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Analytical Data Package Prepared For

Brown and Caldwell

Yerington Air Quality - Event 82

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.: 32677

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
31903		000480	J6F140275-8	H7D1A1AG	9H7D1A10	6167150
		000480	J6F140275-8	H7D1A1AA	9H7D1A10	6167152
		000480	J6F140275-8	H7D1A1AE	9H7D1A10	6167154
		000480	J6F140275-8	H7D1A1AF	9H7D1A10	6167156
		000480	J6F140275-8	H7D1A1AC	9H7D1A10	6167160
		000480	J6F140275-8	H7D1A1AD	9H7D1A10	6167167
		000481	J6F140275-9	H7D1E1AG	9H7D1E10	6167150
		000481	J6F140275-9	H7D1E1AA	9H7D1E10	6167152
		000481	J6F140275-9	H7D1E1AE	9H7D1E10	6167154
		000481	J6F140275-9	H7D1E1AF	9H7D1E10	6167156
		000481	J6F140275-9	H7D1E1AC	9H7D1E10	6167160
		000481	J6F140275-9	H7D1E1AD	9H7D1E10	6167167
		000482	J6F140275-10	H7D1J1AG	9H7D1J10	6167150
		000482	J6F140275-10	H7D1J1AA	9H7D1J10	6167152
		000482	J6F140275-10	H7D1J1AE	9H7D1J10	6167154
		000482	J6F140275-10	H7D1J1AF	9H7D1J10	6167156
		000482	J6F140275-10	H7D1J1AC	9H7D1J10	6167160
		000482	J6F140275-10	H7D1J1AD	9H7D1J10	6167167
		000483	J6F140275-11	H7D1K1AG	9H7D1K10	6167150
		000483	J6F140275-11	H7D1K1AA	9H7D1K10	6167152
		000483	J6F140275-11	H7D1K1AE	9H7D1K10	6167154
		000483	J6F140275-11	H7D1K1AF	9H7D1K10	6167156
		000483	J6F140275-11	H7D1K1AC	9H7D1K10	6167160
		000483	J6F140275-11	H7D1K1AD	9H7D1K10	6167167
		000484	J6F140275-12	H7D1N1AG	9H7D1N10	6167150
		000484	J6F140275-12	H7D1N1AA	9H7D1N10	6167152

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
31903		000484	J6F140275-12	H7D1N1AE	9H7D1N10	6167154
		000484	J6F140275-12	H7D1N1AF	9H7D1N10	6167156
		000484	J6F140275-12	H7D1N1AC	9H7D1N10	6167160
		000484	J6F140275-12	H7D1N1AD	9H7D1N10	6167167
		000485	J6F140275-13	H7D1R1AG	9H7D1R10	6167150
		000485	J6F140275-13	H7D1R1AA	9H7D1R10	6167152
		000485	J6F140275-13	H7D1R1AE	9H7D1R10	6167154
		000485	J6F140275-13	H7D1R1AF	9H7D1R10	6167156
		000485	J6F140275-13	H7D1R1AC	9H7D1R10	6167160
		000485	J6F140275-13	H7D1R1AD	9H7D1R10	6167167
		000486	J6F140275-14	H7D1X1AG	9H7D1X10	6167150
		000486	J6F140275-14	H7D1X1AA	9H7D1X10	6167152
		000486	J6F140275-14	H7D1X1AE	9H7D1X10	6167154
		000486	J6F140275-14	H7D1X1AF	9H7D1X10	6167156
		000486	J6F140275-14	H7D1X1AC	9H7D1X10	6167160
		000486	J6F140275-14	H7D1X1AD	9H7D1X10	6167167
		P-0653	J6F140275-1	H7D0Q1AG	9H7D0Q10	6167150
		P-0653	J6F140275-1	H7D0Q1AA	9H7D0Q10	6167152
		P-0653	J6F140275-1	H7D0Q1AE	9H7D0Q10	6167154
		P-0653	J6F140275-1	H7D0Q1AF	9H7D0Q10	6167156
		P-0653	J6F140275-1	H7D0Q1AC	9H7D0Q10	6167160
		P-0653	J6F140275-1	H7D0Q1AD	9H7D0Q10	6167167
		P-0654	J6F140275-2	H7D0W1AG	9H7D0W10	6167150
		P-0654	J6F140275-2	H7D0W1AA	9H7D0W10	6167152
		P-0654	J6F140275-2	H7D0W1AE	9H7D0W10	6167154
		P-0654	J6F140275-2	H7D0W1AF	9H7D0W10	6167156
		P-0654	J6F140275-2	H7D0W1AC	9H7D0W10	6167160
		P-0654	J6F140275-2	H7D0W1AD	9H7D0W10	6167167
		P-0655	J6F140275-3	H7D001AG	9H7D0010	6167150
		P-0655	J6F140275-3	H7D001AA	9H7D0010	6167152
		P-0655	J6F140275-3	H7D001AE	9H7D0010	6167154
		P-0655	J6F140275-3	H7D001AF	9H7D0010	6167156
		P-0655	J6F140275-3	H7D001AC	9H7D0010	6167160
		P-0655	J6F140275-3	H7D001AD	9H7D0010	6167167
		P-0656	J6F140275-4	H7D021AG	9H7D0210	6167150
		P-0656	J6F140275-4	H7D021AA	9H7D0210	6167152
		P-0656	J6F140275-4	H7D021AE	9H7D0210	6167154
		P-0656	J6F140275-4	H7D021AF	9H7D0210	6167156
		P-0656	J6F140275-4	H7D021AC	9H7D0210	6167160

Report No.: 32677

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
31903		P-0656	J6F140275-4	H7D021AD	9H7D0210	6167167
		P-0657	J6F140275-5	H7D031AG	9H7D0310	6167150
		P-0657	J6F140275-5	H7D031AA	9H7D0310	6167152
		P-0657	J6F140275-5	H7D031AE	9H7D0310	6167154
		P-0657	J6F140275-5	H7D031AF	9H7D0310	6167156
		P-0657	J6F140275-5	H7D031AC	9H7D0310	6167160
		P-0657	J6F140275-5	H7D031AD	9H7D0310	6167167
		P-0658	J6F140275-6	H7D051AG	9H7D0510	6167150
		P-0658	J6F140275-6	H7D051AA	9H7D0510	6167152
		P-0658	J6F140275-6	H7D051AE	9H7D0510	6167154
		P-0658	J6F140275-6	H7D051AF	9H7D0510	6167156
		P-0658	J6F140275-6	H7D051AC	9H7D0510	6167160
		P-0658	J6F140275-6	H7D051AD	9H7D0510	6167167
		P-0659	J6F140275-7	H7D081AG	9H7D0810	6167150
		P-0659	J6F140275-7	H7D081AA	9H7D0810	6167152
		P-0659	J6F140275-7	H7D081AE	9H7D0810	6167154
		P-0659	J6F140275-7	H7D081AF	9H7D0810	6167156
		P-0659	J6F140275-7	H7D081AC	9H7D0810	6167160
		P-0659	J6F140275-7	H7D081AD	9H7D0810	6167167

SEVERN TRENT STL

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Certificate of Analysis

July 17, 2006

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

Attention: Guy Graening

Date Received at Lab	:	May 14, 2006
Project Name	:	Air Quality Monitoring Yerington Mine
Project Number	:	121243
Event Number	:	82
PO Number	:	129682.001
Sample Type	:	Fourteen (14) Filters
SDG Number	:	31903

CASE NARRATIVE

I. Introduction

On May 14, 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 J6F140275.

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 has a 17% yield but 100% recovery. The CRDL is met. Data is accepted. Except as noted, 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:

Samples P-0653, P-0656, P-0657, P-0658 and P-0659 do not meet CRDL but their results >MDA>CRDL. 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 Method, Batch No., Client Sample ID.

Date: 17-Jul-06

Report No. : 32677

SDG No: 31903

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RER2
6167150	E908.0								
	000480								
	H7D1A1AG	U-234	-0.0452 +- 0.0644	ND	pCi/sample	94%	0.638	1.0	
		U-235	0.00000 +- 0.277	ND	pCi/sample	94%	0.306	1.0	
		U-238	0.00000 +- 0.277	ND	pCi/sample	94%	0.306	1.0	
	000481								
	H7D1E1AG	U-234	-0.0195 +- 0.0392	ND	pCi/sample	106%	0.468	1.0	
		U-235	0.00000 +- 0.239	ND	pCi/sample	106%	0.265	1.0	
		U-238	-0.0391 +- 0.0556	ND	pCi/sample	106%	0.552	1.0	
	000482								
	H7D1J1AG	U-234	0.263 +- 0.307	ND	pCi/sample	100%	0.238	1.0	
		U-235	-0.0176 +- 0.0352	ND	pCi/sample	100%	0.42	1.0	
		U-238	-0.0351 +- 0.0500	ND	pCi/sample	100%	0.496	1.0	
	000483								
	H7D1K1AG	U-234	0.511 +- 0.465	=	pCi/sample	96%	0.277	1.0	
		U-235	0.102 +- 0.205	ND	pCi/sample	96%	0.277	1.0	
		U-238	0.0818 +- 0.209	ND	pCi/sample	96%	0.49	1.0	
	000484								
	H7D1N1AG	U-234	0.0652 +- 0.194	ND	pCi/sample	100%	0.512	1.0	
		U-235	-0.0230 +- 0.0268	ND	pCi/sample	100%	0.478	1.0	
		U-238	-0.0537 +- 0.0415	ND	pCi/sample	100%	0.593	1.0	
	000485								
	H7D1R1AG	U-234	-0.0447 +- 0.0406	ND	pCi/sample	93%	0.631	1.0	
		U-235	-0.0179 +- 0.0254	ND	pCi/sample	93%	0.51	1.0	
		U-238	-0.0357 +- 0.0362	ND	pCi/sample	93%	0.596	1.0	
	000486								
	H7D1X1AG	U-234	-0.0249 +- 0.0291	ND	pCi/sample	108%	0.518	1.0	
		U-235	0.0873 +- 0.210	ND	pCi/sample	108%	0.475	1.0	
		U-238	0.00000 +- 0.255	ND	pCi/sample	108%	0.282	1.0	
	P-0653								
	H7D0Q1AG	U-234	0.177 +- 0.283	ND	pCi/sample	99%	0.471	1.0	
		U-235	0.00000 +- 0.241	ND	pCi/sample	99%	0.267	1.0	
		U-238	0.0787 +- 0.201	ND	pCi/sample	99%	0.471	1.0	
	P-0654								
	H7D0W1AG	U-234	0.178 +- 0.284	ND	pCi/sample	90%	0.474	1.0	
		U-235	-0.0198 +- 0.0398	ND	pCi/sample	90%	0.474	1.0	
		U-238	-0.0396 +- 0.0564	ND	pCi/sample	90%	0.56	1.0	
	P-0655								
	H7D001AG	U-234	0.00000 +- 0.256	ND	pCi/sample	94%	0.283	1.0	

STL Richland

rptSTLRchSaSummary2 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 Method, Batch No., Client Sample ID.

Date: 17-Jul-06

Report No. : 32677

SDG No: 31903

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RER2
6167150 E908.0									
P-0655									
	H7D001AG	U-235	0.00000 +- 0.256	ND	pCi/sample	94%	0.283	1.0	
		U-238	0.0834 +- 0.213	ND	pCi/sample	94%	0.5	1.0	
P-0656									
	H7D021AG	U-234	-0.0319 +- 0.0323	ND	pCi/sample	97%	0.532	1.0	
		U-235	-0.0239 +- 0.0279	ND	pCi/sample	97%	0.497	1.0	
		U-238	-0.0558 +- 0.0432	ND	pCi/sample	97%	0.617	1.0	
P-0657									
	H7D031AG	U-234	0.0655 +- 0.222	ND	pCi/sample	95%	0.617	1.0	
		U-235	-0.0175 +- 0.0249	ND	pCi/sample	95%	0.499	1.0	
		U-238	0.0742 +- 0.221	ND	pCi/sample	95%	0.583	1.0	
P-0658									
	H7D051AG	U-234	-0.0166 +- 0.0237	ND	pCi/sample	99%	0.475	1.0	
		U-235	-0.0166 +- 0.0237	ND	pCi/sample	99%	0.475	1.0	
		U-238	0.00000 +- 0.255	ND	pCi/sample	99%	0.282	1.0	
P-0659									
	H7D081AG	U-234	-0.0597 +- 0.0544	ND	pCi/sample	93%	0.844	1.0	
		U-235	0.149 +- 0.300	ND	pCi/sample	93%	0.405	1.0	
		U-238	0.00000 +- 0.366	ND	pCi/sample	93%	0.405	1.0	
6167152 ISOTH									
000480									
	H7D1A1AA	TH-228	0.230 +- 0.336	ND	pCi/sample	49%	0.553	1.0	
		TH-230	0.703 +- 0.517	=	pCi/sample	49%	0.238	1.0	
		TH-232	0.00000 +- 0.215	ND	pCi/sample	49%	0.238	1.0	
000481									
	H7D1E1AA	TH-228	0.137 +- 0.160	ND	pCi/sample	109%	0.124	1.0	
		TH-230	0.174 +- 0.177	ND	pCi/sample	109%	0.118	1.0	
		TH-232	0.0435 +- 0.0873	ND	pCi/sample	109%	0.118	1.0	
000482									
	H7D1J1AA	TH-228	0.0572 +- 0.115	ND	pCi/sample	100%	0.229	1.0	
		TH-230	0.218 +- 0.182	=	pCi/sample	100%	0.0986	1.0	
		TH-232	0.127 +- 0.152	ND	pCi/sample	100%	0.218	1.0	
000483									
	H7D1K1AA	TH-228	0.204 +- 0.358	ND	pCi/sample	48%	0.687	1.0	
		TH-230	0.350 +- 0.364	ND	pCi/sample	48%	0.467	1.0	
		TH-232	0.0779 +- 0.247	ND	pCi/sample	48%	0.573	1.0	
000484									
	H7D1N1AA	TH-228	-0.0861 +- 0.173	ND	pCi/sample	25%	1.03	1.0	

STL Richland

rptSTLRchSaSummary2 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 Method, Batch No., Client Sample ID.

Date: 17-Jul-06

Report No. : 32677

SDG No: 31903

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RER2
6167152 ISOTH									
	000484								
	H7D1N1AA	TH-230	0.164 +- 0.330	ND	pCi/sample	25%	0.445	1.0	
		TH-232	0.00000 +- 0.402	ND	pCi/sample	25%	0.445	1.0	
	000485								
	H7D1R1AA	TH-228	0.0640 +- 0.129	ND	pCi/sample	85%	0.256	1.0	
		TH-230	0.346 +- 0.255	=	pCi/sample	85%	0.244	1.0	
		TH-232	0.00000068 +- 0.0997	ND	pCi/sample	85%	0.3	1.0	
	000486								
	H7D1X1AA	TH-228	0.0866 +- 0.174	ND	pCi/sample	100%	0.349	1.0	
		TH-230	0.693 +- 0.336	=	pCi/sample	100%	0.243	1.0	
		TH-232	0.00000 +- 0.0808	ND	pCi/sample	100%	0.0894	1.0	
	P-0653								
	H7D0Q1AA	TH-228	0.144 +- 0.441	ND	pCi/sample	36%	0.965	1.0	
		TH-230	1.01 +- 0.678	=	pCi/sample	36%	0.673	1.0	
		TH-232	0.0914 +- 0.184	ND	pCi/sample	36%	0.248	1.0	
	P-0654								
	H7D0W1AA	TH-228	-0.0624 +- 0.330	ND	pCi/sample	36%	1.05	1.0	
		TH-230	0.475 +- 0.486	ND	pCi/sample	36%	0.322	1.0	
		TH-232	0.00000 +- 0.291	ND	pCi/sample	36%	0.322	1.0	
	P-0655								
	H7D001AA	TH-228	0.115 +- 0.201	ND	pCi/sample	97%	0.386	1.0	
		TH-230	0.0438 +- 0.0879	ND	pCi/sample	97%	0.119	1.0	
		TH-232	0.0438 +- 0.0879	ND	pCi/sample	97%	0.119	1.0	
	P-0656								
	H7D021AA	TH-228	0.151 +- 0.284	ND	pCi/sample	60%	0.555	1.0	
		TH-230	0.504 +- 0.393	=	pCi/sample	60%	0.195	1.0	
		TH-232	0.0719 +- 0.145	ND	pCi/sample	60%	0.195	1.0	
	P-0657								
	H7D031AA	TH-228	0.0637 +- 0.255	ND	pCi/sample	74%	0.591	1.0	
		TH-230	0.394 +- 0.335	=	pCi/sample	74%	0.364	1.0	
		TH-232	0.0607 +- 0.122	ND	pCi/sample	74%	0.164	1.0	
	P-0658								
	H7D051AA	TH-228	-0.1160 +- 0.0972	ND	pCi/sample	109%	0.417	1.0	
		TH-230	0.499 +- 0.293	=	pCi/sample	109%	0.222	1.0	
		TH-232	0.0370 +- 0.0742	ND	pCi/sample	109%	0.1	1.0	
	P-0659								
	H7D081AA	TH-228	0.115 +- 0.210	ND	pCi/sample	99%	0.412	1.0	
		TH-230	0.273 +- 0.215	=	pCi/sample	99%	0.219	1.0	

STL Richland

rptSTLRchSaSummary2 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 Method, Batch No., Client Sample ID.

Date: 17-Jul-06

Report No. : 32677

SDG No: 31903

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RER2
6167152 ISOTH									
	P-0659								
	H7D081AA	TH-232	0.0364 +- 0.115	ND	pCi/sample	99%	0.268	1.0	
6167154 E900.0									
	000480								
	H7D1A1AE	ALPHA	3.08 +- 3.01	ND	pCi/sample	100%	5.13	20.0	
	000481								
	H7D1E1AE	ALPHA	7.72 +- 4.15	=	pCi/sample	100%	5.05	20.0	
	000482								
	H7D1J1AE	ALPHA	4.35 +- 3.19	ND	pCi/sample	100%	4.51	20.0	
	000483								
	H7D1K1AE	ALPHA	9.02 +- 4.53	=	pCi/sample	100%	4.96	20.0	
	000484								
	H7D1N1AE	ALPHA	3.58 +- 3.11	ND	pCi/sample	100%	5.05	20.0	
	000485								
	H7D1R1AE	ALPHA	1.95 +- 2.66	ND	pCi/sample	100%	5.09	20.0	
	000486								
	H7D1X1AE	ALPHA	7.45 +- 4.11	=	pCi/sample	100%	5.1	20.0	
	P-0653								
	H7D0Q1AE	ALPHA	3.76 +- 3.25	ND	pCi/sample	100%	5.3	20.0	
	P-0654								
	H7D0W1AE	ALPHA	2.91 +- 2.96	ND	pCi/sample	100%	5.13	20.0	
	P-0655								
	H7D001AE	ALPHA	2.78 +- 3.13	ND	pCi/sample	100%	5.73	20.0	
	P-0656								
	H7D021AE	ALPHA	2.29 +- 2.94	ND	pCi/sample	100%	5.62	20.0	
	P-0657								
	H7D031AE	ALPHA	2.78 +- 2.77	ND	pCi/sample	100%	4.66	20.0	
	P-0658								
	H7D051AE	ALPHA	3.13 +- 2.95	ND	pCi/sample	100%	4.92	20.0	
	P-0659								
	H7D081AE	ALPHA	3.19 +- 2.98	ND	pCi/sample	100%	5.0	20.0	
6167156 E900.0									
	000480								
	H7D1A1AF	BETA	24.5 +- 5.02	=	pCi/sample	100%	5.16	5.0	
	000481								
	H7D1E1AF	BETA	19.5 +- 4.38	=	pCi/sample	100%	5.11	5.0	
	000482								
	H7D1J1AF	BETA	21.1 +- 4.51	=	pCi/sample	100%	4.85	5.0	
	000483								

STL Richland

rptSTLRchSaSummary2 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 Method, Batch No., Client Sample ID.

Date: 17-Jul-06

Report No. : 32677

SDG No: 31903

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RER2
6167156 E900.0									
	000483 H7D1K1AF	BETA	24.4 +- 5.02	=	pCi/sample	100%	5.13	5.0	
	000484 H7D1N1AF	BETA	20.7 +- 4.61	=	pCi/sample	100%	5.25	5.0	
	000485 H7D1R1AF	BETA	20.0 +- 4.80	=	pCi/sample	100%	5.16	5.0	
	000486 H7D1X1AF	BETA	3.21 +- 2.67	ND	pCi/sample	100%	5.13	5.0	
	P-0653 H7D0Q1AF	BETA	16.5 +- 4.15	=	pCi/sample	100%	5.42	5.0	
	P-0654 H7D0W1AF	BETA	19.3 +- 4.37	=	pCi/sample	100%	5.05	5.0	
	P-0655 H7D001AF	BETA	16.8 +- 4.52	=	pCi/sample	100%	5.17	5.0	
	P-0656 H7D021AF	BETA	21.2 +- 4.86	=	pCi/sample	100%	5.73	5.0	
	P-0657 H7D031AF	BETA	17.0 +- 4.28	=	pCi/sample	100%	5.51	5.0	
	P-0658 H7D051AF	BETA	13.9 +- 3.90	=	pCi/sample	100%	5.53	5.0	
	P-0659 H7D081AF	BETA	16.2 +- 4.12	=	pCi/sample	100%	5.35	5.0	
6167160 E903.1									
	000480 H7D1A1AC	RA-226	-0.0925 +- 0.301	ND	pCi/sample	90%	0.645	1.0	
	000481 H7D1E1AC	RA-226	0.154 +- 0.296	ND	pCi/sample	91%	0.525	1.0	
	000482 H7D1J1AC	RA-226	0.233 +- 0.383	ND	pCi/sample	87%	0.672	1.0	
	000483 H7D1K1AC	RA-226	0.0436 +- 0.215	ND	pCi/sample	109%	0.422	1.0	
	000484 H7D1N1AC	RA-226	0.259 +- 0.236	ND	pCi/sample	90%	0.334	1.0	
	000485 H7D1R1AC	RA-226	0.156 +- 0.215	ND	pCi/sample	92%	0.363	1.0	
	000486 H7D1X1AC	RA-226	0.703 +- 0.351	=	pCi/sample	94%	0.381	1.0	
	P-0653 H7D0Q1AC	RA-226	0.487 +- 0.451	ND	pCi/sample	90%	0.719	1.0	

STL Richland

rptSTLRchSaSummary2 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 Method, Batch No., Client Sample ID.

