.104E+01		2.702E+01	7.030E+01	1.631E+00	-0.726
U-238DHP	-7.913E+01		3.098E+02	1.150E+03	2.964E+01	-0.069
AM-241HP	-3.116E+01		3.191E+01	1.103E+02	2.865E+00	-0.283

STL Richland WA.

BA133

Sample ID: H5KQ81AC
Detector ID: GER7 1

Batch ID: 6143242



Acquisition Start: 14-JUN-2006 15:18:23.27
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 6.38639E-01
Slope: 2.49141E-01
Quadrature: 1.28954E-07

SAMPLE IDENTIFICATION: H5KQ81AC

CONFIGURATION ID: GER7:H5KQ81AC_140661518
TITLE : BA133
SAMPLE ID : H5KQ81AC

REPORT DATE: 14-JUN-06
ACQUIRE DATE: 14-JUN-06 15:18:23
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 13-JUN-2006 12:00:00.00
CALIB DATE: 14-JUN-2006 05:23:46.43
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: 6.3864E-01 keV
ENERGY SLOPE: 2.4914E-01 keV/C
ENERGY Q COEFF: 1.2895E-07 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 4.5734E-01 keV
FWHM SLOPE: 4.2090E-02 sqr keV
ITERATIONS: 10
GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %
ENERGY TOLERANCE: 1.500 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 14-JUN-2006 15:48:42

Configuration : $DISK1:[GER7.SAMPLE]H5KQ81AC_140661518.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 15:18:23
Sample ID : H5KQ81AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.19 0.0%
Start energy : 20.57 End energy : 2050.25
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	74.99*	6	43	1.15	298.40	294	9	3.33E-03	227.0	
2	0	81.11	311	84	1.03	322.93	313	21	1.73E-01	9.3	
3	0	244.50	15	4	0.86	978.32	970	13	8.57E-03	35.3	
4	0	276.29	42	7	1.35	1105.79	1097	14	2.33E-02	20.4	
5	0	302.74	112	9	0.95	1211.82	1204	17	6.22E-02	11.2	
6	0	355.90	317	12	1.08	1424.88	1417	16	1.76E-01	6.1	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 14-JUN-2006 15:48:42

Configuration : $DISK1:[GER7.SAMPLE]H5KQ81AC_140661518.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 15:18:23
Sample ID : H5KQ81AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.19 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	311	33.00	1.923E+00	1.633E+03	1.634E+03	10.78
	276.40	42	6.90	2.076E+00	9.775E+02	9.777E+02	21.11
	302.84	112	17.80	2.078E+00	1.009E+03	1.009E+03	12.42
	356.00	317	62.05*	2.080E+00	8.183E+02	8.185E+02	8.16
	383.85	------	8.70	2.080E+00	------ Line Not Found		------

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H5KQ81AC
Acquisition date : 14-JUN-2006 15:18:23

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	74.99	6	43	1.15	298.40	294	9	3.33E-03	****	1.91E+00	
0	244.50	15	4	0.86	978.32	970	13	8.57E-03	35.3	2.07E+00	T

Flags: "T" = Tentatively associated

Sample ID : H5KQ81AC
Acquisition date : 14-JUN-2006 15:18:23

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
EU-152	13.60Y	0.00	121.78	28.40	--- Not Found ---		Abun.
			244.67	7.49	3.316E+02	35.67	
			344.27*	26.50	--- Not Found ---		
			778.89	12.74	--- Not Found ---		
			964.01	14.40	--- Not Found ---		
			1085.78	10.00	--- Not Found ---		
			1112.02	13.30	--- Not Found ---		
			1407.95	20.70	--- Not Found ---		
		% Abundances Found =		5.61			
TL-208	1.41E+10Y	0.00	277.35	6.80	9.919E+02	21.11	Abun.
			510.84	21.60	--- Not Found ---		
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		5.44			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 14-JUN-2006 15:48:44

Configuration : $DISK1:[GER7.SAMPLE]H5KQ81AC_140661518.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3,WTMEAN/KEY V1.8
Analyses by : MINACT V2.8
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 15:18:23
Sample ID : H5KQ81AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.19 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	8.185E+02	6.676E+01	5.360E+01	1.072E+00	15.269

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	1.166E+01		6.168E+01	2.482E+02	4.980E+00	0.047
NA-22	-1.588E+00		4.459E+00	1.830E+01	3.880E-01	-0.087
NA-24	1.833E+01		1.063E+01	6.572E+01	1.403E+00	0.279
K-40	3.060E+01		6.778E+01	3.243E+02	6.966E+00	0.094
SC-46	-1.878E+00		5.150E+00	2.036E+01	4.268E-01	-0.092
CR-51	-6.874E+01		7.772E+01	2.715E+02	5.432E+00	-0.253
MN-54	-1.592E+00		4.403E+00	1.788E+01	3.671E-01	-0.089
CO-57	-1.016E+02		9.925E+01	3.456E+02	7.145E+00	-0.294
CO-58	-1.650E+00		4.412E+00	1.797E+01	3.682E-01	-0.092
FE-59	2.851E+00		9.124E+00	3.959E+01	8.287E-01	0.072
CO-60	-6.828E+00		3.434E+00	4.612E+00	9.820E-02	-1.480
ZN-65	6.573E+00		6.681E+00	3.571E+01	7.484E-01	0.184
SE-75	4.586E+00		1.355E+01	5.351E+01	1.074E+00	0.086
SR-85	-2.171E+01		1.145E+01	3.547E+01	7.129E-01	-0.612
Y-88	-1.740E+00		1.742E+00	4.836E+00	1.065E-01	-0.360
NB-94	-1.152E-01		4.087E+00	1.774E+01	3.651E-01	-0.006
NB-95	-5.457E+00		5.863E+00	2.119E+01	4.327E-01	-0.258
TC-95M	5.587E+01		1.720E+01	7.415E+01	1.499E+00	0.753
ZR-95	-8.055E+00		5.259E+00	1.473E+01	3.007E-01	-0.547
ZRNB-95	-1.040E+01		1.166E+01	4.237E+01	8.654E-01	-0.246
MO-99	7.892E+00		1.483E+01	5.783E+01	1.193E+00	0.136
RH-101	3.133E+01		1.754E+01	6.913E+01	1.400E+00	0.453
RH-102M	-6.420E+00		7.042E+00	2.473E+01	4.961E-01	-0.260
RU-103	-1.009E+01		6.348E+00	1.967E+01	3.950E-01	-0.513
RU-106DA	9.493E+01		4.642E+01	2.448E+02	4.950E+00	0.388
AG-108M	7.610E+00		7.226E+00	3.144E+01	6.298E-01	0.242
AG-110M	8.991E+00		6.517E+00	3.214E+01	6.623E-01	0.280

---- Non-Identified Nuclides ----

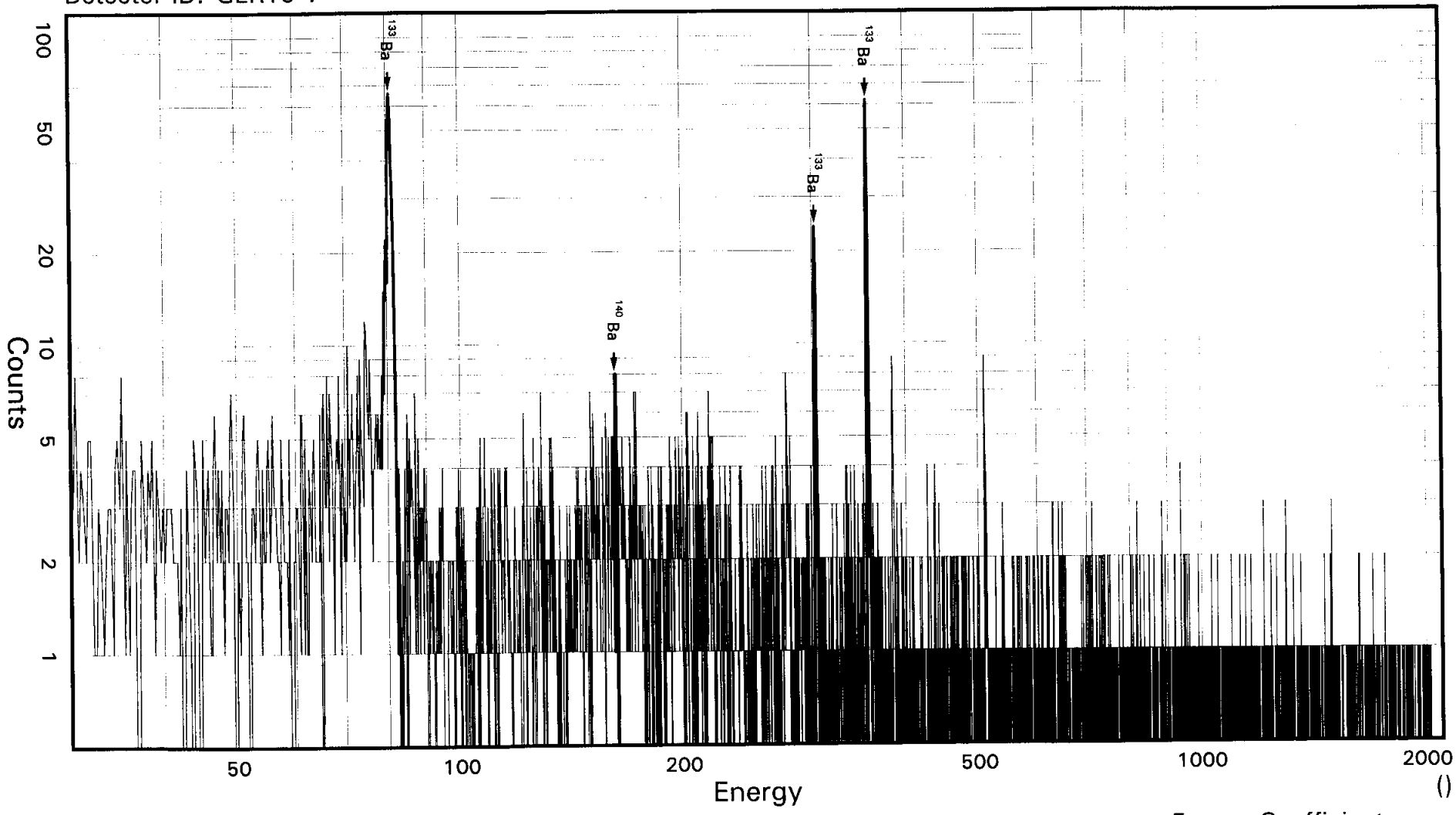
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	1.798E+01		1.185E+01	5.151E+01	1.030E+00	0.349
SB-124	1.880E-01		6.712E+00	2.669E+01	5.391E-01	0.007
SB-125	1.702E+01		1.983E+01	8.727E+01	1.747E+00	0.195
SN-126DA	-3.358E+00		2.382E+00	4.394E+00	8.914E-02	-0.764
I-131	5.616E+00		6.887E+00	3.146E+01	6.293E-01	0.178
CS-134	7.708E+00		4.720E+00	2.518E+01	5.155E-01	0.306
CS-137DA	1.736E+00		5.118E+00	2.291E+01	4.647E-01	0.076
LA-138	2.500E+00		4.508E+00	2.390E+01	5.126E-01	0.105
CE-139	-6.127E+00		1.283E+01	4.602E+01	9.399E-01	-0.133
BA-140	-1.917E+01		1.765E+01	6.367E+01	1.281E+00	-0.301
BALA-140	7.781E+00		7.738E+00	4.165E+01	9.032E-01	0.187
LA-140	3.122E+00		5.103E+00	2.742E+01	5.946E-01	0.114
CE-141	-7.023E+00		2.359E+01	8.593E+01	1.769E+00	-0.082
CE-144	2.601E+01		1.065E+02	4.023E+02	8.328E+00	0.065
CEPR-144	5.203E+01		2.129E+02	8.045E+02	1.666E+01	0.065
PM-144	-9.907E+00		5.232E+00	1.520E+01	3.073E-01	-0.652
PM-146	4.911E+00		9.346E+00	3.933E+01	7.883E-01	0.125
EU-152	-1.920E+01		2.625E+01	9.323E+01	1.865E+00	-0.206
EU-154	2.390E-01		1.163E+01	5.148E+01	1.092E+00	0.005
EU-155	3.403E+01		5.946E+01	2.221E+02	4.684E+00	0.153
HF-181	-2.449E+00		6.706E+00	2.592E+01	5.200E-01	-0.094
BI-207	1.907E+00		6.337E+00	2.621E+01	5.283E-01	0.073
TL-208	-7.415E+00		7.798E+00	3.044E+01	6.141E-01	-0.244
BI-210M	-8.869E+00		1.656E+01	6.046E+01	1.213E+00	-0.147
BI-212	4.088E+00		6.872E+01	2.977E+02	9.101E+00	0.014
PB-212	4.346E+00		2.177E+01	8.927E+01	1.796E+00	0.049
BI-214	-1.052E+01		1.356E+01	4.928E+01	9.958E-01	-0.213
PB-214	1.215E+01		2.267E+01	8.385E+01	1.677E+00	0.145
RA-223	-6.839E+01		5.992E+01	2.058E+02	4.127E+00	-0.332
RA-224DA	4.351E+00		2.179E+01	8.937E+01	1.798E+00	0.049
RA-226DA	-1.052E+01		1.356E+01	4.928E+01	9.958E-01	-0.213
AC-227DA	-1.973E+02		8.607E+01	2.650E+02	5.333E+00	-0.745
AC-228	5.250E+00		1.608E+01	7.167E+01	1.479E+00	0.073
RA-228DA	5.252E+00		1.608E+01	7.169E+01	1.480E+00	0.073
TH-228DA	-2.066E+01		2.173E+01	8.481E+01	1.711E+00	-0.244
TH-232DA	8.280E+01		6.879E+01	2.827E+02	5.654E+00	0.293
TH-234DA	-8.813E+02		7.345E+02	2.551E+03	5.301E+01	-0.346
U-234DA	5.242E+01		4.946E+01	1.985E+02	3.974E+00	0.264
U-235HP	-1.431E+01		1.004E+02	3.720E+02	7.663E+00	-0.038
NP-237DA	-6.314E+00		2.356E+01	8.682E+01	1.738E+00	-0.073
U-238DA	1.215E+01		2.267E+01	8.385E+01	1.677E+00	0.145
U-238DHP	2.219E+02		4.109E+02	1.562E+03	3.477E+01	0.142
AM-241HP	-4.026E+00		3.681E+01	1.355E+02	3.040E+00	-0.030

STL Richland WA.

BA133

Sample ID: H5KRC1AC
Detector ID: GER10 1

Batch ID: 6143242



Acquisition Start: 14-JUN-2006 15:19:16.43
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 1.56336E+01
Slope: 2.46974E-01
Quadrature: -1.79881E-09