Date: 17-Jul-06

Report No. : 32677

SDG No: 31903

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RER2
6167160 E903.1									
P-0654	H7D0W1AC	RA-226	0.194 +- 0.322	ND	pCi/sample	85%	0.563	1.0	
P-0655	H7D001AC	RA-226	0.261 +- 0.279	ND	pCi/sample	97%	0.445	1.0	
P-0656	H7D021AC	RA-226	0.202 +- 0.300	ND	pCi/sample	98%	0.515	1.0	
P-0657	H7D031AC	RA-226	0.305 +- 0.258	ND	pCi/sample	92%	0.363	1.0	
P-0658	H7D051AC	RA-226	0.121 +- 0.287	ND	pCi/sample	103%	0.532	1.0	
P-0659	H7D081AC	RA-226	0.332 +- 0.282	ND	pCi/sample	94%	0.422	1.0	
6167167 E904.0									
000480	H7D1A1AD	RA-228	0.138 +- 0.852	ND	pCi/sample	83%	2.1	3.1	
000481	H7D1E1AD	RA-228	0.610 +- 0.786	ND	pCi/sample	82%	1.77	3.1	
000482	H7D1J1AD	RA-228	0.422 +- 0.845	ND	pCi/sample	76%	1.98	3.1	
000483	H7D1K1AD	RA-228	0.269 +- 0.731	ND	pCi/sample	97%	1.73	3.1	
000484	H7D1N1AD	RA-228	0.623 +- 0.712	ND	pCi/sample	81%	1.57	3.1	
000485	H7D1R1AD	RA-228	1.26 +- 1.11	ND	pCi/sample	80%	2.37	3.1	
000486	H7D1X1AD	RA-228	2.45 +- 1.06	=	pCi/sample	84%	1.82	3.1	
P-0653	H7D0Q1AD	RA-228	1.75 +- 1.30	ND	pCi/sample	80%	2.73	3.1	
P-0654	H7D0W1AD	RA-228	1.96 +- 1.34	ND	pCi/sample	77%	2.74	3.1	
P-0655	H7D001AD	RA-228	0.619 +- 1.14	ND	pCi/sample	89%	2.59	3.1	
P-0656	H7D021AD	RA-228	1.21 +- 1.01	ND	pCi/sample	88%	2.12	3.1	
P-0657	H7D031AD	RA-228	0.0173 +- 0.941	ND	pCi/sample	85%	2.27	3.1	
P-0658	H7D051AD	RA-228	0.498 +- 0.888	ND	pCi/sample	94%	2.03	3.1	

STL Richland

rptSTLRchSaSummary2 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 Method, Batch No., Client Sample ID.

Date: 17-Jul-06

Report No. : 32677

SDG No: 31903

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RER2
6167167	E904.0								
	P-0659								
	H7D081AD	RA-228	0.732 +- 0.906	ND	pCi/sample	85%	2.0	3.1	

No. of Results: 140

STL Richland

rptSTLRchSaSummary2 V4.15.0 A97

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

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 Method, Batch No, QC Type,.

Date: 17-Jul-06

Report No. : 32677

SDG No.: 31903

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	Recovery	Bias	MDC|MDA
E908.0								
6167150 BLANK QC								
H7JMD1AA	U-234	-0.00349 +- 0.00317	N	pCi/sample	105%			0.0492
	U-235	0.00000 +- 0.0213	N	pCi/sample	105%			0.0236
	U-238	0.00871 +- 0.0175	N	pCi/sample	105%			0.0236
6167150 LCS								
H7JMD1AC	U-234	1.05 +- 0.240	=	pCi/sample	93%	108%	0.1	0.0403
	U-235	0.0428 +- 0.0356	=	pCi/sample	93%	97%	0.0	0.0193
	U-238	1.12 +- 0.251	=	pCi/sample	93%	110%	0.1	0.0193
ISOTH								
6167152 BLANK QC								
H7JME1AA	TH-228	0.00828 +- 0.0156	N	pCi/sample	91%			0.0305
	TH-230	0.0276 +- 0.0214	=	pCi/sample	91%			0.0107
	TH-232	0.00000 +- 0.00966	N	pCi/sample	91%			0.0107
6167152 LCS								
H7JME1AC	TH-230	1.82 +- 0.638	=	pCi/sample	17%	100%	0.0	0.136
E900.0								
6167154 BLANK QC								
H7JMH1AA	ALPHA	0.0529 +- 0.0555	N	pCi/sample	100%			0.0952
6167154 LCS								
H7JMH1AC	ALPHA	2.14 +- 0.507	=	pCi/sample	100%	90%	-0.1	0.103
E900.0								
6167156 BLANK QC								
H7JMN1AA	BETA	0.146 +- 0.214	N	pCi/sample	100%			0.434
6167156 LCS								
H7JMN1AC	BETA	3.91 +- 0.744	=	pCi/sample	100%	85%	-0.1	0.408
E903.1								
6167160 BLANK QC								
H7JMQ1AA	RA-226	0.0625 +- 0.0670	N	pCi/sample	91%			0.107
6167160 LCS								
H7JMQ1AC	RA-226	1.29 +- 0.320	=	pCi/sample	97%	92%	-0.1	0.0893
E904.0								
6167167 BLANK QC								
H7JM21AA	RA-228	0.122 +- 0.193	N	pCi/sample	83%			0.445
6167167 LCS								
H7JM21AC	RA-228	3.85 +- 0.650	=	pCi/sample	89%	76%	-0.2	0.454

No. of Results: 18

STL Richland

rptSTLRchQcSummary V4.15.0 A97

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

= 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: 17-Jul-06

Lab Name:	**STL Richland**	**SDG:**	31903	**Collection Date:**	5/31/2006 10:40:00 AM
Lot-Sample No.:	**J6F140275-8**	**Report No. :**	32677	**Received Date:**	6/14/2006 10:00:00 AM
Client Sample ID:	**000480**	**COC No. :**		**Matrix:**	FILTER AIR

Yerington Air Quality - Event 82

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6167150	E908.0			**Work Order:**	H7D1A1AG	**Report DB ID:**	9H7D1A10					
U-234	**-0.0452**	ND	0.064	0.064	0.638	pCi/sample	94%	*-0.07*	7/7/06 05:49 p	1.0	0.06243	ALP87
						0.166	1.0	*-(1.4)*		Sample	Sample	
U-235	**0.00000**	ND	0.0000	0.28	0.306	pCi/sample	94%	*0.*	7/7/06 05:49 p	1.0	0.06243	ALP87
							1.0	*0.*		Sample	Sample	
U-238	**0.00000**	ND	0.0000	0.28	0.306	pCi/sample	94%	*0.*	7/7/06 05:49 p	1.0	0.06243	ALP87
							1.0	*0.*		Sample	Sample	
Batch: 6167152	ISOTH			**Work Order:**	H7D1A1AA	**Report DB ID:**	9H7D1A10					
TH-228	**0.230**	ND	0.33	0.34	0.553	pCi/sample	49%	*0.42*	7/12/06 08:05 p	1.0	0.08327	ALP173
						0.152	1.0	*(1.4)*		Sample	Sample	
TH-230	**0.703**	=	0.50	0.52	0.238	pCi/sample	49%	*(3.)*	7/12/06 08:05 p	1.0	0.08327	ALP173
							1.0	*(2.7)*		Sample	Sample	
TH-232	**0.00000**	ND	0.0000	0.22	0.238	pCi/sample	49%	*0.*	7/12/06 08:05 p	1.0	0.08327	ALP173
							1.0	*0.*		Sample	Sample	
Batch: 6167154	E900.0			**Work Order:**	H7D1A1AE	**Report DB ID:**	9H7D1A10					
ALPHA	**3.08**	ND	2.9	3.0	5.13	pCi/sample	100%	*0.6*	7/11/06 07:55 a	1.0	0.02081	GPC10C
						2.06	20.0	*(2.)*		Sample	Sample	
Batch: 6167156	E900.0			**Work Order:**	H7D1A1AF	**Report DB ID:**	9H7D1A10					
BETA	**24.5**	=	3.8	5.0	5.16	pCi/sample	100%	*(4.7)*	7/10/06 03:01 p	1.0	0.08395	GPC26D
						2.47	5.0	*(9.8)*		Sample	Sample	
Batch: 6167160	E903.1			**Work Order:**	H7D1A1AC	**Report DB ID:**	9H7D1A10					

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: 17-Jul-06

Lab Name: STL Richland
SDG: 31903
Collection Date: 5/31/2006 10:40:00 AM
Lot-Sample No.: J6F140275-8
Report No. : 32677
Received Date: 6/14/2006 10:00:00 AM
Client Sample ID: 000480
COC No. :
Matrix: FILTER AIR

Yerington Air Quality - Event 82

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
RA-226	-0.0925	ND	0.30	0.30	0.645	pCi/sample	90%	*-0.14*	7/6/06 01:40 p	1.0	0.24972	ASCDSA
						0.276	1.0	*-0.62*		Sample	Sample	
Batch: 6167167	E904.0			**Work Order:**	H7D1A1AD		**Report DB ID:**	9H7D1A10				
RA-228	0.138	ND	0.73	0.85	2.1	pCi/sample	83%	*0.07*	7/11/06 07:12 a	1.0	0.24972	GPC2C
						0.912	3.1	*0.32*		Sample	Sample	

No. 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: 17-Jul-06

Lab Name: STL Richland
Lot-Sample No.: J6F140275-9
Client Sample ID: 000481
Yerington Air Quality - Event 82

SDG: 31903
Report No. : 32677
COC No. :

Collection Date: 5/31/2006 11:05:00 AM
Received Date: 6/14/2006 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	Primary Detector
Batch: 6167150	E908.0			**Work Order:** H7D1E1AG		**Report DB ID:** 9H7D1E10						
U-234	-0.0195	ND	0.039	0.039	0.468	pCi/sample	106%	-0.04	7/7/06 09:44 p	1.0	0.06246	ALP10
						0.102	1.0	-1.		Sample	Sample	
U-235	0.00000	ND	0.0000	0.24	0.265	pCi/sample	106%	0.	7/7/06 09:44 p	1.0	0.06246	ALP10
							1.0	0.		Sample	Sample	
U-238	-0.0391	ND	0.055	0.056	0.552	pCi/sample	106%	-0.07	7/7/06 09:44 p	1.0	0.06246	ALP10
						0.144	1.0	-(1.4)		Sample	Sample	
							Ratio U-234/238 = 0.5					
Batch: 6167152	ISOTH			**Work Order:** H7D1E1AA		**Report DB ID:** 9H7D1E10						
TH-228	0.137	ND	0.16	0.16	0.124	pCi/sample	109%	(1.1)	7/12/06 08:05 p	1.0	0.08357	ALP174
							1.0	(1.7)		Sample	Sample	
TH-230	0.174	ND	0.17	0.18	0.118	pCi/sample	109%	(1.5)	7/12/06 08:05 p	1.0	0.08357	ALP174
							1.0	(2.)		Sample	Sample	
TH-232	0.0435	ND	0.087	0.087	0.118	pCi/sample	109%	0.37	7/12/06 08:05 p	1.0	0.08357	ALP174
							1.0	1.		Sample	Sample	
Batch: 6167154	E900.0			**Work Order:** H7D1E1AE		**Report DB ID:** 9H7D1E10						
ALPHA	7.72	=	3.8	4.2	5.05	pCi/sample	100%	(1.5)	7/11/06 07:55 a	1.0	0.02105	GPC10D
						2.06	20.0	(3.7)		Sample	Sample	
Batch: 6167156	E900.0			**Work Order:** H7D1E1AF		**Report DB ID:** 9H7D1E10						
BETA	19.5	=	3.5	4.4	5.11	pCi/sample	100%	(3.8)	7/10/06 03:01 p	1.0	0.08399	GPC27A
						2.45	5.0	(8.9)		Sample	Sample	
Batch: 6167160	E903.1			**Work Order:** H7D1E1AC		**Report DB ID:** 9H7D1E10						

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: 17-Jul-06

Lab Name: STL Richland **SDG:** 31903 **Collection Date:** 5/31/2006 11:05:00 AM

Lot-Sample No.: J6F140275-9 **Report No. :** 32677 **Received Date:** 6/14/2006 10:00:00 AM

Client Sample ID: 000481 **COC No. :** **Matrix:** FILTER AIR

Yerington Air Quality - Event 82 Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
RA-226	**0.154**	ND	0.29	0.30	0.525	pCi/sample	91%	*0.29*	7/6/06 01:42 p	1.0	0.25034	ASCEHB
						0.231	1.0	*(1.)*		Sample	Sample	
Batch: 6167167	E904.0			**Work Order:**	H7D1E1AD		**Report DB ID:**	9H7D1E10				
RA-228	**0.610**	ND	0.77	0.79	1.77	pCi/sample	82%	*0.34*	7/11/06 07:12 a	1.0	0.25034	GPC3A
						0.758	3.1	*(1.6)*		Sample	Sample	

No. 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: 17-Jul-06

Lab Name: STL Richland
Lot-Sample No.: J6F140275-10
Client Sample ID: 000482
Yerington Air Quality - Event 82

SDG: 31903
Report No. : 32677
COC No. :

Collection Date: 5/31/2006 11:25:00 AM
Received Date: 6/14/2006 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	Primary Detector
Batch: 6167150	E908.0			**Work Order:** H7D1J1AG		**Report DB ID:** 9H7D1J10						
U-234	**0.263**	ND	0.30	0.31	0.238	pCi/sample	100%	*(1.1)*	7/7/06 09:44 p	1.0	0.06264	ALP11
							1.0	*(1.7)*		Sample	Sample	
U-235	**-0.0176**	ND	0.035	0.035	0.42	pCi/sample	100%	*-0.04*	7/7/06 09:44 p	1.0	0.06264	ALP11
						0.0913	1.0	*-1.*		Sample	Sample	
U-238	**-0.0351**	ND	0.050	0.050	0.496	pCi/sample	100%	*-0.07*	7/7/06 09:44 p	1.0	0.06264	ALP11
						0.129	1.0	*-(1.4)*		Sample	Sample	
								Ratio U-234/238 = -7.5				
Batch: 6167152	ISOTH			**Work Order:** H7D1J1AA		**Report DB ID:** 9H7D1J10						
TH-228	**0.0572**	ND	0.11	0.11	0.229	pCi/sample	100%	*0.25*	7/12/06 08:05 p	1.0	0.08452	ALP175
						0.0628	1.0	*1.*		Sample	Sample	
TH-230	**0.218**	=	0.18	0.18	0.0986	pCi/sample	100%	*(2.2)*	7/12/06 08:05 p	1.0	0.08452	ALP175
							1.0	*(2.4)*		Sample	Sample	
TH-232	**0.127**	ND	0.15	0.15	0.218	pCi/sample	100%	*0.58*	7/12/06 08:05 p	1.0	0.08452	ALP175
						0.0598	1.0	*(1.7)*		Sample	Sample	
Batch: 6167154	E900.0			**Work Order:** H7D1J1AE		**Report DB ID:** 9H7D1J10						
ALPHA	**4.35**	ND	3.1	3.2	4.51	pCi/sample	100%	*0.96*	7/11/06 07:55 a	1.0	0.02111	GPC10E
						1.76	20.0	*(2.7)*		Sample	Sample	
Batch: 6167156	E900.0			**Work Order:** H7D1J1AF		**Report DB ID:** 9H7D1J10						
BETA	**21.1**	=	3.5	4.5	4.85	pCi/sample	100%	*(4.4)*	7/10/06 03:01 p	1.0	0.08327	GPC27C
						2.32	5.0	*(9.4)*		Sample	Sample	
Batch: 6167160	E903.1			**Work Order:** H7D1J1AC		**Report DB ID:** 9H7D1J10						

STL Richland
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V4.15.0 A97

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FORM I

SAMPLE RESULTS

Date: 17-Jul-06

Lab Name: STL Richland
Lot-Sample No.: J6F140275-10
Client Sample ID: 000482
Yerington Air Quality - Event 82

SDG: 31903
Report No. : 32677
COC No. :

Collection Date: 5/31/2006 11:25:00 AM
Received Date: 6/14/2006 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	Primary Detector
RA-226	**0.233**	ND	0.38	0.38	0.672	pCi/sample	87%	*0.35*	7/6/06 01:41 p	1.0	0.25057	ASCFSA
						0.282	1.0	*(1.2)*		Sample	Sample	
Batch: 6167167	E904.0			**Work Order:**	H7D1J1AD		**Report DB ID:**	9H7D1J10				
RA-228	**0.422**	ND	0.80	0.85	1.98	pCi/sample	76%	*0.21*	7/11/06 07:12 a	1.0	0.25057	GPC3B
						0.858	3.1	*1.*		Sample	Sample	

No. 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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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: 17-Jul-06

Lab Name:	**STL Richland**	**SDG:**	31903	**Collection Date:**	5/31/2006 11:50:00 AM
Lot-Sample No.:	**J6F140275-11**	**Report No. :**	32677	**Received Date:**	6/14/2006 10:00:00 AM
Client Sample ID:	**000483**	**COC No. :**		**Matrix:**	FILTER AIR

Yerington Air Quality - Event 82

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6167150	E908.0			**Work Order:**	H7D1K1AG		**Report DB ID:**	9H7D1K10				
U-234	**0.511**	=	0.46	0.46	0.277	pCi/sample	96%	*(1.8)*	7/7/06 09:44 p	1.0	0.06221	ALP12
							1.0	*(2.2)*		Sample	Sample	
U-235	**0.102**	ND	0.20	0.21	0.277	pCi/sample	96%	*0.37*	7/7/06 09:44 p	1.0	0.06221	ALP12
							1.0	*1.*		Sample	Sample	
U-238	**0.0818**	ND	0.21	0.21	0.49	pCi/sample	96%	*0.17*	7/7/06 09:44 p	1.0	0.06221	ALP12
						0.106	1.0	*0.78*		Sample	Sample	
								Ratio U-234/238 = 6.2				
Batch: 6167152	ISOTH			**Work Order:**	H7D1K1AA		**Report DB ID:**	9H7D1K10				
TH-228	**0.204**	ND	0.36	0.36	0.687	pCi/sample	48%	*0.3*	7/12/06 08:05 p	1.0	0.08298	ALP176
						0.233	1.0	*(1.1)*		Sample	Sample	
TH-230	**0.350**	ND	0.36	0.36	0.467	pCi/sample	48%	*0.75*	7/12/06 08:05 p	1.0	0.08298	ALP176
						0.128	1.0	*(1.9)*		Sample	Sample	
TH-232	**0.0779**	ND	0.25	0.25	0.573	pCi/sample	48%	*0.14*	7/12/06 08:05 p	1.0	0.08298	ALP176
						0.181	1.0	*0.63*		Sample	Sample	
Batch: 6167154	E900.0			**Work Order:**	H7D1K1AE		**Report DB ID:**	9H7D1K10				
ALPHA	**9.02**	=	4.1	4.5	4.96	pCi/sample	100%	*(1.8)*	7/11/06 11:09 a	1.0	0.02072	GPC10A
						1.98	20.0	*(4.)*		Sample	Sample	
Batch: 6167156	E900.0			**Work Order:**	H7D1K1AF		**Report DB ID:**	9H7D1K10				
BETA	**24.4**	=	3.7	5.0	5.13	pCi/sample	100%	*(4.8)*	7/10/06 03:01 p	1.0	0.08343	GPC27D
						2.46	5.0	*(9.7)*		Sample	Sample	
Batch: 6167160	E903.1			**Work Order:**	H7D1K1AC		**Report DB ID:**	9H7D1K10				

STL Richland
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V4.15.0 A97

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FORM I

SAMPLE RESULTS

Date: 17-Jul-06

Lab Name: STL Richland
Lot-Sample No.: J6F140275-11
Client Sample ID: 000483
Yerington Air Quality - Event 82

SDG: 31903
Report No. : 32677
COC No. :

Collection Date: 5/31/2006 11:50:00 AM
Received Date: 6/14/2006 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	Primary Detector
RA-226	0.0436	ND	0.22	0.22	0.422	pCi/sample	109%	*0.1*	7/6/06 01:40 p	1.0	0.24879	ASCGSA
						0.176	1.0	*0.4*		Sample	Sample	
Batch: 6167167	E904.0			**Work Order:**	H7D1K1AD		**Report DB ID:**	9H7D1K10				
RA-228	0.269	ND	0.73	0.73	1.73	pCi/sample	97%	*0.16*	7/11/06 07:12 a	1.0	0.24879	GPC3C
						0.757	3.1	*0.74*		Sample	Sample	

No. 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.
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FORM I

SAMPLE RESULTS

Date: 17-Jul-06

Lab Name: STL Richland
Lot-Sample No.: J6F140275-12
Client Sample ID: 000484
Yerington Air Quality - Event 82

SDG: 31903
Report No. : 32677
COC No. :

Collection Date: 5/31/2006 12:15:00 PM
Received Date: 6/14/2006 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	Primary Detector
Batch: 6167150	E908.0			**Work Order:** H7D1N1AG		**Report DB ID:** 9H7D1N10						
U-234	**0.0652**	ND	0.19	0.19	0.512	pCi/sample	100%	*0.13*	7/7/06 09:44 p	1.0	0.06279	ALP69
						0.126	1.0	*0.67*		Sample	Sample	
U-235	**-0.0230**	ND	0.027	0.027	0.478	pCi/sample	100%	*-0.05*	7/7/06 09:44 p	1.0	0.06279	ALP69
						0.109	1.0	*-(1.7)*		Sample	Sample	
U-238	**-0.0537**	ND	0.041	0.041	0.593	pCi/sample	100%	*-0.09*	7/7/06 09:44 p	1.0	0.06279	ALP69
						0.167	1.0	*-(2.6)*		Sample	Sample	
							Ratio U-234/238 = -1.2					
Batch: 6167152	ISOTH			**Work Order:** H7D1N1AA		**Report DB ID:** 9H7D1N10						
TH-228	**-0.0861**	ND	0.17	0.17	1.03	pCi/sample	25%	*-0.08*	7/12/06 08:05 p	1.0	0.08341	ALP177
						0.283	1.0	*-0.99*		Sample	Sample	
TH-230	**0.164**	ND	0.33	0.33	0.445	pCi/sample	25%	*0.37*	7/12/06 08:05 p	1.0	0.08341	ALP177
							1.0	*0.99*		Sample	Sample	
TH-232	**0.00000**	ND	0.0000	0.40	0.445	pCi/sample	25%	*0.*	7/12/06 08:05 p	1.0	0.08341	ALP177
							1.0	*0.*		Sample	Sample	
Batch: 6167154	E900.0			**Work Order:** H7D1N1AE		**Report DB ID:** 9H7D1N10						
ALPHA	**3.58**	ND	3.0	3.1	5.05	pCi/sample	100%	*0.71*	7/11/06 11:09 a	1.0	0.02087	GPC10B
						2.04	20.0	*(2.3)*		Sample	Sample	
Batch: 6167156	E900.0			**Work Order:** H7D1N1AF		**Report DB ID:** 9H7D1N10						
BETA	**20.7**	=	3.6	4.6	5.25	pCi/sample	100%	*(3.9)*	7/10/06 03:01 p	1.0	0.08331	GPC28B
						2.52	5.0	*(9.)*		Sample	Sample	
Batch: 6167160	E903.1			**Work Order:** H7D1N1AC		**Report DB ID:** 9H7D1N10						

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: 17-Jul-06

Lab Name:	**STL Richland**	**SDG:**	31903	**Collection Date:**	5/31/2006 12:15:00 PM
Lot-Sample No.:	**J6F140275-12**	**Report No. :**	32677	**Received Date:**	6/14/2006 10:00:00 AM
Client Sample ID:	**000484**	**COC No. :**		**Matrix:**	FILTER AIR

Yerington Air Quality - Event 82

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
RA-226	**0.259**	ND	0.23	0.24	0.334	pCi/sample	90%	*0.77*	7/6/06 01:42 p	1.0	0.2499	ASCJSB
						0.127	1.0	*(2.2)*		Sample	Sample	
Batch: 6167167	E904.0			**Work Order:**	H7D1N1AD		**Report DB ID:**	9H7D1N10				
RA-228	**0.623**	ND	0.71	0.71	1.57	pCi/sample	81%	*0.4*	7/11/06 07:12 a	1.0	0.2499	GPC3D
						0.656	3.1	*(1.7)*		Sample	Sample	

No. 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.
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FORM I

SAMPLE RESULTS

Date: 17-Jul-06

Lab Name: STL Richland
Lot-Sample No.: J6F140275-13
Client Sample ID: 000485
Yerington Air Quality - Event 82

SDG: 31903
Report No. : 32677
COC No. :

Collection Date: 5/31/2006 12:25:00 PM
Received Date: 6/14/2006 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	Primary Detector
Batch: 6167150	E908.0			**Work Order:** H7D1R1AG		**Report DB ID:** 9H7D1R10						
U-234	-0.0447	ND	0.040	0.041	0.631	pCi/sample	93%	-0.07	7/7/06 09:44 p	1.0	0.06247	ALP83
						0.164	1.0	-(2.2)		Sample	Sample	
U-235	-0.0179	ND	0.025	0.025	0.51	pCi/sample	93%	-0.04	7/7/06 09:44 p	1.0	0.06247	ALP83
						0.104	1.0	-(1.4)		Sample	Sample	
U-238	-0.0357	ND	0.036	0.036	0.596	pCi/sample	93%	-0.06	7/7/06 09:44 p	1.0	0.06247	ALP83
						0.147	1.0	-(2.)		Sample	Sample	
								Ratio U-234/238 = 1.3				
Batch: 6167152	ISOTH			**Work Order:** H7D1R1AA		**Report DB ID:** 9H7D1R10						
TH-228	0.0640	ND	0.13	0.13	0.256	pCi/sample	85%	0.25	7/12/06 08:05 p	1.0	0.0834	ALP178
						0.0702	1.0	1.		Sample	Sample	
TH-230	0.346	=	0.25	0.26	0.244	pCi/sample	85%	(1.4)	7/12/06 08:05 p	1.0	0.0834	ALP178
						0.0669	1.0	(2.7)		Sample	Sample	
TH-232	0.00000068	ND	0.10	0.10	0.3	pCi/sample	85%	0.	7/12/06 08:05 p	1.0	0.0834	ALP178
						0.0947	1.0	0.		Sample	Sample	
Batch: 6167154	E900.0			**Work Order:** H7D1R1AE		**Report DB ID:** 9H7D1R10						
ALPHA	1.95	ND	2.6	2.7	5.09	pCi/sample	100%	0.38	7/11/06 11:09 a	1.0	0.02098	GPC10C
						2.05	20.0	(1.5)		Sample	Sample	
Batch: 6167156	E900.0			**Work Order:** H7D1R1AF		**Report DB ID:** 9H7D1R10						
BETA	20.0	=	3.5	4.8	5.16	pCi/sample	100%	(3.9)	7/10/06 03:01 p	1.0	0.08327	GPC28C
						2.47	5.0	(8.4)		Sample	Sample	
Batch: 6167160	E903.1			**Work Order:** H7D1R1AC		**Report DB ID:** 9H7D1R10						

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.
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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: 17-Jul-06

Lab Name:	**STL Richland**	**SDG:**	31903	**Collection Date:**	5/31/2006 12:25:00 PM
Lot-Sample No.:	**J6F140275-13**	**Report No. :**	32677	**Received Date:**	6/14/2006 10:00:00 AM
Client Sample ID:	**000485**	**COC No. :**		**Matrix:**	FILTER AIR

Yerington Air Quality - Event 82

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
RA-226	**0.156**	ND	0.21	0.22	0.363	pCi/sample	92%	*0.43*	7/6/06 01:41 p	1.0	0.24982	ASCQMB
						0.148	1.0	*(1.5)*		Sample	Sample	
Batch: 6167167	E904.0			**Work Order:**	H7D1R1AD		**Report DB ID:**	9H7D1R10				
RA-228	**1.26**	ND	1.1	1.1	2.37	pCi/sample	80%	*0.53*	7/11/06 07:12 a	1.0	0.24982	GPC4A
						1.06	3.1	*(2.3)*		Sample	Sample	

No. 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: 17-Jul-06

Lab Name:	**STL Richland**	**SDG:**	31903	**Collection Date:**	5/31/2006 11:10:00 AM
Lot-Sample No.:	**J6F140275-14**	**Report No. :**	32677	**Received Date:**	6/14/2006 10:00:00 AM
Client Sample ID:	**000486**	**COC No. :**		**Matrix:**	FILTER AIR

Yerington Air Quality - Event 82

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6167150	E908.0			**Work Order:** H7D1X1AG		**Report DB ID:** 9H7D1X10						
U-234	**-0.0249**	ND	0.029	0.029	0.518	pCi/sample	108%	*-0.05*	7/7/06 09:45 p	1.0	0.06218	ALP84
						0.118	1.0	*-(1.7)*		Sample	Sample	
U-235	**0.0873**	ND	0.21	0.21	0.475	pCi/sample	108%	*0.18*	7/7/06 09:45 p	1.0	0.06218	ALP84
						0.0967	1.0	*0.83*		Sample	Sample	
U-238	**0.00000**	ND	0.0000	0.25	0.282	pCi/sample	108%	*0.*	7/7/06 09:45 p	1.0	0.06218	ALP84
							1.0	*0.*		Sample	Sample	
Batch: 6167152	ISOTH			**Work Order:** H7D1X1AA		**Report DB ID:** 9H7D1X10						
TH-228	**0.0866**	ND	0.17	0.17	0.349	pCi/sample	100%	*0.25*	7/13/06 09:44 a	1.0	0.08338	ALP114
						0.127	1.0	*1.*		Sample	Sample	
TH-230	**0.693**	=	0.31	0.34	0.243	pCi/sample	100%	*(2.9)*	7/13/06 09:44 a	1.0	0.08338	ALP114
						0.0768	1.0	*(4.1)*		Sample	Sample	
TH-232	**0.00000**	ND	0.0000	0.081	0.0894	pCi/sample	100%	*0.*	7/13/06 09:44 a	1.0	0.08338	ALP114
							1.0	*0.*		Sample	Sample	
Batch: 6167154	E900.0			**Work Order:** H7D1X1AE		**Report DB ID:** 9H7D1X10						
ALPHA	**7.45**	=	3.8	4.1	5.1	pCi/sample	100%	*(1.5)*	7/11/06 11:09 a	1.0	0.02084	GPC10D
						2.08	20.0	*(3.6)*		Sample	Sample	
Batch: 6167156	E900.0			**Work Order:** H7D1X1AF		**Report DB ID:** 9H7D1X10						
BETA	**3.21**	ND	2.6	2.7	5.13	pCi/sample	100%	*0.63*	7/10/06 03:01 p	1.0	0.08346	GPC28D
						2.45	5.0	*(2.4)*		Sample	Sample	
Batch: 6167160	E903.1			**Work Order:** H7D1X1AC		**Report DB ID:** 9H7D1X10						

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.
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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: 17-Jul-06

Lab Name: STL Richland
Lot-Sample No.: J6F140275-14
Client Sample ID: 000486
Yerington Air Quality - Event 82

SDG: 31903
Report No. : 32677
COC No. :

Collection Date: 5/31/2006 11:10:00 AM
Received Date: 6/14/2006 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	Primary Detector
RA-226	0.703	=	0.32	0.35	0.381	pCi/sample	94%	*(1.8)*	7/6/06 01:41 p	1.0	0.24889	ASCNMA
						0.157	1.0	*(4.)*		Sample	Sample	
Batch: 6167167	E904.0			**Work Order:**	H7D1X1AD		**Report DB ID:**	9H7D1X10				
RA-228	2.45	=	1.0	1.1	1.82	pCi/sample	84%	*(1.3)*	7/11/06 07:12 a	1.0	0.24889	GPC4B
						0.783	3.1	*(4.6)*		Sample	Sample	

No. 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: 17-Jul-06

Lab Name: STL Richland **SDG:** 31903 **Collection Date:** 5/31/2006 10:30:00 AM

Lot-Sample No.: J6F140275-1 **Report No. :** 32677 **Received Date:** 6/14/2006 10:00:00 AM

Client Sample ID: P-0653 **COC No. :** **Matrix:** FILTER AIR

Yerington Air Quality - Event 82 Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6167150	E908.0			**Work Order:**	H7D0Q1AG	**Report DB ID:**	9H7D0Q10					
U-234	**0.177**	ND	0.28	0.28	0.471	pCi/sample	99%	*0.38*	7/7/06 05:47 p	1.0	0.06247	ALP10
						0.102	1.0	*(1.3)*		Sample	Sample	
U-235	**0.00000**	ND	0.0000	0.24	0.267	pCi/sample	99%	*0.*	7/7/06 05:47 p	1.0	0.06247	ALP10
							1.0	*0.*		Sample	Sample	
U-238	**0.0787**	ND	0.20	0.20	0.471	pCi/sample	99%	*0.17*	7/7/06 05:47 p	1.0	0.06247	ALP10
						0.102	1.0	*0.78*		Sample	Sample	
							Ratio U-234/238 = 2.2					
Batch: 6167152	ISOTH			**Work Order:**	H7D0Q1AA	**Report DB ID:**	9H7D0Q10					
TH-228	**0.144**	ND	0.44	0.44	0.965	pCi/sample	36%	*0.15*	7/12/06 08:03 p	1.0	0.08426	ALP114
						0.353	1.0	*0.65*		Sample	Sample	
TH-230	**1.01**	=	0.65	0.68	0.673	pCi/sample	36%	*(1.5)*	7/12/06 08:03 p	1.0	0.08426	ALP114
						0.213	1.0	*(3.)*		Sample	Sample	
TH-232	**0.0914**	ND	0.18	0.18	0.248	pCi/sample	36%	*0.37*	7/12/06 08:03 p	1.0	0.08426	ALP114
							1.0	*0.99*		Sample	Sample	
Batch: 6167154	E900.0			**Work Order:**	H7D0Q1AE	**Report DB ID:**	9H7D0Q10					
ALPHA	**3.76**	ND	3.2	3.3	5.3	pCi/sample	100%	*0.71*	7/10/06 05:43 p	1.0	0.02095	GPC10A
						2.16	20.0	*(2.3)*		Sample	Sample	
Batch: 6167156	E900.0			**Work Order:**	H7D0Q1AF	**Report DB ID:**	9H7D0Q10					
BETA	**16.5**	=	3.5	4.2	5.42	pCi/sample	100%	*(3.1)*	7/10/06 12:24 p	1.0	0.08344	GPC32A
						2.6	5.0	*(8.)*		Sample	Sample	
Batch: 6167160	E903.1			**Work Order:**	H7D0Q1AC	**Report DB ID:**	9H7D0Q10					

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.
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FORM I

SAMPLE RESULTS

Date: 17-Jul-06

Lab Name:	**STL Richland**	**SDG:**	31903	**Collection Date:**	5/31/2006 10:30:00 AM
Lot-Sample No.:	**J6F140275-1**	**Report No. :**	32677	**Received Date:**	6/14/2006 10:00:00 AM
Client Sample ID:	**P-0653**	**COC No. :**		**Matrix:**	FILTER AIR

Yerington Air Quality - Event 82

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
RA-226	**0.487**	ND	0.44	0.45	0.719	pCi/sample	90%	*0.68*	7/6/06 01:10 p	1.0	0.24995	ASC1HB
						0.325	1.0	*(2.2)*		Sample	Sample	
Batch: 6167167	E904.0			**Work Order:**	H7D0Q1AD		**Report DB ID:**	9H7D0Q10				
RA-228	**1.75**	ND	1.3	1.3	2.73	pCi/sample	80%	*0.64*	7/11/06 07:12 a	1.0	0.24995	GPC7A
						1.25	3.1	*(2.7)*		Sample	Sample	

No. 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: 17-Jul-06

Lab Name:	STL Richland	**SDG:**	31903	**Collection Date:**	5/31/2006 11:00:00 AM
Lot-Sample No.:	J6F140275-2	**Report No. :**	32677	**Received Date:**	6/14/2006 10:00:00 AM
Client Sample ID:	P-0654	**COC No. :**		**Matrix:**	FILTER AIR

Yerington Air Quality - Event 82

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6167150	E908.0			**Work Order:**	H7D0W1AG	**Report DB ID:**	9H7D0W10					
U-234	**0.178**	ND	0.28	0.28	0.474	pCi/sample	90%	*0.38*	7/7/06 05:47 p	1.0	0.06161	ALP11
						0.103	1.0	*(1.3)*		Sample	Sample	
U-235	**-0.0198**	ND	0.040	0.040	0.474	pCi/sample	90%	*-0.04*	7/7/06 05:47 p	1.0	0.06161	ALP11
						0.103	1.0	*-1.*		Sample	Sample	
U-238	**-0.0396**	ND	0.056	0.056	0.56	pCi/sample	90%	*-0.07*	7/7/06 05:47 p	1.0	0.06161	ALP11
						0.146	1.0	*-(1.4)*		Sample	Sample	
							Ratio U-234/238 = -4.5					
Batch: 6167152	ISOTH			**Work Order:**	H7D0W1AA	**Report DB ID:**	9H7D0W10					
TH-228	**-0.0624**	ND	0.33	0.33	1.05	pCi/sample	36%	*-0.06*	7/12/06 08:03 p	1.0	0.08229	ALP116
						0.355	1.0	*-0.38*		Sample	Sample	
TH-230	**0.475**	ND	0.48	0.49	0.322	pCi/sample	36%	*(1.5)*	7/12/06 08:03 p	1.0	0.08229	ALP116
							1.0	*(2.)*		Sample	Sample	
TH-232	**0.00000**	ND	0.0000	0.29	0.322	pCi/sample	36%	*0.*	7/12/06 08:03 p	1.0	0.08229	ALP116
							1.0	*0.*		Sample	Sample	
Batch: 6167154	E900.0			**Work Order:**	H7D0W1AE	**Report DB ID:**	9H7D0W10					
ALPHA	**2.91**	ND	2.9	3.0	5.13	pCi/sample	100%	*0.57*	7/10/06 05:43 p	1.0	0.02054	GPC10B
						2.07	20.0	*(2.)*		Sample	Sample	
Batch: 6167156	E900.0			**Work Order:**	H7D0W1AF	**Report DB ID:**	9H7D0W10					
BETA	**19.3**	=	3.5	4.4	5.05	pCi/sample	100%	*(3.8)*	7/10/06 12:24 p	1.0	0.08324	GPC32B
						2.42	5.0	*(8.8)*		Sample	Sample	
Batch: 6167160	E903.1			**Work Order:**	H7D0W1AC	**Report DB ID:**	9H7D0W10					

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.
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FORM I

SAMPLE RESULTS

Date: 17-Jul-06

Lab Name:	**STL Richland**	**SDG:**	31903	**Collection Date:**	5/31/2006 11:00:00 AM
Lot-Sample No.:	**J6F140275-2**	**Report No. :**	32677	**Received Date:**	6/14/2006 10:00:00 AM
Client Sample ID:	**P-0654**	**COC No. :**		**Matrix:**	FILTER AIR

Yerington Air Quality - Event 82

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
RA-226	0.194	ND	0.32	0.32	0.563	pCi/sample	85%	*0.34*	7/6/06 01:10 p	1.0	0.24609	ASC2RC
						0.238	1.0	*(1.2)*		Sample	Sample	
Batch: 6167167	E904.0			**Work Order:**	H7D0W1AD		**Report DB ID:**	9H7D0W10				
RA-228	1.96	ND	1.3	1.3	2.74	pCi/sample	77%	*0.71*	7/11/06 07:12 a	1.0	0.24609	GPC7B
						1.25	3.1	*(2.9)*		Sample	Sample	

No. 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.
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FORM I

SAMPLE RESULTS

Date: 17-Jul-06

Lab Name:	**STL Richland**	**SDG:**	31903	**Collection Date:**	5/31/2006 11:20:00 AM
Lot-Sample No.:	**J6F140275-3**	**Report No. :**	32677	**Received Date:**	6/14/2006 10:00:00 AM
Client Sample ID:	**P-0655**	**COC No. :**		**Matrix:**	FILTER AIR

Yerington Air Quality - Event 82

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6167150	E908.0			**Work Order:**	H7D001AG		**Report DB ID:**	9H7D0010				
U-234	**0.00000**	ND	0.0000	0.26	0.283	pCi/sample	94%	*0.*	7/7/06 05:48 p	1.0	0.06224	ALP12
							1.0	*0.*		Sample	Sample	
U-235	**0.00000**	ND	0.0000	0.26	0.283	pCi/sample	94%	*0.*	7/7/06 05:48 p	1.0	0.06224	ALP12
							1.0	*0.*		Sample	Sample	
U-238	**0.0834**	ND	0.21	0.21	0.5	pCi/sample	94%	*0.17*	7/7/06 05:48 p	1.0	0.06224	ALP12
						0.109	1.0	*0.78*		Sample	Sample	
Batch: 6167152	ISOTH			**Work Order:**	H7D001AA		**Report DB ID:**	9H7D0010				
TH-228	**0.115**	ND	0.20	0.20	0.386	pCi/sample	97%	*0.3*	7/13/06 09:44 a	1.0	0.08298	ALP116
						0.131	1.0	*(1.1)*		Sample	Sample	
TH-230	**0.0438**	ND	0.088	0.088	0.119	pCi/sample	97%	*0.37*	7/13/06 09:44 a	1.0	0.08298	ALP116
							1.0	*1.*		Sample	Sample	
TH-232	**0.0438**	ND	0.088	0.088	0.119	pCi/sample	97%	*0.37*	7/13/06 09:44 a	1.0	0.08298	ALP116
							1.0	*1.*		Sample	Sample	
Batch: 6167154	E900.0			**Work Order:**	H7D001AE		**Report DB ID:**	9H7D0010				
ALPHA	**2.78**	ND	3.1	3.1	5.73	pCi/sample	100%	*0.49*	7/10/06 05:43 p	1.0	0.02084	GPC10C
						2.36	20.0	*(1.8)*		Sample	Sample	
Batch: 6167156	E900.0			**Work Order:**	H7D001AF		**Report DB ID:**	9H7D0010				
BETA	**16.8**	=	3.4	4.5	5.17	pCi/sample	100%	*(3.2)*	7/10/06 12:24 p	1.0	0.08351	GPC32C
						2.48	5.0	*(7.4)*		Sample	Sample	
Batch: 6167160	E903.1			**Work Order:**	H7D001AC		**Report DB ID:**	9H7D0010				

STL Richland
rptSTLRchSample
V4.15.0 A97

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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: 17-Jul-06

Lab Name:	**STL Richland**	**SDG:**	31903	**Collection Date:**	5/31/2006 11:20:00 AM
Lot-Sample No.:	**J6F140275-3**	**Report No. :**	32677	**Received Date:**	6/14/2006 10:00:00 AM
Client Sample ID:	**P-0655**	**COC No. :**		**Matrix:**	FILTER AIR

Yerington Air Quality - Event 82

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
RA-226	**0.261**	ND	0.27	0.28	0.445	pCi/sample	97%	*0.59*	7/6/06 01:09 p	1.0	0.24898	ASC3RC
						0.187	1.0	*(1.9)*		Sample	Sample	
Batch: 6167167	E904.0			**Work Order:**	H7D001AD		**Report DB ID:**	9H7D0010				
RA-228	**0.619**	ND	1.1	1.1	2.59	pCi/sample	89%	*0.24*	7/11/06 07:12 a	1.0	0.24898	GPC7C
						1.19	3.1	*(1.1)*		Sample	Sample	

No. 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: 17-Jul-06

Lab Name: STL Richland **SDG:** 31903 **Collection Date:** 5/31/2006 11:45:00 AM

Lot-Sample No.: J6F140275-4 **Report No. :** 32677 **Received Date:** 6/14/2006 10:00:00 AM

Client Sample ID: P-0656 **COC No. :** **Matrix:** FILTER AIR

Yerington Air Quality - Event 82

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6167150	E908.0			**Work Order:**	H7D021AG		**Report DB ID:**	9H7D0210				
U-234	-0.0319	ND	0.032	0.032	0.532	pCi/sample	97%	-0.06	7/7/06 05:48 p	1.0	0.0625	ALP69
						0.131	1.0	-(2.)		Sample	Sample	
U-235	-0.0239	ND	0.028	0.028	0.497	pCi/sample	97%	-0.05	7/7/06 05:48 p	1.0	0.0625	ALP69
						0.114	1.0	-(1.7)		Sample	Sample	
U-238	-0.0558	ND	0.042	0.043	0.617	pCi/sample	97%	-0.09	7/7/06 05:48 p	1.0	0.0625	ALP69
						0.174	1.0	-(2.6)		Sample	Sample	
							Ratio U-234/238 = 0.6					
Batch: 6167152	ISOTH			**Work Order:**	H7D021AA		**Report DB ID:**	9H7D0210				
TH-228	0.151	ND	0.28	0.28	0.555	pCi/sample	60%	0.27	7/12/06 08:04 p	1.0	0.08331	ALP119
						0.176	1.0	(1.1)		Sample	Sample	
TH-230	0.504	=	0.38	0.39	0.195	pCi/sample	60%	(2.6)	7/12/06 08:04 p	1.0	0.08331	ALP119
							1.0	(2.6)		Sample	Sample	
TH-232	0.0719	ND	0.14	0.14	0.195	pCi/sample	60%	0.37	7/12/06 08:04 p	1.0	0.08331	ALP119
							1.0	1.		Sample	Sample	
Batch: 6167154	E900.0			**Work Order:**	H7D021AE		**Report DB ID:**	9H7D0210				
ALPHA	2.29	ND	2.9	2.9	5.62	pCi/sample	100%	0.41	7/10/06 05:43 p	1.0	0.02089	GPC10D
						2.34	20.0	(1.6)		Sample	Sample	
Batch: 6167156	E900.0			**Work Order:**	H7D021AF		**Report DB ID:**	9H7D0210				
BETA	21.2	=	3.8	4.9	5.73	pCi/sample	100%	(3.7)	7/10/06 12:24 p	1.0	0.08411	GPC32D
						2.75	5.0	(8.7)		Sample	Sample	
Batch: 6167160	E903.1			**Work Order:**	H7D021AC		**Report DB ID:**	9H7D0210				