SAMPLE IDENTIFICATION: H5KRC1AC

CONFIGURATION ID: GER10:H5KRC1AC_140661519
TITLE : BA133
SAMPLE ID : H5KRC1AC

REPORT DATE: 14-JUN-06
ACQUIRE DATE: 14-JUN-06 15:19:16
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 13-JUN-2006 12:00:00.00
CALIB DATE: 14-JUN-2006 05:24:19.75
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: 1.5634E+01 keV
ENERGY SLOPE: 2.4697E-01 keV/C
ENERGY Q COEFF: -.1799E-08 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 8.5150E-01 keV
FWHM SLOPE: 2.7421E-02 sqr keV
ITERATIONS: 10
GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %
ENERGY TOLERANCE: 1.500 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 14-JUN-2006 15:49:33

```
Configuration     : $DISK1:[GER10.SAMPLE]H5KRC1AC_140661519.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 15:19:16
Sample ID         : H5KRC1AC             Sample quantity  : 1.0000 SAMPL
Sample type       :                      Sample geometry  : BA133T15
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.23   0.0%
Start energy      :    18.10             End energy       :  2038.73
Sensitivity       :     5.00             Gaussian         :    10.00
Critical level    : No
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	80.77	356	51	1.17	263.75	253	21	1.98E-01	7.3	
2	0	162.39	23	12	0.73	594.21	587	13	1.29E-02	37.9	
3	0	302.85	126	17	1.29	1162.95	1154	17	7.00E-02	11.6	
4	0	356.03	360	11	1.45	1378.29	1368	21	2.00E-01	5.7	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 14-JUN-2006 15:49:33

Configuration : $DISK1:[GER10.SAMPLE]H5KRC1AC_140661519.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 15:19:16
Sample ID : H5KRC1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.23 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	356	33.00	2.398E+00	1.499E+03	1.499E+03	9.14
	276.40	------	6.90	2.578E+00	------ Line Not Found		------
	302.84	126	17.80	2.582E+00	9.139E+02	9.141E+02	12.83
	356.00	360	62.05*	2.584E+00	7.474E+02	7.475E+02	7.87
	383.85	------	8.70	2.584E+00	------ Line Not Found		------

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H5KRC1AC

Acquisition date : 14-JUN-2006 15:19:16

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	162.39	23	12	0.73	594.21	587	13	1.29E-02	37.9	2.53E+00	T

Flags: "T" = Tentatively associated

Sample ID : H5KRC1AC Acquisition date : 14-JUN-2006 15:19:16

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
BA-140	12.79D	0.09	162.64	6.70	4.848E+02	38.31	Abun.
			304.84	4.50	--- Not Found ---		
			423.70	3.20	--- Not Found ---		
			537.32*	25.00	--- Not Found ---		
		% Abundances Found =		17.01			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 14-JUN-2006 15:49:36

Configuration : $DISK1:[GER10.SAMPLE]H5KRC1AC_140661519.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3,WTMEAN/KEY V1.8
Analyses by : MINACT V2.8
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 15:19:16
Sample ID : H5KRC1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.23 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.475E+02	5.881E+01	4.970E+01	9.940E-01	15.040

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	5.811E+01		5.926E+01	2.488E+02	4.990E+00	0.234
NA-22	1.351E+00		2.374E+00	1.267E+01	2.677E-01	0.107
NA-24	9.661E+00		9.898E+00	5.276E+01	1.122E+00	0.183
K-40	-1.257E+01		4.736E+01	2.252E+02	4.818E+00	-0.056
SC-46	-3.897E+00		4.028E+00	1.465E+01	3.063E-01	-0.266
CR-51	-2.356E+01		7.291E+01	2.677E+02	5.356E+00	-0.088
MN-54	8.588E+00		4.314E+00	2.153E+01	4.413E-01	0.399
CO-57	-1.903E+02		7.641E+01	2.220E+02	4.581E+00	-0.857
CO-58	-7.942E+00		5.012E+00	1.612E+01	3.299E-01	-0.493
FE-59	5.124E+00		7.594E+00	3.420E+01	7.141E-01	0.150
CO-60	-2.801E+00		1.986E+00	3.700E+00	7.851E-02	-0.757
ZN-65	-2.279E+00		8.725E+00	3.492E+01	7.300E-01	-0.065
SE-75	-1.625E+00		1.542E+01	5.639E+01	1.131E+00	-0.029
SR-85	-3.114E+01		1.068E+01	3.118E+01	6.264E-01	-0.999
Y-88	-5.016E-01		2.795E+00	1.256E+01	2.752E-01	-0.040
NB-94	1.302E+00		2.975E+00	1.426E+01	2.930E-01	0.091
NB-95	2.223E+00		4.134E+00	1.843E+01	3.761E-01	0.121
TC-95M	2.694E+01		1.544E+01	6.190E+01	1.251E+00	0.435
ZR-95	-4.459E+00		7.506E+00	2.890E+01	5.893E-01	-0.154
ZRNB-95	4.401E+00		8.183E+00	3.649E+01	7.444E-01	0.121
MO-99	1.031E+01		1.179E+01	4.656E+01	9.588E-01	0.221
RH-101	2.168E+01		1.447E+01	5.703E+01	1.154E+00	0.380
RH-102M	5.548E+00		6.032E+00	2.554E+01	5.122E-01	0.217
RU-103	1.656E+00		6.433E+00	2.584E+01	5.188E-01	0.064
RU-106DA	2.816E+01		5.811E+01	2.360E+02	4.769E+00	0.119
AG-108M	-3.944E+00		8.019E+00	2.936E+01	5.879E-01	-0.134
AG-110M	1.358E+00		6.061E+00	2.549E+01	5.244E-01	0.053

---- Non-Identified Nuclides ----

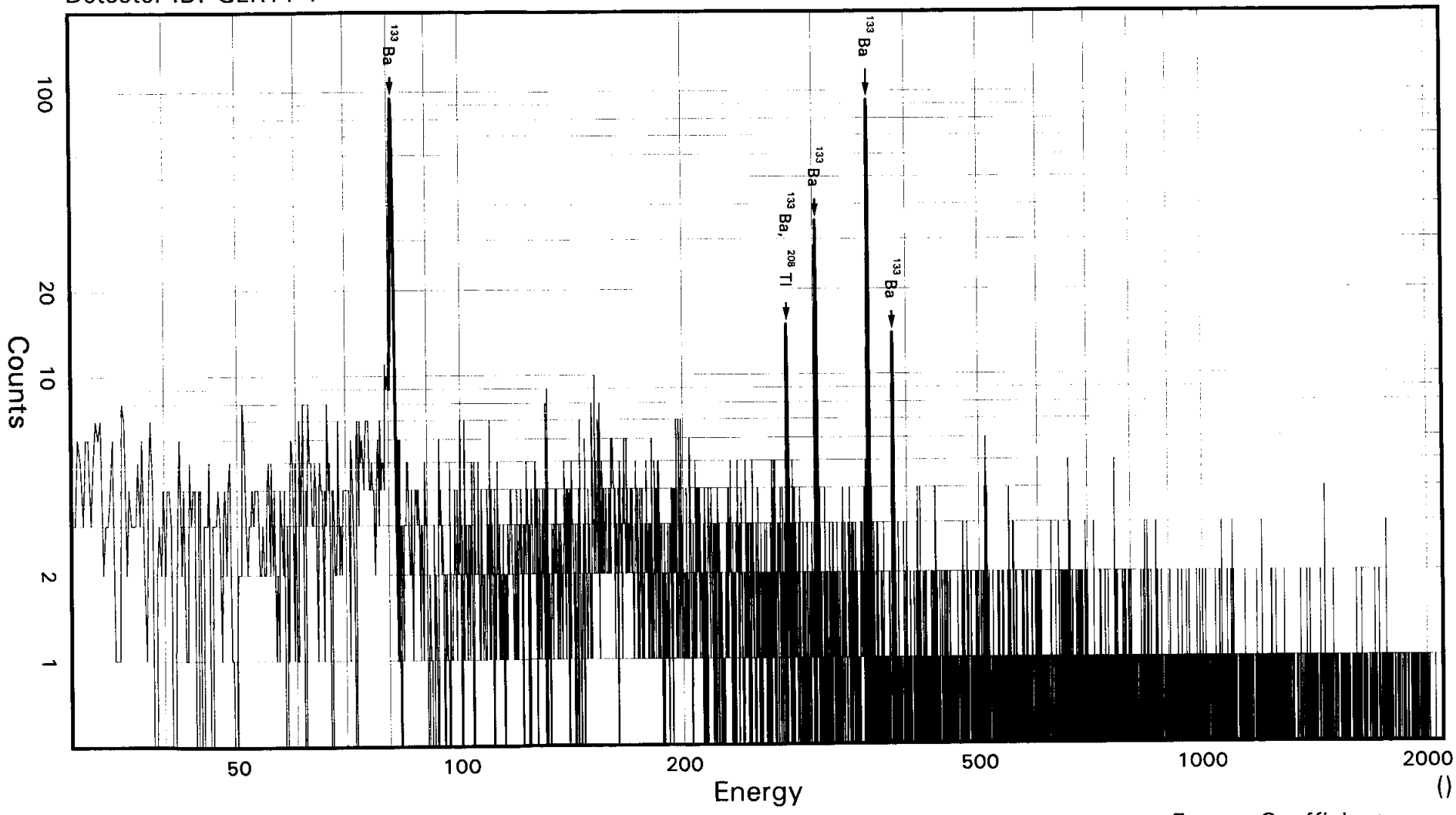
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	-2.001E+01		1.047E+01	3.174E+01	6.351E-01	-0.630
SB-124	9.238E-01		5.622E+00	2.236E+01	4.515E-01	0.041
SB-125	2.419E+01		1.807E+01	8.059E+01	1.614E+00	0.300
SN-126DA	-1.368E-01		2.685E+00	1.214E+01	2.460E-01	-0.011
I-131	1.694E+00		1.070E+01	4.002E+01	8.005E-01	0.042
CS-134	1.207E-01		5.320E+00	2.178E+01	4.453E-01	0.006
CS-137DA	3.353E+00		2.276E+00	1.470E+01	2.979E-01	0.228
LA-138	-9.060E-02		2.986E+00	1.519E+01	3.245E-01	-0.006
CE-139	3.841E+01		1.490E+01	5.493E+01	1.121E+00	0.699
BA-140	8.814E+00		2.323E+01	9.460E+01	1.903E+00	0.093
BALA-140	9.042E-02		6.162E+00	2.880E+01	6.216E-01	0.003
LA-140	6.794E-02		4.656E+00	2.176E+01	4.697E-01	0.003
CE-141	2.197E+00		2.078E+01	7.596E+01	1.561E+00	0.029
CE-144	1.254E+02		8.500E+01	3.400E+02	7.026E+00	0.369
CEPR-144	2.277E+02		1.719E+02	6.809E+02	1.407E+01	0.334
PM-144	4.570E-01		5.465E+00	2.156E+01	4.357E-01	0.021
PM-146	5.402E+00		8.863E+00	3.661E+01	7.336E-01	0.148
EU-152	-1.853E+01		3.010E+01	1.061E+02	2.122E+00	-0.175
EU-154	3.800E+00		6.679E+00	3.564E+01	7.532E-01	0.107
EU-155	1.217E+01		4.386E+01	1.655E+02	3.480E+00	0.074
HF-181	-1.911E+00		7.153E+00	2.723E+01	5.464E-01	-0.070
BI-207	8.291E+00		5.418E+00	2.440E+01	4.917E-01	0.340
TL-208	1.246E+00		6.803E+00	2.689E+01	5.423E-01	0.046
BI-210M	-6.760E+00		1.762E+01	6.348E+01	1.273E+00	-0.106
BI-212	-4.499E+01		7.690E+01	2.893E+02	8.841E+00	-0.156
PB-212	3.190E+01		1.837E+01	7.613E+01	1.531E+00	0.419
BI-214	2.755E+01		1.138E+01	5.457E+01	1.102E+00	0.505
PB-214	3.326E+01		2.619E+01	9.188E+01	1.838E+00	0.362
RA-223	-1.347E+02		6.266E+01	1.941E+02	3.892E+00	-0.694
RA-224DA	3.193E+01		1.839E+01	7.622E+01	1.533E+00	0.419
RA-226DA	2.732E+01		1.135E+01	5.442E+01	1.099E+00	0.502
AC-227DA	-7.166E+01		7.011E+01	2.435E+02	4.897E+00	-0.294
AC-228	-1.905E-01		9.693E+00	4.453E+01	9.176E-01	-0.004
RA-228DA	-1.906E-01		9.696E+00	4.454E+01	9.179E-01	-0.004
TH-228DA	3.472E+00		1.896E+01	7.493E+01	1.511E+00	0.046
TH-232DA	-1.481E+01		6.610E+01	2.399E+02	4.799E+00	-0.062
TH-234DA	-4.569E+02		5.987E+02	2.214E+03	4.591E+01	-0.206
U-234DA	-1.105E+01		3.956E+01	1.450E+02	2.903E+00	-0.076
U-235HP	8.516E+01		8.969E+01	3.463E+02	7.123E+00	0.246
NP-237DA	2.024E+01		1.685E+01	7.153E+01	1.431E+00	0.283
U-238DA	3.326E+01		2.619E+01	9.188E+01	1.838E+00	0.362
U-238DHP	-5.030E+02		3.668E+02	1.186E+03	2.625E+01	-0.424
AM-241HP	-3.534E+01		3.287E+01	1.089E+02	2.429E+00	-0.324

STL Richland WA.

BA133

Sample ID: H5KRF1AC
Detector ID: GER11 1

Batch ID: 6143242



Acquisition Start: 14-JUN-2006 15:19:40.21
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -1.94186E+00
Slope: 2.50342E-01
Quadrature: 3.76880E-08

SAMPLE IDENTIFICATION: H5KRF1AC

CONFIGURATION ID: GER11:H5KRF1AC_140661519
TITLE : BA133
SAMPLE ID : H5KRF1AC

REPORT DATE: 14-JUN-06
ACQUIRE DATE: 14-JUN-06 15:19:40
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 13-JUN-2006 12:00:00.00
CALIB DATE: 14-JUN-2006 05:24:34.34
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: -.1942E+01 keV
ENERGY SLOPE: 2.5034E-01 keV/C
ENERGY Q COEFF: 3.7688E-08 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 2.1872E-01 keV
FWHM SLOPE: 4.0499E-02 sqr keV
ITERATIONS: 10
GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %
ENERGY TOLERANCE: 1.500 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 14-JUN-2006 15:49:57

```
Configuration     : $DISK1:[GER11.SAMPLE]H5KRF1AC_140661519.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 15:19:40
Sample ID         : H5KRF1AC             Sample quantity  : 1.0000 SAMPL
Sample type       :                      Sample geometry  : BA133T15
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.95   0.1%
Start energy      :     0.56             End energy       :  2051.39
Sensitivity       :     5.00             Gaussian         :    10.00
Critical level    : No
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.07	252	66	0.64	331.57	327	11	1.40E-01	9.1	
2	0	276.71	63	22	1.11	1112.92	1104	20	3.49E-02	23.1	
3	0	302.86	158	8	1.04	1217.32	1209	19	8.77E-02	9.2	
4	0	355.82	445	3	1.08	1428.79	1423	15	2.47E-01	4.8	
5	0	383.69	55	6	1.00	1540.06	1534	11	3.07E-02	15.8	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 14-JUN-2006 15:49:58

Configuration : $DISK1:[GER11.SAMPLE]H5KRF1AC_140661519.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 15:19:40
Sample ID : H5KRF1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.95 0.1%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	252	33.00	2.679E+00	9.493E+02	9.495E+02	10.58
	276.40	63	6.90	2.873E+00	1.056E+03	1.056E+03	23.70
	302.84	158	17.80	2.877E+00	1.028E+03	1.028E+03	10.66
	356.00	445	62.05*	2.879E+00	8.306E+02	8.307E+02	7.23
	383.85	55	8.70	2.878E+00	7.358E+02	7.360E+02	16.68

Flag: "*" = Keyline

None

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : H5KRF1AC

Acquisition date : 14-JUN-2006 15:19:40

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	1.071E+03	23.70	Abun.
			510.84	21.60	--- Not Found ---		
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		5.44			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 14-JUN-2006 15:50:00

Configuration : $DISK1:[GER11.SAMPLE]H5KRF1AC_140661519.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3,WTMEAN/KEY V1.8
Analyses by : MINACT V2.8
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00
Sample ID : H5KRF1AC
Sample type :
Elapsed live time: 0 00:30:00.00
Peak Width (FWHM): 3.00
Energy tolerance : 1.50
Errors propagated: Yes
Efficiency type : Empirical
Abundance limit : 80.00

Acquisition date : 14-JUN-2006 15:19:40
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.95 0.1%
Confidence level : 5.00 %
Half life ratio : 8.00
Systematic Error : 5.00 %
Efficiencies at : Peak Energy
WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

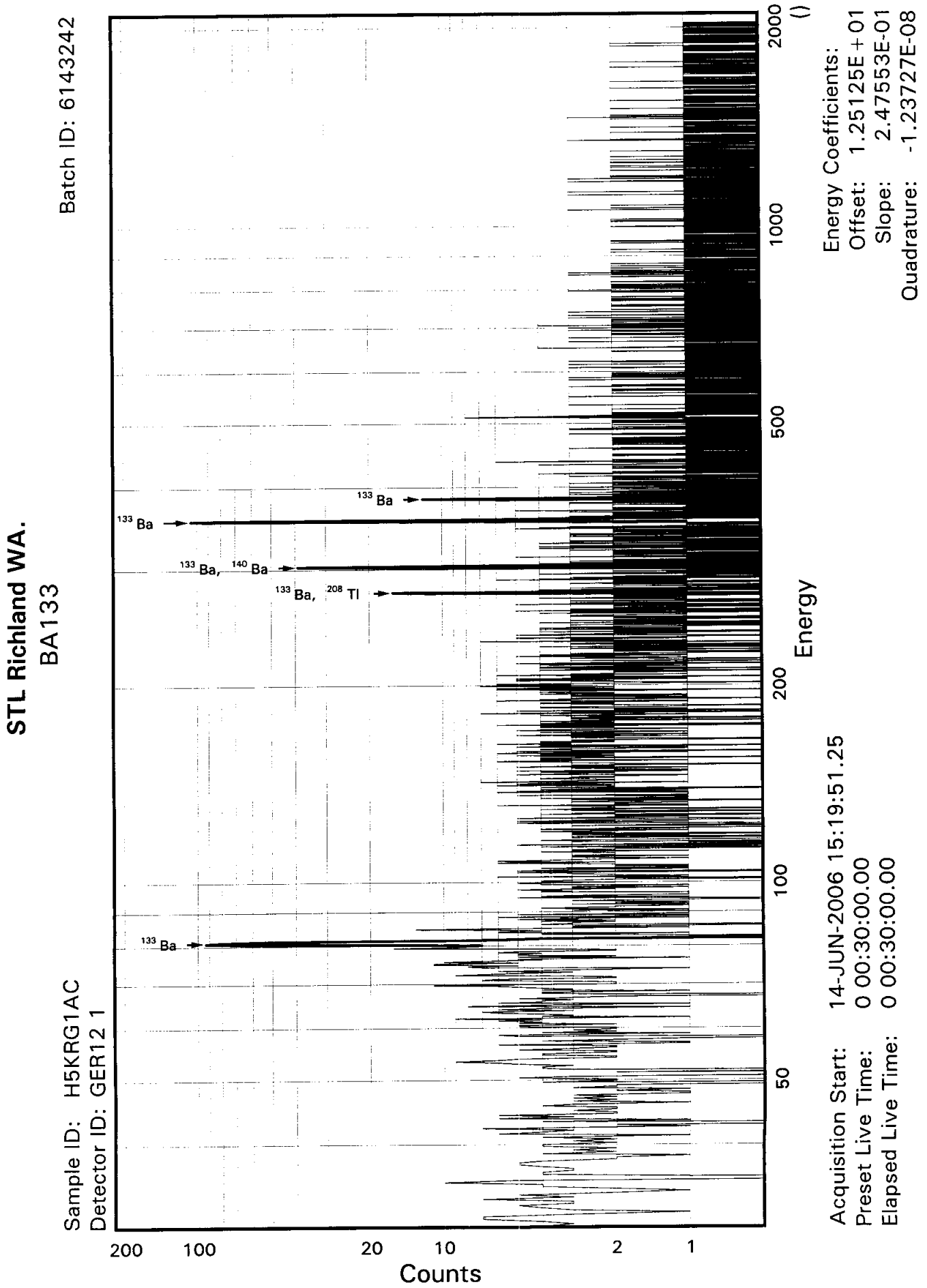
Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	8.307E+02	6.009E+01	3.834E+01	7.669E-01	21.666

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-1.443E+01		4.419E+01	1.720E+02	3.449E+00	-0.084
NA-22	-5.461E+00		4.154E+00	1.397E+01	2.947E-01	-0.391
NA-24	1.319E+01		7.647E+00	4.728E+01	1.004E+00	0.279
K-40	3.088E+01		4.732E+01	2.468E+02	5.271E+00	0.125
SC-46	4.706E+00		3.925E+00	1.832E+01	3.825E-01	0.257
CR-51	-5.343E+01		6.272E+01	2.249E+02	4.500E+00	-0.238
MN-54	5.792E+00		3.604E+00	1.779E+01	3.645E-01	0.326
CO-57	-9.690E+01		7.342E+01	2.424E+02	4.998E+00	-0.400
CO-58	1.138E+00		2.724E+00	1.296E+01	2.650E-01	0.088
FE-59	1.745E+00		7.346E+00	3.066E+01	6.393E-01	0.057
CO-60	0.000E+00		0.000E+00	3.315E+00	7.022E-02	0.000
ZN-65	-1.500E+01		6.176E+00	6.458E+00	1.348E-01	-2.322
SE-75	7.442E+00		1.176E+01	4.551E+01	9.127E-01	0.164
SR-85	-1.100E+01		6.835E+00	2.242E+01	4.503E-01	-0.491
Y-88	-2.471E+00		2.522E+00	9.430E+00	2.061E-01	-0.262
NB-94	1.406E+00		4.491E+00	1.839E+01	3.776E-01	0.076
NB-95	-7.239E+00		4.873E+00	1.591E+01	3.245E-01	-0.455
TC-95M	1.652E+01		1.123E+01	4.605E+01	9.305E-01	0.359
ZR-95	1.312E+00		4.632E+00	2.205E+01	4.492E-01	0.060
ZRNB-95	-1.433E+01		9.647E+00	3.150E+01	6.423E-01	-0.455
MO-99	-2.683E+00		1.212E+01	4.440E+01	9.136E-01	-0.060
RH-101	9.947E+00		1.185E+01	4.686E+01	9.478E-01	0.212
RH-102M	6.294E-01		5.043E+00	2.037E+01	4.085E-01	0.031
RU-103	1.650E+00		5.379E+00	2.210E+01	4.437E-01	0.075
RU-106DA	-1.019E+02		4.358E+01	1.110E+02	2.243E+00	-0.918
AG-108M	-1.189E+01		7.603E+00	2.426E+01	4.858E-01	-0.490
AG-110M	-5.973E+00		5.020E+00	1.769E+01	3.635E-01	-0.338

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	9.042E-01		6.440E+00	2.635E+01	5.271E-01	0.034
SB-124	6.934E+00		5.496E+00	2.355E+01	4.754E-01	0.294
SB-125	-1.200E+01		1.251E+01	4.408E+01	8.826E-01	-0.272
SN-126DA	-4.994E-01		4.441E+00	1.776E+01	3.598E-01	-0.028
I-131	1.125E+01		7.232E+00	3.173E+01	6.346E-01	0.355
CS-134	5.410E+00		5.232E+00	2.309E+01	4.717E-01	0.234
CS-137DA	-3.007E+00		6.844E+00	3.165E+01	6.411E-01	-0.095
LA-138	-1.601E+00		4.028E+00	1.717E+01	3.661E-01	-0.093
CE-139	-1.435E+00		1.143E+01	4.026E+01	8.207E-01	-0.036
BA-140	-3.195E-01		1.837E+01	7.381E+01	1.484E+00	-0.004
BALA-140	-8.343E+00		6.234E+00	2.044E+01	4.401E-01	-0.408
LA-140	-6.306E+00		4.711E+00	1.544E+01	3.326E-01	-0.408
CE-141	7.062E+00		1.590E+01	6.020E+01	1.236E+00	0.117
CE-144	-1.018E+02		7.119E+01	2.332E+02	4.814E+00	-0.436
CEPR-144	-2.054E+02		1.422E+02	4.654E+02	9.607E+00	-0.441
PM-144	-2.900E-01		3.833E+00	1.549E+01	3.130E-01	-0.019
PM-146	-1.469E+01		9.030E+00	2.821E+01	5.652E-01	-0.521
EU-152	-4.857E+01		2.206E+01	6.669E+01	1.334E+00	-0.728
EU-154	-1.660E+01		1.151E+01	3.773E+01	7.960E-01	-0.440
EU-155	-1.646E+01		3.440E+01	1.259E+02	2.643E+00	-0.131
HF-181	1.465E+01		5.734E+00	2.791E+01	5.599E-01	0.525
BI-207	2.473E-01		3.854E+00	1.598E+01	3.219E-01	0.015
TL-208	-5.815E+00		4.890E+00	1.664E+01	3.354E-01	-0.349
BI-210M	-2.291E+00		1.471E+01	5.339E+01	1.071E+00	-0.043
BI-212	-1.530E+01		6.864E+01	2.685E+02	8.203E+00	-0.057
PB-212	1.199E+01		1.592E+01	6.238E+01	1.254E+00	0.192
BI-214	-3.500E+00		1.065E+01	4.003E+01	8.082E-01	-0.087
PB-214	6.128E+00		1.918E+01	6.913E+01	1.383E+00	0.089
RA-223	3.150E+01		5.595E+01	2.124E+02	4.259E+00	0.148
RA-224DA	1.201E+01		1.594E+01	6.245E+01	1.256E+00	0.192
RA-226DA	-3.520E+00		1.065E+01	4.001E+01	8.078E-01	-0.088
AC-227DA	1.239E+02		6.052E+01	2.575E+02	5.178E+00	0.481
AC-228	9.775E+00		1.058E+01	5.259E+01	1.083E+00	0.186
RA-228DA	9.778E+00		1.059E+01	5.261E+01	1.083E+00	0.186
TH-228DA	-1.620E+01		1.363E+01	4.636E+01	9.347E-01	-0.349
TH-232DA	1.721E+01		5.130E+01	2.004E+02	4.009E+00	0.086
TH-234DA	1.855E+02		5.533E+02	2.417E+03	5.007E+01	0.077
U-234DA	-3.581E+01		3.230E+01	1.073E+02	2.149E+00	-0.334
U-235HP	-6.034E+01		6.793E+01	2.327E+02	4.782E+00	-0.259
NP-237DA	-4.295E+00		1.574E+01	5.993E+01	1.199E+00	-0.072
U-238DA	6.128E+00		1.918E+01	6.913E+01	1.383E+00	0.089
U-238DHP	2.184E+02		2.361E+02	9.033E+02	1.993E+01	0.242
AM-241HP	-3.496E+00		2.460E+01	8.848E+01	1.966E+00	-0.040


STL Richland WA.
BA133
Batch ID: 6143242
Sample ID: H5KRG1AC
Detector ID: GER12 1
133 Ba
133 Ba
133 Ba, 140 Ba
133 Ba, 208 Tl
133 Ba
Counts
200
100
20
10
2
1
Energy
50
100
200
500
1000
2000
()
Energy Coefficients:
Offset: 1.25125E+01
Slope: 2.47553E-01
Quadrature: -1.23727E-08
Acquisition Start: 14-JUN-2006 15:19:51.25
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: H5KRG1AC