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.
= 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: 17-Jul-06

Lab Name:	**STL Richland**	**SDG:**	31903	**Collection Date:**	5/31/2006 11:45:00 AM
Lot-Sample No.:	**J6F140275-4**	**Report No. :**	32677	**Received Date:**	6/14/2006 10:00:00 AM
Client Sample ID:	**P-0656**	**COC No. :**		**Matrix:**	FILTER AIR

Yerington Air Quality - Event 82

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
RA-226	**0.202**	ND	0.30	0.30	0.515	pCi/sample	98%	*0.39*	7/6/06 01:11 p	1.0	0.24959	ASC4UA
						0.221	1.0	*(1.3)*		Sample	Sample	
Batch: 6167167	E904.0			**Work Order:**	H7D021AD		**Report DB ID:**	9H7D0210				
RA-228	**1.21**	ND	1.0	1.0	2.12	pCi/sample	88%	*0.57*	7/11/06 07:12 a	1.0	0.24959	GPC1A
						0.956	3.1	*(2.4)*		Sample	Sample	

No. 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.
= 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: 17-Jul-06

Lab Name: STL Richland | **SDG:** 31903 | **Collection Date:** 5/31/2006 12:10:00 PM

Lot-Sample No.: J6F140275-5 | **Report No. :** 32677 | **Received Date:** 6/14/2006 10:00:00 AM

Client Sample ID: P-0657 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event 82

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6167150	E908.0			**Work Order:**	H7D031AG		**Report DB ID:**	9H7D0310				
U-234	**0.0655**	ND	0.22	0.22	0.617	pCi/sample	95%	*0.11*	7/7/06 05:48 p	1.0	0.06277	ALP83
						0.161	1.0	*0.59*		Sample	Sample	
U-235	**-0.0175**	ND	0.025	0.025	0.499	pCi/sample	95%	*-0.04*	7/7/06 05:48 p	1.0	0.06277	ALP83
						0.102	1.0	*-(1.4)*		Sample	Sample	
U-238	**0.0742**	ND	0.22	0.22	0.583	pCi/sample	95%	*0.13*	7/7/06 05:48 p	1.0	0.06277	ALP83
						0.144	1.0	*0.67*		Sample	Sample	
								Ratio U-234/238 = 0.9				
Batch: 6167152	ISOTH			**Work Order:**	H7D031AA		**Report DB ID:**	9H7D0310				
TH-228	**0.0637**	ND	0.25	0.25	0.591	pCi/sample	74%	*0.11*	7/12/06 08:04 p	1.0	0.08345	ALP120
						0.209	1.0	*0.5*		Sample	Sample	
TH-230	**0.394**	=	0.33	0.34	0.364	pCi/sample	74%	*(1.1)*	7/12/06 08:04 p	1.0	0.08345	ALP120
						0.0998	1.0	*(2.4)*		Sample	Sample	
TH-232	**0.0607**	ND	0.12	0.12	0.164	pCi/sample	74%	*0.37*	7/12/06 08:04 p	1.0	0.08345	ALP120
							1.0	*1.*		Sample	Sample	
Batch: 6167154	E900.0			**Work Order:**	H7D031AE		**Report DB ID:**	9H7D0310				
ALPHA	**2.78**	ND	2.7	2.8	4.66	pCi/sample	100%	*0.6*	7/10/06 05:43 p	1.0	0.02106	GPC10E
						1.83	20.0	*(2.)*		Sample	Sample	
Batch: 6167156	E900.0			**Work Order:**	H7D031AF		**Report DB ID:**	9H7D0310				
BETA	**17.0**	=	3.5	4.3	5.51	pCi/sample	100%	*(3.1)*	7/10/06 03:01 p	1.0	0.0834	GPC26A
						2.65	5.0	*(7.9)*		Sample	Sample	
Batch: 6167160	E903.1			**Work Order:**	H7D031AC		**Report DB ID:**	9H7D0310				

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.
= 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: 17-Jul-06

Lab Name:	**STL Richland**	**SDG:**	31903	**Collection Date:**	5/31/2006 12:10:00 PM
Lot-Sample No.:	**J6F140275-5**	**Report No. :**	32677	**Received Date:**	6/14/2006 10:00:00 AM
Client Sample ID:	**P-0657**	**COC No. :**		**Matrix:**	FILTER AIR

Yerington Air Quality - Event 82

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
RA-226	**0.305**	ND	0.25	0.26	0.363	pCi/sample	92%	*0.84*	7/6/06 01:12 p	1.0	0.25035	ASC7UA
						0.144	1.0	*(2.4)*		Sample	Sample	
Batch: 6167167	E904.0			**Work Order:**	H7D031AD		**Report DB ID:**	9H7D0310				
RA-228	**0.0173**	ND	0.91	0.94	2.27	pCi/sample	85%	*0.01*	7/11/06 07:12 a	1.0	0.25035	GPC1C
						1.03	3.1	*0.04*		Sample	Sample	

No. of Results: 10 **Comments:**

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: 17-Jul-06

Lab Name:	**STL Richland**	**SDG:**	31903	**Collection Date:**	5/31/2006 12:20:00 PM
Lot-Sample No.:	**J6F140275-6**	**Report No. :**	32677	**Received Date:**	6/14/2006 10:00:00 AM
Client Sample ID:	**P-0658**	**COC No. :**		**Matrix:**	FILTER AIR

Yerington Air Quality - Event 82

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6167150	E908.0			**Work Order:** H7D051AG		**Report DB ID:** 9H7D0510						
U-234	**-0.0166**	ND	0.024	0.024	0.475	pCi/sample	99%	*-0.04*	7/7/06 05:49 p	1.0	0.06281	ALP84
						0.0968	1.0	*-(1.4)*		Sample	Sample	
U-235	**-0.0166**	ND	0.024	0.024	0.475	pCi/sample	99%	*-0.04*	7/7/06 05:49 p	1.0	0.06281	ALP84
						0.0968	1.0	*-(1.4)*		Sample	Sample	
U-238	**0.00000**	ND	0.0000	0.25	0.282	pCi/sample	99%	*0.*	7/7/06 05:49 p	1.0	0.06281	ALP84
							1.0	*0.*		Sample	Sample	
Batch: 6167152	ISOTH			**Work Order:** H7D051AA		**Report DB ID:** 9H7D0510						
TH-228	**-0.1160**	ND	0.095	0.097	0.417	pCi/sample	109%	*-0.28*	7/12/06 08:05 p	1.0	0.08389	ALP171
						0.156	1.0	*-(2.4)*		Sample	Sample	
TH-230	**0.499**	=	0.28	0.29	0.222	pCi/sample	109%	*(2.3)*	7/12/06 08:05 p	1.0	0.08389	ALP171
						0.0608	1.0	*(3.4)*		Sample	Sample	
TH-232	**0.0370**	ND	0.074	0.074	0.1	pCi/sample	109%	*0.37*	7/12/06 08:05 p	1.0	0.08389	ALP171
							1.0	*1.*		Sample	Sample	
Batch: 6167154	E900.0			**Work Order:** H7D051AE		**Report DB ID:** 9H7D0510						
ALPHA	**3.13**	ND	2.9	2.9	4.92	pCi/sample	100%	*0.64*	7/11/06 07:55 a	1.0	0.02085	GPC10A
						1.97	20.0	*(2.1)*		Sample	Sample	
Batch: 6167156	E900.0			**Work Order:** H7D051AF		**Report DB ID:** 9H7D0510						
BETA	**13.9**	=	3.4	3.9	5.53	pCi/sample	100%	*(2.5)*	7/10/06 03:01 p	1.0	0.08318	GPC26B
						2.65	5.0	*(7.1)*		Sample	Sample	
Batch: 6167160	E903.1			**Work Order:** H7D051AC		**Report DB ID:** 9H7D0510						

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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: 17-Jul-06

Lab Name:	**STL Richland**	**SDG:**	31903	**Collection Date:**	5/31/2006 12:20:00 PM
Lot-Sample No.:	**J6F140275-6**	**Report No. :**	32677	**Received Date:**	6/14/2006 10:00:00 AM
Client Sample ID:	**P-0658**	**COC No. :**		**Matrix:**	FILTER AIR

Yerington Air Quality - Event 82

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
RA-226	**0.121**	ND	0.29	0.29	0.532	pCi/sample	103%	*0.23*	7/6/06 01:11 p	1.0	0.2495	ASC8RD
						0.219	1.0	*0.84*		Sample	Sample	
Batch: 6167167	E904.0			**Work Order:**	H7D051AD		**Report DB ID:**	9H7D0510				
RA-228	**0.498**	ND	0.84	0.89	2.03	pCi/sample	94%	*0.25*	7/11/06 07:12 a	1.0	0.2495	GPC1D
						0.916	3.1	*(1.1)*		Sample	Sample	

No. 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: 17-Jul-06

Lab Name: STL Richland | **SDG:** 31903 | **Collection Date:** 5/31/2006 10:35:00 AM

Lot-Sample No.: J6F140275-7 | **Report No. :** 32677 | **Received Date:** 6/14/2006 10:00:00 AM

Client Sample ID: P-0659 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event 82

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6167150	E908.0			**Work Order:** H7D081AG		**Report DB ID:** 9H7D0810						
U-234	-0.0597	ND	0.053	0.054	0.844	pCi/sample	93%	-0.07	7/7/06 05:49 p	1.0	0.06245	ALP85
						0.22	1.0	-(2.2)		Sample	Sample	
U-235	0.149	ND	0.30	0.30	0.405	pCi/sample	93%	0.37	7/7/06 05:49 p	1.0	0.06245	ALP85
							1.0	1.		Sample	Sample	
U-238	0.00000	ND	0.0000	0.37	0.405	pCi/sample	93%	0.	7/7/06 05:49 p	1.0	0.06245	ALP85
							1.0	0.		Sample	Sample	
Batch: 6167152	ISOTH			**Work Order:** H7D081AA		**Report DB ID:** 9H7D0810						
TH-228	0.115	ND	0.21	0.21	0.412	pCi/sample	99%	0.28	7/12/06 08:05 p	1.0	0.08355	ALP172
						0.154	1.0	(1.1)		Sample	Sample	
TH-230	0.273	=	0.21	0.21	0.219	pCi/sample	99%	(1.3)	7/12/06 08:05 p	1.0	0.08355	ALP172
						0.0599	1.0	(2.5)		Sample	Sample	
TH-232	0.0364	ND	0.12	0.12	0.268	pCi/sample	99%	0.14	7/12/06 08:05 p	1.0	0.08355	ALP172
						0.0848	1.0	0.63		Sample	Sample	
Batch: 6167154	E900.0			**Work Order:** H7D081AE		**Report DB ID:** 9H7D0810						
ALPHA	3.19	ND	2.9	3.0	5.0	pCi/sample	100%	0.64	7/11/06 07:55 a	1.0	0.02107	GPC10B
						2.02	20.0	(2.1)		Sample	Sample	
Batch: 6167156	E900.0			**Work Order:** H7D081AF		**Report DB ID:** 9H7D0810						
BETA	16.2	=	3.4	4.1	5.35	pCi/sample	100%	(3.)	7/10/06 03:01 p	1.0	0.08334	GPC26C
						2.56	5.0	(7.9)		Sample	Sample	
Batch: 6167160	E903.1			**Work Order:** H7D081AC		**Report DB ID:** 9H7D0810						

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: 17-Jul-06

Lab Name:	**STL Richland**	**SDG:**	31903	**Collection Date:**	5/31/2006 10:35:00 AM
Lot-Sample No.:	**J6F140275-7**	**Report No. :**	32677	**Received Date:**	6/14/2006 10:00:00 AM
Client Sample ID:	**P-0659**	**COC No. :**		**Matrix:**	FILTER AIR

Yerington Air Quality - Event 82

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
RA-226	**0.332**	ND	0.27	0.28	0.422	pCi/sample	94%	*0.79*	7/6/06 02:50 p	1.0	0.24989	ASCMMA
						0.18	1.0	*(2.4)*		Sample	Sample	
Batch: 6167167	E904.0			**Work Order:**	H7D081AD		**Report DB ID:**	9H7D0810				
RA-228	**0.732**	ND	0.91	0.91	2.0	pCi/sample	85%	*0.37*	7/11/06 07:12 a	1.0	0.24989	GPC2B
						0.871	3.1	*(1.6)*		Sample	Sample	

No. 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 II

BLANK RESULTS

Date: 17-Jul-06

Lab Name: STL Richland

Matrix: FILTER

SDG: 31903

Report No. : 32677

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	Primary Detector
Batch: 6167150	E908.0			**Work Order:**	H7JMD1AA	**Report DB ID:**	H7JMD1AB					
U-234	-0.00349	ND	0.0031	0.0032	0.0492	pCi/sample	105%	-0.07	7/7/06 09:45 p	1.0	1.0	ALP85
					0.0128	1.0		-(2.2)		Sample	Sample	
U-235	0.00000	ND	0.0000	0.021	0.0236	pCi/sample	105%	0.	7/7/06 09:45 p	1.0	1.0	ALP85
						1.0		0.		Sample	Sample	
U-238	0.00871	ND	0.017	0.017	0.0236	pCi/sample	105%	0.37	7/7/06 09:45 p	1.0	1.0	ALP85
						1.0		1.		Sample	Sample	
								Ratio U-234/238 = -0.4				
Batch: 6167152	ISOTH			**Work Order:**	H7JME1AA	**Report DB ID:**	H7JME1AB					
TH-228	0.00828	ND	0.015	0.016	0.0305	pCi/sample	91%	0.27	7/13/06 09:44 a	1.0	1.0	ALP119
					0.00963	1.0		(1.1)		Sample	Sample	
TH-230	0.0276	=	0.021	0.021	0.0107	pCi/sample	91%	(2.6)	7/13/06 09:44 a	1.0	1.0	ALP119
						1.0		(2.6)		Sample	Sample	
TH-232	0.00000	ND	0.0000	0.0097	0.0107	pCi/sample	91%	0.	7/13/06 09:44 a	1.0	1.0	ALP119
						1.0		0.		Sample	Sample	
Batch: 6167154	E900.0			**Work Order:**	H7JMH1AA	**Report DB ID:**	H7JMH1AB					
ALPHA	0.0529	ND	0.054	0.056	0.0952	pCi/sample	100%	0.56	7/11/06 11:09 a	1.0	1.0	GPC10E
					0.0371	20.0		(1.9)		Sample	Sample	
Batch: 6167156	E900.0			**Work Order:**	H7JMN1AA	**Report DB ID:**	H7JMN1AB					
BETA	0.146	ND	0.21	0.21	0.434	pCi/sample	100%	0.34	7/10/06 03:01 p	1.0	1.0	GPC31A
					0.208	5.0		(1.4)		Sample	Sample	
Batch: 6167160	E903.1			**Work Order:**	H7JMQ1AA	**Report DB ID:**	H7JMQ1AB					

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 II

BLANK RESULTS

Date: 17-Jul-06

Lab Name: STL Richland

Matrix: FILTER

SDG: 31903

Report No. : 32677

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	Primary Detector
RA-226	0.0625	ND	0.066	0.067	0.107	pCi/sample	91%	0.59	7/6/06 01:07 p	1.0	1.0	ASCLMC
					0.0448	1.0		(1.9)		Sample	Sample	
Batch: 6167167	E904.0			**Work Order:**	H7JM21AA		**Report DB ID:**	H7JM21AB				
RA-228	0.122	ND	0.19	0.19	0.445	pCi/sample	83%	0.27	7/11/06 07:12 a	1.0	1.0	GPC4C
					0.191	3.1		(1.3)		Sample	Sample	

No. 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.
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

LCS RESULTS

Date: 17-Jul-06

Lab Name: STL Richland

Matrix: FILTER

SDG: 31903

Report No. : 32677

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 6167150	E908.0			**Work Order:**	H7JMD1AC		**Report DB ID:**	H7JMD1CS					
U-234	1.05	=	0.17	0.24	0.0403	pCi/sample	93%	0.970	0.0056	108%	7/7/06 09:46 p	1.0	ALP87
							Rec Limits:	20	115	0.1		Sample	
U-235	0.0428	=	0.035	0.036	0.0193	pCi/sample	93%	0.0443	0.00026	97%	7/7/06 09:46 p	1.0	ALP87
							Rec Limits:	20	115	0.0		Sample	
U-238	1.12	=	0.18	0.25	0.0193	pCi/sample	93%	1.02	0.0059	110%	7/7/06 09:46 p	1.0	ALP87
							Rec Limits:	20	115	0.1		Sample	
Batch: 6167152	ISOTH			**Work Order:**	H7JME1AC		**Report DB ID:**	H7JME1CS					
TH-230	1.82	=	0.41	0.64	0.136	pCi/sample	17%	1.82	0.06	100%	7/13/06 09:44 a	1.0	ALP120
							Rec Limits:	70	130	0.0		Sample	
Batch: 6167154	E900.0			**Work Order:**	H7JMH1AC		**Report DB ID:**	H7JMH1CS					
ALPHA	2.14	=	0.26	0.51	0.103	pCi/sample	100%	2.39	0.075	90%	7/11/06 02:33 p	1.0	GPC10A
							Rec Limits:	70	130	-0.1		Sample	
Batch: 6167156	E900.0			**Work Order:**	H7JMN1AC		**Report DB ID:**	H7JMN1CS					
BETA	3.91	=	0.38	0.74	0.408	pCi/sample	100%	4.59	0.037	85%	7/10/06 03:01 p	1.0	GPC31B
							Rec Limits:	70	130	-0.1		Sample	
Batch: 6167160	E903.1			**Work Order:**	H7JMQ1AC		**Report DB ID:**	H7JMQ1CS					
RA-226	1.29	=	0.18	0.32	0.0893	pCi/sample	97%	1.41	0.022	92%	7/6/06 01:13 p	1.0	ASCPMB
							Rec Limits:	70	130	-0.1		Sample	
Batch: 6167167	E904.0			**Work Order:**	H7JM21AC		**Report DB ID:**	H7JM21CS					
RA-228	3.85	=	0.48	0.65	0.454	pCi/sample	89%	5.05	0.021	76%	7/11/06 07:12 a	1.0	GPC4D
							Rec Limits:	70	130	-0.2		Sample	

No. of Results: 8 **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

STL RICHLAND

BROWN AND CALDWELL J6F140275 31903

CHAIN OF CUSTODY RECORD

COC No._____

☐ 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

Due 7.12.06

PROJECT NAME: Terrington Air Q/By

PROJECT NUMBER: 33263

LABORATORY NAME & ADDRESS: SEVERN TRENT LABS, WEST SACRAMENTO

1/6 OF THE EXPOSED FILTER WAS UTILIZED FOR THE METALS ANALYSIS. SACRAMENTO LOT # J6F070224

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-1653	5/31/06	10:30	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) H7D0Q			—		----	
02	P-1654		11:00		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H7D0W			—		----	
03	P-1655		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) H7D00			—		----	
04	P-1656		11:45		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H7D02			—		----	
05	P-1657		12:10		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H7D03			—		----	
06	P-1658		12:30		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H7D05			—		----	
07	P-1659		1:05		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H7D08			—		----	
08														----	
09														----	
10														----	

COLLECTED & RELEASED BY:	DATE	TIME	COOLER I.D.:		COMMENTS (see note on back):
RECEIVED BY:	DATE 6/13/06	TIME 10:55	RELINQUISHED BY:	DATE / /	TIME :
S. Welch	6.14.06	10:00	Steve Odmon	6/13/06	1600
RECORD RETURNED BY:	DATE / /	TIME :			
COURIER:			SHIPPING NUMBER:		

RECEIVED IN GOOD CONDITION UNDER COC
JUN - 2 2006
INI: AN

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.

BROWN AND CALDWELL 06F1AC275 31903

CHAIN OF CUSTODY RECORD

COC No._____

☐ 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

Due 7.12.06

PROJECT NAME: Yerington Air Qlty

PROJECT NUMBER: 121713

LABORATORY NAME & ADDRESS: SEVERN TRENT LABS, WEST SACRAMENTO

1/6 OF THE EXPOSED FILTER WAS UTILIZED FOR THE METALS ANALYSIS. SACRAMENTO LOT # G6F020224

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	-000480	5/31/06	10:40	MS	1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H7DIA			—		----	
02	-000481		11:05		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H7DIE			—		----	
03	-000482		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) H7DIJ			—		----	
04	-000483		11:50		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H7DIK			—		----	
05	-000484		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) H7DIN			—		----	
06	-000485		12:25		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H7DIR			—		----	
07	-000486		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) H7DIX			—		----	
08														----	
09														----	
10														----	

COLLECTED & RELEASED BY:	DATE	TIME	COOLER I.D.:	DATE	TIME	COMMENTS (see note on back):
[illegible]	6/1/06	[illegible]				RECEIVED IN GOOD CONDITION UNDER COC
RECEIVED BY:	DATE	TIME	RELINQUISHED BY:	DATE	TIME	
[illegible]	6.12.06	10:55	Steve Odmon	6/13/06	1600	JUN – 2 2006
S. Welch	6.14.06	10:00				
RECORD RETURNED BY:	DATE	TIME				
COURIER: [illegible]			SHIPPING NUMBER: 7914 [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.