CONFIGURATION ID: GER12:H5KRG1AC_140661519
TITLE : BA133
SAMPLE ID : H5KRG1AC

REPORT DATE: 14-JUN-06
ACQUIRE DATE: 14-JUN-06 15:19:51
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 13-JUN-2006 12:00:00.00
CALIB DATE: 14-JUN-2006 05:25:05.00
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: 1.2512E+01 keV
ENERGY SLOPE: 2.4755E-01 keV/C
ENERGY Q COEFF: -.1237E-07 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 3.6475E-01 keV
FWHM SLOPE: 3.7941E-02 sqr keV
ITERATIONS: 10
GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %
ENERGY TOLERANCE: 2.000 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 14-JUN-2006 15:50:13

```
Configuration     : $DISK1:[GER12.SAMPLE]H5KRG1AC_140661519.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 15:19:51
Sample ID         : H5KRG1AC             Sample quantity  : 1.0000 SAMPL
Sample type       :                      Sample geometry  : BA133T15
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.34   0.0%
Start energy      :    12.76             End energy       :  2039.64
Sensitivity       :     5.00             Gaussian         :    10.00
Critical level    : No
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	80.99	301	42	0.86	276.60	272	11	1.67E-01	7.3	
2	0	276.67	66	14	0.97	1067.15	1061	17	3.68E-02	17.5	
3	0	302.93	163	28	1.08	1173.23	1165	16	9.05E-02	10.7	
4	0	356.14	489	22	1.02	1388.19	1377	22	2.72E-01	5.1	
5	0	384.03	54	8	0.81	1500.86	1493	15	2.97E-02	17.6	
6	0	437.29	16	2	0.75	1716.06	1712	8	8.95E-03	29.1	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 14-JUN-2006 15:50:14

Configuration : $DISK1:[GER12.SAMPLE]H5KRG1AC_140661519.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 15:19:51
Sample ID : H5KRG1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.34 0.0%
Energy tolerance : 2.00 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	301	33.00	2.899E+00	1.048E+03	1.049E+03	9.13
	276.40	66	6.90	3.105E+00	1.030E+03	1.031E+03	18.30
	302.84	163	17.80	3.109E+00	9.818E+02	9.820E+02	11.96
	356.00	489	62.05*	3.111E+00	8.442E+02	8.444E+02	7.45
	383.85	54	8.70	3.111E+00	6.590E+02	6.591E+02	18.45

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H5KRG1AC

Acquisition date : 14-JUN-2006 15:19:51

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	437.29	16	2	0.75	1716.06	1712	8	8.95E-03	29.1	3.11E+00	

Flags: "T" = Tentatively associated

Sample ID : H5KRG1AC
Acquisition date : 14-JUN-2006 15:19:51

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
BA-140	12.79D	0.09	162.64	6.70	--- Not Found ---		Abun.
			304.84	4.50	4.133E+03	11.96	
			423.70	3.20	--- Not Found ---		
			537.32*	25.00	--- Not Found ---		
		% Abundances Found =		11.42			
TL-208	1.41E+10Y	0.00	277.35	6.80	1.046E+03	18.30	Abun.
			510.84	21.60	--- Not Found ---		
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		5.44			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 14-JUN-2006 15:50:16

Configuration : $DISK1:[GER12.SAMPLE]H5KRG1AC_140661519.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3,WTMEAN/KEY V1.8
Analyses by : MINACT V2.8
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00
Sample ID : H5KRG1AC
Sample type :
Elapsed live time: 0 00:30:00.00
Peak Width (FWHM): 3.00
Energy tolerance : 2.00
Errors propagated: Yes
Efficiency type : Empirical
Abundance limit : 80.00

Acquisition date : 14-JUN-2006 15:19:51
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.34 0.0%
Confidence level : 5.00 %
Half life ratio : 8.00
Systematic Error : 5.00 %
Efficiencies at : Peak Energy
WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	8.444E+02	6.287E+01	3.852E+01	7.704E-01	21.920

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-3.490E+01		4.404E+01	1.570E+02	3.149E+00	-0.222
NA-22	-4.154E+00		3.793E+00	1.306E+01	2.751E-01	-0.318
NA-24	1.229E+01		9.062E+00	4.876E+01	1.034E+00	0.252
K-40	-5.814E+01		4.654E+01	2.217E+02	4.729E+00	-0.262
SC-46	-3.939E-01		3.098E+00	1.302E+01	2.717E-01	-0.030
CR-51	-6.106E+00		6.551E+01	2.411E+02	4.824E+00	-0.025
MN-54	2.272E+00		3.457E+00	1.550E+01	3.173E-01	0.147
CO-57	-5.917E+01		6.990E+01	2.442E+02	5.031E+00	-0.242
CO-58	-3.070E+00		4.248E+00	1.570E+01	3.209E-01	-0.196
FE-59	2.037E-01		2.880E+00	1.517E+01	3.161E-01	0.013
CO-60	-1.052E+00		1.917E+00	8.335E+00	1.763E-01	-0.126
ZN-65	6.732E+00		6.617E+00	3.116E+01	6.499E-01	0.216
SE-75	7.295E+00		1.080E+01	4.241E+01	8.505E-01	0.172
SR-85	-1.922E+01		8.941E+00	2.732E+01	5.487E-01	-0.704
Y-88	4.141E-01		7.007E-01	6.458E+00	1.408E-01	0.064
NB-94	-4.393E+00		3.483E+00	1.183E+01	2.427E-01	-0.372
NB-95	-1.811E+00		3.103E+00	1.225E+01	2.497E-01	-0.148
TC-95M	2.874E+01		1.230E+01	4.999E+01	1.010E+00	0.575
ZR-95	-6.087E-01		7.099E+00	2.878E+01	5.862E-01	-0.021
ZRNB-95	-3.584E+00		6.141E+00	2.425E+01	4.942E-01	-0.148
MO-99	-1.429E+01		1.287E+01	4.490E+01	9.232E-01	-0.318
RH-101	-1.981E-01		1.346E+01	4.850E+01	9.808E-01	-0.004
RH-102M	-3.574E-01		5.141E+00	1.970E+01	3.950E-01	-0.018
RU-103	-2.879E+00		4.394E+00	1.615E+01	3.242E-01	-0.178
RU-106DA	6.260E+01		4.091E+01	1.896E+02	3.830E+00	0.330
AG-108M	1.532E+01		5.502E+00	2.538E+01	5.083E-01	0.603
AG-110M	2.743E+00		4.263E+00	1.963E+01	4.032E-01	0.140

---- Non-Identified Nuclides ----

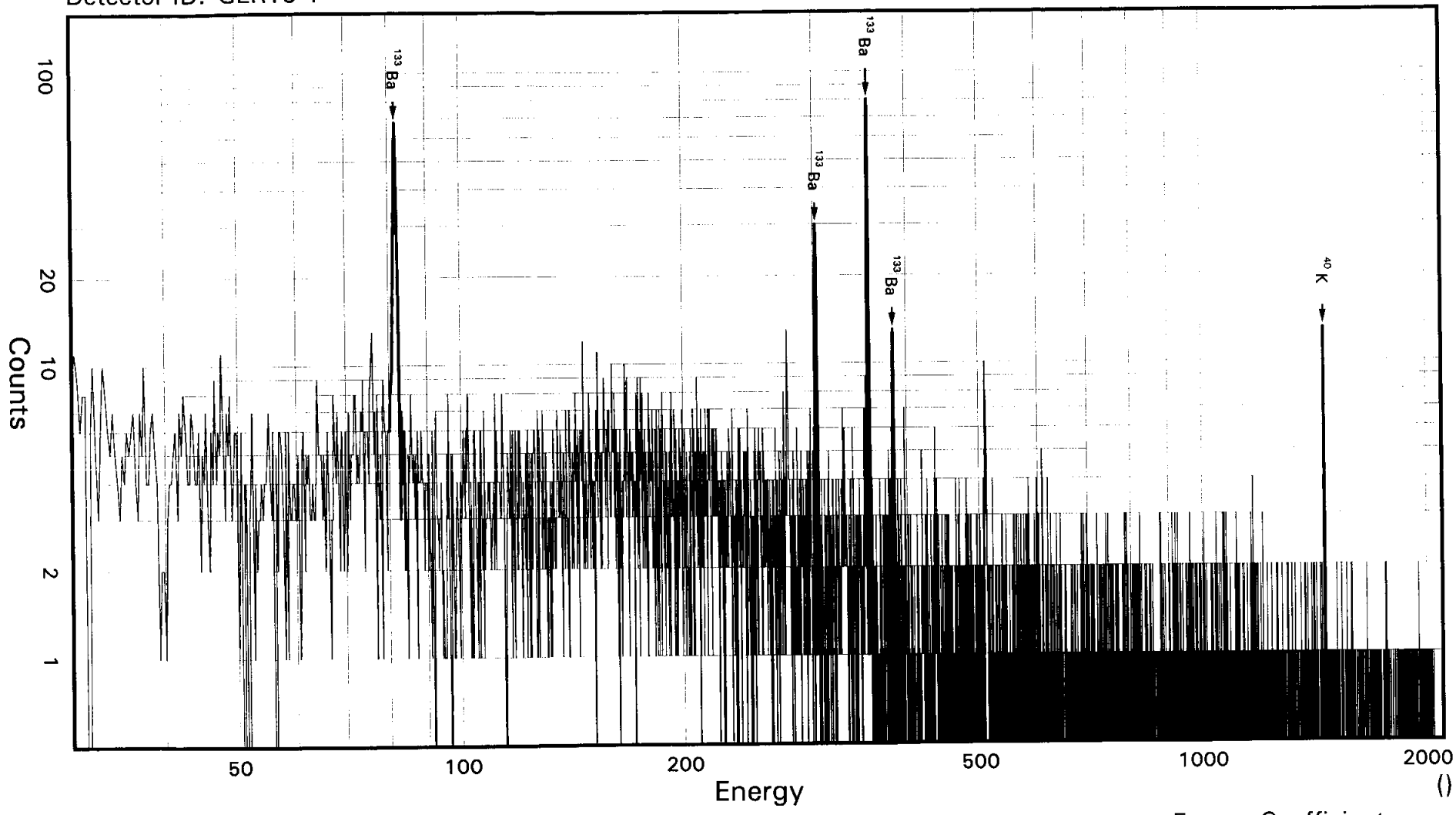
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	7.411E-01		8.334E+00	3.237E+01	6.476E-01	0.023
SB-124	9.354E-01		4.255E+00	1.747E+01	3.526E-01	0.054
SB-125	1.763E+01		1.500E+01	6.579E+01	1.317E+00	0.268
SN-126DA	6.474E+00		3.463E+00	1.721E+01	3.486E-01	0.376
I-131	-5.575E+00		6.519E+00	2.360E+01	4.721E-01	-0.236
CS-134	-9.710E-01		4.873E+00	1.921E+01	3.923E-01	-0.051
CS-137DA	-3.923E+00		3.416E+00	1.183E+01	2.395E-01	-0.332
LA-138	2.444E-02		3.408E+00	1.587E+01	3.378E-01	0.002
CE-139	-1.248E+01		9.664E+00	3.198E+01	6.518E-01	-0.390
BA-140	3.135E-01		1.247E+01	5.417E+01	1.089E+00	0.006
BALA-140	2.475E+00		4.503E+00	2.382E+01	5.123E-01	0.104
LA-140	1.871E+00		3.403E+00	1.800E+01	3.872E-01	0.104
CE-141	3.459E+00		1.666E+01	6.191E+01	1.270E+00	0.056
CE-144	-2.256E+00		6.653E+01	2.474E+02	5.103E+00	-0.009
CEPR-144	-3.680E+00		1.331E+02	4.952E+02	1.021E+01	-0.007
PM-144	-2.419E+00		4.315E+00	1.613E+01	3.258E-01	-0.150
PM-146	-7.785E+00		6.970E+00	2.394E+01	4.797E-01	-0.325
EU-152	-1.241E-01		2.183E+01	8.128E+01	1.626E+00	-0.002
EU-154	-1.053E+01		1.084E+01	3.811E+01	8.032E-01	-0.276
EU-155	-9.752E+01		3.886E+01	1.209E+02	2.536E+00	-0.807
HF-181	9.819E-01		5.211E+00	2.097E+01	4.206E-01	0.047
BI-207	4.987E+00		4.404E+00	1.946E+01	3.919E-01	0.256
TL-208	-1.069E+00		4.877E+00	1.916E+01	3.863E-01	-0.056
BI-210M	1.880E+01		1.266E+01	5.231E+01	1.049E+00	0.359
BI-212	-7.767E+01		6.814E+01	2.304E+02	7.038E+00	-0.337
PB-212	-5.635E+00		1.581E+01	5.762E+01	1.158E+00	-0.098
BI-214	7.433E+00		9.605E+00	4.080E+01	8.235E-01	0.182
PB-214	7.918E+00		1.649E+01	5.819E+01	1.164E+00	0.136
RA-223	-1.952E+01		4.565E+01	1.658E+02	3.325E+00	-0.118
RA-224DA	-5.642E+00		1.583E+01	5.769E+01	1.160E+00	-0.098
RA-226DA	7.339E+00		9.593E+00	4.073E+01	8.222E-01	0.180
AC-227DA	-8.228E+01		7.178E+01	2.458E+02	4.943E+00	-0.335
AC-228	-3.298E-01		1.269E+01	5.213E+01	1.073E+00	-0.006
RA-228DA	-3.299E-01		1.269E+01	5.215E+01	1.073E+00	-0.006
TH-228DA	-2.979E+00		1.359E+01	5.340E+01	1.076E+00	-0.056
TH-232DA	6.922E+01		4.768E+01	1.973E+02	3.946E+00	0.351
TH-234DA	-5.668E+02		5.312E+02	1.835E+03	3.799E+01	-0.309
U-234DA	1.362E+01		2.812E+01	1.114E+02	2.230E+00	0.122
U-235HP	5.304E+01		7.744E+01	2.947E+02	6.052E+00	0.180
NP-237DA	-1.344E-01		1.568E+01	5.900E+01	1.181E+00	-0.002
U-238DA	7.918E+00		1.649E+01	5.819E+01	1.164E+00	0.136
U-238DHP	-4.432E+01		2.664E+02	9.490E+02	2.089E+01	-0.047
AM-241HP	-1.809E+00		2.319E+01	8.485E+01	1.881E+00	-0.021

STL Richland WA.

BA133

Sample ID: H5KRJ1AC
Detector ID: GER13 1

Batch ID: 6143242



Acquisition Start: 14-JUN-2006 15:20:05.17
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -5.88556E-01
Slope: 2.50712E-01
Quadrature: -9.27656E-08

SAMPLE IDENTIFICATION: H5KRJ1AC

CONFIGURATION ID: GER13:H5KRJ1AC_140661520
TITLE : BA133
SAMPLE ID : H5KRJ1AC

REPORT DATE: 14-JUN-06
ACQUIRE DATE: 14-JUN-06 15:20:05
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 13-JUN-2006 12:00:00.00
CALIB DATE: 14-JUN-2006 05:43:45.07
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: -.5886E+00 keV
ENERGY SLOPE: 2.5071E-01 keV/C
ENERGY Q COEFF: -.9277E-07 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 4.0477E-01 keV
FWHM SLOPE: 4.4272E-02 sqr keV
ITERATIONS: 10
GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %
ENERGY TOLERANCE: 1.500 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 14-JUN-2006 15:50:28

```
Configuration     : $DISK1:[GER13.SAMPLE]H5KRJ1AC_140661520.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 15:20:05
Sample ID         : H5KRJ1AC             Sample quantity  : 1.0000 SAMPL
Sample type       :                      Sample geometry  : BA133T15
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.39   0.0%
Start energy      :    19.47             End energy       :  2047.02
Sensitivity       :     5.00             Gaussian         :    10.00
Critical level    : No
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.79	242	72	0.77	328.60	320	18	1.34E-01	10.4	
2	0	302.63	157	32	1.24	1209.96	1198	21	8.71E-02	12.0	
3	0	355.78	436	29	1.13	1422.18	1411	23	2.42E-01	5.8	
4	0	383.83	61	25	1.13	1534.19	1522	19	3.39E-02	23.1	
5	0	1460.64*	1	5	0.80	5840.94	5829	21	8.14E-04	622.1	0.00E+00

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 14-JUN-2006 15:50:29

Configuration : $DISK1:[GER13.SAMPLE]H5KRJ1AC_140661520.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 15:20:05
Sample ID : H5KRJ1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.39 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: NP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
K-40	1460.81	1	10.67*	2.719E+00	1.684E+01	1.684E+01	622.15

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	242	33.00	2.704E+00	9.040E+02	9.042E+02	11.77
	276.40	------	6.90	2.897E+00	------ Line Not Found		------
	302.84	157	17.80	2.900E+00	1.012E+03	1.012E+03	13.16
	356.00	436	62.05*	2.903E+00	8.077E+02	8.079E+02	7.88
	383.85	61	8.70	2.902E+00	8.056E+02	8.058E+02	23.72

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H5KRJ1AC
Acquisition date : 14-JUN-2006 15:20:05

None

Flags: "T" = Tentatively associated

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 14-JUN-2006 15:50:31

Configuration : $DISK1:[GER13.SAMPLE]H5KRJ1AC_140661520.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3,WTMEAN/KEY V1.8
Analyses by : MINACT V2.8
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 15:20:05
Sample ID : H5KRJ1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.39 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
K-40	1.684E+01	1.048E+02	1.220E+02	2.604E+00	0.138
BA-133	8.079E+02	6.366E+01	5.817E+01	1.163E+00	13.889

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-4.935E+01		6.652E+01	2.330E+02	4.673E+00	-0.212
NA-22	7.403E-02		4.181E+00	1.709E+01	3.606E-01	0.004
NA-24	-9.361E+00		1.649E+01	6.144E+01	1.304E+00	-0.152
SC-46	-9.794E-01		5.617E+00	2.311E+01	4.825E-01	-0.042
CR-51	-4.077E+01		9.377E+01	3.301E+02	6.605E+00	-0.124
MN-54	3.312E+00		5.408E+00	2.208E+01	4.523E-01	0.150
CO-57	7.212E+01		1.017E+02	3.833E+02	7.901E+00	0.188
CO-58	-8.293E+00		5.976E+00	1.989E+01	4.068E-01	-0.417
FE-59	4.115E+00		7.534E+00	3.237E+01	6.749E-01	0.127
CO-60	7.280E+00		3.872E+00	1.929E+01	4.084E-01	0.377
ZN-65	-1.029E+01		1.179E+01	4.124E+01	8.610E-01	-0.249
SE-75	5.176E+00		1.492E+01	5.585E+01	1.120E+00	0.093
SR-85	-5.024E+01		1.195E+01	3.093E+01	6.214E-01	-1.624
Y-88	-1.230E+00		2.180E+00	9.350E+00	2.043E-01	-0.132
NB-94	2.790E-01		4.526E+00	1.810E+01	3.717E-01	0.015
NB-95	1.468E+00		5.169E+00	2.088E+01	4.258E-01	0.070
TC-95M	-1.186E+01		1.626E+01	5.555E+01	1.122E+00	-0.214
ZR-95	4.971E+00		1.036E+01	4.170E+01	8.498E-01	0.119
ZRNB-95	2.906E+00		1.023E+01	4.134E+01	8.429E-01	0.070
MO-99	-1.091E+01		1.603E+01	5.651E+01	1.163E+00	-0.193
RH-101	8.397E+00		1.514E+01	5.521E+01	1.117E+00	0.152
RH-102M	5.739E+00		6.373E+00	2.584E+01	5.182E-01	0.222
RU-103	9.680E+00		6.815E+00	2.868E+01	5.756E-01	0.338
RU-106DA	-1.312E+02		6.656E+01	2.065E+02	4.172E+00	-0.636
AG-108M	-3.400E+00		9.111E+00	3.267E+01	6.543E-01	-0.104
AG-110M	3.529E-01		5.825E+00	2.358E+01	4.846E-01	0.015

Sample ID : H5KRJ1AC Acquisition date : 14-JUN-2006 15:20:05

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	-5.631E+00		1.045E+01	3.796E+01	7.595E-01	-0.148
SB-124	-1.200E+00		7.052E+00	2.614E+01	5.276E-01	-0.046
SB-125	-3.960E+01		2.332E+01	7.539E+01	1.510E+00	-0.525
SN-126DA	6.176E+00		4.925E+00	2.148E+01	4.352E-01	0.288
I-131	-1.001E+01		9.329E+00	3.128E+01	6.256E-01	-0.320
CS-134	1.457E-01		6.116E+00	2.393E+01	4.889E-01	0.006
CS-137DA	-2.856E-01		5.538E+00	2.167E+01	4.388E-01	-0.013
LA-138	-4.021E+00		5.320E+00	1.974E+01	4.208E-01	-0.204
CE-139	-2.497E+00		1.450E+01	5.158E+01	1.052E+00	-0.048
BA-140	3.588E+01		2.763E+01	1.146E+02	2.306E+00	0.313
BALA-140	-3.727E-03		7.796E+00	3.308E+01	7.123E-01	0.000
LA-140	5.747E+00		5.425E+00	2.676E+01	5.763E-01	0.215
CE-141	2.757E+01		2.453E+01	9.286E+01	1.907E+00	0.297
CE-144	-3.764E+01		9.515E+01	3.275E+02	6.760E+00	-0.115
CEPR-144	-7.529E+01		1.903E+02	6.550E+02	1.352E+01	-0.115
PM-144	5.854E+00		6.326E+00	2.566E+01	5.183E-01	0.228
PM-146	-2.370E+00		9.852E+00	3.639E+01	7.293E-01	-0.065
EU-152	8.405E+01		3.015E+01	1.275E+02	2.550E+00	0.659
EU-154	2.083E-01		1.176E+01	4.810E+01	1.015E+00	0.004
EU-155	5.629E+01		4.666E+01	1.792E+02	3.763E+00	0.314
HF-181	5.344E+00		9.123E+00	3.496E+01	7.012E-01	0.153
BI-207	4.499E+00		5.908E+00	2.415E+01	4.865E-01	0.186
TL-208	-4.572E-01		9.101E+00	3.587E+01	7.231E-01	-0.013
BI-210M	1.614E+01		1.813E+01	6.953E+01	1.394E+00	0.232
BI-212	7.353E+01		8.835E+01	3.640E+02	1.112E+01	0.202
PB-212	-6.972E+00		2.400E+01	8.870E+01	1.783E+00	-0.079
BI-214	-4.686E+00		1.662E+01	6.793E+01	1.372E+00	-0.069
PB-214	1.654E+01		3.110E+01	1.069E+02	2.138E+00	0.155
RA-223	-3.493E+01		6.894E+01	2.444E+02	4.900E+00	-0.143
RA-224DA	-6.980E+00		2.402E+01	8.880E+01	1.785E+00	-0.079
RA-226DA	-4.786E+00		1.662E+01	6.789E+01	1.371E+00	-0.071
AC-227DA	-1.234E+00		9.288E+01	3.266E+02	6.569E+00	-0.004
AC-228	-3.409E+01		2.246E+01	8.578E+01	1.766E+00	-0.397
RA-228DA	-3.410E+01		2.247E+01	8.581E+01	1.767E+00	-0.397
TH-228DA	-1.274E+00		2.536E+01	9.995E+01	2.015E+00	-0.013
TH-232DA	6.636E+01		6.254E+01	2.443E+02	4.886E+00	0.272
TH-234DA	4.377E+02		6.867E+02	2.943E+03	6.097E+01	0.149
U-234DA	8.781E+01		5.205E+01	2.025E+02	4.056E+00	0.434
U-235HP	6.712E+01		1.081E+02	4.026E+02	8.271E+00	0.167
NP-237DA	2.453E+00		2.206E+01	8.148E+01	1.630E+00	0.030
U-238DA	1.654E+01		3.110E+01	1.069E+02	2.138E+00	0.155
U-238DHP	1.267E+02		2.845E+02	1.071E+03	2.362E+01	0.118
AM-241HP	-5.544E+00		2.958E+01	1.029E+02	2.287E+00	-0.054

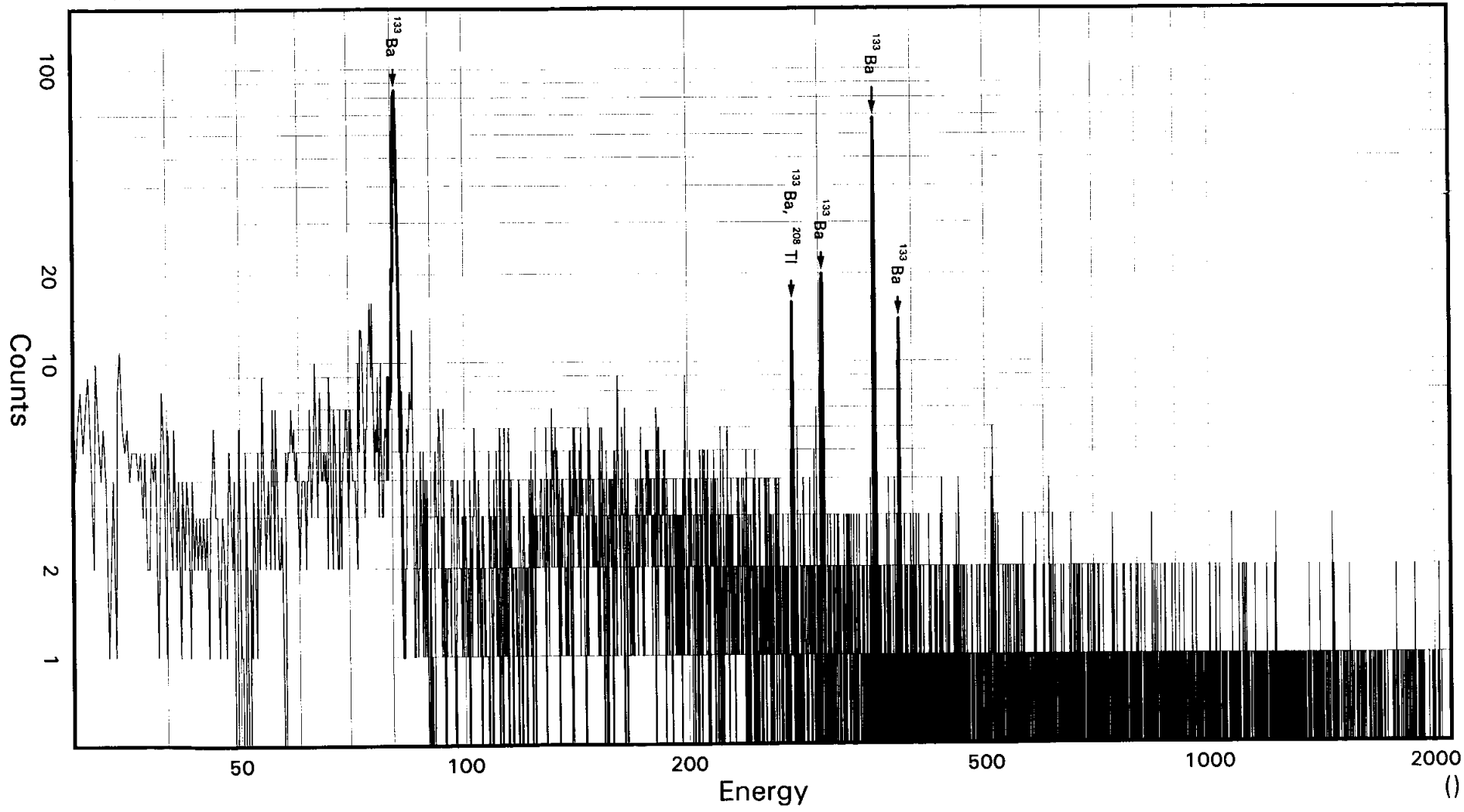
STL Richland WA.

BA133

Sample ID: H5KRL1AC

Detector ID: GER6 1

Batch ID: 6143242



Acquisition Start: 14-JUN-2006 15:20:27.21

Preset Live Time: 0 00:30:00.00

Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:

Offset: -6.63443E-03

Slope: 2.49415E-01

Quadrature: 6.44103E-09

SAMPLE IDENTIFICATION: H5KRL1AC

CONFIGURATION ID: GER6:H5KRL1AC_140661520
TITLE : BA133
SAMPLE ID : H5KRL1AC

REPORT DATE: 14-JUN-06
ACQUIRE DATE: 14-JUN-06 15:20:27
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 13-JUN-2006 12:00:00.00
CALIB DATE: 14-JUN-2006 05:23:30.78
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: -.6634E-02 keV
ENERGY SLOPE: 2.4941E-01 keV/C
ENERGY Q COEFF: 6.4410E-09 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 3.6340E-01 keV
FWHM SLOPE: 5.3905E-02 sqr keV
ITERATIONS: 10
GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %
ENERGY TOLERANCE: 1.500 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 14-JUN-2006 15:50:45

```
Configuration     : $DISK1:[GER6.SAMPLE]H5KRL1AC_140661520.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 15:20:27
Sample ID         : H5KRL1AC             Sample quantity  : 1.0000 SAMPL
Sample type       :                      Sample geometry  : BA133T15
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.26   0.0%
Start energy      :    19.95             End energy       :  2043.63
Sensitivity       :     5.00             Gaussian         :    10.00
Critical level    : No
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	80.95	367	50	0.94	324.57	316	17	2.04E-01	6.9	
2	0	276.49	45	18	0.66	1108.56	1102	12	2.51E-02	23.9	
3	0	303.07	130	13	1.50	1215.12	1206	17	7.22E-02	10.8	
4	0	356.04	341	0	1.19	1427.48	1418	18	1.89E-01	5.4	
5	0	383.98	60	4	1.22	1539.47	1531	16	3.33E-02	14.9	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 14-JUN-2006 15:50:46

Configuration : $DISK1:[GER6.SAMPLE]H5KRL1AC_140661520.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 15:20:27
Sample ID : H5KRL1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.26 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	367	33.00	2.167E+00	1.712E+03	1.712E+03	8.76
	276.40	45	6.90	2.334E+00	9.352E+02	9.354E+02	24.54
	302.84	130	17.80	2.337E+00	1.042E+03	1.042E+03	12.07
	356.00	341	62.05*	2.339E+00	7.833E+02	7.834E+02	7.64
	383.85	60	8.70	2.338E+00	9.820E+02	9.822E+02	15.87

Flag: "*" = Keyline

Sample ID : H5KRL1AC
Acquisition date : 14-JUN-2006 15:20:27

None

Flags: "T" = Tentatively associated

Sample ID : H5KRL1AC Acquisition date : 14-JUN-2006 15:20:27

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	9.490E+02	24.54	Abun.
			510.84	21.60	--- Not Found ---		
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		5.44			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 14-JUN-2006 15:50:48

Configuration : $DISK1:[GER6.SAMPLE]H5KRL1AC_140661520.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3,WTMEAN/KEY V1.8
Analyses by : MINACT V2.8
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 15:20:27
Sample ID : H5KRL1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.26 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.834E+02	5.983E+01	4.460E+01	8.920E-01	17.565

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	3.203E+01		6.077E+01	2.479E+02	4.972E+00	0.129
NA-22	1.039E-01		4.236E+00	1.813E+01	3.838E-01	0.006
NA-24	-2.751E+01		1.239E+01	1.468E+01	3.128E-01	-1.873
K-40	-1.490E+02		7.729E+01	3.580E+02	7.675E+00	-0.416
SC-46	2.996E+00		4.772E+00	2.123E+01	4.445E-01	0.141
CR-51	-1.768E+02		8.237E+01	2.500E+02	5.001E+00	-0.707
MN-54	3.435E+00		5.037E+00	2.220E+01	4.553E-01	0.155
CO-57	-1.149E+02		1.109E+02	3.777E+02	7.800E+00	-0.304
CO-58	-3.363E+00		5.261E+00	1.945E+01	3.983E-01	-0.173
FE-59	-5.327E+00		5.356E+00	1.974E+01	4.126E-01	-0.270
CO-60	-1.524E+00		4.013E+00	1.630E+01	3.463E-01	-0.093
ZN-65	-2.093E-02		1.104E+01	4.424E+01	9.260E-01	0.000
SE-75	1.095E+01		1.640E+01	6.223E+01	1.248E+00	0.176
SR-85	2.872E+00		1.074E+01	4.030E+01	8.099E-01	0.071
Y-88	1.579E+00		2.754E+00	1.472E+01	3.234E-01	0.107
NB-94	4.554E+00		5.991E+00	2.547E+01	5.239E-01	0.179
NB-95	-1.661E+00		5.819E+00	2.237E+01	4.567E-01	-0.074
TC-95M	-2.706E+01		1.554E+01	5.052E+01	1.021E+00	-0.536
ZR-95	7.433E+00		8.799E+00	3.954E+01	8.067E-01	0.188
ZRNB-95	-3.288E+00		1.152E+01	4.428E+01	9.040E-01	-0.074
MO-99	2.007E+01		1.810E+01	6.901E+01	1.422E+00	0.291
RH-101	1.298E+01		1.622E+01	6.158E+01	1.246E+00	0.211
RH-102M	-1.410E+01		6.387E+00	1.807E+01	3.625E-01	-0.780
RU-103	-2.168E+00		6.064E+00	2.312E+01	4.642E-01	-0.094
RU-106DA	-3.305E+01		5.986E+01	2.211E+02	4.470E+00	-0.149
AG-108M	-6.177E+00		8.375E+00	2.986E+01	5.981E-01	-0.207
AG-110M	-9.874E+00		7.256E+00	2.433E+01	5.009E-01	-0.406

Sample ID : H5KRL1AC Acquisition date : 14-JUN-2006 15:20:27

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	7.649E+00		9.501E+00	4.025E+01	8.053E-01	0.190
SB-124	2.808E+00		6.364E+00	2.594E+01	5.238E-01	0.108
SB-125	1.447E+01		2.214E+01	9.114E+01	1.825E+00	0.159
SN-126DA	1.231E+01		6.466E+00	2.930E+01	5.941E-01	0.420
I-131	5.446E-01		9.030E+00	3.479E+01	6.958E-01	0.016
CS-134	-5.486E+00		5.784E+00	2.051E+01	4.196E-01	-0.267
CS-137DA	-3.661E+00		7.291E+00	2.742E+01	5.558E-01	-0.134
LA-138	2.056E+00		6.139E+00	2.745E+01	5.874E-01	0.075
CE-139	1.393E+01		1.488E+01	5.591E+01	1.141E+00	0.249
BA-140	-1.085E+01		2.808E+01	1.056E+02	2.125E+00	-0.103
BALA-140	3.342E+00		9.129E+00	4.124E+01	8.922E-01	0.081
LA-140	2.525E+00		6.900E+00	3.117E+01	6.744E-01	0.081
CE-141	-5.353E+01		2.665E+01	8.399E+01	1.727E+00	-0.637
CE-144	2.997E+01		1.245E+02	4.529E+02	9.367E+00	0.066
CEPR-144	8.922E+01		2.477E+02	9.066E+02	1.875E+01	0.098
PM-144	-2.351E+00		6.709E+00	2.499E+01	5.050E-01	-0.094
PM-146	-9.094E+00		1.083E+01	3.820E+01	7.657E-01	-0.238
EU-152	-1.379E+01		2.877E+01	1.041E+02	2.082E+00	-0.133
EU-154	-3.884E+00		1.263E+01	5.101E+01	1.080E+00	-0.076
EU-155	-6.248E+01		5.026E+01	1.734E+02	3.652E+00	-0.360
HF-181	-1.133E+01		8.066E+00	2.640E+01	5.298E-01	-0.429
BI-207	7.395E+00		5.302E+00	2.448E+01	4.933E-01	0.302
TL-208	1.013E+01		7.543E+00	3.477E+01	7.014E-01	0.291
BI-210M	-4.161E+00		1.916E+01	6.860E+01	1.376E+00	-0.061
BI-212	-4.295E+01		8.223E+01	3.107E+02	9.497E+00	-0.138
PB-212	1.498E+00		2.336E+01	8.959E+01	1.802E+00	0.017
BI-214	-2.462E+01		1.653E+01	5.927E+01	1.197E+00	-0.415
PB-214	1.076E+01		1.897E+01	7.570E+01	1.514E+00	0.142
RA-223	3.218E+01		6.129E+01	2.415E+02	4.843E+00	0.133
RA-224DA	1.500E+00		2.339E+01	8.970E+01	1.804E+00	0.017
RA-226DA	-2.462E+01		1.653E+01	5.927E+01	1.197E+00	-0.415
AC-227DA	2.832E+01		9.644E+01	3.555E+02	7.153E+00	0.080
AC-228	-1.637E+01		1.956E+01	7.962E+01	1.642E+00	-0.206
RA-228DA	-1.637E+01		1.957E+01	7.965E+01	1.643E+00	-0.206
TH-228DA	2.823E+01		2.102E+01	9.690E+01	1.955E+00	0.291
TH-232DA	7.791E+01		6.460E+01	2.641E+02	5.282E+00	0.295
TH-234DA	1.568E+03		8.320E+02	3.962E+03	8.224E+01	0.396
U-234DA	-1.448E+01		5.235E+01	1.902E+02	3.809E+00	-0.076
U-235HP	-1.128E+01		1.206E+02	4.309E+02	8.869E+00	-0.026
NP-237DA	4.239E+00		2.260E+01	8.642E+01	1.729E+00	0.049
U-238DA	1.076E+01		1.897E+01	7.570E+01	1.514E+00	0.142
U-238DHP	4.460E+02		3.972E+02	1.504E+03	3.337E+01	0.297
AM-241HP	4.440E+01		3.719E+01	1.440E+02	3.220E+00	0.308

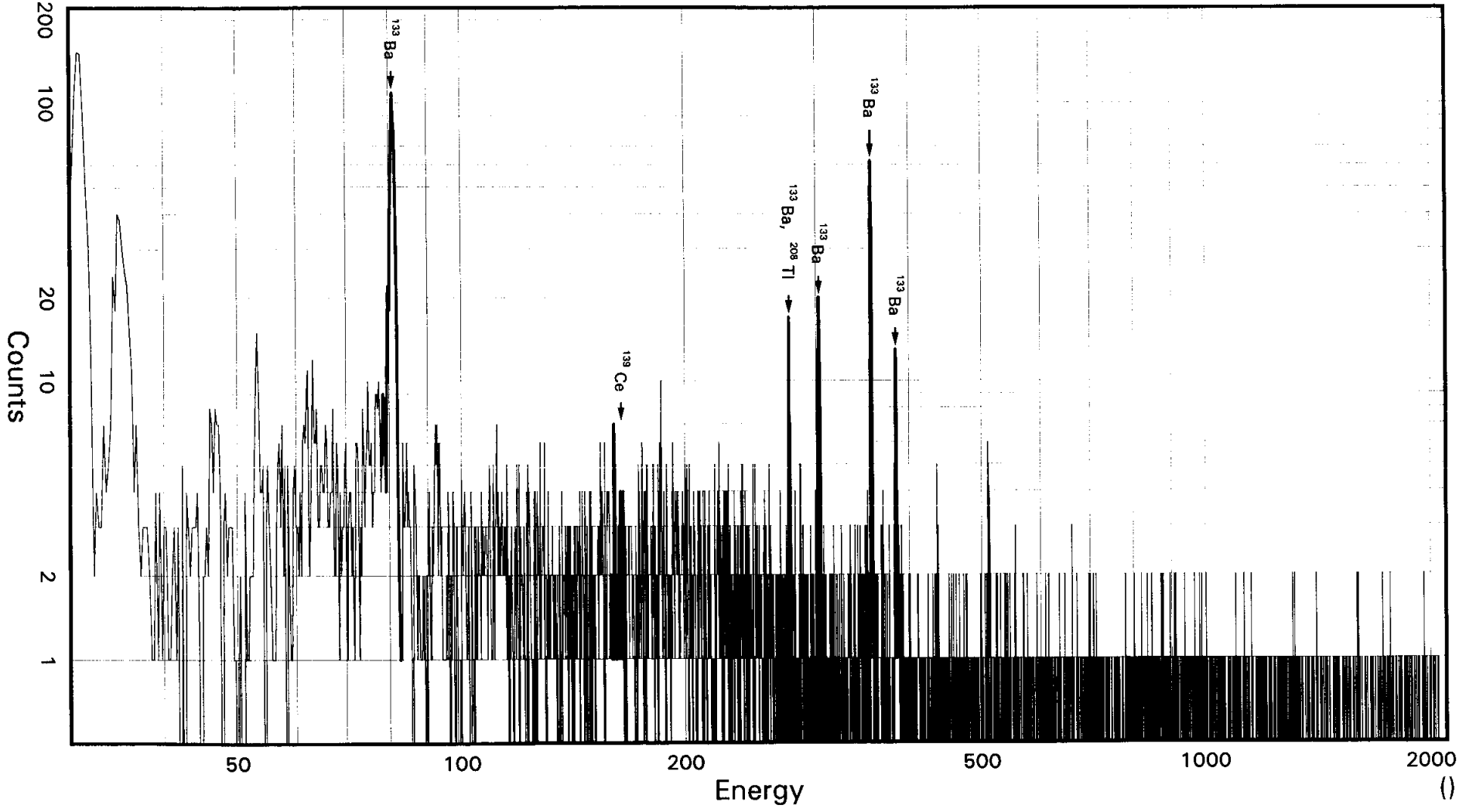
STL Richland WA.

BA133

Sample ID: H5KRR1AC

Detector ID: GER8 1

Batch ID: 6143242



Acquisition Start: 14-JUN-2006 15:20:38.36

Preset Live Time: 0 00:30:00.00

Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:

Offset: 2.75706E-01

Slope: 2.49832E-01

Quadrature: 1.80037E-08

SAMPLE IDENTIFICATION: H5KRR1AC

CONFIGURATION ID: GER8:H5KRR1AC_140661520
TITLE : BA133
SAMPLE ID : H5KRR1AC

REPORT DATE: 14-JUN-06
ACQUIRE DATE: 14-JUN-06 15:20:38
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 13-JUN-2006 12:00:00.00
CALIB DATE: 14-JUN-2006 05:24:04.34
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: 2.7571E-01 keV
ENERGY SLOPE: 2.4983E-01 keV/C
ENERGY Q COEFF: 1.8004E-08 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 9.8969E-01 keV
FWHM SLOPE: 1.8029E-02 sqr keV
ITERATIONS: 10
GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %
ENERGY TOLERANCE: 1.500 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 14-JUN-2006 15:51:01

Configuration : $DISK1:[GER8.SAMPLE]H5KRR1AC_140661520.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 15:20:38
Sample ID : H5KRR1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Start energy : 20.26 End energy : 2048.11
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	30.70	728	110	0.96	121.77	111	21	4.04E-01	5.2	
2	0	35.18	190	68	1.47	139.71	133	17	1.06E-01	12.5	
3	0	53.08	54	10	0.66	211.37	203	15	3.00E-02	19.1	
4	0	80.91	526	55	1.08	322.73	312	19	2.92E-01	5.5	
5	0	164.52	14	45	4.86	657.40	634	31	7.83E-03	145.2	
6	0	276.37	46	6	0.38	1105.04	1100	11	2.56E-02	17.8	
7	0	302.96	102	27	1.39	1211.47	1199	21	5.68E-02	16.0	
8	0	355.97	316	17	1.35	1423.57	1412	23	1.75E-01	6.6	
9	0	383.84	57	15	1.02	1535.12	1526	15	3.17E-02	19.9	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 14-JUN-2006 15:51:02

Configuration : $DISK1:[GER8.SAMPLE]H5KRR1AC_140661520.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 15:20:38
Sample ID : H5KRR1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	526	33.00	2.202E+00	2.413E+03	2.413E+03	7.72
	276.40	46	6.90	2.371E+00	9.394E+02	9.396E+02	18.57
	302.84	102	17.80	2.374E+00	8.069E+02	8.070E+02	16.86
	356.00	316	62.05*	2.376E+00	7.140E+02	7.142E+02	8.51
	383.85	57	8.70	2.375E+00	9.194E+02	9.196E+02	20.58
CE-139	165.85	14	80.35*	2.327E+00	2.514E+01	2.528E+01	145.32

Flag: "*" = Keyline

Unidentified Energy Lines
Page : 2
Sample ID : H5KRR1AC
Acquisition date : 14-JUN-2006 15:20:38

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	30.70	728	110	0.96	121.77	111	21	4.04E-01	5.2	1.93E+00	
0	35.18	190	68	1.47	139.71	133	17	1.06E-01	12.5	1.97E+00	
0	53.08	54	10	0.66	211.37	203	15	3.00E-02	19.1	2.10E+00	

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : H5KRR1AC

Acquisition date : 14-JUN-2006 15:20:38

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	9.532E+02	18.57	Abun.
			510.84	21.60	--- Not Found ---		
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		5.44			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 14-JUN-2006 15:51:03

Configuration : $DISK1:[GER8.SAMPLE]H5KRR1AC_140661520.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3,WTMEAN/KEY V1.8
Analyses by : MINACT V2.8
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 15:20:38
Sample ID : H5KRR1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.142E+02	6.074E+01	4.542E+01	9.085E-01	15.723
CE-139	2.528E+01	3.674E+01	5.532E+01	1.129E+00	0.457

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	8.792E+01		4.920E+01	2.338E+02	4.690E+00	0.376
NA-22	5.749E-02		2.945E+00	1.379E+01	2.919E-01	0.004
NA-24	8.538E-02		1.306E+01	5.752E+01	1.225E+00	0.001
K-40	-4.285E+01		1.643E+01	1.036E+02	2.220E+00	-0.414
SC-46	-4.190E+00		3.209E+00	1.090E+01	2.282E-01	-0.384
CR-51	7.689E+01		7.033E+01	2.963E+02	5.928E+00	0.260
MN-54	2.751E-01		4.632E+00	1.924E+01	3.947E-01	0.014
CO-57	-6.633E+01		9.232E+01	3.211E+02	6.630E+00	-0.207
CO-58	-1.477E+00		3.873E+00	1.572E+01	3.219E-01	-0.094
FE-59	-6.323E+00		6.955E+00	2.606E+01	5.447E-01	-0.243
CO-60	-2.934E+00		2.963E+00	1.096E+01	2.329E-01	-0.268
ZN-65	-1.109E+01		5.580E+00	7.844E+00	1.641E-01	-1.414
SE-75	-2.106E+01		1.320E+01	4.349E+01	8.724E-01	-0.484
SR-85	-1.785E+01		9.762E+00	3.056E+01	6.140E-01	-0.584
Y-88	-1.502E+00		1.504E+00	4.221E+00	9.267E-02	-0.356
NB-94	-2.973E+00		3.573E+00	1.339E+01	2.752E-01	-0.222
NB-95	-1.447E+00		2.531E+00	1.079E+01	2.203E-01	-0.134
TC-95M	-7.144E+00		1.695E+01	5.902E+01	1.193E+00	-0.121
ZR-95	7.937E-01		7.501E+00	3.225E+01	6.578E-01	0.025
ZRNB-95	-2.865E+00		5.011E+00	2.136E+01	4.360E-01	-0.134
MO-99	-1.709E+01		1.583E+01	5.415E+01	1.116E+00	-0.316
RH-101	-2.409E+01		1.795E+01	5.846E+01	1.183E+00	-0.412
RH-102M	-8.731E+00		5.808E+00	1.861E+01	3.732E-01	-0.469
RU-103	6.244E+00		5.187E+00	2.423E+01	4.865E-01	0.258
RU-106DA	1.566E+01		3.193E+01	1.560E+02	3.154E+00	0.100
AG-108M	-3.857E+00		9.502E+00	3.419E+01	6.847E-01	-0.113

Sample ID : H5KRR1AC
Acquisition date : 14-JUN-2006 15:20:38

---- Non-Identified Nuclides ----

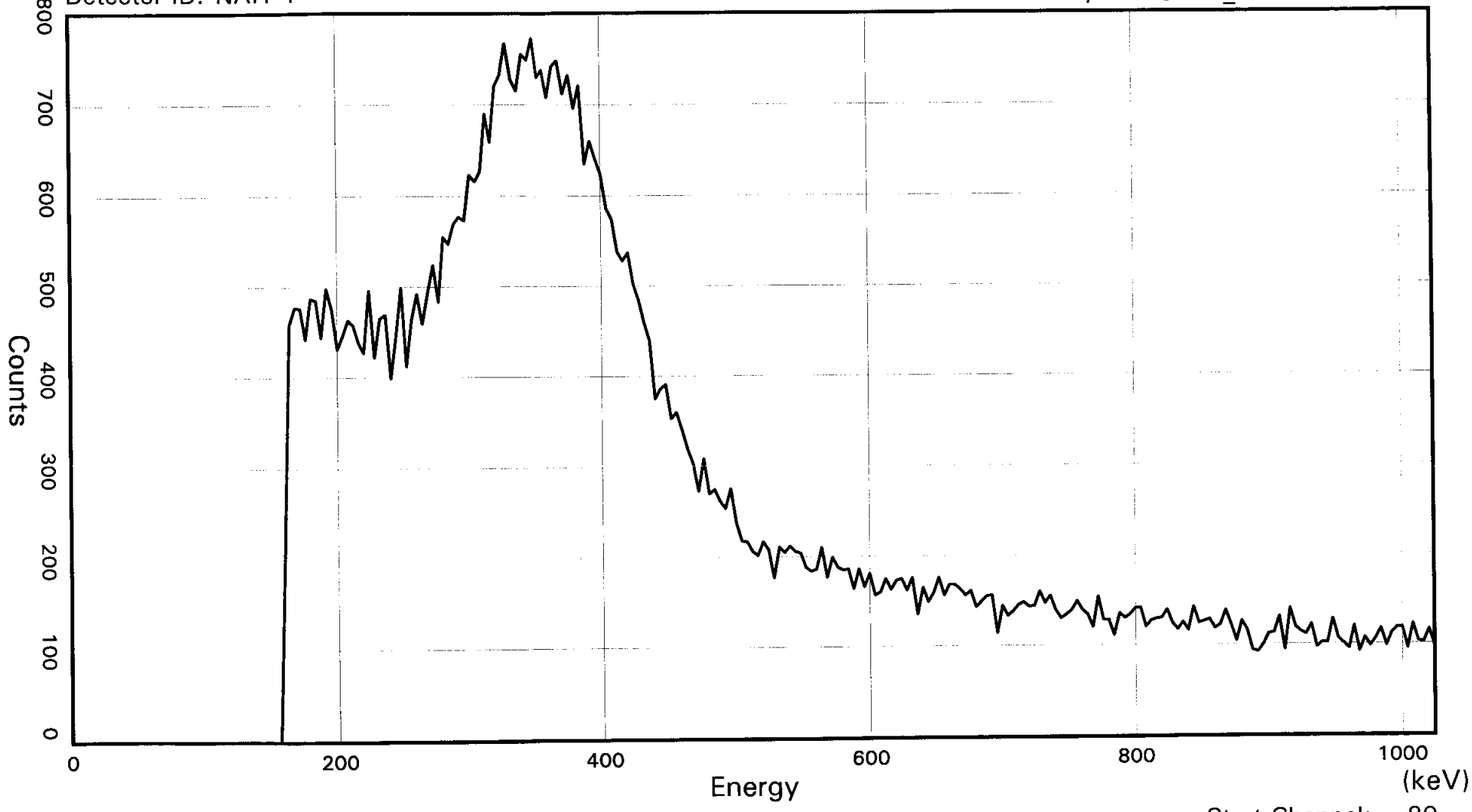
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
AG-110M	5.878E+00		6.030E+00	2.812E+01	5.788E-01	0.209
SN-113DA	1.732E+01		1.119E+01	4.770E+01	9.542E-01	0.363
SB-124	1.728E+00		4.315E+00	1.921E+01	3.880E-01	0.090
SB-125	9.419E+00		1.682E+01	7.225E+01	1.447E+00	0.130
SN-126DA	-2.887E-01		2.709E+00	1.257E+01	2.549E-01	-0.023
I-131	-1.302E+01		7.474E+00	2.331E+01	4.663E-01	-0.559
CS-134	2.327E-03		4.119E+00	1.809E+01	3.701E-01	0.000
CS-137DA	5.163E+00		4.970E+00	2.355E+01	4.773E-01	0.219
LA-138	2.250E+00		2.254E+00	1.655E+01	3.540E-01	0.136
BA-140	2.868E+01		2.210E+01	1.001E+02	2.013E+00	0.287
BALA-140	-1.389E+01		6.984E+00	9.140E+00	1.976E-01	-1.519
LA-140	-2.339E-01		5.157E+00	2.356E+01	5.094E-01	-0.010
CE-141	2.133E+01		2.234E+01	8.574E+01	1.763E+00	0.249
CE-144	5.910E-01		8.699E+01	3.206E+02	6.630E+00	0.002
CEPR-144	3.341E+00		1.742E+02	6.424E+02	1.328E+01	0.005
PM-144	7.328E-01		4.923E+00	2.057E+01	4.157E-01	0.036
PM-146	1.335E+00		7.844E+00	3.204E+01	6.422E-01	0.042
EU-152	3.812E+01		3.047E+01	1.248E+02	2.495E+00	0.306
EU-154	1.618E-01		8.285E+00	3.881E+01	8.213E-01	0.004
EU-155	6.098E+00		5.413E+01	1.983E+02	4.175E+00	0.031
HF-181	-4.272E+00		5.553E+00	2.033E+01	4.078E-01	-0.210
BI-207	1.028E+01		4.786E+00	2.410E+01	4.856E-01	0.427
TL-208	-4.355E+00		4.915E+00	1.833E+01	3.697E-01	-0.238
BI-210M	9.675E+00		1.440E+01	5.829E+01	1.169E+00	0.166
BI-212	6.578E+01		5.730E+01	2.843E+02	8.690E+00	0.231
PB-212	1.009E+01		2.392E+01	9.089E+01	1.828E+00	0.111
BI-214	9.839E+00		1.087E+01	4.853E+01	9.804E-01	0.203
PB-214	3.230E+01		2.476E+01	9.377E+01	1.875E+00	0.344
RA-223	-5.200E+01		5.940E+01	2.097E+02	4.205E+00	-0.248
RA-224DA	1.010E+01		2.394E+01	9.100E+01	1.830E+00	0.111
RA-226DA	9.839E+00		1.087E+01	4.853E+01	9.804E-01	0.203
AC-227DA	-4.347E+01		9.303E+01	3.339E+02	6.718E+00	-0.130
AC-228	9.837E+00		1.828E+01	7.837E+01	1.616E+00	0.126
RA-228DA	9.841E+00		1.828E+01	7.840E+01	1.617E+00	0.126
TH-228DA	-1.214E+01		1.370E+01	5.107E+01	1.030E+00	-0.238
TH-232DA	-1.760E+01		5.326E+01	1.998E+02	3.997E+00	-0.088
TH-234DA	-2.740E+01		5.600E+02	2.410E+03	5.001E+01	-0.011
U-234DA	1.729E+00		3.913E+01	1.551E+02	3.107E+00	0.011
U-235HP	5.239E+01		9.938E+01	3.730E+02	7.676E+00	0.140
NP-237DA	-1.836E+01		2.007E+01	7.068E+01	1.414E+00	-0.260
U-238DA	3.230E+01		2.476E+01	9.377E+01	1.875E+00	0.344
U-238DHP	5.930E+02		4.817E+02	1.848E+03	4.100E+01	0.321
AM-241HP	-1.210E+02		4.538E+01	1.403E+02	3.136E+00	-0.862

STL Richland WA.

BA133

Sample ID: H5KRV1AC
Detector ID: NAI1 1

Library: [NUC_LIBR]BA133.NLB



Acquisition Start: 14-JUN-2006 15:56:27.58
Preset Live Time: 0 00:30:00
Elapsed Live Time: 0 00:30:00
Weighting: DERIVED

Start Channel: 80
End Channel: 113
Iterations: 5
Gain shift: Iter

SAMPLE IDENTIFICATION: H5KRV1AC

CONFIGURATION ID: NAI1:H5KRV1AC_140661556
TITLE : BA133
SAMPLE ID : H5KRV1AC

REPORT DATE: 14-JUN-06
ACQUIRE DATE: 14-JUN-06 15:56:27
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 13-JUN-2006 12:00:00.00
CALIB DATE: 17-NOV-1993 10:39:59.60
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY:

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: 0.0000E+00 keV
ENERGY SLOPE: 4.0000E+00 keV/C
ENERGY Q COEFF: 0.0000E+00 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: -.2302E+02 keV
FWHM SLOPE: 5.7163E+00 sqr keV
ITERATIONS: 5
GAUSSIAN SENSITIVITY: 35.00 %

ABUNDANCE LIMIT: 75.00 %
ENERGY TOLERANCE: 20.000 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]BA133.NLB

VMS NAI Report V1.2 Generated 14-JUN-2006 16:26:32