SEVERN TRENT STL

Sample Check-in List

Date/Time Received: 6·14·06 10:00

Client: BNC SDG #: 31903 NA [ ] SAF #: _____ NA [ ]

Work Order Number: J6F140275 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? FLT NA [✓] pH<2 [ ] pH>2 [ ] adjusted pH [ ]
11. Sample Location, Sample Collector Listed? *
    *For documentation only. No corrective action needed. Yes [✓] No [ ]
12. Were any anomalies identified in sample receipt? Yes [ ] No [✓]
13. Description of anomalies (include sample numbers): _____

Sample Custodian: S. Welch Date: 6·14·06 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

7/14/2006 11:36:37 AM

Lot No., Due Date: J6F140275; 07/12/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6167152; RTHISO Thiso by ALP

SDG, Matrix: 31903; 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:
See NCM. D-08338

First Level Review Pam Anderson **Date** 7-14-06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6147152

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: Sheryl A Adam Date: 7-17-06

STL RICHLAND

6/23/2006 4:38:28 PM

Sample Preparation/Analysis

536403, Brown and Caldwell , Brown & Caldwell

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

Balance Id:1120373922

Pipet #: _____

AnalyDueDate: 07/11/2006

Sep1 DT/Tm Tech:

Batch: 6167152 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: None

Sep2 DT/Tm Tech: 7-12-06 mf

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:
114 **1 H7D0Q-1-AA** J6F140275-1-SAMP 05/31/2006 10:30	0.833sa	500.14sa	50.59g,in	0.0843g	THTF0638 06/15/06,pd 10/04/04,r	500				
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
116 **2 H7D0W-1-AA** J6F140275-2-SAMP 05/31/2006 11:00	0.833sa,g	507.87sa,g	50.17g,in	0.0823g	THTF0639 06/15/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
117 **3 H7D00-1-AA** J6F140275-3-SAMP 05/31/2006 11:20	0.833sa,g	502.02sa,g	50.01g,in	0.083g	THTF0640 06/15/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
119 **4 H7D02-1-AA** J6F140275-4-SAMP 05/31/2006 11:45	0.833sa,g	501.25sa,g	50.13g,in	0.0833g	THTF0641 06/15/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
120 **5 H7D03-1-AA** J6F140275-5-SAMP 05/31/2006 12:10	0.833sa,g	500.30sa,g	50.12g,in	0.0834g	THTF0642 06/23/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
171 **6 H7D05-1-AA** J6F140275-6-SAMP 05/31/2006 12:20	0.833sa,g	500.93sa,g	50.45g,in	0.0839g	THTF0643 06/23/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
172 **7 H7D08-1-AA** J6F140275-7-SAMP 05/31/2006 10:35	0.833sa,g	500.48sa,g	50.20g,in	0.0836g	THTF0644 06/23/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:

STL RICHLAND

6/23/2006 4:38:29 PM

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: 07/11/2006

Sep1 DT/Tm Tech:

Batch: 6167152 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:
173 **8 H7D1A-1-AA** J6F140275-8-SAMP	0.833sa,g	502.47sa,g	50.23g,in	0.0833g	THTF0645 06/23/06,pd 10/04/04,r					
05/31/2006 10:40		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
174 **9 H7D1E-1-AA** J6F140275-9-SAMP	0.833sa,g	500.96sa,g	50.26g,in	0.0836g	THTF0646 06/23/06,pd 10/04/04,r					
05/31/2006 11:05		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
175 **10H7D1J-1-AA** J6F140275-10-SAMP	0.833sa,g	500.26sa,g	50.76g,in	0.0845g	THTF0647 06/23/06,pd 10/04/04,r					
05/31/2006 11:25		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
176 **11H7D1K-1-AA** J6F140275-11-SAMP	0.833sa,g	502.94sa,g	50.10g,in	0.083g	THTF0648 06/23/06,pd 10/04/04,r					
05/31/2006 11:50		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
177 **12H7D1N-1-AA** J6F140275-12-SAMP	0.833sa,g	500.83sa,g	50.15g,in	0.0834g	THTF0649 06/23/06,pd 10/04/04,r					
05/31/2006 12:15		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
178 **13H7D1R-1-AA** J6F140275-13-SAMP	0.833sa,g	500.27sa,g	50.09g,in	0.0834g	THTF0650 06/23/06,pd 10/04/04,r					
05/31/2006 12:25		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
114 **14H7D1X-1-AA** J6F140275-14-SAMP	0.833sa,g	503.21sa,g	50.37g,in	0.0834g	THTF0651 06/23/06,pd 10/04/04,r					
05/31/2006 11:10		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:

STL RICHLAND

6/23/2006 4:38:29 PM

Sample Preparation/Analysis

9N Thiso 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: 07/11/2006

Batch: 6167152 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:
15H7JME-1-AA-B J6F160000-152-BLK 05/31/2006 10:30			1.00sa,in	1.00sa	THTF0652 06/23/06,pd 10/04/04,r					
		AmtRec:	#Containers: 1				Scr:	Alpha:		Beta:
16H7JME-1-AC-C J6F160000-152-LCS 05/31/2006 10:30			1.00sa,in	1.00sa	THSO0080 06/15/06,pd 10/04/04,r					
		AmtRec:	#Containers: 1				Scr:	Alpha:		Beta:

114

120

Comments:

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

H7D0Q1AA-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

H7JME1AA-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

H7JME1AC-LCS:

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

H7D0Q1AA-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H7JME1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H7JME1AC-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 #: **10-08338**
NCM Initiated By: Pam Anderson
Date Opened: 07/14/2006
Date Closed:

Classification: **Anomaly**
Status: **GLREVIEW**
Production Area: Environmental - Sep
Tests: Thlso by ALP
Lot #'s (Sample #'s): J6F140275 (1,10,11,12,13,14,2,3,4,5,6,7,8,9),
QC Batches: 6167152

Nonconformance: Tracer yield out of limits
Subcategory: Unknown

Problem Description / Root Cause

Name	Date	Description
Pam Anderson	07/14/2006	The LCS has a 17% yield but a 100 % recovery. The CRDL is met. Data will be accepted.

Corrective Action

Name	Date	Corrective Action
Pam Anderson	07/14/2006	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: 7/14/2006

7/14/2006 11:05:06 AM

ICOC Fraction Transfer/Status Report

ByDate: 7/14/2005, 7/19/2006, Batch: '6167152', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6167152						
AC		**CalcC**	**HansenM**	6/26/2006 8:41:34		
SC			wagarr	IsBatched	6/16/2006 4:55:22 PM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	6/26/2006 8:41:34 AM	RICH-RC-5016 REVISION 5
SC			HansenM	Prep2C	6/26/2006 8:42:06 AM	RICH-RC-5016 REVISION 5
SC			AndersonE	Sep1C	7/11/2006 9:14:27 AM	RICH-RC-5087 REV0
SC			FABREM	Sep2C	7/12/2006 2:28:53 PM	RICH-RC-5039 REV 6
SC			DAWKINSO	InCnt1	7/12/2006 4:08:08 PM	RICH-RD-0008 REVISION 4
SC			StringerR	CalcC	7/13/2006 2:52:09 PM	RICH-RD-0008 REVISION 4
AC			**HansenM**	6/26/2006 8:42:06		
AC			**AndersonE**	7/11/2006 9:14:27		
AC			**FABREM**	7/12/2006 2:28:53 PM		
AC			**DAWKINSO**	7/12/2006 4:08:08 PM		
AC			**StringerR**	7/13/2006 2:52:09 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 6

ICOCFractions v4.8.18

7/14/2006 11:05:05 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	Cnt Uncert	Tot Uncert	Mda	Matrix / Received Date / Units	Sample Date / Expected	Yield	Volumes
31903	**9H7D0010**			**J6F1402753**	P-0655		FILTER	6/14/2006 10:00:00	5/31/2006 11:20:00 AM			
ALPHA	BAS7	0		7/10/2006 5:43:32 PM	**2.7812E+00**	1.54E+00	1.567E+00	5.727E+00	PCI/SA	1.0	1.0E+0	2.084E-2
BETA	BDS8	0		7/10/2006 12:24:15 PM	**1.6755E+01**	1.683E+00	2.259E+00	5.174E+00	PCI/SA	1.0	1.0E+0	3.351E-2
RA-226	BXTE	0		7/6/2006 1:09:00 PM	**2.608E-01**	1.369E-01	1.396E-01	4.453E-01	PCI/SA	0.97	1.0E+0	2.49E-1
RA-228	BXTF	0		7/11/2006 7:12:14 AM	**6.1877E-01**	5.395E-01	5.695E-01	2.587E+00	PCI/SA	0.891	1.0E+0	2.49E-1
TH-228	9NS1	0		7/13/2006 9:44:00 AM	**1.1484E-01**	1.001E-01	1.007E-01	3.861E-01	PCI/SA	0.972	1.0E+0	3.298E-2
TH-230	9NS1	0		7/13/2006 9:44:00 AM	**4.3757E-02**	4.376E-02	4.394E-02	1.186E-01	PCI/SA	0.972	1.0E+0	3.298E-2
TH-232	9NS1	0		7/13/2006 9:44:00 AM	**4.3757E-02**	4.376E-02	4.394E-02	1.186E-01	PCI/SA	0.972	1.0E+0	3.298E-2
U-234	7YSR	0		7/7/2006 5:48:10 PM	**0.0E+00**	0.0E+00	1.278E-01	2.827E-01	PCI/SA	0.944	1.0E+0	3.224E-2
U-235	7YSR	0		7/7/2006 5:48:10 PM	**0.0E+00**	0.0E+00	1.278E-01	2.827E-01	PCI/SA	0.944	1.0E+0	3.224E-2
U-238	7YSR	0		7/7/2006 5:48:10 PM	**8.3448E-02**	1.064E-01	1.066E-01	4.997E-01	PCI/SA	0.944	1.0E+0	3.224E-2
31903	**9H7D0210**			**J6F1402754**	P-0656		FILTER	6/14/2006 10:00:00	5/31/2006 11:45:00 AM			
ALPHA	BAS7	0		7/10/2006 5:43:32 PM	**2.29E+00**	1.452E+00	1.471E+00	5.616E+00	PCI/SA	1.0	1.0E+0	2.089E-2
BETA	BDS8	0		7/10/2006 12:24:15 PM	**2.1206E+01**	1.893E+00	2.43E+00	5.728E+00	PCI/SA	1.0	1.0E+0	3.411E-2
RA-226	BXTE	0		7/6/2006 1:11:00 PM	**2.0153E-01**	1.482E-01	1.499E-01	5.146E-01	PCI/SA	0.98	1.0E+0	2.496E-1
RA-228	BXTF	0		7/11/2006 7:12:23 AM	**1.2078E+00**	5.041E-01	5.041E-01	2.122E+00	PCI/SA	0.881	1.0E+0	2.496E-1
TH-228	9NS1	0		7/12/2006 8:04:01 PM	**1.5093E-01**	1.412E-01	1.419E-01	5.554E-01	PCI/SA	0.598	1.0E+0	3.331E-2
TH-230	9NS1	0		7/12/2006 8:04:01 PM	**5.035E-01**	1.903E-01	1.965E-01	1.949E-01	PCI/SA	0.598	1.0E+0	3.331E-2
TH-232	9NS1	0		7/12/2006 8:04:01 PM	**7.1929E-02**	7.193E-02	7.227E-02	1.949E-01	PCI/SA	0.598	1.0E+0	3.331E-2
U-234	7YSR	0		7/7/2006 5:48:31 PM	**-3.1913E-02**	1.596E-02	1.616E-02	5.324E-01	PCI/SA	0.966	1.0E+0	3.25E-2
U-235	7YSR	0		7/7/2006 5:48:31 PM	**-2.3934E-02**	1.382E-02	1.395E-02	4.972E-01	PCI/SA	0.966	1.0E+0	3.25E-2
U-238	7YSR	0		7/7/2006 5:48:31 PM	**-5.5847E-02**	2.111E-02	2.158E-02	6.17E-01	PCI/SA	0.966	1.0E+0	3.25E-2
31903	**9H7D0310**			**J6F1402755**	P-0657		FILTER	6/14/2006 10:00:00	5/31/2006 12:10:00 PM			
ALPHA	BAS7	0		7/10/2006 5:43:32 PM	**2.7802E+00**	1.354E+00	1.384E+00	4.661E+00	PCI/SA	1.0	1.0E+0	2.106E-2
BETA	BDS8	0		7/10/2006 3:01:31 PM	**1.6988E+01**	1.74E+00	2.139E+00	5.509E+00	PCI/SA	1.0	1.0E+0	3.34E-2
RA-226	BXTE	0		7/6/2006 1:12:00 PM	**3.0457E-01**	1.243E-01	1.288E-01	3.629E-01	PCI/SA	0.921	1.0E+0	2.503E-1
RA-228	BXTF	0		7/11/2006 7:12:23 AM	**1.7255E-02**	4.551E-01	4.703E-01	2.273E+00	PCI/SA	0.846	1.0E+0	2.503E-1
TH-228	9NS1	0		7/12/2006 8:04:12 PM	**6.3668E-02**	1.273E-01	1.275E-01	5.912E-01	PCI/SA	0.739	1.0E+0	3.345E-2
TH-230	9NS1	0		7/12/2006 8:04:12 PM	**3.9446E-01**	1.634E-01	1.676E-01	3.64E-01	PCI/SA	0.739	1.0E+0	3.345E-2
TH-232	9NS1	0		7/12/2006 8:04:12 PM	**6.0686E-02**	6.069E-02	6.096E-02	1.645E-01	PCI/SA	0.739	1.0E+0	3.345E-2
U-234	7YSR	0		7/7/2006 5:48:48 PM	**6.5503E-02**	1.109E-01	1.11E-01	6.17E-01	PCI/SA	0.945	1.0E+0	3.277E-2
U-235	7YSR	0		7/7/2006 5:48:48 PM	**-1.747E-02**	1.235E-02	1.243E-02	4.989E-01	PCI/SA	0.945	1.0E+0	3.277E-2
U-238	7YSR	0		7/7/2006 5:48:48 PM	**7.4238E-02**	1.106E-01	1.107E-01	5.831E-01	PCI/SA	0.945	1.0E+0	3.277E-2
31903	**9H7D0510**			**J6F1402756**	P-0658		FILTER	6/14/2006 10:00:00	5/31/2006 12:20:00 PM			
ALPHA	BAS7	0		7/11/2006 7:55:37 AM	**3.1276E+00**	1.437E+00	1.474E+00	4.915E+00	PCI/SA	1.0	1.0E+0	2.085E-2
BETA	BDS8	0		7/10/2006 3:01:31 PM	**1.3918E+01**	1.685E+00	1.95E+00	5.525E+00	PCI/SA	1.0	1.0E+0	3.318E-2
RA-226	BXTE	0		7/6/2006 1:11:00 PM	**1.2057E-01**	1.431E-01	1.436E-01	5.32E-01	PCI/SA	1.032	1.0E+0	2.495E-1
RA-228	BXTF	0		7/11/2006 7:12:23 AM	**4.9795E-01**	4.217E-01	4.439E-01	2.028E+00	PCI/SA	0.942	1.0E+0	2.495E-1
TH-228	9NS1	0		7/12/2006 8:05:48 PM	**-1.1632E-01**	4.749E-02	4.858E-02	4.174E-01	PCI/SA	1.092	1.0E+0	3.389E-2
TH-230	9NS1	0		7/12/2006 8:05:48 PM	**4.9894E-01**	1.395E-01	1.463E-01	2.217E-01	PCI/SA	1.092	1.0E+0	3.389E-2
TH-232	9NS1	0		7/12/2006 8:05:48 PM	**3.6959E-02**	3.696E-02	3.71E-02	1.002E-01	PCI/SA	1.092	1.0E+0	3.389E-2
U-234	7YSR	0		7/7/2006 5:49:22 PM	**-1.6643E-02**	1.177E-02	1.185E-02	4.752E-01	PCI/SA	0.989	1.0E+0	3.281E-2
U-235	7YSR	0		7/7/2006 5:49:22 PM	**-1.6643E-02**	1.177E-02	1.185E-02	4.752E-01	PCI/SA	0.989	1.0E+0	3.281E-2
U-238	7YSR	0		7/7/2006 5:49:22 PM	**0.0E+00**	0.0E+00	1.273E-01	2.818E-01	PCI/SA	0.989	1.0E+0	3.281E-2
31903	**9H7D0810**			**J6F1402757**	P-0659		FILTER	6/14/2006 10:00:00	5/31/2006 10:35:00 AM			
ALPHA	BAS7	0		7/11/2006 7:55:37 AM	**3.1938E+00**	1.455E+00	1.492E+00	5.004E+00	PCI/SA	1.0	1.0E+0	2.107E-2
BETA	BDS8	0		7/10/2006 3:01:31 PM	**1.6219E+01**	1.724E+00	2.059E+00	5.351E+00	PCI/SA	1.0	1.0E+0	3.334E-2
RA-226	BXTE	0		7/6/2006 2:50:00 PM	**3.3219E-01**	1.368E-01	1.41E-01	4.224E-01	PCI/SA	0.936	1.0E+0	2.499E-1
RA-228	BXTF	0		7/11/2006 7:12:30 AM	**7.318E-01**	4.528E-01	4.528E-01	2.002E+00	PCI/SA	0.847	1.0E+0	2.499E-1
TH-228	9NS1	0		7/12/2006 8:05:48 PM	**1.1471E-01**	1.047E-01	1.052E-01	4.116E-01	PCI/SA	0.989	1.0E+0	3.355E-2
TH-230	9NS1	0		7/12/2006 8:05:48 PM	**2.7332E-01**	1.047E-01	1.074E-01	2.186E-01	PCI/SA	0.989	1.0E+0	3.355E-2
TH-232	9NS1	0		7/12/2006 8:05:48 PM	**3.6444E-02**	5.762E-02	5.771E-02	2.682E-01	PCI/SA	0.989	1.0E+0	3.355E-2

6167152, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 14,
**Results Inserted | ReTestInserted | Updated | NotInserted => 46 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H7JME1AA=> , mat:FILTER | Air *wo:H7JME1AA=> , mat:FILTER | Air *wo:H7JME1AA=> , mat:FILTER | Air.

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Page 1

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
U-234	7YSR	0		7/7/2006 5:49:38 PM	**-5.9713E-02**	2.67E-02	2.718E-02	8.435E-01	PCI/SA	0.935	1.0E+0	3.245E-2
U-235	7YSR	0		7/7/2006 5:49:38 PM	**1.4926E-01**	1.493E-01	1.498E-01	4.045E-01	PCI/SA	0.935	1.0E+0	3.245E-2
U-238	7YSR	0		7/7/2006 5:49:38 PM	**0.0E+00**	0.0E+00	1.828E-01	4.045E-01	PCI/SA	0.935	1.0E+0	3.245E-2
31903	**9H7D0Q10**			**J6F1402751**	P-0653	FILTER	6/14/2006 10:00:00	5/31/2006 10:30:00 AM				
ALPHA	BAS7	0		7/10/2006 5:43:32 PM	**3.7642E+00**	1.577E+00	1.625E+00	5.305E+00	PCI/SA	1.0	1.0E+0	2.095E-2
BETA	BDS8	0		7/10/2006 12:24:15 PM	**1.6548E+01**	1.734E+00	2.077E+00	5.42E+00	PCI/SA	1.0	1.0E+0	3.344E-2
RA-226	BXTE	0		7/6/2006 1:10:00 PM	**4.869E-01**	2.198E-01	2.255E-01	7.193E-01	PCI/SA	0.904	1.0E+0	2.499E-1
RA-228	BXTF	0		7/11/2006 7:12:14 AM	**1.751E+00**	6.392E-01	6.511E-01	2.726E+00	PCI/SA	0.801	1.0E+0	2.499E-1
TH-228	9NS1	0		7/12/2006 8:03:26 PM	**1.4384E-01**	2.198E-01	2.203E-01	9.651E-01	PCI/SA	0.356	1.0E+0	3.426E-2
TH-230	9NS1	0		7/12/2006 8:03:26 PM	**1.0055E+00**	3.232E-01	3.391E-01	6.728E-01	PCI/SA	0.356	1.0E+0	3.426E-2
TH-232	9NS1	0		7/12/2006 8:03:26 PM	**9.1411E-02**	9.141E-02	9.189E-02	2.477E-01	PCI/SA	0.356	1.0E+0	3.426E-2
U-234	7YSR	0		7/7/2006 5:47:32 PM	**1.7713E-01**	1.405E-01	1.413E-01	4.713E-01	PCI/SA	0.992	1.0E+0	3.247E-2
U-235	7YSR	0		7/7/2006 5:47:32 PM	**0.0E+00**	0.0E+00	1.205E-01	2.667E-01	PCI/SA	0.992	1.0E+0	3.247E-2
U-238	7YSR	0		7/7/2006 5:47:32 PM	**7.8729E-02**	1.004E-01	1.006E-01	4.713E-01	PCI/SA	0.992	1.0E+0	3.247E-2
31903	**9H7D0W10**			**J6F1402752**	P-0654	FILTER	6/14/2006 10:00:00	5/31/2006 11:00:00 AM				
ALPHA	BAS7	0		7/10/2006 5:43:32 PM	**2.9105E+00**	1.446E+00	1.478E+00	5.13E+00	PCI/SA	1.0	1.0E+0	2.054E-2
BETA	BDS8	0		7/10/2006 12:24:15 PM	**1.9342E+01**	1.729E+00	2.186E+00	5.05E+00	PCI/SA	1.0	1.0E+0	3.324E-2
RA-226	BXTE	0		7/6/2006 1:10:00 PM	**1.9402E-01**	1.595E-01	1.608E-01	5.631E-01	PCI/SA	0.847	1.0E+0	2.461E-1
RA-228	BXTF	0		7/11/2006 7:12:14 AM	**1.9622E+00**	6.622E-01	6.69E-01	2.745E+00	PCI/SA	0.768	1.0E+0	2.461E-1
TH-228	9NS1	0		7/12/2006 8:03:40 PM	**-6.2365E-02**	1.649E-01	1.651E-01	1.048E+00	PCI/SA	0.361	1.0E+0	3.229E-2
TH-230	9NS1	0		7/12/2006 8:03:40 PM	**4.7526E-01**	2.376E-01	2.431E-01	3.22E-01	PCI/SA	0.361	1.0E+0	3.229E-2
TH-232	9NS1	0		7/12/2006 8:03:40 PM	**0.0E+00**	0.0E+00	1.455E-01	3.22E-01	PCI/SA	0.361	1.0E+0	3.229E-2
U-234	7YSR	0		7/7/2006 5:47:54 PM	**1.7818E-01**	1.414E-01	1.421E-01	4.742E-01	PCI/SA	0.901	1.0E+0	3.161E-2
U-235	7YSR	0		7/7/2006 5:47:54 PM	**-1.9817E-02**	1.982E-02	1.988E-02	4.742E-01	PCI/SA	0.901	1.0E+0	3.161E-2
U-238	7YSR	0		7/7/2006 5:47:54 PM	**-3.9634E-02**	2.803E-02	2.821E-02	5.596E-01	PCI/SA	0.901	1.0E+0	3.161E-2
31903	**9H7D1A10**			**J6F1402758**	000480	FILTER	6/14/2006 10:00:00	5/31/2006 10:40:00 AM				
ALPHA	BAS7	0		7/11/2006 7:55:37 AM	**3.0843E+00**	1.473E+00	1.507E+00	5.133E+00	PCI/SA	1.0	1.0E+0	2.081E-2
BETA	BDS8	0		7/10/2006 3:01:31 PM	**2.4512E+01**	1.876E+00	2.51E+00	5.162E+00	PCI/SA	1.0	1.0E+0	3.395E-2
RA-226	BXTE	0		7/6/2006 1:40:03 PM	**-9.2468E-02**	1.5E-01	1.503E-01	6.447E-01	PCI/SA	0.899	1.0E+0	2.497E-1
RA-228	BXTF	0		7/11/2006 7:12:30 AM	**1.3786E-01**	3.634E-01	4.258E-01	2.1E+00	PCI/SA	0.829	1.0E+0	2.497E-1
TH-228	9NS1	0		7/12/2006 8:05:48 PM	**2.304E-01**	1.661E-01	1.678E-01	5.528E-01	PCI/SA	0.486	1.0E+0	3.327E-2
TH-230	9NS1	0		7/12/2006 8:05:48 PM	**7.0269E-01**	2.484E-01	2.583E-01	2.38E-01	PCI/SA	0.486	1.0E+0	3.327E-2
TH-232	9NS1	0		7/12/2006 8:05:48 PM	**0.0E+00**	0.0E+00	1.076E-01	2.38E-01	PCI/SA	0.486	1.0E+0	3.327E-2
U-234	7YSR	0		7/7/2006 5:49:59 PM	**-4.5209E-02**	3.197E-02	3.218E-02	6.383E-01	PCI/SA	0.936	1.0E+0	3.243E-2
U-235	7YSR	0		7/7/2006 5:49:59 PM	**0.0E+00**	0.0E+00	1.383E-01	3.06E-01	PCI/SA	0.936	1.0E+0	3.243E-2
U-238	7YSR	0		7/7/2006 5:49:59 PM	**0.0E+00**	0.0E+00	1.383E-01	3.06E-01	PCI/SA	0.936	1.0E+0	3.243E-2
31903	**9H7D1E10**			**J6F1402759**	000481	FILTER	6/14/2006 10:00:00	5/31/2006 11:05:00 AM				
ALPHA	BAS7	0		7/11/2006 7:55:37 AM	**7.7193E+00**	1.918E+00	2.075E+00	5.051E+00	PCI/SA	1.0	1.0E+0	2.105E-2
BETA	BDS8	0		7/10/2006 3:01:34 PM	**1.949E+01**	1.738E+00	2.191E+00	5.115E+00	PCI/SA	1.0	1.0E+0	3.399E-2
RA-226	BXTE	0		7/6/2006 1:42:03 PM	**1.541E-01**	1.473E-01	1.48E-01	5.254E-01	PCI/SA	0.914	1.0E+0	2.503E-1
RA-228	BXTF	0		7/11/2006 7:12:42 AM	**6.097E-01**	3.845E-01	3.931E-01	1.771E+00	PCI/SA	0.818	1.0E+0	2.503E-1
TH-228	9NS1	0		7/12/2006 8:05:48 PM	**1.3689E-01**	7.903E-02	7.997E-02	1.237E-01	PCI/SA	1.092	1.0E+0	3.357E-2
TH-230	9NS1	0		7/12/2006 8:05:48 PM	**1.7396E-01**	8.698E-02	8.836E-02	1.179E-01	PCI/SA	1.092	1.0E+0	3.357E-2
TH-232	9NS1	0		7/12/2006 8:05:48 PM	**4.3489E-02**	4.349E-02	4.366E-02	1.179E-01	PCI/SA	1.092	1.0E+0	3.357E-2
U-234	7YSR	0		7/7/2006 9:44:00 PM	**-1.9532E-02**	1.953E-02	1.959E-02	4.676E-01	PCI/SA	1.055	1.0E+0	3.246E-2
U-235	7YSR	0		7/7/2006 9:44:00 PM	**0.0E+00**	0.0E+00	1.196E-01	2.646E-01	PCI/SA	1.055	1.0E+0	3.246E-2
U-238	7YSR	0		7/7/2006 9:44:00 PM	**-3.9064E-02**	2.762E-02	2.78E-02	5.517E-01	PCI/SA	1.055	1.0E+0	3.246E-2
31903	**9H7D1J10**			**J6F14027510**	000482	FILTER	6/14/2006 10:00:00	5/31/2006 11:25:00 AM				
ALPHA	BAS7	0		7/11/2006 7:55:37 AM	**4.3519E+00**	1.532E+00	1.596E+00	4.514E+00	PCI/SA	1.0	1.0E+0	2.111E-2
BETA	BDS8	0		7/10/2006 3:01:34 PM	**2.1127E+01**	1.727E+00	2.253E+00	4.853E+00	PCI/SA	1.0	1.0E+0	3.327E-2
RA-226	BXTE	0		7/6/2006 1:41:00 PM	**2.3332E-01**	1.903E-01	1.917E-01	6.715E-01	PCI/SA	0.873	1.0E+0	2.506E-1
RA-228	BXTF	0		7/11/2006 7:12:42 AM	**4.2228E-01**	4.01E-01	4.227E-01	1.985E+00	PCI/SA	0.758	1.0E+0	2.506E-1
TH-228	9NS1	0		7/12/2006 8:05:48 PM	**5.7237E-02**	5.724E-02	5.746E-02	2.289E-01	PCI/SA	0.999	1.0E+0	3.452E-2
TH-230	9NS1	0		7/12/2006 8:05:48 PM	**2.1821E-01**	8.908E-02	9.116E-02	9.856E-02	PCI/SA	0.999	1.0E+0	3.452E-2