```
Configuration     : RDND06$DKA100:[NAI1.SAMPLE]H5KRV1AC_140661556.CNF;1
Analyses by       : NAI V3.0
Sample title      : BA133
Sample date       : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 15:56:27
Sample ID         : H5KRV1AC             Sample quantity  : 1.0000 sampl
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.67   0.0%
Sample Multiplier:     1.00              Rejection Coeff. :     0.00
Gain shift type   : ITER                 Threshold Shift  : No
Weighting type    : DERIVED              Calculated counts: No
Iterations        :  5
```

NAI Residuals Report

Ratio of Residuals Over Standard Deviation Per Channel

80:	6.8	6.3	6.0	3.9	3.0	3.2	3.4	3.7
88:	1.9	0.9	-1.1	0.1	1.3	-1.1	1.4	0.0
96:	0.4	-3.2	-1.6	-1.8	-3.8	-2.4	-2.6	-3.6
104:	-4.7	-4.1	-3.9	-3.5	-4.0	-4.4	-7.0	-5.7
112:	-4.2	-5.1						

List of Suspicious Channels

81	82	83	84	85	86

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	1.06E+01	0.00E+00	1.04E+00
2	1.64E+00	0.00E+00	1.06E+00
3	7.42E-01	0.00E+00	1.07E+00

Brief Report

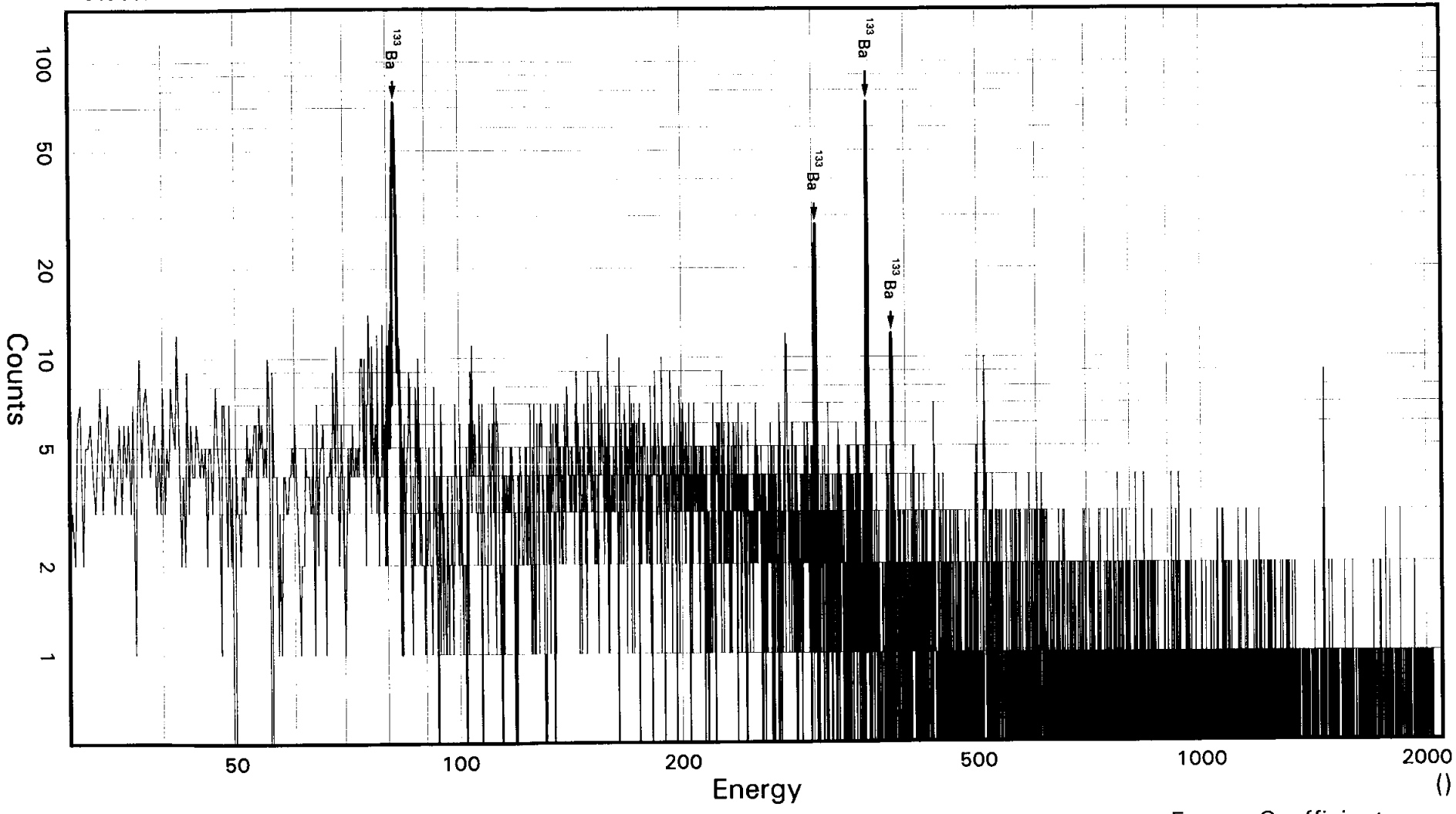
Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	750.	7.90
Total Activity :	750.	

STL Richland WA.

BA133

Sample ID: H5KRX1AC
Detector ID: GER13 1

Batch ID: 6143242



Acquisition Start: 14-JUN-2006 15:57:26.31
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -5.88556E-01
Slope: 2.50712E-01
Quadrature: -9.27656E-08

SAMPLE IDENTIFICATION: H5KRX1AC

CONFIGURATION ID: GER13:H5KRX1AC_140661557
TITLE : BA133
SAMPLE ID : H5KRX1AC

REPORT DATE: 14-JUN-06
ACQUIRE DATE: 14-JUN-06 15:57:26
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 13-JUN-2006 12:00:00.00
CALIB DATE: 14-JUN-2006 05:43:45.07
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: -.5886E+00 keV
ENERGY SLOPE: 2.5071E-01 keV/C
ENERGY Q COEFF: -.9277E-07 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 4.0477E-01 keV
FWHM SLOPE: 4.4272E-02 sqr keV
ITERATIONS: 10
GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %
ENERGY TOLERANCE: 1.500 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 14-JUN-2006 16:27:43

```
Configuration     : $DISK1:[GER13.SAMPLE]H5KRX1AC_140661557.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 15:57:26
Sample ID         : H5KRX1AC             Sample quantity  : 1.0000 SAMPL
Sample type       :                      Sample geometry  : BA133T15
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.39   0.0%
Start energy      :    19.47             End energy       :  2047.02
Sensitivity       :     5.00             Gaussian         :    10.00
Critical level    : No
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.89	265	60	0.89	329.00	320	17	1.47E-01	9.1	
2	0	302.58	156	12	1.33	1209.79	1201	16	8.65E-02	9.4	
3	0	355.79	349	26	1.07	1422.22	1411	19	1.94E-01	6.3	
4	0	383.39	60	23	1.37	1532.42	1519	24	3.34E-02	25.0	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 14-JUN-2006 16:27:43

Configuration : $DISK1:[GER13.SAMPLE]H5KRX1AC_140661557.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 15:57:26
Sample ID : H5KRX1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.39 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	265	33.00	2.704E+00	9.913E+02	9.915E+02	10.57
	276.40	------	6.90	2.897E+00	------ Line Not Found		------
	302.84	156	17.80	2.900E+00	1.005E+03	1.006E+03	10.87
	356.00	349	62.05*	2.903E+00	6.462E+02	6.464E+02	8.31
	383.85	60	8.70	2.902E+00	7.943E+02	7.944E+02	25.61

Flag: "*" = Keyline

Sample ID : H5KRX1AC Acquisition date : 14-JUN-2006 15:57:26

None

Flags: "T" = Tentatively associated

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 14-JUN-2006 16:27:45

Configuration : $DISK1:[GER13.SAMPLE]H5KRX1AC_140661557.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3,WTMEAN/KEY V1.8
Analyses by : MINACT V2.8
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 15:57:26
Sample ID : H5KRX1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.39 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	6.464E+02	5.369E+01	4.561E+01	9.122E-01	14.172

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-7.473E+01		5.802E+01	1.933E+02	3.878E+00	-0.387
NA-22	4.914E+00		4.530E+00	2.020E+01	4.262E-01	0.243
NA-24	8.562E+00		1.567E+01	6.733E+01	1.429E+00	0.127
K-40	-9.277E+01		9.347E+01	4.379E+02	9.351E+00	-0.212
SC-46	5.557E+00		5.515E+00	2.488E+01	5.196E-01	0.223
CR-51	-2.464E+01		8.998E+01	3.211E+02	6.425E+00	-0.077
MN-54	1.105E+01		5.751E+00	2.541E+01	5.205E-01	0.435
CO-57	2.469E+01		1.055E+02	3.882E+02	8.002E+00	0.064
CO-58	1.242E+00		5.721E+00	2.248E+01	4.596E-01	0.055
FE-59	8.352E+00		9.233E+00	3.911E+01	8.156E-01	0.214
CO-60	4.856E+00		2.995E+00	1.593E+01	3.375E-01	0.305
ZN-65	-2.213E+01		1.058E+01	3.104E+01	6.480E-01	-0.713
SE-75	-4.653E-01		1.617E+01	5.883E+01	1.180E+00	-0.008
SR-85	-3.860E+01		1.151E+01	3.228E+01	6.484E-01	-1.196
Y-88	2.564E+00		2.537E+00	1.368E+01	2.989E-01	0.187
NB-94	-1.405E+00		4.625E+00	1.769E+01	3.632E-01	-0.079
NB-95	9.619E-01		5.870E+00	2.298E+01	4.686E-01	0.042
TC-95M	7.431E+00		1.709E+01	6.179E+01	1.248E+00	0.120
ZR-95	-7.282E+00		9.937E+00	3.605E+01	7.345E-01	-0.202
ZRNB-95	1.904E+00		1.162E+01	4.548E+01	9.273E-01	0.042
MO-99	2.042E+01		1.684E+01	6.423E+01	1.322E+00	0.318
RH-101	-4.951E+00		1.597E+01	5.566E+01	1.126E+00	-0.089
RH-102M	-2.977E-01		5.762E+00	2.200E+01	4.413E-01	-0.014
RU-103	1.935E+01		7.508E+00	3.303E+01	6.630E-01	0.586
RU-106DA	-1.669E+02		6.574E+01	1.881E+02	3.800E+00	-0.887
AG-108M	-1.492E+01		9.735E+00	3.202E+01	6.412E-01	-0.466
AG-110M	4.549E+00		6.811E+00	2.838E+01	5.833E-01	0.160

---- Non-Identified Nuclides ----

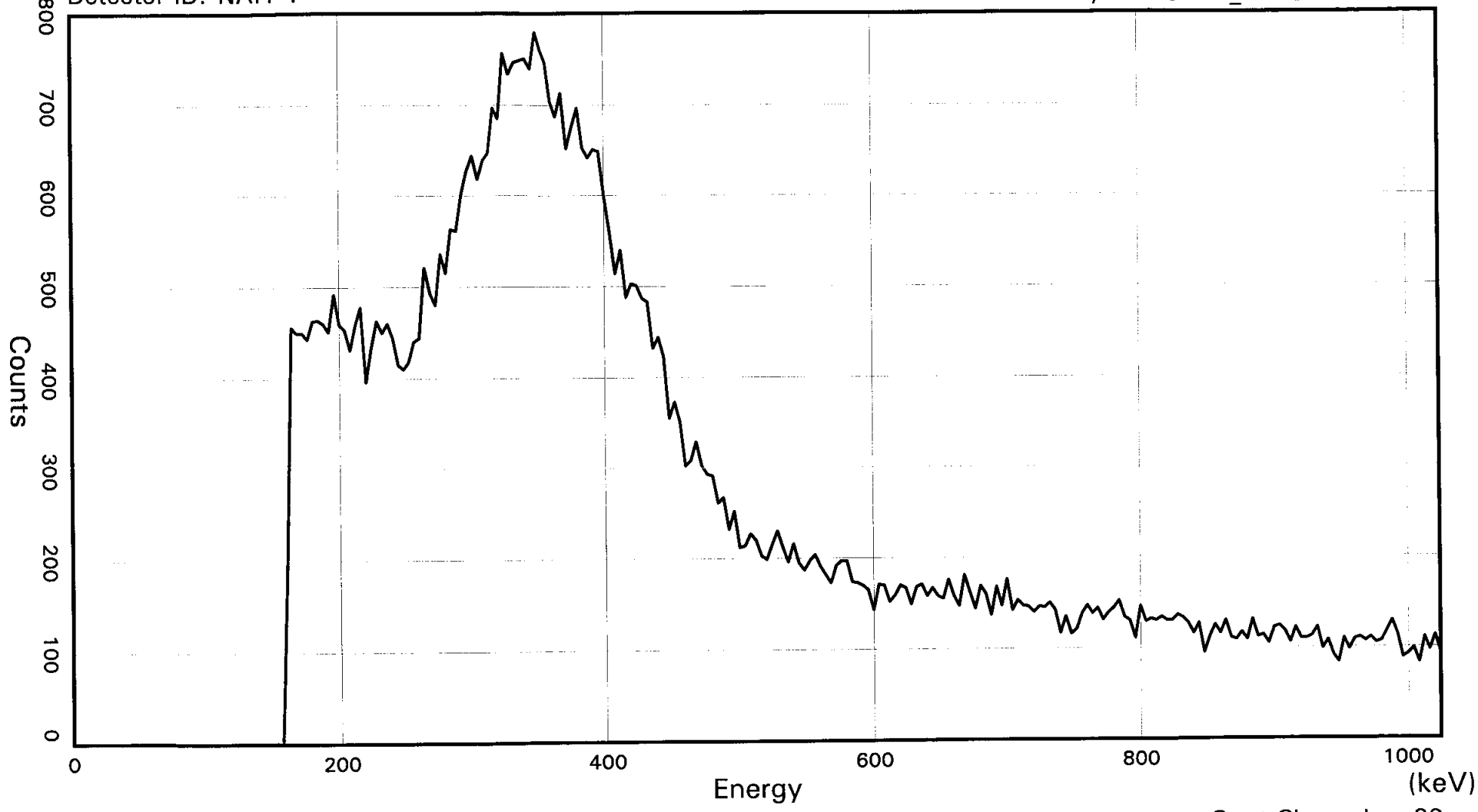
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	1.319E+01		1.093E+01	4.433E+01	8.869E-01	0.298
SB-124	7.087E+00		6.755E+00	2.744E+01	5.538E-01	0.258
SB-125	2.668E+01		2.429E+01	9.732E+01	1.949E+00	0.274
SN-126DA	3.279E+00		5.412E+00	2.195E+01	4.447E-01	0.149
I-131	1.213E+01		1.030E+01	4.050E+01	8.101E-01	0.300
CS-134	9.499E+00		7.109E+00	2.992E+01	6.113E-01	0.317
CS-137DA	-1.527E+00		6.956E+00	2.591E+01	5.247E-01	-0.059
LA-138	-9.526E+00		4.291E+00	4.960E+00	1.057E-01	-1.921
CE-139	-6.147E+00		1.432E+01	5.035E+01	1.027E+00	-0.122
BA-140	4.757E+01		2.794E+01	1.184E+02	2.381E+00	0.402
BALA-140	-4.897E-01		5.397E+00	2.479E+01	5.338E-01	-0.020
LA-140	-6.319E+00		4.722E+00	1.548E+01	3.333E-01	-0.408
CE-141	1.226E+01		2.395E+01	8.874E+01	1.822E+00	0.138
CE-144	1.651E+01		9.822E+01	3.484E+02	7.192E+00	0.047
CEPR-144	3.390E+01		1.965E+02	6.971E+02	1.439E+01	0.049
PM-144	-5.882E+00		6.748E+00	2.358E+01	4.763E-01	-0.249
PM-146	7.072E+00		1.067E+01	4.166E+01	8.349E-01	0.170
EU-152	-7.411E+00		3.490E+01	1.235E+02	2.470E+00	-0.060
EU-154	9.259E+00		1.302E+01	5.590E+01	1.179E+00	0.166
EU-155	2.979E+01		5.419E+01	1.979E+02	4.156E+00	0.151
HF-181	1.115E+01		7.056E+00	3.029E+01	6.076E-01	0.368
BI-207	6.727E+00		6.556E+00	2.675E+01	5.390E-01	0.251
TL-208	-1.729E+01		7.782E+00	2.681E+01	5.405E-01	-0.645
BI-210M	1.369E+01		1.825E+01	6.943E+01	1.393E+00	0.197
BI-212	-5.709E+01		8.853E+01	3.233E+02	9.876E+00	-0.177
PB-212	-3.768E+01		2.491E+01	8.640E+01	1.737E+00	-0.436
BI-214	-2.879E+00		1.713E+01	6.980E+01	1.409E+00	-0.041
PB-214	-3.272E+01		2.484E+01	7.834E+01	1.567E+00	-0.418
RA-223	3.227E+01		6.608E+01	2.484E+02	4.981E+00	0.130
RA-224DA	-3.772E+01		2.494E+01	8.650E+01	1.739E+00	-0.436
RA-226DA	-2.779E+00		1.713E+01	6.985E+01	1.410E+00	-0.040
AC-227DA	3.627E+00		1.015E+02	3.554E+02	7.148E+00	0.010
AC-228	-4.429E+01		2.407E+01	8.770E+01	1.806E+00	-0.505
RA-228DA	-4.431E+01		2.408E+01	8.773E+01	1.806E+00	-0.505
TH-228DA	-4.819E+01		2.169E+01	7.471E+01	1.506E+00	-0.645
TH-232DA	-1.588E+01		7.423E+01	2.632E+02	5.264E+00	-0.060
TH-234DA	1.470E+03		6.369E+02	3.185E+03	6.597E+01	0.462
U-234DA	1.058E+01		5.485E+01	1.985E+02	3.974E+00	0.053
U-235HP	9.713E+01		1.077E+02	4.055E+02	8.332E+00	0.240
NP-237DA	-1.550E+01		2.484E+01	8.659E+01	1.733E+00	-0.179
U-238DA	-3.272E+01		2.484E+01	7.834E+01	1.567E+00	-0.418
U-238DHP	2.270E+02		2.591E+02	1.005E+03	2.218E+01	0.226
AM-241HP	6.014E+01		2.704E+01	1.086E+02	2.412E+00	0.554

STL Richland WA.

BA133

Sample ID: H5KR21AC
Detector ID: NAI1 1

Library: [NUC_LIBR]BA133.NLB



Acquisition Start: 14-JUN-2006 16:32:46.04
Preset Live Time: 0 00:30:00
Elapsed Live Time: 0 00:30:00
Weighting: DERIVED

Start Channel: 80
End Channel: 113
Iterations: 5
Gain shift: Iter

SAMPLE IDENTIFICATION: H5KR21AC

CONFIGURATION ID: NAI1:H5KR21AC_140661632
TITLE : BA133
SAMPLE ID : H5KR21AC

REPORT DATE: 14-JUN-06
ACQUIRE DATE: 14-JUN-06 16:32:46
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 13-JUN-2006 12:00:00.00
CALIB DATE: 17-NOV-1993 10:39:59.60
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY:

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: 0.0000E+00 keV
ENERGY SLOPE: 4.0000E+00 keV/C
ENERGY Q COEFF: 0.0000E+00 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: -.2302E+02 keV
FWHM SLOPE: 5.7163E+00 sqr keV
ITERATIONS: 5
GAUSSIAN SENSITIVITY: 35.00 %

ABUNDANCE LIMIT: 75.00 %
ENERGY TOLERANCE: 20.000 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]BA133.NLB

VMS NAI Report V1.2 Generated 14-JUN-2006 17:02:51

Configuration	: RDND06$DKA100:[NAI1.SAMPLE]H5KR21AC_140661632.CNF;1		
Analyses by	: NAI V3.0		
Sample title	: BA133		
Sample date	: 13-JUN-2006 12:00:00	Acquisition date	: 14-JUN-2006 16:32:46
Sample ID	: H5KR21AC	Sample quantity	: 1.0000 sampl
Elapsed live time	: 0 00:30:00.00	Elapsed real time	: 0 00:30:00.67 0.0%
Sample Multiplier	: 1.00	Rejection Coeff.	: 0.00
Gain shift type	: ITER	Threshold Shift	: No
Weighting type	: DERIVED	Calculated counts	: No
Iterations	: 5		

NAI Residuals Report

Ratio of Residuals Over Standard Deviation Per Channel

80:	6.0	8.2	5.9	5.1	4.9	3.9	3.5	4.1
88:	2.9	1.9	-0.3	-1.3	0.1	-3.3	-0.2	0.9
96:	-1.0	-2.1	-1.3	-0.9	-4.3	-3.4	-5.0	-3.3
104:	-5.9	-5.3	-3.7	-2.7	-2.3	-4.4	-3.8	-3.7
112:	-5.9	-4.6						

List of Suspicious Channels

81	82	83	84	85	86	87

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	1.25E+01	0.00E+00	1.03E+00
2	4.75E+00	0.00E+00	1.05E+00
3	1.53E+00	0.00E+00	1.07E+00
4	1.06E+00	0.00E+00	1.08E+00

Brief Report

Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	726.	9.33

Total Activity :	726.	

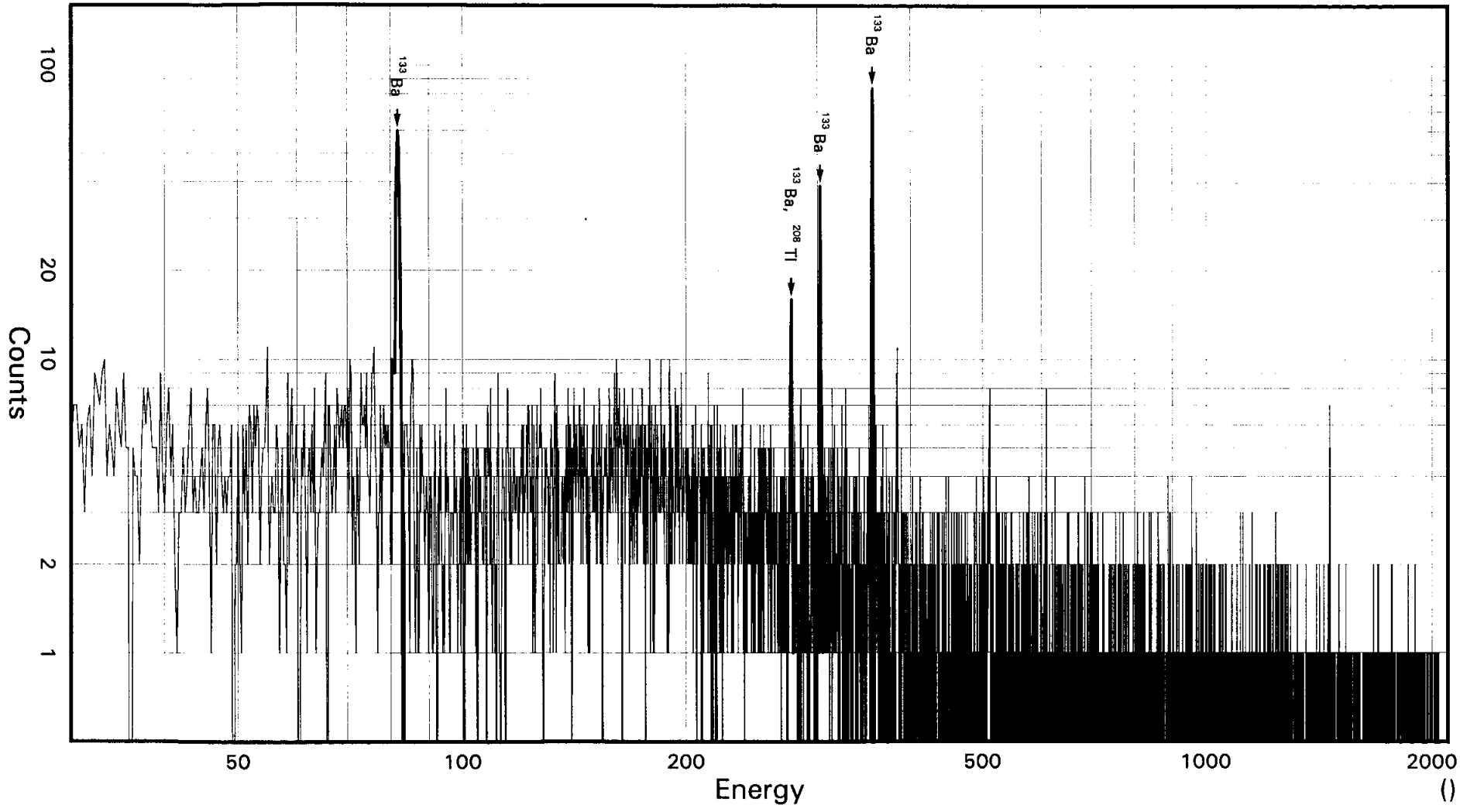
STL Richland WA.

BA133

Sample ID: H5KR41AC

Detector ID: GER13 1

Batch ID: 6143242



Acquisition Start: 14-JUN-2006 16:33:34.96

Preset Live Time: 0 00:30:00.00

Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:

Offset: -5.88556E-01

Slope: 2.50712E-01

Quadrature: -9.27656E-08

SAMPLE IDENTIFICATION: H5KR41AC

CONFIGURATION ID: GER13:H5KR41AC_140661633
TITLE : BA133
SAMPLE ID : H5KR41AC

REPORT DATE: 14-JUN-06
ACQUIRE DATE: 14-JUN-06 16:33:34
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 13-JUN-2006 12:00:00.00
CALIB DATE: 14-JUN-2006 05:43:45.07
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: -.5886E+00 keV
ENERGY SLOPE: 2.5071E-01 keV/C
ENERGY Q COEFF: -.9277E-07 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 4.0477E-01 keV
FWHM SLOPE: 4.4272E-02 sqr keV
ITERATIONS: 10
GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %
ENERGY TOLERANCE: 1.500 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 14-JUN-2006 17:03:54

Configuration : $DISK1:[GER13.SAMPLE]H5KR41AC_140661633.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 16:33:34
Sample ID : H5KR41AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.39 0.0%
Start energy : 19.47 End energy : 2047.02
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.83	244	32	1.01	328.78	322	13	1.35E-01	8.0	
2	0	112.33	9	18	0.30	450.48	442	10	5.19E-03	94.0	
3	0	276.41	49	29	0.88	1105.28	1100	13	2.75E-02	27.4	
4	0	302.87	132	51	0.57	1210.94	1201	23	7.34E-02	16.6	
5	0	355.75	402	20	1.04	1422.06	1413	16	2.23E-01	5.6	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 14-JUN-2006 17:03:55

Configuration : $DISK1:[GER13.SAMPLE]H5KR41AC_140661633.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 16:33:34
Sample ID : H5KR41AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.39 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	244	33.00	2.704E+00	9.097E+02	9.099E+02	9.69
	276.40	49	6.90	2.897E+00	8.243E+02	8.245E+02	27.94
	302.84	132	17.80	2.900E+00	8.531E+02	8.533E+02	17.44
	356.00	402	62.05*	2.903E+00	7.431E+02	7.432E+02	7.75
	383.85	------	8.70	2.902E+00	------	Line Not Found	------

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H5KR41AC

Acquisition date : 14-JUN-2006 16:33:34

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	112.33	9	18	0.30	450.48	442	10	5.19E-03	94.0	2.78E+00	

Flags: "T" = Tentatively associated

Sample ID : H5KR41AC
Acquisition date : 14-JUN-2006 16:33:34

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	8.364E+02	27.94	Abun.
			510.84	21.60	--- Not Found ---		
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		5.44			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 14-JUN-2006 17:03:57

Configuration : $DISK1:[GER13.SAMPLE]H5KR41AC_140661633.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3,WTMEAN/KEY V1.8
Analyses by : MINACT V2.8
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00
Sample ID : H5KR41AC
Sample type :
Elapsed live time: 0 00:30:00.00
Peak Width (FWHM): 3.00
Energy tolerance : 1.50
Errors propagated: Yes
Efficiency type : Empirical
Abundance limit : 80.00

Acquisition date : 14-JUN-2006 16:33:34
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.39 0.0%
Confidence level : 5.00 %
Half life ratio : 8.00
Systematic Error : 5.00 %
Efficiencies at : Peak Energy
WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.432E+02	5.763E+01	5.473E+01	1.095E+00	13.579

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-3.576E+01		6.959E+01	2.477E+02	4.968E+00	-0.144
NA-22	-5.923E+00		4.359E+00	1.460E+01	3.079E-01	-0.406
NA-24	-2.836E+01		1.488E+01	4.281E+01	9.087E-01	-0.662
K-40	-4.641E+01		9.747E+01	4.551E+02	9.718E+00	-0.102
SC-46	-2.695E+00		5.433E+00	2.195E+01	4.583E-01	-0.123
CR-51	-5.940E+01		1.020E+02	3.538E+02	7.079E+00	-0.168
MN-54	-5.343E-01		5.506E+00	2.107E+01	4.315E-01	-0.025
CO-57	-2.945E+02		1.023E+02	3.145E+02	6.482E+00	-0.936
CO-58	-4.819E+00		5.056E+00	1.786E+01	3.652E-01	-0.270
FE-59	6.197E+00		8.975E+00	3.758E+01	7.836E-01	0.165
CO-60	-2.479E+00		3.459E+00	1.308E+01	2.771E-01	-0.189
ZN-65	-1.977E+01		1.083E+01	3.339E+01	6.971E-01	-0.592
SE-75	2.088E+00		1.473E+01	5.457E+01	1.094E+00	0.038
SR-85	-4.338E+01		1.006E+01	2.420E+01	4.861E-01	-1.793
Y-88	-3.712E+00		3.332E+00	1.180E+01	2.579E-01	-0.315
NB-94	-8.503E+00		4.975E+00	1.553E+01	3.190E-01	-0.547
NB-95	5.107E+00		6.064E+00	2.486E+01	5.069E-01	0.205
TC-95M	-7.323E+00		1.610E+01	5.591E+01	1.130E+00	-0.131
ZR-95	7.594E+00		1.064E+01	4.338E+01	8.839E-01	0.175
ZRNB-95	9.819E+00		1.197E+01	4.901E+01	9.993E-01	0.200
MO-99	6.776E+00		1.685E+01	6.229E+01	1.282E+00	0.109
RH-101	-3.948E-02		1.605E+01	5.675E+01	1.148E+00	-0.001
RH-102M	4.349E+00		7.563E+00	2.913E+01	5.841E-01	0.149
RU-103	2.753E+00		7.462E+00	2.867E+01	5.756E-01	0.096
RU-106DA	-9.491E+01		6.317E+01	2.070E+02	4.182E+00	-0.459
AG-108M	-2.916E+00		7.809E+00	2.838E+01	5.684E-01	-0.103
AG-110M	-5.234E+00		5.519E+00	1.957E+01	4.022E-01	-0.267