6167152, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 14,
**Results Inserted | ReTestInserted | Updated | NotInserted => 46 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H7JME1AA=> , mat:FILTER | Air *wo:H7JME1AA=> , mat:FILTER | Air *wo:H7JME1AA=> , 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		7/12/2006 8:05:48 PM	**1.2729E-01**	7.498E-02	7.582E-02	2.181E-01	PCI/SA		0.999	1.0E+0	3.452E-2
U-234	7YSR	0		7/7/2006 9:44:13 PM	**2.6329E-01**	1.52E-01	1.534E-01	2.378E-01	PCI/SA		1.004	1.0E+0	3.264E-2
U-235	7YSR	0		7/7/2006 9:44:13 PM	**-1.7562E-02**	1.756E-02	1.762E-02	4.204E-01	PCI/SA		1.004	1.0E+0	3.264E-2
U-238	7YSR	0		7/7/2006 9:44:13 PM	**-3.5124E-02**	2.484E-02	2.499E-02	4.96E-01	PCI/SA		1.004	1.0E+0	3.264E-2
31903	**9H7D1K10**			**J6F14027511**	000483	FILTER	6/14/2006 10:00:00	5/31/2006 11:50:00 AM					
ALPHA	BAS7	0		7/11/2006 11:09:28	**9.0232E+00**	2.063E+00	2.267E+00	4.957E+00	PCI/SA		1.0	1.0E+0	2.072E-2
BETA	BDS8	0		7/10/2006 3:01:34 PM	**2.4396E+01**	1.849E+00	2.51E+00	5.133E+00	PCI/SA		1.0	1.0E+0	3.343E-2
RA-226	BXTE	0		7/6/2006 1:40:01 PM	**4.3572E-02**	1.076E-01	1.077E-01	4.218E-01	PCI/SA		1.085	1.0E+0	2.488E-1
RA-228	BXTF	0		7/11/2006 7:12:42 AM	**2.6924E-01**	3.657E-01	3.657E-01	1.73E+00	PCI/SA		0.965	1.0E+0	2.488E-1
TH-228	9NS1	0		7/12/2006 8:05:48 PM	**2.0428E-01**	1.781E-01	1.792E-01	6.868E-01	PCI/SA		0.479	1.0E+0	3.298E-2
TH-230	9NS1	0		7/12/2006 8:05:48 PM	**3.5047E-01**	1.784E-01	1.818E-01	4.671E-01	PCI/SA		0.479	1.0E+0	3.298E-2
TH-232	9NS1	0		7/12/2006 8:05:48 PM	**7.7883E-02**	1.231E-01	1.234E-01	5.732E-01	PCI/SA		0.479	1.0E+0	3.298E-2
U-234	7YSR	0		7/7/2006 9:44:21 PM	**5.1122E-01**	2.286E-01	2.323E-01	2.771E-01	PCI/SA		0.964	1.0E+0	3.221E-2
U-235	7YSR	0		7/7/2006 9:44:21 PM	**1.0224E-01**	1.022E-01	1.026E-01	2.771E-01	PCI/SA		0.964	1.0E+0	3.221E-2
U-238	7YSR	0		7/7/2006 9:44:21 PM	**8.1799E-02**	1.043E-01	1.045E-01	4.897E-01	PCI/SA		0.964	1.0E+0	3.221E-2
31903	**9H7D1N10**			**J6F14027512**	000484	FILTER	6/14/2006 10:00:00	5/31/2006 12:15:00 PM					
ALPHA	BAS7	0		7/11/2006 11:09:28	**3.5792E+00**	1.51E+00	1.555E+00	5.047E+00	PCI/SA		1.0	1.0E+0	2.087E-2
BETA	BDS8	0		7/10/2006 3:01:28 PM	**2.0716E+01**	1.798E+00	2.303E+00	5.252E+00	PCI/SA		1.0	1.0E+0	3.331E-2
RA-226	BXTE	0		7/6/2006 1:42:01 PM	**2.5875E-01**	1.148E-01	1.18E-01	3.344E-01	PCI/SA		0.898	1.0E+0	2.499E-1
RA-228	BXTF	0		7/11/2006 7:12:42 AM	**6.2279E-01**	3.551E-01	3.559E-01	1.572E+00	PCI/SA		0.807	1.0E+0	2.499E-1
TH-228	9NS1	0		7/12/2006 8:05:48 PM	**-8.6079E-02**	8.608E-02	8.666E-02	1.033E+00	PCI/SA		0.252	1.0E+0	3.341E-2
TH-230	9NS1	0		7/12/2006 8:05:48 PM	**1.6409E-01**	1.641E-01	1.652E-01	4.447E-01	PCI/SA		0.252	1.0E+0	3.341E-2
TH-232	9NS1	0		7/12/2006 8:05:48 PM	**0.0E+00**	0.0E+00	2.01E-01	4.447E-01	PCI/SA		0.252	1.0E+0	3.341E-2
U-234	7YSR	0		7/7/2006 9:44:39 PM	**6.5185E-02**	9.709E-02	9.723E-02	5.12E-01	PCI/SA		1.001	1.0E+0	3.279E-2
U-235	7YSR	0		7/7/2006 9:44:39 PM	**-2.3012E-02**	1.329E-02	1.341E-02	4.782E-01	PCI/SA		1.001	1.0E+0	3.279E-2
U-238	7YSR	0		7/7/2006 9:44:39 PM	**-5.3694E-02**	2.029E-02	2.075E-02	5.934E-01	PCI/SA		1.001	1.0E+0	3.279E-2
31903	**9H7D1R10**			**J6F14027513**	000485	FILTER	6/14/2006 10:00:00	5/31/2006 12:25:00 PM					
ALPHA	BAS7	0		7/11/2006 11:09:28	**1.9515E+00**	1.313E+00	1.328E+00	5.086E+00	PCI/SA		1.0	1.0E+0	2.098E-2
BETA	BDS8	0		7/10/2006 3:01:28 PM	**2.0042E+01**	1.763E+00	2.399E+00	5.163E+00	PCI/SA		1.0	1.0E+0	3.327E-2
RA-226	BXTE	0		7/6/2006 1:41:01 PM	**1.5633E-01**	1.063E-01	1.075E-01	3.633E-01	PCI/SA		0.918	1.0E+0	2.498E-1
RA-228	BXTF	0		7/11/2006 7:12:53 AM	**1.2625E+00**	5.361E-01	5.556E-01	2.372E+00	PCI/SA		0.8	1.0E+0	2.498E-1
TH-228	9NS1	0		7/12/2006 8:05:48 PM	**6.4046E-02**	6.405E-02	6.43E-02	2.561E-01	PCI/SA		0.848	1.0E+0	3.34E-2
TH-230	9NS1	0		7/12/2006 8:05:48 PM	**3.4592E-01**	1.238E-01	1.276E-01	2.441E-01	PCI/SA		0.848	1.0E+0	3.34E-2
TH-232	9NS1	0		7/12/2006 8:05:48 PM	**6.7899E-07**	4.984E-02	4.984E-02	2.995E-01	PCI/SA		0.848	1.0E+0	3.34E-2
U-234	7YSR	0		7/7/2006 9:44:53 PM	**-4.467E-02**	1.998E-02	2.031E-02	6.31E-01	PCI/SA		0.928	1.0E+0	3.247E-2
U-235	7YSR	0		7/7/2006 9:44:53 PM	**-1.7868E-02**	1.263E-02	1.272E-02	5.103E-01	PCI/SA		0.928	1.0E+0	3.247E-2
U-238	7YSR	0		7/7/2006 9:44:53 PM	**-3.5736E-02**	1.787E-02	1.81E-02	5.963E-01	PCI/SA		0.928	1.0E+0	3.247E-2
31903	**9H7D1X10**			**J6F14027514**	000486	FILTER	6/14/2006 10:00:00	5/31/2006 11:10:00 AM					
ALPHA	BAS7	0		7/11/2006 11:09:28	**7.4524E+00**	1.907E+00	2.055E+00	5.104E+00	PCI/SA		1.0	1.0E+0	2.084E-2
BETA	BDS8	0		7/10/2006 3:01:28 PM	**3.2061E+00**	1.309E+00	1.336E+00	5.128E+00	PCI/SA		1.0	1.0E+0	3.346E-2
RA-226	BXTE	0		7/6/2006 1:41:01 PM	**7.0279E-01**	1.603E-01	1.755E-01	3.809E-01	PCI/SA		0.937	1.0E+0	2.489E-1
RA-228	BXTF	0		7/11/2006 7:12:53 AM	**2.4454E+00**	5.04E-01	5.289E-01	1.818E+00	PCI/SA		0.845	1.0E+0	2.489E-1
TH-228	9NS1	0		7/13/2006 9:44:23 AM	**8.6589E-02**	8.66E-02	8.693E-02	3.486E-01	PCI/SA		0.996	1.0E+0	3.338E-2
TH-230	9NS1	0		7/13/2006 9:44:23 AM	**6.9293E-01**	1.565E-01	1.679E-01	2.429E-01	PCI/SA		0.996	1.0E+0	3.338E-2
TH-232	9NS1	0		7/13/2006 9:44:23 AM	**0.0E+00**	0.0E+00	4.041E-02	8.942E-02	PCI/SA		0.996	1.0E+0	3.338E-2
U-234	7YSR	0		7/7/2006 9:45:05 PM	**-2.495E-02**	1.44E-02	1.454E-02	5.185E-01	PCI/SA		1.076	1.0E+0	3.218E-2
U-235	7YSR	0		7/7/2006 9:45:05 PM	**8.7304E-02**	1.046E-01	1.048E-01	4.75E-01	PCI/SA		1.076	1.0E+0	3.218E-2
U-238	7YSR	0		7/7/2006 9:45:05 PM	**0.0E+00**	0.0E+00	1.273E-01	2.817E-01	PCI/SA		1.076	1.0E+0	3.218E-2
31903	**H7JME1AB**			**J6F160000152**	INTRA-LAB BLANK	FILTER	6/14/2006 10:00:00	5/31/2006 10:30:00 AM					
TH-228	9NS1	0	B	7/13/2006 9:44:29 AM	**8.2781E-03**	7.744E-03	7.778E-03	3.047E-02	PCI/SA		0.908	1.0E+0	1.0E+0
TH-230	9NS1	0	B	7/13/2006 9:44:29 AM	**2.76E-02**	1.043E-02	1.071E-02	1.069E-02	PCI/SA		0.908	1.0E+0	1.0E+0
TH-232	9NS1	0	B	7/13/2006 9:44:29 AM	**0.0E+00**	0.0E+00	4.829E-03	1.069E-02	PCI/SA		0.908	1.0E+0	1.0E+0
31903	**H7JME1CS**			**J6F160000152**	INTRA-LAB CHECK	FILTER	6/14/2006 10:00:00	5/31/2006 10:30:00 AM					
TH-230	9NS1	0	S	7/13/2006 9:44:32 AM	**1.8187E+00**	2.036E-01	3.19E-01	1.355E-01	PCI/SA	1.8248E+00	0.166	1.0E+0	1.0E+0

6167152, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 14,
**Results Inserted | ReTestInserted | Updated | NotInserted => 46 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H7JME1AA=> , mat:FILTER | Air *wo:H7JME1AA=> , mat:FILTER | Air *wo:H7JME1AA=> , mat:FILTER | Air.

Batch Nbr: 6167152

Alpha Spec, Thlso by ALP , Results Summary Report

7/13/2006 2:41:41 PM

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Thlso by ALP				Richland Standard Alplso Wo Blk Subt.										
Calc	S1	FILTER	H7D0Q1AA	TH-228	1.44E-01	(2.20E-01)	U4	PCI/SA	R	3.53E-01	9.65E-01		36%	
Calc	S1	FILTER	H7D0Q1AA	TH-230	1.01E+00	(3.39E-01)		PCI/SA	R	2.13E-01	6.73E-01		36%	
Calc	S1	FILTER	H7D0Q1AA	TH-232	9.14E-02	(9.19E-02)	U4	PCI/SA	R		2.48E-01		36%	
Calc	S1	FILTER	H7D0W1AA	TH-228	-6.24E-02	(1.65E-01)	U4	PCI/SA	R	3.55E-01	1.05E+00		36%	
Calc	S1	FILTER	H7D0W1AA	TH-230	4.75E-01	(2.43E-01)		PCI/SA	R		3.22E-01		36%	
Calc	S1	FILTER	H7D0W1AA	TH-232	0.00E+00	(1.46E-01)	U4	PCI/SA	R		3.22E-01		36%	
Calc	S1	FILTER	H7D001AA	TH-228	1.15E-01	(1.01E-01)	U4	PCI/SA	R	1.31E-01	3.86E-01		97%	
Calc	S1	FILTER	H7D001AA	TH-230	4.38E-02	(4.39E-02)	U4	PCI/SA	R		1.19E-01		97%	
Calc	S1	FILTER	H7D001AA	TH-232	4.38E-02	(4.39E-02)	U4	PCI/SA	R		1.19E-01		97%	
Calc	S1	FILTER	H7D021AA	TH-228	1.51E-01	(1.42E-01)	U4	PCI/SA	R	1.76E-01	5.55E-01		60%	
Calc	S1	FILTER	H7D021AA	TH-230	5.04E-01	(1.97E-01)		PCI/SA	R		1.95E-01		60%	
Calc	S1	FILTER	H7D021AA	TH-232	7.19E-02	(7.23E-02)	U4	PCI/SA	R		1.95E-01		60%	
Calc	S1	FILTER	H7D031AA	TH-228	6.37E-02	(1.27E-01)	U4	PCI/SA	R	2.09E-01	5.91E-01		74%	
Calc	S1	FILTER	H7D031AA	TH-230	3.94E-01	(1.68E-01)		PCI/SA	R	9.98E-02	3.64E-01		74%	
Calc	S1	FILTER	H7D031AA	TH-232	6.07E-02	(6.10E-02)	U4	PCI/SA	R		1.64E-01		74%	
Calc	S1	FILTER	H7D051AA	TH-228	-1.16E-01	(4.86E-02)	U4	PCI/SA	R	1.56E-01	4.17E-01		109%	
Calc	S1	FILTER	H7D051AA	TH-230	4.99E-01	(1.46E-01)		PCI/SA	R	6.08E-02	2.22E-01		109%	
Calc	S1	FILTER	H7D051AA	TH-232	3.70E-02	(3.71E-02)	U4	PCI/SA	R		1.00E-01		109%	
Calc	S1	FILTER	H7D081AA	TH-228	1.15E-01	(1.05E-01)	U4	PCI/SA	R	1.54E-01	4.12E-01		99%	
Calc	S1	FILTER	H7D081AA	TH-230	2.73E-01	(1.07E-01)		PCI/SA	R	5.99E-02	2.19E-01		99%	
Calc	S1	FILTER	H7D081AA	TH-232	3.64E-02	(5.77E-02)	U4	PCI/SA	R	8.48E-02	2.68E-01		99%	
Calc	S1	FILTER	H7D1A1AA	TH-228	2.30E-01	(1.68E-01)	U4	PCI/SA	R	1.52E-01	5.53E-01		49%	
Calc	S1	FILTER	H7D1A1AA	TH-230	7.03E-01	(2.58E-01)		PCI/SA	R		2.38E-01		49%	
Calc	S1	FILTER	H7D1A1AA	TH-232	0.00E+00	(1.08E-01)	U4	PCI/SA	R		2.38E-01		49%	
Calc	S1	FILTER	H7D1E1AA	TH-228	1.37E-01	(8.00E-02)		PCI/SA	R		1.24E-01		109%	
Calc	S1	FILTER	H7D1E1AA	TH-230	1.74E-01	(8.84E-02)		PCI/SA	R		1.18E-01		109%	
Calc	S1	FILTER	H7D1E1AA	TH-232	4.35E-02	(4.37E-02)	U4	PCI/SA	R		1.18E-01		109%	
Calc	S1	FILTER	H7D1J1AA	TH-228	5.72E-02	(5.75E-02)	U4	PCI/SA	R	6.28E-02	2.29E-01		100%	
Calc	S1	FILTER	H7D1J1AA	TH-230	2.18E-01	(9.12E-02)		PCI/SA	R		9.86E-02		100%	
Calc	S1	FILTER	H7D1J1AA	TH-232	1.27E-01	(7.58E-02)		PCI/SA	R	5.98E-02	2.18E-01		100%	
Calc	S1	FILTER	H7D1K1AA	TH-228	2.04E-01	(1.79E-01)	U4	PCI/SA	R	2.33E-01	6.87E-01		48%	
Calc	S1	FILTER	H7D1K1AA	TH-230	3.50E-01	(1.82E-01)		PCI/SA	R	1.28E-01	4.67E-01		48%	
Calc	S1	FILTER	H7D1K1AA	TH-232	7.79E-02	(1.23E-01)	U4	PCI/SA	R	1.81E-01	5.73E-01		48%	
Calc	S1	FILTER	H7D1N1AA	TH-228	-8.61E-02	(8.67E-02)	U4	PCI/SA	R	2.83E-01	1.03E+00	-0 1c	25%	
Calc	S1	FILTER	H7D1N1AA	TH-230	1.64E-01	(1.65E-01)	U4	PCI/SA	R		4.45E-01		25%	
Calc	S1	FILTER	H7D1N1AA	TH-232	0.00E+00	(2.01E-01)	U4	PCI/SA	R		4.45E-01		25%	
Calc	S1	FILTER	H7D1R1AA	TH-228	6.40E-02	(6.43E-02)	U4	PCI/SA	R	7.02E-02	2.56E-01		85%	