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	2.944E-01		1.173E+01	4.387E+01	8.777E-01	0.007
SB-124	-1.182E+00		6.199E+00	2.329E+01	4.701E-01	-0.051
SB-125	4.020E+00		2.365E+01	8.969E+01	1.796E+00	0.045
SN-126DA	9.120E+00		5.536E+00	2.413E+01	4.889E-01	0.378
I-131	-1.533E+01		1.086E+01	3.518E+01	7.036E-01	-0.436
CS-134	4.227E+00		5.649E+00	2.393E+01	4.890E-01	0.177
CS-137DA	-6.654E+00		6.443E+00	2.219E+01	4.494E-01	-0.300
LA-138	7.270E+00		4.541E+00	2.404E+01	5.125E-01	0.302
CE-139	1.380E+01		1.533E+01	5.674E+01	1.157E+00	0.243
BA-140	2.800E+00		2.712E+01	1.044E+02	2.100E+00	0.027
BALA-140	-2.766E+00		6.182E+00	2.564E+01	5.522E-01	-0.108
LA-140	-4.258E+00		5.217E+00	1.974E+01	4.251E-01	-0.216
CE-141	2.233E+01		2.427E+01	9.129E+01	1.874E+00	0.245
CE-144	1.656E+02		1.013E+02	3.841E+02	7.928E+00	0.431
CEPR-144	3.302E+02		2.025E+02	7.678E+02	1.585E+01	0.430
PM-144	-3.813E-01		5.711E+00	2.181E+01	4.407E-01	-0.017
PM-146	-1.426E+01		1.128E+01	3.780E+01	7.574E-01	-0.377
EU-152	-3.443E+01		2.796E+01	9.273E+01	1.855E+00	-0.371
EU-154	-2.470E+01		1.303E+01	3.955E+01	8.344E-01	-0.624
EU-155	-5.523E+01		5.088E+01	1.706E+02	3.582E+00	-0.324
HF-181	4.911E+00		7.855E+00	3.091E+01	6.200E-01	0.159
BI-207	4.326E+00		6.114E+00	2.474E+01	4.984E-01	0.175
TL-208	-2.862E+00		8.279E+00	3.273E+01	6.600E-01	-0.087
BI-210M	-1.051E+01		1.781E+01	6.308E+01	1.265E+00	-0.167
BI-212	1.931E+02		9.094E+01	4.032E+02	1.232E+01	0.479
PB-212	-3.571E+00		2.367E+01	8.822E+01	1.774E+00	-0.040
BI-214	1.708E+01		1.641E+01	7.192E+01	1.452E+00	0.238
PB-214	-3.628E+01		2.752E+01	8.452E+01	1.690E+00	-0.429
RA-223	6.599E+01		6.625E+01	2.553E+02	5.120E+00	0.258
RA-224DA	-3.575E+00		2.370E+01	8.832E+01	1.776E+00	-0.040
RA-226DA	1.718E+01		1.642E+01	7.196E+01	1.453E+00	0.239
AC-227DA	-1.257E+02		1.044E+02	3.413E+02	6.863E+00	-0.368
AC-228	-2.449E+01		1.765E+01	7.428E+01	1.529E+00	-0.330
RA-228DA	-2.450E+01		1.766E+01	7.431E+01	1.530E+00	-0.330
TH-228DA	-7.977E+00		2.307E+01	9.123E+01	1.839E+00	-0.087
TH-232DA	-7.329E+01		7.195E+01	2.422E+02	4.844E+00	-0.303
TH-234DA	2.302E+01		6.785E+02	2.745E+03	5.687E+01	0.008
U-234DA	8.762E+01		4.623E+01	1.851E+02	3.706E+00	0.473
U-235HP	3.731E+00		1.141E+02	4.125E+02	8.476E+00	0.009
NP-237DA	2.138E+00		2.512E+01	9.138E+01	1.829E+00	0.023
U-238DA	-3.628E+01		2.752E+01	8.452E+01	1.690E+00	-0.429
U-238DHP	-3.015E+02		2.868E+02	9.994E+02	2.204E+01	-0.302
AM-241HP	8.744E+00		2.993E+01	1.071E+02	2.379E+00	0.082

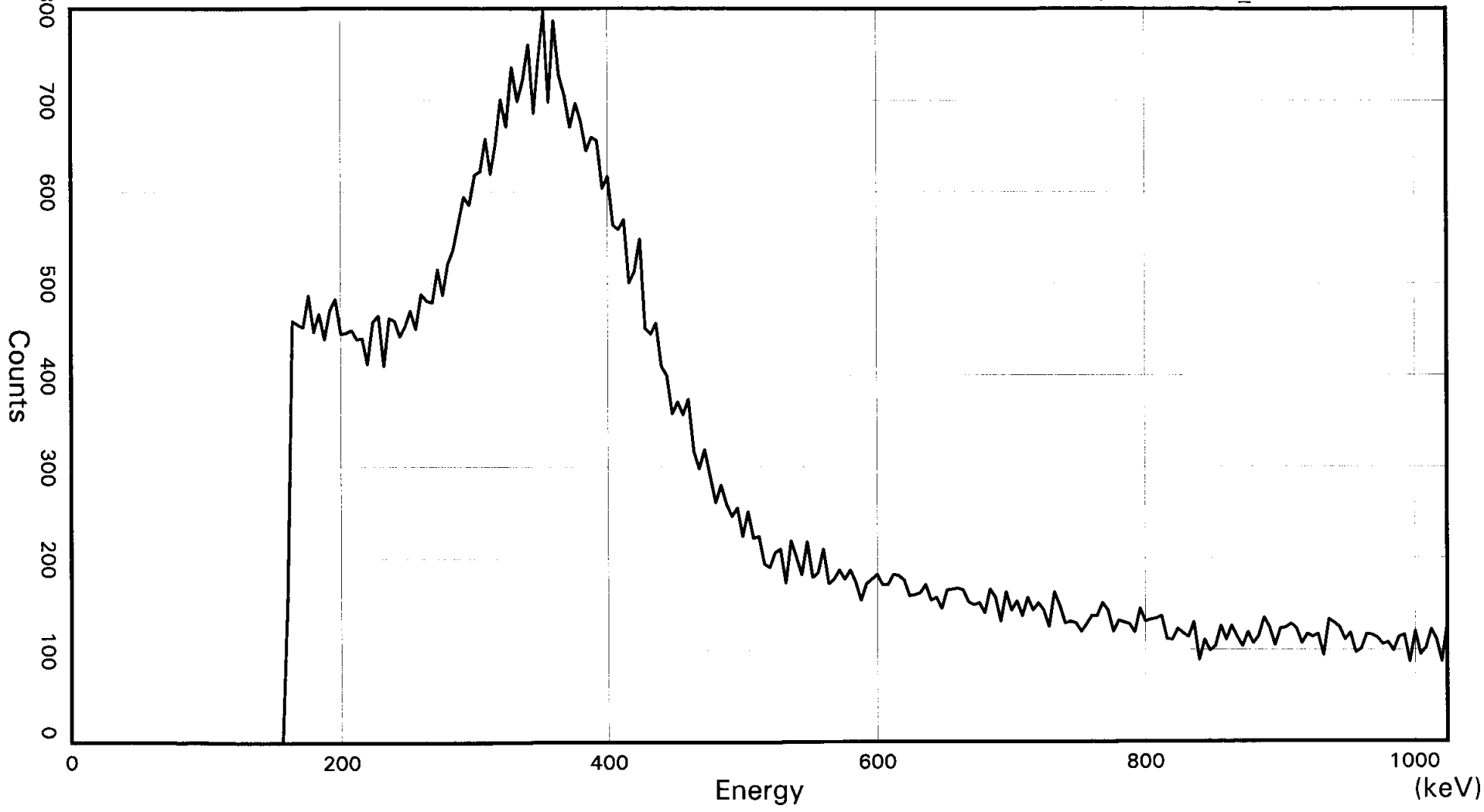
STL Richland WA.

BA133

Sample ID: H5KR61AC

Detector ID: NAI1 1

Library: [NUC_LIBR]BA133.NLB



Acquisition Start:	14-JUN-2006 17:09:03.07
Preset Live Time:	0 00:30:00
Elapsed Live Time:	0 00:30:00
Weighting:	DERIVED

Start Channel:	80
End Channel:	113
Iterations:	5
Gain shift:	Iter

SAMPLE IDENTIFICATION: H5KR61AC

CONFIGURATION ID: NAI1:H5KR61AC_140661709
TITLE : BA133
SAMPLE ID : H5KR61AC

REPORT DATE: 14-JUN-06
ACQUIRE DATE: 14-JUN-06 17:09:03
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 13-JUN-2006 12:00:00.00
CALIB DATE: 17-NOV-1993 10:39:59.60
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY:

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: 0.0000E+00 keV
ENERGY SLOPE: 4.0000E+00 keV/C
ENERGY Q COEFF: 0.0000E+00 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: -.2302E+02 keV
FWHM SLOPE: 5.7163E+00 sqr keV
ITERATIONS: 5
GAUSSIAN SENSITIVITY: 35.00 %

ABUNDANCE LIMIT: 75.00 %
ENERGY TOLERANCE: 20.000 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]BA133.NLB

VMS NAI Report V1.2 Generated 14-JUN-2006 17:39:08

Configuration	: RDND06$DKA100:[NAI1.SAMPLE]H5KR61AC_140661709.CNF;1		
Analyses by	: NAI V3.0		
Sample title	: BA133		
Sample date	: 13-JUN-2006 12:00:00	Acquisition date	: 14-JUN-2006 17:09:03
Sample ID	: H5KR61AC	Sample quantity	: 1.0000 sampl
Elapsed live time	: 0 00:30:00.00	Elapsed real time	: 0 00:30:00.66 0.0%
Sample Multiplier	: 1.00	Rejection Coeff.	: 0.00
Gain shift type	: ITER	Threshold Shift	: No
Weighting type	: DERIVED	Calculated counts	: No
Iterations	: 5		

NAI Residuals Report

Ratio of Residuals Over Standard Deviation Per Channel

80:	6.2	4.2	5.9	2.7	3.3	4.3	1.4	2.8
88:	3.9	-0.3	3.1	0.1	-0.9	-2.3	0.3	-0.4
96:	-0.6	-0.7	-1.2	-2.9	-3.1	-2.7	-3.5	-2.0
104:	-4.7	-4.2	-1.2	-4.7	-4.5	-2.8	-5.0	-5.0
112:	-4.9	-3.2						

List of Suspicious Channels

81 82 83 84

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	1.20E+01	0.00E+00	1.02E+00
2	4.28E+00	0.00E+00	1.04E+00
3	2.37E+00	0.00E+00	1.06E+00
4	7.69E-01	0.00E+00	1.07E+00

Brief Report

Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	728.	8.13

Total Activity :	728.	

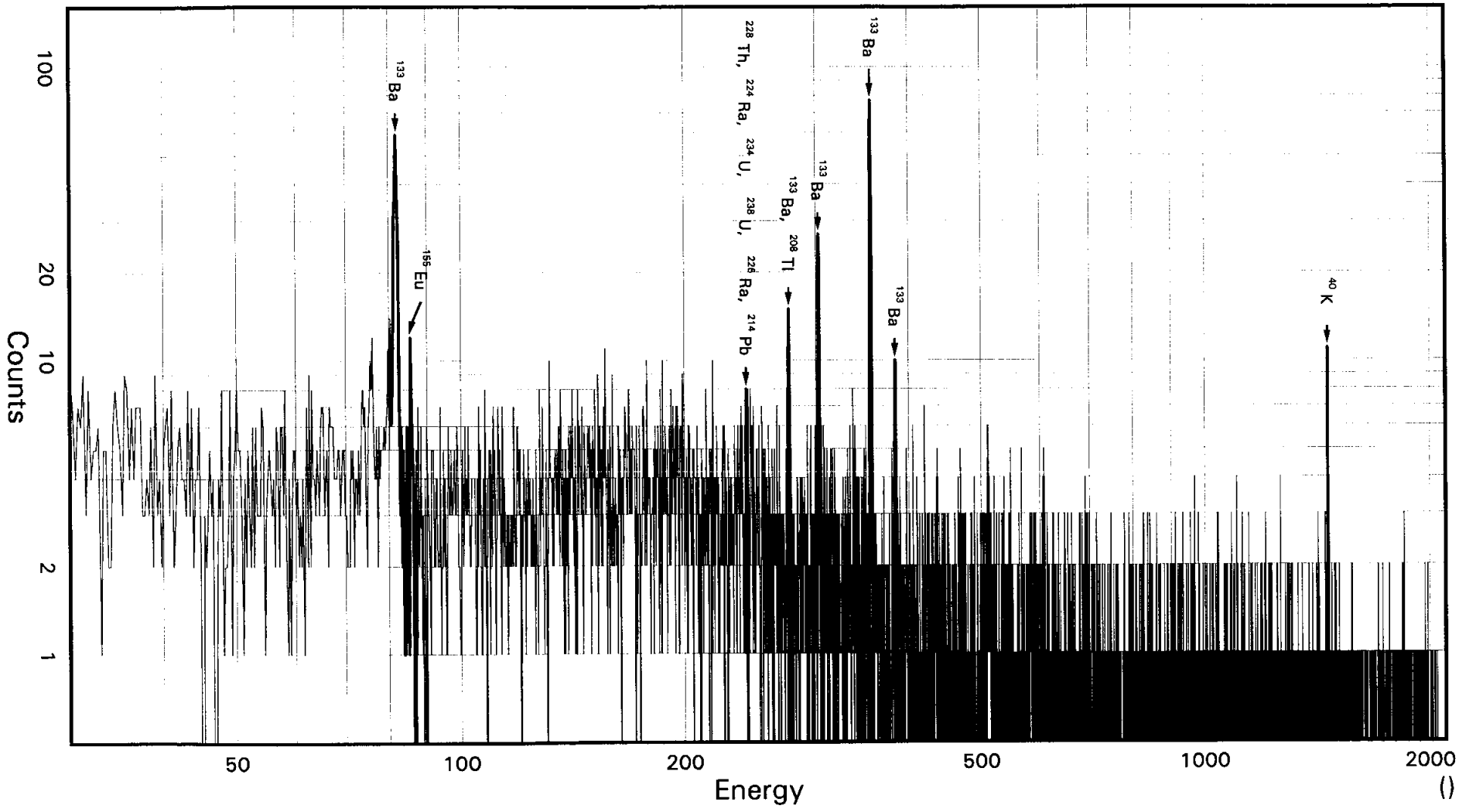
STL Richland WA.

BA133

Sample ID: H50P11AA

Detector ID: GER13 1

Batch ID: 6143242



Acquisition Start: 14-JUN-2006 17:09:51.24

Preset Live Time: 0 00:30:00.00

Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:

Offset: -5.88556E-01

Slope: 2.50712E-01

Quadrature: -9.27656E-08

SAMPLE IDENTIFICATION: H50P11AA

CONFIGURATION ID: GER13:H50P11AA_140661709
TITLE : BA133
SAMPLE ID : H50P11AA

REPORT DATE: 14-JUN-06
ACQUIRE DATE: 14-JUN-06 17:09:51
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 13-JUN-2006 12:00:00.00
CALIB DATE: 14-JUN-2006 05:43:45.07
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: -.5886E+00 keV
ENERGY SLOPE: 2.5071E-01 keV/C
ENERGY Q COEFF: -.9277E-07 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 4.0477E-01 keV
FWHM SLOPE: 4.4272E-02 sqr keV
ITERATIONS: 10
GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %
ENERGY TOLERANCE: 1.500 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 14-JUN-2006 17:40:08

Configuration : $DISK1:[GER13.SAMPLE]H50P11AA_140661709.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 17:09:51
Sample ID : H50P11AA Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.37 0.0%
Start energy : 19.47 End energy : 2047.02
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	82.00	176	71	0.81	329.44	324	14	9.76E-02	12.9	
2	0	85.63*	16	14	0.42	343.94	338	11	8.70E-03	58.8	
3	0	242.14	21	9	0.71	968.52	963	10	1.17E-02	35.2	
4	0	276.12	65	6	1.37	1104.12	1099	11	3.58E-02	14.3	
5	0	302.64	136	16	1.12	1209.99	1202	16	7.55E-02	10.8	
6	0	355.76	397	26	1.22	1422.09	1412	17	2.20E-01	5.8	
7	0	383.54	64	4	1.65	1533.01	1526	15	3.56E-02	14.1	
8	0	1460.56*	6	6	1.28	5840.62	5828	21	3.15E-03	165.5	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 14-JUN-2006 17:40:09

Configuration : $DISK1:[GER13.SAMPLE]H50P11AA_140661709.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 17:09:51
Sample ID : H50P11AA Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.37 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: NP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
K-40	1460.81	6	10.67*	2.719E+00	6.519E+01	6.519E+01	165.58

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	176	33.00	2.705E+00	6.564E+02	6.565E+02	14.03
	276.40	65	6.90	2.897E+00	1.076E+03	1.076E+03	15.29
	302.84	136	17.80	2.900E+00	8.780E+02	8.781E+02	12.08
	356.00	397	62.05*	2.903E+00	7.337E+02	7.339E+02	7.92
	383.85	64	8.70	2.902E+00	8.461E+02	8.463E+02	15.12

Flag: "*" = Keyline

Sample ID : H50P11AA Acquisition date : 14-JUN-2006 17:09:51

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	85.63	16	14	0.42	343.94	338	11	8.70E-03	58.8	2.72E+00	T
0	242.14	21	9	0.71	968.52	963	10	1.17E-02	35.2	2.89E+00	T

Flags: "T" = Tentatively associated

Sample ID : H50P11AA Acquisition date : 14-JUN-2006 17:09:51

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
EU-155	4.96Y	0.00	42.90	21.16	--- Not Found ---		Abun.
			86.54	30.90	6.224E+01	59.03	
			105.31*	20.70	--- Not Found ---		
		% Abundances Found =		42.47			
TL-208	1.41E+10Y	0.00	277.35	6.80	1.091E+03	15.29	Abun.
			510.84	21.60	--- Not Found ---		
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		5.44			
PB-214	4.47E+09Y	0.00	241.98	7.49	3.245E+02	35.61	Abun.
			295.21	19.20	--- Not Found ---		
			351.92*	37.20	--- Not Found ---		
			785.91	1.10	--- Not Found ---		
		% Abundances Found =		11.52			
RA-224DA	1.91Y	0.00	238.63*	44.60	--- Not Found ---		Abun.
			240.98	3.95	6.161E+02	35.61	
			583.14	30.25	--- Not Found ---		
			860.37	4.48	--- Not Found ---		
		% Abundances Found =		4.74			
RA-226DA	1600.00Y	0.00	186.21	3.50	--- Not Found ---		Abun.
			241.98	7.49	3.245E+02	35.61	
			295.22	19.20	--- Not Found ---		
			351.92	37.20	--- Not Found ---		
			609.32*	46.30	--- Not Found ---		
			1120.28	15.10	--- Not Found ---		
			1238.11	5.94	--- Not Found ---		
			1764.49	15.80	--- Not Found ---		
		% Abundances Found =		4.98			
TH-228DA	1.91Y	0.00	238.63	44.60	--- Not Found ---		Abun.
			240.98	3.95	6.161E+02	35.61	
			583.14*	30.25	--- Not Found ---		
			860.37	4.48	--- Not Found ---		
		% Abundances Found =		4.74			
U-234DA	4.47E+09Y	0.00	241.98	7.49	3.245E+02	35.61	Abun.
			295.22*	19.20	--- Not Found ---		
			351.92	37.20	--- Not Found ---		
			609.31	46.30	--- Not Found ---		
		% Abundances Found =		6.80			
U-238DA	4.47E+09Y	0.00	241.98	7.49	3.245E+02	35.61	Abun.
			295.22	19.20	--- Not Found ---		
			351.92*	37.20	--- Not Found ---		
			609.31	46.30	--- Not Found ---		
		% Abundances Found =		6.80			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 14-JUN-2006 17:40:11

Configuration : $DISK1:[GER13.SAMPLE]H50P11AA_140661709.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3,WTMEAN/KEY V1.8
Analyses by : MINACT V2.8
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00 Acquisition date : 14-JUN-2006 17:09:51
Sample ID : H50P11AA Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.37 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
K-40	6.519E+01	1.079E+02	1.026E+02	2.190E+00	0.636
BA-133	7.339E+02	5.813E+01	4.388E+01	8.776E-01	16.725

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-5.171E+01		6.232E+01	2.174E+02	4.361E+00	-0.238
NA-22	1.287E+00		4.354E+00	1.820E+01	3.840E-01	0.071
NA-24	1.415E+01		1.068E+01	5.695E+01	1.209E+00	0.248
SC-46	5.782E+00		4.962E+00	2.348E+01	4.903E-01	0.246
CR-51	-6.232E+00		8.084E+01	2.953E+02	5.908E+00	-0.021
MN-54	6.628E-01		5.109E+00	2.021E+01	4.139E-01	0.033
CO-57	4.764E+01		1.003E+02	3.749E+02	7.727E+00	0.127
CO-58	1.861E+00		5.274E+00	2.126E+01	4.349E-01	0.088
FE-59	-2.262E+01		1.030E+01	3.007E+01	6.270E-01	-0.752
CO-60	6.027E+00		5.039E+00	2.205E+01	4.669E-01	0.273
ZN-65	-1.722E+01		9.390E+00	2.844E+01	5.938E-01	-0.606
SE-75	7.885E+00		1.602E+01	5.992E+01	1.202E+00	0.132
SR-85	-1.327E+01		9.939E+00	3.253E+01	6.535E-01	-0.408
Y-88	8.306E-02		3.569E+00	1.527E+01	3.336E-01	0.005
NB-94	6.650E+00		5.304E+00	2.280E+01	4.682E-01	0.292
NB-95	-6.276E+00		4.813E+00	1.636E+01	3.335E-01	-0.384
TC-95M	2.521E-01		1.652E+01	5.870E+01	1.186E+00	0.004
ZR-95	-5.205E+00		9.718E+00	3.607E+01	7.349E-01	-0.144
ZRNB-95	-1.242E+01		9.520E+00	3.235E+01	6.596E-01	-0.384
MO-99	2.272E+01		1.562E+01	6.084E+01	1.252E+00	0.373
RH-101	9.314E+00		1.683E+01	6.074E+01	1.229E+00	0.153
RH-102M	1.430E+01		6.961E+00	2.975E+01	5.967E-01	0.481
RU-103	-6.776E+00		7.623E+00	2.628E+01	5.275E-01	-0.258
RU-106DA	-3.066E+01		5.758E+01	2.104E+02	4.252E+00	-0.146
AG-108M	-2.693E+00		9.160E+00	3.301E+01	6.610E-01	-0.082
AG-110M	4.873E+00		6.851E+00	2.862E+01	5.883E-01	0.170