() - (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: 6167152

Alpha Spec, Thlso by ALP , Results

7/13/2006 2:41:41 PM

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Calc	S1	FILTER	**H7D1R1AA**	TH-230	**3.46E-01**	**(1.28E-01)**		PCI/SA	R	6.69E-02	2.44E-01		85%	
Calc	S1	FILTER	**H7D1R1AA**	TH-232	**6.79E-07**	**(4.98E-02)**	**U4**	PCI/SA	R	9.47E-02	3.00E-01		85%	
Calc	S1	FILTER	**H7D1X1AA**	TH-228	**8.66E-02**	**(8.69E-02)**	**U4**	PCI/SA	R	1.27E-01	3.49E-01		100%	
Calc	S1	FILTER	**H7D1X1AA**	TH-230	**6.93E-01**	**(1.68E-01)**		PCI/SA	R	7.68E-02	2.43E-01		100%	
Calc	S1	FILTER	**H7D1X1AA**	TH-232	**0.00E+00**	**(4.04E-02)**	**U4**	PCI/SA	R		8.94E-02		100%	
Calc	S1	FILTER	**H7JME1AA**	TH-228	**8.28E-03**	**(7.78E-03)**	**U4**	PCI/SA	R	9.63E-03	3.05E-02	**B**	91%	
Calc	S1	FILTER	**H7JME1AA**	TH-230	**2.76E-02**	**(1.07E-02)**		PCI/SA	R		1.07E-02	**B**	91%	
Calc	S1	FILTER	**H7JME1AA**	TH-232	**0.00E+00**	**(4.83E-03)**	**U4**	PCI/SA	R		1.07E-02	**B**	91%	
Calc	S1	FILTER	**H7JME1AC**	TH-230	**1.82E+00**	**(3.19E-01)**		PCI/SA	R	3.72E-02	1.36E-01	**S**	17%	100%

P Anderson
7-14-06

() - (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: 6167152

Alpha Spec, ThIso by ALP , Calculated Results

Detailed Report

7/13/2006 2:41:42 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	S1	FILTER	*STLE	AlpIsoWoBS	H7D0Q1AA	PCI/SA		05/31/06 10:30	07/12/06 20:03			1	1.00 Sa	
536403,P-0653					,J6F140275-1 v4.8.18		FILTER					THTF0638 Alq		0.084259 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	07/12/06 15:53	TH-228	4	5	ALP114	ED	N	N	3.2873E-01		N	36%	N		1.0000E+00	4.5045E-01	1.0429E+00	
			500.05	1000			Y		(9.862E-03)			3%			(0.000E+00)	11.868119		
1	07/12/06 15:53	TH-229	238	1	ALP114	ED	Y	N	3.2873E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.05	1000			Y		(9.862E-03)						(0.000E+00)	11.868119		
2	07/12/06 15:53	TH-230	12	2	ALP114	ED	N	N	3.2873E-01		N	36%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.05	1000			Y		(9.862E-03)			3%			(0.000E+00)	11.868119		
3	07/12/06 15:53	TH-232	1	0	ALP114	ED	N	N	3.2873E-01		N	36%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.05	1000			Y		(9.862E-03)			3%			(0.000E+00)	11.868119		

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
	07/13/06	TH-228	R	**0.143843**	U4	2.99920E-03	0.025799	0.025799	1.00 Sa	36%		0.965122		
				(0.220255)		(4.5822E-03)	(0.039476)	(0.039476)	(0.028284)			0.352811		
	07/13/06	TH-229	R	**7.723921**		4.74952E-01	1.444805	1.444805	1.00 Sa	36%				
				(0.708912)		(3.0868E-02)	(0.10342)	(0.10342)	(0.028284)					
	07/13/06	TH-230	R	**1.005507**		2.19976E-02	0.188086	0.188086	1.00 Sa	36%		0.672803		
				(0.339083)		(7.0704E-03)	(0.0625)	(0.0625)	(0.028284)			0.212666		
	07/13/06	TH-232	R	**0.091411**	U4	1.99980E-03	0.017099	0.017099	1.00 Sa	36%		0.247723		
				(0.091885)		(1.9998E-03)	(0.01716)	(0.01716)	(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
2	Calc	S1	FILTER	*STLE	AlpIsoWoBS	H7D0W1AA	PCI/SA		05/31/06 11:00	07/12/06 20:03			1	1.00 Sa	
536403,P-0654					,J6F140275-2 v4.8.18		FILTER					THTF0639 Alq		0.082288 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	07/12/06 15:53	TH-228	1	3	ALP116	ED	N	N	2.5523E-01		N	36%	N		1.0000E+00	4.5045E-01	1.0429E+00	
			500.1333333	1000.0833			Y		(7.657E-03)			3%			(0.000E+00)	12.152439		
1	07/12/06 15:53	TH-229	187	0	ALP116	ED	Y	N	2.5523E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.1333333	1000.0833			Y		(7.657E-03)						(0.000E+00)	12.152439		
2	07/12/06 15:53	TH-230	4	0	ALP116	ED	N	N	2.5523E-01		N	36%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.1333333	1000.0833			Y		(7.657E-03)			3%			(0.000E+00)	12.152439		
3	07/12/06 15:53	TH-232	0	0	ALP116	ED	N	N	2.5523E-01		N	36%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.1333333	1000.0833			Y		(7.657E-03)			3%			(0.000E+00)	12.152439		

() - (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: 6167152 — Alpha Spec, ThIso by ALP , Calculated Results — 7/13/2006 2:41:42 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
	07/13/06	TH-228	R	**-0.062365**	U4	-1.00028E-03	-0.010924	-0.010924	1.00 Sa	36%		1.047858		
				(0.165061)		(2.6453E-03)	(0.028906)	(0.028906)	(0.028284)			0.355223		
	07/13/06	TH-229	R	**8.019186**		3.73900E-01	1.464941	1.464941	1.00 Sa	36%				
				(0.783569)		(2.7342E-02)	(0.115791)	(0.115791)	(0.028284)					
	07/13/06	TH-230	R	**0.475259**		7.99787E-03	0.08682	0.08682	1.00 Sa	36%		0.321988		
				(0.243051)		(3.9989E-03)	(0.044119)	(0.044119)	(0.028284)					
	07/13/06	TH-232	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 Sa	36%		0.321988		
				(0.145518)		(0.0000E+00)	(0.026583)	(0.026583)	(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	**H7D001AA**	**PCI/SA**		05/31/06 11:20	07/13/06 09:43			1	1.00 Sa	
536403,P-0655					,J6F140275-3 v4.8.18		FILTER					THTF0640 Alq		0.082981 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	07/13/06 05:33	TH-228	4	3	ALP116	ED	N	N	2.5523E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0435E+00	
			500.0166666	1000.0833			Y		(7.657E-03)			6%			(0.000E+00)	12.050891		
1	07/13/06 05:33	TH-229	499	0	ALP116	ED	Y	N	2.5523E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0166666	1000.0833			Y		(7.657E-03)						(0.000E+00)	12.050891		
2	07/13/06 05:33	TH-230	1	0	ALP116	ED	N	N	2.5523E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0166666	1000.0833			Y		(7.657E-03)			6%			(0.000E+00)	12.050891		
3	07/13/06 05:33	TH-232	1	0	ALP116	ED	N	N	2.5523E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0166666	1000.0833			Y		(7.657E-03)			6%			(0.000E+00)	12.050891		

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
	07/13/06	TH-228	R	**0.114844**	U4	4.99998E-03	0.020275	0.020275	1.00 Sa	97%		0.38609		
				(0.100653)		(4.3587E-03)	(0.017731)	(0.017731)	(0.028284)			0.130879		
	07/13/06	TH-229	R	**21.224929**		9.97967E-01	3.910034	3.910034	1.00 Sa	97%				
				(1.671793)		(4.4675E-02)	(0.210707)	(0.210707)	(0.028284)					
	07/13/06	TH-230	R	**0.043757**	U4	1.99993E-03	0.008061	0.008061	1.00 Sa	97%		0.118583		
				(0.043936)		(1.9999E-03)	(0.008081)	(0.008081)	(0.028284)					
	07/13/06	TH-232	R	**0.043757**	U4	1.99993E-03	0.008061	0.008061	1.00 Sa	97%		0.118583		
				(0.043936)		(1.9999E-03)	(0.008081)	(0.008081)	(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
4	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H7D021AA**	**PCI/SA**		05/31/06 11:45	07/12/06 20:04			1	1.00 Sa	
536403,P-0656					,J6F140275-4 v4.8.18		FILTER					THTF0641 Alq		0.083308 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	07/12/06 15:53	TH-228	3	2	ALP119	ED	N	N	2.5157E-01		N	60%	N		1.0000E+00	4.5045E-01	1.0429E+00	
			500.05	1000.0833			Y		(7.547E-03)			4%			(0.000E+00)	12.003605		

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RecCnt:4 RADCALC v4.8.18 STL Richland

Batch Nbr: 6167152 Alpha Spec, ThIso by ALP , Calculated Results 7/13/2006 2:41:42 PM

1	07/12/06 15:53	TH-229	304	1	ALP119	ED	Y	N	2.5157E-01	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00
			500.05	1000.0833			Y		(7.547E-03)				(0.000E+00)	12.003605	
2	07/12/06 15:53	TH-230	7	0	ALP119	ED	N	N	2.5157E-01	N	60%	N	1.0000E+00	4.5045E-01	1.0000E+00
			500.05	1000.0833			Y		(7.547E-03)		4%		(0.000E+00)	12.003605	
3	07/12/06 15:53	TH-232	1	0	ALP119	ED	N	N	2.5157E-01	N	60%	N	1.0000E+00	4.5045E-01	1.0000E+00
			500.05	1000.0833			Y		(7.547E-03)		4%		(0.000E+00)	12.003605	

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
	07/13/06	TH-228	R	**0.150931**	U4	3.99957E-03	0.026766	0.026766	1.00 Sa	60%		0.555435		
				(0.141949)		(3.7413E-03)	(0.025126)	(0.025126)	(0.028284)			0.175565		
	07/13/06	TH-229	R	**13.044897**		6.06939E-01	2.412584	2.412584	1.00 Sa	60%				
				(1.12995)		(3.4882E-02)	(0.15641)	(0.15641)	(0.028284)					
	07/13/06	TH-230	R	**0.503501**		1.39986E-02	0.09312	0.09312	1.00 Sa	60%		0.194927		
				(0.196526)		(5.2910E-03)	(0.035951)	(0.035951)	(0.028284)					
	07/13/06	TH-232	R	**0.071929**	U4	1.99980E-03	0.013303	0.013303	1.00 Sa	60%		0.194927		
				(0.072269)		(1.9998E-03)	(0.013344)	(0.013344)	(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
5	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H7D031AA**	**PCI/SA**		05/31/06 12:10	07/12/06 20:04			1	1.00 Sa	
536403,P-0657					,J6F140275-5 v4.8.18		FILTER					THTF0642 Alq		0.08345 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	07/12/06 15:54	TH-228	3	4	ALP120	ED	N	N	2.4073E-01		N	74%	N		1.0000E+00	4.5045E-01	1.0429E+00	
			500.0333333	1000.05			Y		(7.222E-03)			5%			(0.000E+00)	11.983245		
1	07/12/06 15:54	TH-229	364	1	ALP120	ED	Y	N	2.4073E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0333333	1000.05			Y		(7.222E-03)						(0.000E+00)	11.983245		
2	07/12/06 15:54	TH-230	7	1	ALP120	ED	N	N	2.4073E-01		N	74%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0333333	1000.05			Y		(7.222E-03)			5%			(0.000E+00)	11.983245		
3	07/12/06 15:54	TH-232	1	0	ALP120	ED	N	N	2.4073E-01		N	74%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0333333	1000.05			Y		(7.222E-03)			5%			(0.000E+00)	11.983245		

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
	07/13/06	TH-228	R	**0.063668**	U4	1.99980E-03	0.01131	0.01131	1.00 Sa	74%		0.591246		
				(0.127482)		(3.9998E-03)	(0.022637)	(0.022637)	(0.028284)			0.209475		
	07/13/06	TH-229	R	**16.300201**		7.26952E-01	3.019757	3.019757	1.00 Sa	74%				
				(1.359549)		(3.8168E-02)	(0.182607)	(0.182607)	(0.028284)					
	07/13/06	TH-230	R	**0.394459**		1.29991E-02	0.073077	0.073077	1.00 Sa	74%		0.364		
				(0.167608)		(5.3848E-03)	(0.030766)	(0.030766)	(0.028284)			0.09983		
	07/13/06	TH-232	R	**0.060686**	U4	1.99987E-03	0.011243	0.011243	1.00 Sa	74%		0.164459		
				(0.060957)		(1.9999E-03)	(0.011274)	(0.011274)	(0.028284)					

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
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RecCnt:6 RADCALC v4.8.18
STL Richland

Batch Nbr: 6167152 — Alpha Spec, ThIso by ALP , Calculated Results — 7/13/2006 2:41:42 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	**H7D051AA**	**PCI/SA**		05/31/06 12:20	07/12/06 20:05			1	1.00 Sa	
536403,P-0658					,J6F140275-6 v4.8.18		FILTER					THTF0643 Alq		0.083894 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	07/12/06 15:56	TH-228	0	6	ALP171	ED	N	N	2.9087E-01		N	109%	N		1.0000E+00	4.5045E-01	1.0429E+00	
			499.4666666	998.95			Y		(8.726E-03)			6%			(0.000E+00)	11.919852		
1	07/12/06 15:56	TH-229	653	4	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)	11.919852		
2	07/12/06 15:56	TH-230	14	1	ALP171	ED	N	N	2.9087E-01		N	109%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.726E-03)			6%			(0.000E+00)	11.919852		
3	07/12/06 15:56	TH-232	1	0	ALP171	ED	N	N	2.9087E-01		N	109%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.726E-03)			6%			(0.000E+00)	11.919852		

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
	07/13/06	TH-228	R	**-0.116325**	U4	-6.00631E-03	-0.020774	-0.020774	1.00 Sa	109%		0.417378		
				(0.048578)		(2.4521E-03)	(0.008593)	(0.008593)	(0.028284)			0.156241		
	07/13/06	TH-229	R	**24.060123**		1.30339E+00	4.481056	4.481056	1.00 Sa	109%				
				(1.823366)		(5.1201E-02)	(0.221492)	(0.221492)	(0.028284)					
	07/13/06	TH-230	R	**0.498943**		2.70288E-02	0.092925	0.092925	1.00 Sa	109%		0.221679		
				(0.146252)		(7.5579E-03)	(0.02671)	(0.02671)	(0.028284)			0.060797		
	07/13/06	TH-232	R	**0.036959**	U4	2.00214E-03	0.006883	0.006883	1.00 Sa	109%		0.100158		
				(0.037101)		(2.0021E-03)	(0.006899)	(0.006899)	(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
7	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H7D081AA**	**PCI/SA**		05/31/06 10:35	07/12/06 20:05			1	1.00 Sa	
536403,P-0659					,J6F140275-7 v4.8.18		FILTER					THTF0644 Alq		0.083553 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	07/12/06 15:56	TH-228	6	6	ALP172	ED	N	N	2.9949E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0429E+00	
			499.4666666	998.95			Y		(8.985E-03)			6%			(0.000E+00)	11.968453		
1	07/12/06 15:56	TH-229	612	6	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)	11.968453		
2	07/12/06 15:56	TH-230	8	1	ALP172	ED	N	N	2.9949E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.985E-03)			6%			(0.000E+00)	11.968453		
3	07/12/06 15:56	TH-232	2	2	ALP172	ED	N	N	2.9949E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.985E-03)			6%			(0.000E+00)	11.968453		

() - (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: 6167152 — Alpha Spec, ThIso by ALP , Calculated Results — 7/13/2006 2:41:42 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
	07/13/06	TH-228	R	**0.114714**	U4	6.00651E-03	0.020402	0.020402	1.00 Sa	99%		0.411587		
				(0.105209)		(5.4831E-03)	(0.018675)	(0.018675)	(0.028284)			0.154073		
	07/13/06	TH-229	R	**21.948853**		1.21930E+00	4.071245	4.071245	1.00 Sa	99%				
				(1.679363)		(4.9591E-02)	(0.205756)	(0.205756)	(0.028284)					
	07/13/06	TH-230	R	**0.273324**		1.50160E-02	0.050698	0.050698	1.00 Sa	99%		0.218587		
				(0.107437)		(5.7507E-03)	(0.019714)	(0.019714)	(0.028284)			0.059949		
	07/13/06	TH-232	R	**0.036444**	U4	2.00217E-03	0.00676	0.00676	1.00 Sa	99%		0.268221		
				(0.057712)		(3.1656E-03)	(0.010698)	(0.010698)	(0.028284)			0.08478		

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	**H7D1A1AA**	**PCI/SA**		05/31/06 10:40	07/12/06 20:05			1	1.00 Sa	
536403,000480					,J6F140275-8 v4.8.18		FILTER					THTF0645 Alq		0.083272 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	07/12/06 15:56	TH-228	3	1	ALP173	ED	N	N	2.5374E-01		N	49%	N		1.0000E+00	4.5045E-01	1.0429E+00	
			499.4666666	998.95			Y		(7.612E-03)			4%			(0.000E+00)	12.008865		
1	07/12/06 15:56	TH-229	254	2	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)	12.008865		
2	07/12/06 15:56	TH-230	8	0	ALP173	ED	N	N	2.5374E-01		N	49%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.612E-03)			4%			(0.000E+00)	12.008865		
3	07/12/06 15:56	TH-232	0	0	ALP173	ED	N	N	2.5374E-01		N	49%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.612E-03)			4%			(0.000E+00)	12.008865		

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
	07/13/06	TH-228	R	**0.230401**	U4	5.00536E-03	0.040839	0.040839	1.00 Sa	49%		0.552778		
				(0.16776)		(3.6094E-03)	(0.029643)	(0.029643)	(0.028284)			0.151602		
	07/13/06	TH-229	R	**10.798639**		5.06540E-01	1.996275	1.996275	1.00 Sa	49%				
				(0.976426)		(3.1940E-02)	(0.139397)	(0.139397)	(0.028284)					
	07/13/06	TH-230	R	**0.702688**		1.60171E-02	0.129901	0.129901	1.00 Sa	49%		0.238035		
				(0.258342)		(5.6629E-03)	(0.047171)	(0.047171)	(0.028284)					
	07/13/06	TH-232	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 Sa	49%		0.238035		
				(0.107577)		(0.0000E+00)	(0.019887)	(0.019887)	(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	**H7D1E1AA**	**PCI/SA**		05/31/06 11:05	07/12/06 20:05			1	1.00 Sa	
536403,000481					,J6F140275-9 v4.8.18		FILTER					THTF0646 Alq		0.083573 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	07/12/06 15:56	TH-228	3	0	ALP174	ED	N	N	2.4814E-01		N	109%	N		1.0000E+00	4.5045E-01	1.0429E+00	
			499.4666666	998.95			Y		(7.444E-03)			7%			(0.000E+00)	11.96563		

() - (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: 6167152 Alpha Spec, ThIso by ALP , Calculated Results 7/13/2006 2:41:42 PM

1	07/12/06 15:56	TH-229	559	3	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)	11.96563	
2	07/12/06 15:56	TH-230	4	0	ALP174	ED	N	N	2.4814E-01	N	109%	N	1.0000E+00	4.5045E-01	1.0000E+00
			499.4666666	998.95			Y		(7.444E-03)		7%		(0.000E+00)	11.96563	
3	07/12/06 15:56	TH-232	1	0	ALP174	ED	N	N	2.4814E-01	N	109%	N	1.0000E+00	4.5045E-01	1.0000E+00
			499.4666666	998.95			Y		(7.444E-03)		7%		(0.000E+00)	11.96563	

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
	07/13/06	TH-228	R	**0.136888**		6.00641E-03	0.024352	0.024352	1.00 Sa	109%		0.123655		
				(0.079974)		(3.4678E-03)	(0.014158)	(0.014158)	(0.028284)					
	07/13/06	TH-229	R	**24.24519**		1.11619E+00	4.498248	4.498248	1.00 Sa	109%				
				(1.878175)		(4.7369E-02)	(0.233777)	(0.233777)	(0.028284)					
	07/13/06	TH-230	R	**0.173957**		8.00854E-03	0.032274	0.032274	1.00 Sa	109%		0.117856		
				(0.088357)		(4.0043E-03)	(0.016288)	(0.016288)	(0.028284)					
	07/13/06	TH-232	R	**0.043489**	**U4**	2.00214E-03	0.008069	0.008069	1.00 Sa	109%		0.117856		
				(0.043663)		(2.0021E-03)	(0.008088)	(0.008088)	(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	**H7D1J1AA**	**PCI/SA**		05/31/06 11:25	07/12/06 20:05			1	1.00 Sa	
536403,000482					,J6F140275-10 v4.8.18		FILTER					THTF0647 Alq		0.084522 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	07/12/06 15:56	TH-228	2	1	ALP175	ED	N	N	2.9360E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0429E+00	
			499.4666666	998.95			Y		(8.808E-03)			6%			(0.000E+00)	11.83121		
1	07/12/06 15:56	TH-229	603	2	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)	11.83121		
2	07/12/06 15:56	TH-230	6	0	ALP175	ED	N	N	2.9360E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.808E-03)			6%			(0.000E+00)	11.83121		
3	07/12/06 15:56	TH-232	4	1	ALP175	ED	N	N	2.9360E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.808E-03)			6%			(0.000E+00)	11.83121		

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
	07/13/06	TH-228	R	**0.057237**	**U4**	3.00322E-03	0.010298	0.010298	1.00 Sa	100%		0.22887		
				(0.057461)		(3.0032E-03)	(0.010321)	(0.010321)	(0.028284)			0.062769		
	07/13/06	TH-229	R	**21.87814**		1.20529E+00	4.105203	4.105203	1.00 Sa	100%				
				(1.675538)		(4.9185E-02)	(0.207922)	(0.207922)	(0.028284)					
	07/13/06	TH-230	R	**0.21821**		1.20128E-02	0.040945	0.040945	1.00 Sa	100%		0.098558		
				(0.091159)		(4.9042E-03)	(0.016942)	(0.016942)	(0.028284)					
	07/13/06	TH-232	R	**0.12729**		7.00749E-03	0.023885	0.023885	1.00 Sa	100%		0.218138		
				(0.075819)		(4.1275E-03)	(0.01416)	(0.01416)	(0.028284)			0.059825		

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

RecCnt:11 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: 6167152 — Alpha Spec, ThIso by ALP , Calculated Results — 7/13/2006 2:41:43 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	**H7D1K1AA**	**PCI/SA**		05/31/06 11:50	07/12/06 20:05			1	1.00 Sa	
536403,000483					,J6F140275-11 v4.8.18		FILTER					THTF0648 Alq		0.082979 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	07/12/06 15:56	TH-228	4	3	ALP176	ED	N	N	2.9146E-01		N	48%	N		1.0000E+00	4.5045E-01	1.0429E+00	
			499.4666666	998.95			Y		(8.744E-03)			4%			(0.000E+00)	12.051288		
1	07/12/06 15:56	TH-229	286	2	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)	12.051288		
2	07/12/06 15:56	TH-230	5	1	ALP176	ED	N	N	2.9146E-01		N	48%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.744E-03)			4%			(0.000E+00)	12.051288		
3	07/12/06 15:56	TH-232	2	2	ALP176	ED	N	N	2.9146E-01		N	48%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.744E-03)			4%			(0.000E+00)	12.051288		