Sample ID : H50P11AA Acquisition date : 14-JUN-2006 17:09:51

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	-1.353E+00		9.948E+00	3.749E+01	7.500E-01	-0.036
SB-124	-3.684E+00		7.633E+00	2.742E+01	5.535E-01	-0.134
SB-125	-5.708E+00		2.147E+01	7.969E+01	1.596E+00	-0.072
SN-126DA	-2.160E+00		5.852E+00	2.151E+01	4.358E-01	-0.100
I-131	-2.173E+00		9.740E+00	3.512E+01	7.025E-01	-0.062
CS-134	-1.200E+00		6.558E+00	2.492E+01	5.091E-01	-0.048
CS-137DA	1.930E+00		7.288E+00	2.810E+01	5.691E-01	0.069
LA-138	-2.103E-01		4.582E+00	1.974E+01	4.208E-01	-0.011
CE-139	-2.119E+00		1.467E+01	5.219E+01	1.064E+00	-0.041
BA-140	5.940E+01		2.830E+01	1.222E+02	2.458E+00	0.486
BALA-140	4.416E+00		8.577E+00	3.792E+01	8.166E-01	0.116
LA-140	4.295E+00		6.802E+00	3.029E+01	6.523E-01	0.142
CE-141	2.022E+01		2.272E+01	8.600E+01	1.766E+00	0.235
CE-144	-6.729E+01		1.047E+02	3.532E+02	7.290E+00	-0.191
CEPR-144	-1.355E+02		2.094E+02	7.060E+02	1.457E+01	-0.192
PM-144	1.551E+00		5.420E+00	2.153E+01	4.349E-01	0.072
PM-146	-9.485E+00		1.018E+01	3.531E+01	7.075E-01	-0.269
EU-152	-3.506E+01		3.319E+01	1.113E+02	2.225E+00	-0.315
EU-154	3.621E+00		1.225E+01	5.121E+01	1.080E+00	0.071
EU-155	-2.872E+01		4.735E+01	1.642E+02	3.448E+00	-0.175
HF-181	-1.219E+01		8.204E+00	2.670E+01	5.355E-01	-0.457
BI-207	-1.251E+00		6.439E+00	2.415E+01	4.865E-01	-0.052
TL-208	9.527E+00		8.859E+00	3.734E+01	7.527E-01	0.255
BI-210M	-7.811E+00		1.853E+01	6.612E+01	1.326E+00	-0.118
BI-212	2.238E+01		6.273E+01	2.663E+02	8.135E+00	0.084
PB-212	-4.358E+01		3.065E+01	8.997E+01	1.809E+00	-0.484
BI-214	-5.840E+00		1.798E+01	7.171E+01	1.448E+00	-0.081
PB-214	-5.058E+01		2.945E+01	8.574E+01	1.715E+00	-0.590
RA-223	5.187E+01		6.530E+01	2.497E+02	5.007E+00	0.208
RA-224DA	-4.364E+01		3.068E+01	9.008E+01	1.811E+00	-0.484
RA-226DA	-6.039E+00		1.797E+01	7.163E+01	1.446E+00	-0.084
AC-227DA	-9.301E+01		1.037E+02	3.450E+02	6.938E+00	-0.270
AC-228	-1.180E+01		2.192E+01	9.115E+01	1.877E+00	-0.129
RA-228DA	-1.180E+01		2.193E+01	9.119E+01	1.877E+00	-0.129
TH-228DA	2.655E+01		2.469E+01	1.040E+02	2.098E+00	0.255
TH-232DA	7.706E+01		8.106E+01	3.030E+02	6.060E+00	0.254
TH-234DA	-1.421E+03		7.700E+02	2.397E+03	4.965E+01	-0.593
U-234DA	4.626E+01		4.490E+01	1.734E+02	3.472E+00	0.267
U-235HP	2.096E+01		1.035E+02	3.800E+02	7.807E+00	0.055
NP-237DA	-1.918E+01		2.331E+01	8.042E+01	1.609E+00	-0.238
U-238DA	-5.058E+01		2.945E+01	8.574E+01	1.715E+00	-0.590
U-238DHP	2.224E+02		2.869E+02	1.094E+03	2.414E+01	0.203
AM-241HP	-3.190E+01		2.956E+01	9.680E+01	2.150E+00	-0.330

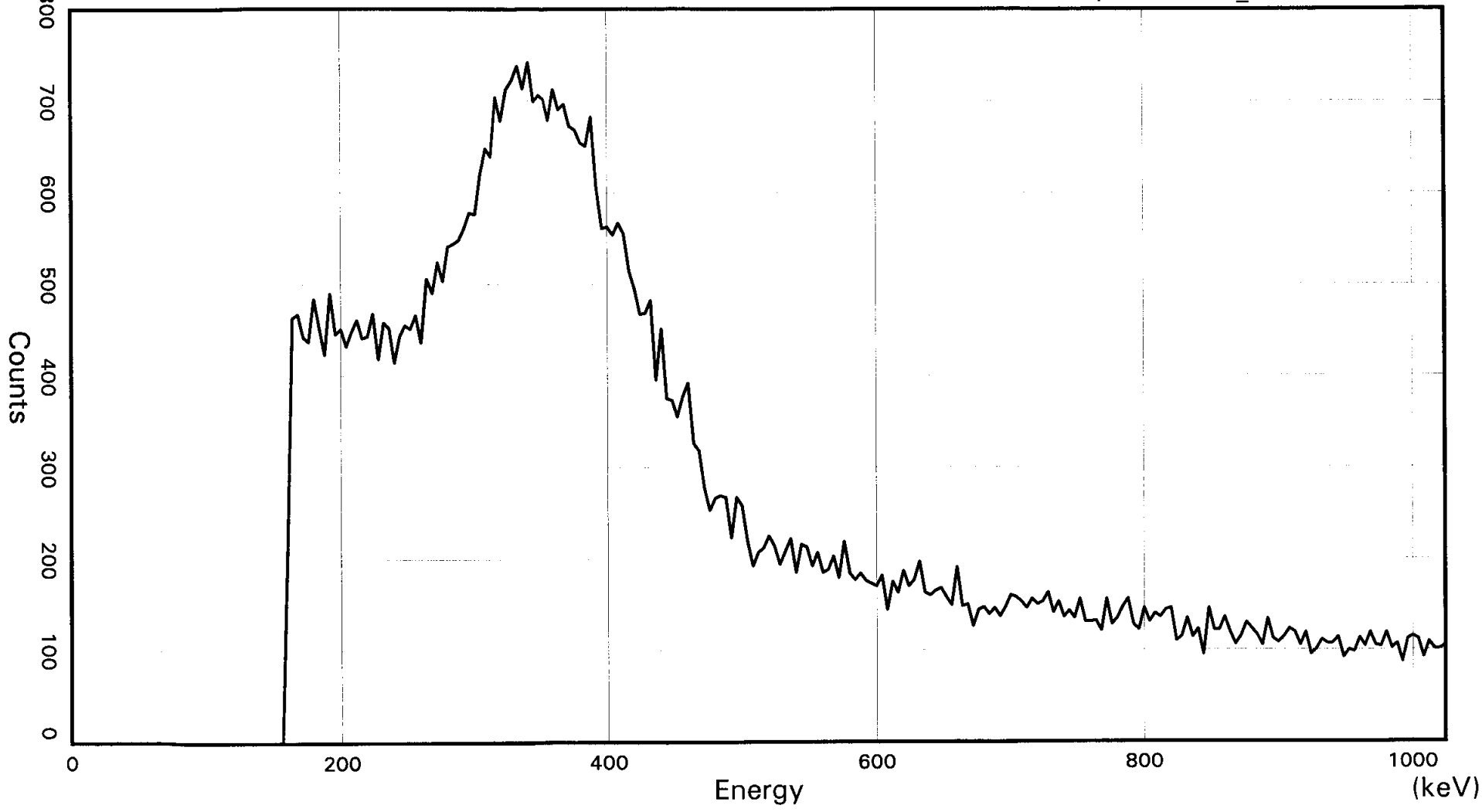
STL Richland WA.

BA133

Sample ID: H50P11AC

Detector ID: NAI1 1

Library: [NUC_LIBR]BA133.NLB



Acquisition Start:	14-JUN-2006 17:44:30.74
Preset Live Time:	0 00:30:00
Elapsed Live Time:	0 00:30:00
Weighting:	DERIVED

Start Channel:	80
End Channel:	113
Iterations:	5
Gain shift:	Iter

SAMPLE IDENTIFICATION: H50P11AC

CONFIGURATION ID: NAI1:H50P11AC_140661744
TITLE : BA133
SAMPLE ID : H50P11AC

REPORT DATE: 14-JUN-06
ACQUIRE DATE: 14-JUN-06 17:44:30
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 9-JUN-2006 12:00:00.00
CALIB DATE: 17-NOV-1993 10:39:59.60
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY:

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: 0.0000E+00 keV
ENERGY SLOPE: 4.0000E+00 keV/C
ENERGY Q COEFF: 0.0000E+00 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: -.2302E+02 keV
FWHM SLOPE: 5.7163E+00 sqr keV
ITERATIONS: 5
GAUSSIAN SENSITIVITY: 35.00 %

ABUNDANCE LIMIT: 75.00 %
ENERGY TOLERANCE: 20.000 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]BA133.NLB

VMS NAI Report V1.2 Generated 14-JUN-2006 18:14:35

Configuration	: RDND06$DKA100:[NAI1.SAMPLE]H50P11AC_140661744.CNF;1		
Analyses by	: NAI V3.0		
Sample title	: BA133		
Sample date	: 9-JUN-2006 12:00:00	Acquisition date	: 14-JUN-2006 17:44:30
Sample ID	: H50P11AC	Sample quantity	: 1.0000 sampl
Elapsed live time	: 0 00:30:00.00	Elapsed real time	: 0 00:30:00.66 0.0%
Sample Multiplier	: 1.00	Rejection Coeff.	: 0.00
Gain shift type	: ITER	Threshold Shift	: No
Weighting type	: DERIVED	Calculated counts	: No
Iterations	: 5		

NAI Residuals Report

Ratio of Residuals Over Standard Deviation Per Channel

80:	5.7	5.9	5.4	5.1	3.8	4.2	2.6	1.7
88:	1.1	0.0	0.7	-0.2	0.7	-1.5	0.1	-0.6
96:	-1.1	-0.1	-2.4	-3.6	-4.9	-2.8	-2.5	-2.5
104:	-3.5	-3.8	-4.3	-3.8	-3.0	-6.1	-2.7	-4.7
112:	-3.9	-4.5						

List of Suspicious Channels

81 82 83 84 85

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	1.22E+01	0.00E+00	1.02E+00
2	4.38E+00	0.00E+00	1.05E+00
3	1.71E+00	0.00E+00	1.07E+00
4	4.48E-01	0.00E+00	1.08E+00

Brief Report

Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	699.	6.19
Total Activity :	699.	

Vial Identifier	Constituent	Prep Activity/Concentration			Std Wt Used		Prep,Decayed To Date		Prep by	Std Decayed Activity/Concentration		
	Parent Standard:	BA13306A000		Ref:	10/4/2004		1.1069E+04	±		DPM/G		
RATA22522	BA-133	**7.5465E+02**	**± 1.401E+00**	DPM	0.0762	g	6/13/2006	6/13/2006	Armstron	9.9035E+03	± 0.000E+00	DPM/G
RATA22523	BA-133	**7.5762E+02**	**± 1.401E+00**	DPM	0.0765	g	6/13/2006	6/13/2006	Armstron	9.9035E+03	± 0.000E+00	DPM/G
RATA22524	BA-133	**7.5267E+02**	**± 1.401E+00**	DPM	0.076	g	6/13/2006	6/13/2006	Armstron	9.9035E+03	± 0.000E+00	DPM/G
RATA22525	BA-133	**7.5168E+02**	**± 1.401E+00**	DPM	0.0759	g	6/13/2006	6/13/2006	Armstron	9.9035E+03	± 0.000E+00	DPM/G
RATA22526	BA-133	**7.5267E+02**	**± 1.401E+00**	DPM	0.076	g	6/13/2006	6/13/2006	Armstron	9.9035E+03	± 0.000E+00	DPM/G
RATA22527	BA-133	**7.5168E+02**	**± 1.401E+00**	DPM	0.0759	g	6/13/2006	6/13/2006	Armstron	9.9035E+03	± 0.000E+00	DPM/G
RATA22528	BA-133	**7.6356E+02**	**± 1.401E+00**	DPM	0.0771	g	6/13/2006	6/13/2006	Armstron	9.9035E+03	± 0.000E+00	DPM/G
RATA22529	BA-133	**7.5564E+02**	**± 1.401E+00**	DPM	0.0763	g	6/13/2006	6/13/2006	Armstron	9.9035E+03	± 0.000E+00	DPM/G
RATA22530	BA-133	**7.5465E+02**	**± 1.401E+00**	DPM	0.0762	g	6/13/2006	6/13/2006	Armstron	9.9035E+03	± 0.000E+00	DPM/G
RATA22531	BA-133	**7.5366E+02**	**± 1.401E+00**	DPM	0.0761	g	6/13/2006	6/13/2006	Armstron	9.9035E+03	± 0.000E+00	DPM/G
RATA22532	BA-133	**7.5366E+02**	**± 1.401E+00**	DPM	0.0761	g	6/13/2006	6/13/2006	Armstron	9.9035E+03	± 0.000E+00	DPM/G
RATA22533	BA-133	**7.5168E+02**	**± 1.401E+00**	DPM	0.0759	g	6/13/2006	6/13/2006	Armstron	9.9035E+03	± 0.000E+00	DPM/G
RATA22534	BA-133	**7.5366E+02**	**± 1.401E+00**	DPM	0.0761	g	6/13/2006	6/13/2006	Armstron	9.9035E+03	± 0.000E+00	DPM/G
RATA22535	BA-133	**7.5465E+02**	**± 1.401E+00**	DPM	0.0762	g	6/13/2006	6/13/2006	Armstron	9.9035E+03	± 0.000E+00	DPM/G
RATA22536	BA-133	**7.5366E+02**	**± 1.401E+00**	DPM	0.0761	g	6/13/2006	6/13/2006	Armstron	9.9035E+03	± 0.000E+00	DPM/G
		7.5439E+002	± 3.005E+000	(15)		0.398%	7.5168E+002 , 7.6356E+002					

Vial Identifier	Constituent	Prep Activity/Concentration			Std Wt Used		Prep,Decayed To Date		Prep by	Std Decayed Activity/Concentration		
	Parent Standard:	BA13306A000		Ref:	10/4/2004		1.1069E+04	±		DPM/G		
RASC4131	BA-133	**7.4925E+02**	± **1.402E+00**	DPM	0.0756	g	6/9/2006	6/9/2006	Armstron	9.9107E+03	± 0.000E+00	DPM/G
		7.4925E+002	± 7.492E+002	(1)			7.4925E+002 , 7.4925E+002					

* - Isotope is an Impurity

6/13/2006 8:30:14 AM

Sample Preparation/Analysis

BX Ra-226/228 PrpRC5016, SepRC5005
TE Ba-133 by NaI & Ra-226 by Alpha Scint 7 day ingrow
01 STANDARD TEST SET

Balance Id:1120373922,206120

Pipet #: _____

AnalyDueDate: 06/13/2006

Sep1 DT/Tm Tech:

Batch: 6143242 pCi/sampl

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: TamosaitisM

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

Comments:

All Clients for Batch:
536403, Brown and Caldwell Brown & Caldwell , SA , 63174

H5KQR1AC-SAMP Constituent List:

Ba-133	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20	Ra-226	RDL:1.00E+00	pCi/sam	LCL:	UCL:	RPD:
H50P11AA-BLK:											
Ba-133	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20	Ra-226	RDL:1.00E+00	pCi/sam	LCL:	UCL:	RPD:
H50P11AC-LCS:											
Ba-133	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20	Ra-226	RDL:1	pCi/sam	LCL:70	UCL:130	RPD:20

H5KQR1AC-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H50P11AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H50P11AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

6/14/2006 12:34:20 PM

Standard Material Fractions (Vials)

Vial Prep: 6/13/05 to 6/15/06,SMFractionIdentifier Between RATA22522 and RATA22536, Order by

Vial Identifier	Constituent	Prep Activity/Concentration			Std Wt Used		Prep,Decayed To Date		Prep by	Std Decayed Activity/Concentration		
	Parent Standard:	BA-30-6092		Ref:			2.9100E+01	± 1.920E-01	mg/g			
RATA22522	BA	**3.0276E+01**	± **1.998E-01**	mg	1.0404	g	6/13/2006	6/13/2006	Armstron		±	mg/g
RATA22523	BA	**3.0334E+01**	± **2.002E-01**	mg	1.0424	g	6/13/2006	6/13/2006	Armstron		±	mg/g
RATA22524	BA	**3.0256E+01**	± **1.997E-01**	mg	1.0397	g	6/13/2006	6/13/2006	Armstron		±	mg/g
RATA22525	BA	**3.0157E+01**	± **1.990E-01**	mg	1.0363	g	6/13/2006	6/13/2006	Armstron		±	mg/g
RATA22526	BA	**3.0229E+01**	± **1.995E-01**	mg	1.0388	g	6/13/2006	6/13/2006	Armstron		±	mg/g
RATA22527	BA	**3.0125E+01**	± **1.988E-01**	mg	1.0352	g	6/13/2006	6/13/2006	Armstron		±	mg/g
RATA22528	BA	**3.0180E+01**	± **1.992E-01**	mg	1.0371	g	6/13/2006	6/13/2006	Armstron		±	mg/g
RATA22529	BA	**3.0302E+01**	± **2.000E-01**	mg	1.0413	g	6/13/2006	6/13/2006	Armstron		±	mg/g
RATA22530	BA	**3.0232E+01**	± **1.995E-01**	mg	1.0389	g	6/13/2006	6/13/2006	Armstron		±	mg/g
RATA22531	BA	**3.0145E+01**	± **1.989E-01**	mg	1.0359	g	6/13/2006	6/13/2006	Armstron		±	mg/g
RATA22532	BA	**3.0186E+01**	± **1.992E-01**	mg	1.0373	g	6/13/2006	6/13/2006	Armstron		±	mg/g
RATA22533	BA	**3.0232E+01**	± **1.995E-01**	mg	1.0389	g	6/13/2006	6/13/2006	Armstron		±	mg/g
RATA22534	BA	**3.0209E+01**	± **1.994E-01**	mg	1.0381	g	6/13/2006	6/13/2006	Armstron		±	mg/g
RATA22535	BA	**3.0221E+01**	± **1.994E-01**	mg	1.0385	g	6/13/2006	6/13/2006	Armstron		±	mg/g
RATA22536	BA	**3.0226E+01**	± **1.995E-01**	mg	1.0387	g	6/13/2006	6/13/2006	Armstron		±	mg/g
		3.0221E+001	± 5.747E-002	(15)		0.190%	3.0125E+001 , 3.0334E+001					

* - Isotope is an Impurity

6/14/2006 12:34:32 PM

Standard Material Fractions (Vials)

Vial Prep: 6/13/05 to 6/15/06,SMFractionIdentifier Between RASC4131 and RASC4131, Order by SMIdentifier,ConstituentCode,SMFractionIdentifier

Vial Identifier	Constituent	Prep Activity/Concentration			Std Wt Used		Prep,Decayed To Date		Prep by	Std Decayed Activity/Concentration		
	Parent Standard:	BA-30-6092		Ref:			2.9100E+01	± 1.920E-01	mg/g			
RASC4131	BA	**3.0267E+01**	± **1.997E-01**	mg	1.0401	g	6/9/2006	6/9/2006	Armstron		±	mg/g
		3.0267E+001	± 3.027E+001	(1)			3.0267E+001 , 3.0267E+001					

* - Isotope is an Impurity

Vial Identifier	Constituent	Prep Activity/Concentration			Std Wt Used		Prep,Decayed To Date		Prep by	Std Decayed Activity/Concentration		
	Parent Standard:	Ra22606A100		Ref:	11/1/2001		2.1060E+01	± 3.234E-01		DPM/G		
RASC4131	RA-226	**3.0918E+00**	**± 4.757E-02**	DPM	0.1471	g	6/9/2006	6/9/2006	Armstron	2.1018E+01	± 3.228E-01	DPM/G
		3.0918E+000	± 3.092E+000	(1)			3.0918E+000 , 3.0918E+000					

* - Isotope is an Impurity

Vial Identifier	Constituent	Prep Activity/Concentration			Std Wt Used		Prep,Decayed To Date		Prep by	Std Decayed Activity/Concentration		
	Parent Standard:	RA22806A000		Ref:	12/15/2003		4.4881E+02	±		DPM/G		
RASC4131	RA-228	**1.1317E+01**	**± 4.707E-02**	DPM	0.034	g	6/9/2006	6/9/2006	Armstron	3.3285E+02	± 0.000E+00	DPM/G
		1.1317E+001	± 1.132E+001	(1)			1.1317E+001 , 1.1317E+001					

* - Isotope is an Impurity