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
	07/13/06	TH-228	R	**0.204282**	U4	5.00539E-03	0.036084	0.036084	1.00 Sa	48%		0.68679		
				(0.179221)		(4.3635E-03)	(0.031589)	(0.031589)	(0.028284)			0.232813		
	07/13/06	TH-229	R	**10.627696**		5.70609E-01	1.957758	1.957758	1.00 Sa	48%				
				(0.934225)		(3.3889E-02)	(0.130264)	(0.130264)	(0.028284)					
	07/13/06	TH-230	R	**0.350469**		9.00963E-03	0.064561	0.064561	1.00 Sa	48%		0.467136		
				(0.181762)		(4.5875E-03)	(0.033277)	(0.033277)	(0.028284)			0.128114		
	07/13/06	TH-232	R	**0.077883**	U4	2.00217E-03	0.014347	0.014347	1.00 Sa	48%		0.573207		
				(0.123381)		(3.1656E-03)	(0.022713)	(0.022713)	(0.028284)			0.181181		

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	**H7D1N1AA**	**PCI/SA**		05/31/06 12:15	07/12/06 20:05			1	1.00 Sa	
536403,000484					,J6F140275-12 v4.8.18		FILTER					THTF0649 Alq		0.083411 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	07/12/06 15:56	TH-228	0	1	ALP177	ED	N	N	2.6130E-01		N	25%	N		1.0000E+00	4.5045E-01	1.0429E+00	
			499.4666666	998.95			Y		(7.839E-03)			2%			(0.000E+00)	11.988764		
1	07/12/06 15:56	TH-229	134	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)	11.988764		
2	07/12/06 15:56	TH-230	1	0	ALP177	ED	N	N	2.6130E-01		N	25%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.839E-03)			2%			(0.000E+00)	11.988764		
3	07/12/06 15:56	TH-232	0	0	ALP177	ED	N	N	2.6130E-01		N	25%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.839E-03)			2%			(0.000E+00)	11.988764		

() - (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 Results Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:12 RADCALC v4.8.18 STL Richland

Batch Nbr: 6167152

Alpha Spec, Thlso by ALP , Calculated Results

7/13/2006 2:41:43 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
	07/13/06	TH-228	R	**-0.086079**	U4	-1.00105E-03	-0.015284	-0.015284	1.00 Sa	25%		1.032623		
				(0.086664)		(1.0011E-03)	(0.015363)	(0.015363)	(0.028284)			0.283202		
	07/13/06	TH-229	R	**5.544696**		2.68286E-01	1.026731	1.026731	1.00 Sa	25%				
				(0.598793)		(2.3176E-02)	(0.093892)	(0.093892)	(0.028284)					
	07/13/06	TH-230	R	**0.164094**	U4	2.00214E-03	0.030386	0.030386	1.00 Sa	25%		0.444694		
				(0.16521)		(2.0021E-03)	(0.030543)	(0.030543)	(0.028284)					
	07/13/06	TH-232	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 Sa	25%		0.444694		
				(0.200973)		(0.0000E+00)	(0.037215)	(0.037215)	(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	**H7D1R1AA**	**PCI/SA**		05/31/06 12:25	07/12/06 20:05			1	1.00 Sa	
536403,000485					,J6F140275-13 v4.8.18		FILTER					THTF0650 Alq		0.083405 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	07/12/06 15:56	TH-228	2	1	ALP178	ED	N	N	3.1338E-01		N	85%	N		1.0000E+00	4.5045E-01	1.0429E+00	
			499.4666666	998.95			Y		(9.401E-03)			5%			(0.000E+00)	11.989703		
1	07/12/06 15:56	TH-229	538	1	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)	11.989703		
2	07/12/06 15:56	TH-230	9	1	ALP178	ED	N	N	3.1338E-01		N	85%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(9.401E-03)			5%			(0.000E+00)	11.989703		
3	07/12/06 15:56	TH-232	1	2	ALP178	ED	N	N	3.1338E-01		N	85%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(9.401E-03)			5%			(0.000E+00)	11.989703		

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
	07/13/06	TH-228	R	**0.064046**	U4	3.00322E-03	0.011371	0.011371	1.00 Sa	85%		0.256099		
				(0.064303)		(3.0032E-03)	(0.011398)	(0.011398)	(0.028284)			0.070236		
	07/13/06	TH-229	R	**18.546151**		1.07615E+00	3.433988	3.433988	1.00 Sa	85%				
				(1.444108)		(4.6450E-02)	(0.180507)	(0.180507)	(0.028284)					
	07/13/06	TH-230	R	**0.345923**		1.70182E-02	0.064051	0.064051	1.00 Sa	85%		0.2441		
				(0.127607)		(6.0893E-03)	(0.023339)	(0.023339)	(0.028284)			0.066946		
	07/13/06	TH-232	R	**6.7899E-07**	U4	3.34040E-08	1.2572E-07	1.2572E-07	1.00 Sa	85%		0.299527		
				(0.049843)		(2.4521E-03)	(0.009229)	(0.009229)	(0.028284)			0.094676		

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	**H7D1X1AA**	**PCI/SA**		05/31/06 11:10	07/13/06 09:44			1	1.00 Sa	
536403,000486					,J6F140275-14 v4.8.18		FILTER					THTF0651 Alq		0.083381 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	07/13/06 05:34	TH-228	5	5	ALP114	ED	N	N	3.2873E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0435E+00	
			500.0666666	1000			Y		(9.862E-03)			6%			(0.000E+00)	11.993124		

() - (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: 6167152 Alpha Spec, ThIso by ALP , Calculated Results 7/13/2006 2:41:43 PM

1	07/13/06 05:34	TH-229	678	1	ALP114	ED	Y	N	3.2873E-01	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00
			500.0666666	1000			Y		(9.862E-03)				(0.000E+00)	11.993124	
2	07/13/06 05:34	TH-230	22	2	ALP114	ED	N	N	3.2873E-01	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00
			500.0666666	1000			Y		(9.862E-03)		6%		(0.000E+00)	11.993124	
3	07/13/06 05:34	TH-232	0	0	ALP114	ED	N	N	3.2873E-01	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00
			500.0666666	1000			Y		(9.862E-03)		6%		(0.000E+00)	11.993124	

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
	07/13/06	TH-228	R	**0.086589**	U4	4.99867E-03	0.01536	0.01536	1.00 Sa	100%		0.348577		
				(0.086934)		(4.9995E-03)	(0.015396)	(0.015396)	(0.028284)			0.127427		
	07/13/06	TH-229	R	**22.264834**		1.35482E+00	4.12136	4.12136	1.00 Sa	100%				
				(1.677659)		(5.2080E-02)	(0.200962)	(0.200962)	(0.028284)					
	07/13/06	TH-230	R	**0.692932**		4.19941E-02	0.128266	0.128266	1.00 Sa	100%		0.242868		
				(0.167867)		(9.4856E-03)	(0.030187)	(0.030187)	(0.028284)			0.076769		
	07/13/06	TH-232	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 Sa	100%		0.089422		
				(0.040413)		(0.0000E+00)	(0.007481)	(0.007481)	(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	**H7JME1AA**	**PCI/SA**	**B**	05/31/06 10:30	07/13/06 09:44			1	1.00 Sa	
0,INTRA-LAB BLANK					,J6F160000-152		FILTER					THTF0652 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	07/13/06 05:34	TH-228	3	2	ALP119	ED	N	N	2.5157E-01		N	91%	N		1.0000E+00	4.5045E-01	1.0435E+00	
			500.1	1000.0833			Y		(7.547E-03)			6%			(0.000E+00)	1.00		
1	07/13/06 05:34	TH-229	474	1	ALP119	ED	Y	N	2.5157E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.1	1000.0833			Y		(7.547E-03)						(0.000E+00)	1.00		
2	07/13/06 05:34	TH-230	7	0	ALP119	ED	N	N	2.5157E-01		N	91%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.1	1000.0833			Y		(7.547E-03)			6%			(0.000E+00)	1.00		
3	07/13/06 05:34	TH-232	0	0	ALP119	ED	N	N	2.5157E-01		N	91%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.1	1000.0833			Y		(7.547E-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
	07/13/06	TH-228	R	**0.008278**	U4	3.99897E-03	0.017611	0.017611	1.00 Sa	91%		0.030466		
				(0.007778)		(3.7410E-03)	(0.016522)	(0.016522)	(0.017321)			0.00963		
	07/13/06	TH-229	R	**1.695301**		9.46811E-01	3.763572	3.763572	1.00 Sa	91%				
				(0.12928)		(4.3546E-02)	(0.206664)	(0.206664)	(0.017321)					
	07/13/06	TH-230	R	**0.0276**		1.39972E-02	0.061271	0.061271	1.00 Sa	91%		0.010685		
				(0.010713)		(5.2904E-03)	(0.02356)	(0.02356)	(0.017321)					
	07/13/06	TH-232	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 Sa	91%		0.010685		
				(0.004829)		(0.0000E+00)	(0.01072)	(0.01072)	(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

Batch Nbr: 6167152 Alpha Spec, ThIso by ALP , Calculated Results 7/13/2006 2:41:43 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	**H7JME1AC**	**PCI/SA**	**S**	05/31/06 10:30	07/13/06 09:44		THSO0080	1	1.00 Sa	
0,INTRA-LAB CHECK					,J6F160000-152		FILTER					THSO0080 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	07/13/06 05:34	TH-229	81	1	ALP120	ED	Y	N	2.4073E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0166666	1000.05			Y		(7.222E-03)						(0.000E+00)	1.00		
2	07/13/06 05:34	TH-230	81	1	ALP120	ED	N	N	2.4073E-01		N	17%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0166666	1000.05			Y		(7.222E-03)			2%			(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
	07/13/06	TH-229	R	**0.301248**		1.60995E-01	0.668772	0.668772	1.00 Sa	17%				
				(0.038388)		(1.8027E-02)	(0.077526)	(0.077526)	(0.017321)					
	07/13/06	TH-230	R	**1.818652**		1.60995E-01	4.037412	4.037412	1.00 Sa	17%	100%	0.135507		
				(0.318992)		(1.8027E-02)	(0.675168)	(0.675168)	(0.017321)			0.037163		

() - (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

7/13 0016

C.R. Technician: OP
Date Counted: 7/12/06
C.R. Analyst: VP
Date Analyzed: 7/13/06

Counting Time
Sample: 500 Minutes
Background: See Alpha Analysis Report BRC 5/31/06

SOP's
Operating: RICHRD008
Review: RICHRD0016 6167152

WorkOrder #	Th-229 (4845 KeV) Tracer from Th-234 Beta Count (7)				TOTAL COUNTS			Det #	Comment
	ID	Activity	ROI Cts	BKG	Th-228 (5423 KeV) (6)	Th-230 (4688 KeV) (8)	Th-232 (4010 KeV) (9)		
H7DOQ1AA		10		0	See Alpha Analysis Report for ROI Information			114	
H7DOW1AA		10		0	See Alpha Analysis Report for ROI Information			116	
~~H7DOO1AA~~ 7/13/06		10		0	See Alpha Analysis Report for ROI Information			~~H7~~	RC
H7DO21AA		10		0	See Alpha Analysis Report for ROI Information			119	
H7DO31AA		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				

Comments:

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

Approved by: S

Date: 7/13/06

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

Sample Identity: H7D0Q1AA

Detector: ALP114 1
Report Date: 13-Jul-06 04:57 AM
Acquire Date: 12-JUL-2006 15:53:24.46
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	5	0.003	5423.2	151.1	312	332
TH-229	238	1	0.475	4845.3	303.4	235	275
TH-230	12	2	0.022	4687.7	152.0	215	235
TH-232	1	0	0.002	4013.0	152.9	126	146

End of Alpha Region Report
(Produced by ANAL Report)

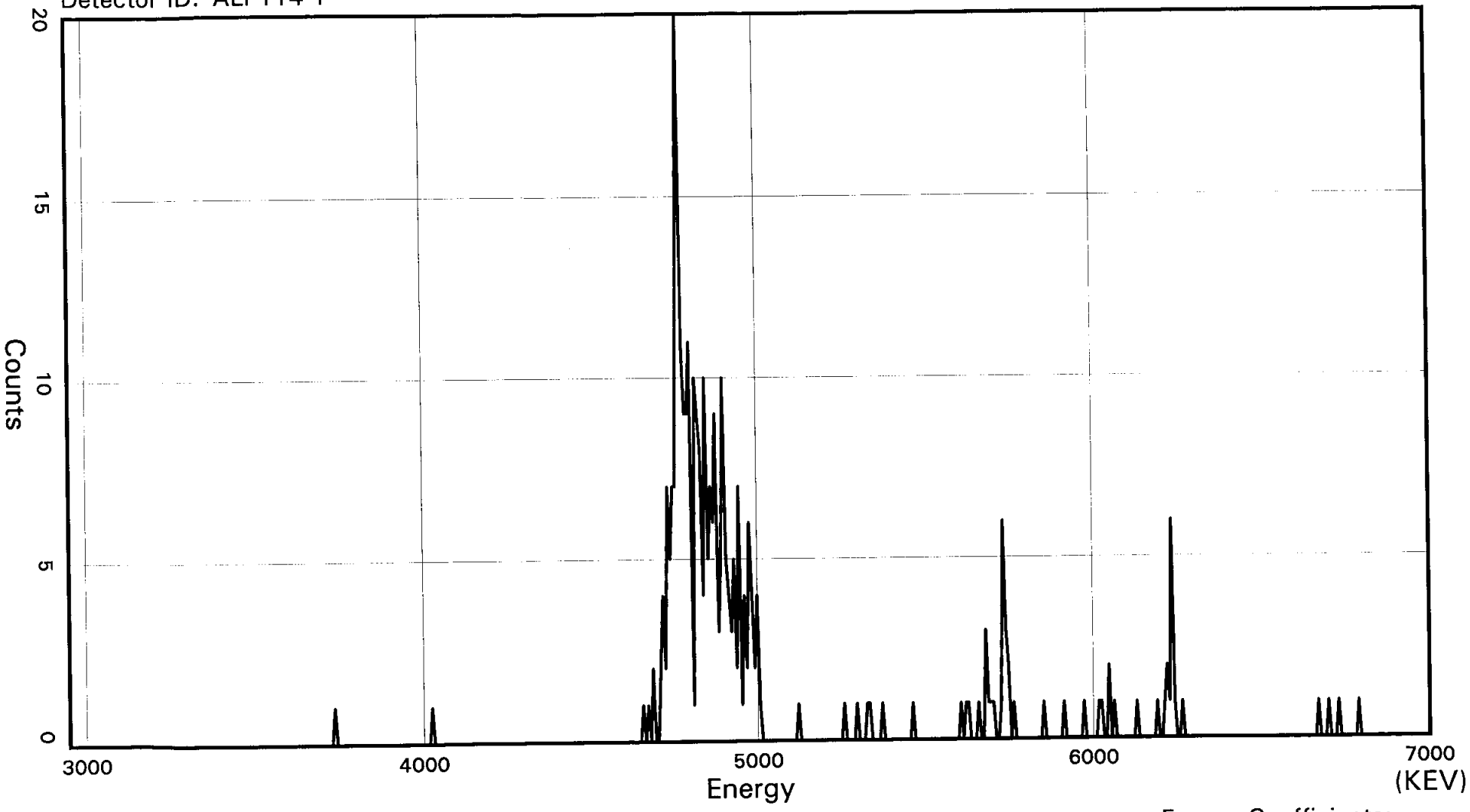
STL Richland WA.

TH BRC

Sample ID: H7D0Q1AA

Detector ID: ALP114 1

Batch ID: 6167152



Acquisition Start: 12-JUL-2006 15:53:24.46

Preset Live Time: 0 08:20:00.00

Elapsed Live Time: 0 08:20:03.00

Energy Coefficients:

Offset: 2.92767E+03

Slope: 7.71015E+00

Quadrature: -2.44061E-04

SAMPLE IDENTIITY: H7D0Q1AA

TITLE : TH BRC

DETECTOR : ALP114 1
CONFIGURATION NAME : RDND06$DKA100:[ALP114.SAMPLE]H7D0Q1AA_120761
553.CNF;1
ACQUIRE DATE of BACKGROUND: 22-JUN-2006 10:15:05

REPORT DATE : 13-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 12-JUL-2006 15:53:24 CALIB DATE : 22-JUN-2006 09:29:59

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

OFFSET : 2927.67 keV CONSTANT FWHM : 7.40000 Channels
SLOPE : 7.71015 keV/C SENSITIVITY : 6.00000 Std Dev's
QUAD COEFF : -.244061E-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: H7D0Q1AA
Detector: ALP114 1
Report Date: 13-Jul-06 12:13 AM
Acquire Date: 12-JUL-2006 15:53:24.46

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

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

VMS Peak Search Report V1.9 Generated 13-JUL-2006 00:13:29

```
Configuration     : RDND06$DKA100:[ALP114.SAMPLE]H7D0Q1AA_120761553.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 12-JUL-2006 15:53:24
Sample ID         : H7D0Q1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP114               Detector geometry:
Elapsed live time: 0 08:20:03.00         Elapsed real time: 0 08:20:03.00   0.0%
Start energy      :  2950.80 KEV         End energy       :  6811.29 KEV
Sensitivity       :     6.00             Sum Sensitivity  :     0.10
No peaks were found
```

VMS Nuclide Identification Report V3.1 Generated 13-JUL-2006 00:13:30

```
Configuration     : RDND06$DKA100:[ALP114.SAMPLE]H7D0Q1AA_120761553.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : TH BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 12-JUL-2006 15:53:24
Sample ID         : H7D0Q1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP114               Detector geometry:
Elapsed live time: 0 08:20:03.00         Elapsed real time: 0 08:20:03.00   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: 13-Jul-06  12:13 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: H7D0W1AA

Detector: ALP116 1
Report Date: 13-Jul-06 04:57 AM
Acquire Date: 12-JUL-2006 15:53:36.05
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	1	3	-0.001	5423.2	149.6	326	346
TH-229	187	0	0.374	4845.3	367.8	249	298
TH-230	4	0	0.008	4687.7	150.4	228	248
TH-232	0	0	0.000	4013.0	151.2	139	159

End of Alpha Region Report
(Produced by ANAL Report)

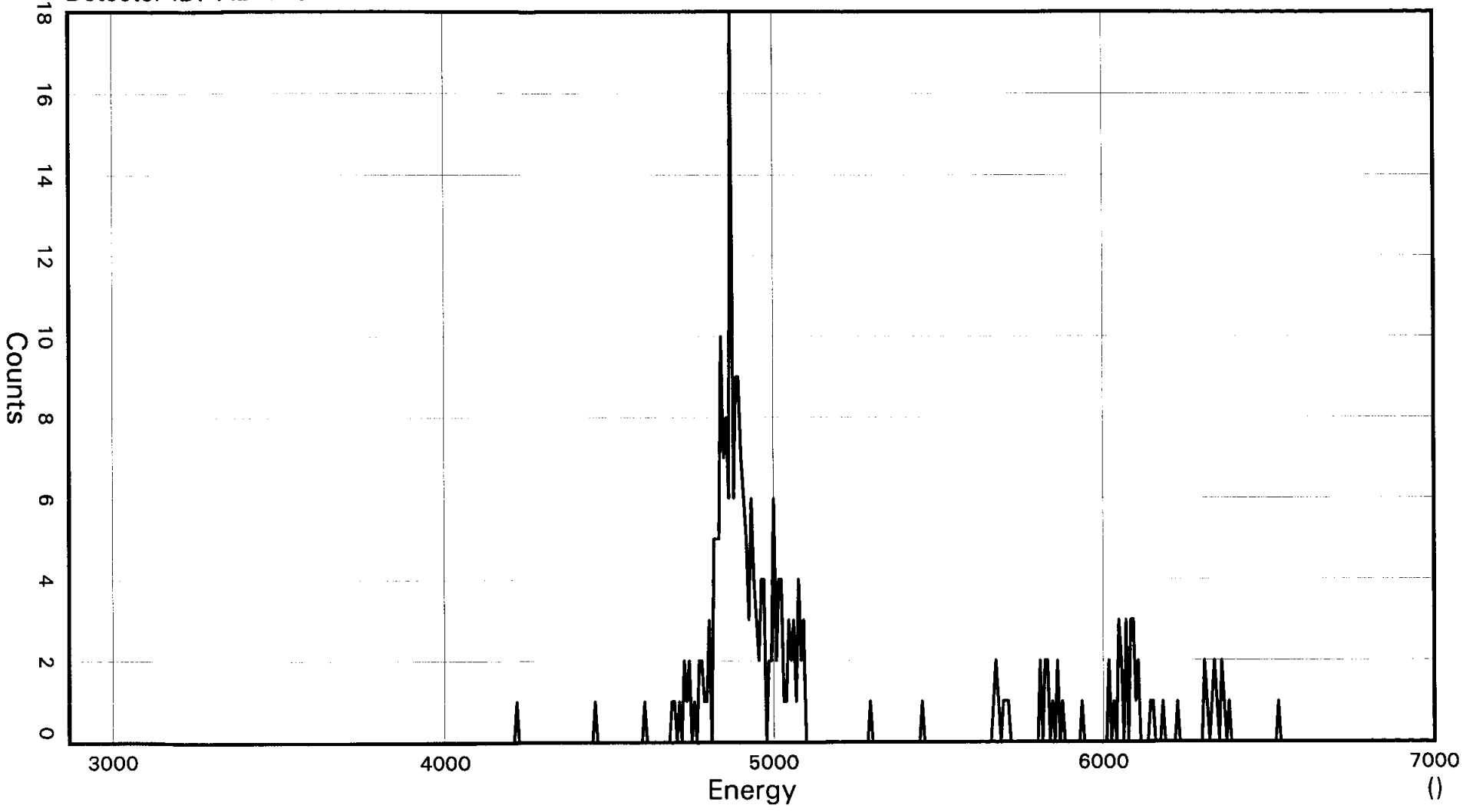
STL Richland WA.

TH BRC

Sample ID: H7D0W1AA

Detector ID: ALP116 1

Batch ID: 6167152



Acquisition Start: 12-JUL-2006 15:53:36.05

Preset Live Time: 0 08:20:00.00

Elapsed Live Time: 0 08:20:08.00

Energy Coefficients:

Offset: 2.84555E+03

Slope: 7.62237E+00

Quadrature: -2.12519E-04

SAMPLE IDENTIITY: H7D0W1AA

TITLE : TH BRC

DETECTOR : ALP116 1
CONFIGURATION NAME : RDND06$DKA100:[ALP116.SAMPLE]H7D0W1AA_120761553.CNF;1
ACQUIRE DATE of BACKGROUND: 22-JUN-2006 10:15:09

REPORT DATE : 13-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 12-JUL-2006 15:53:36 CALIB DATE : 22-JUN-2006 09:30:10

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

OFFSET : 2845.55 keV CONSTANT FWHM : 8.83333 Channels
SLOPE : 7.62237 keV/C SENSITIVITY : 6.00000 Std Dev's
QUAD COEFF : -.212519E-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: H7D0W1AA
Detector: ALP116 1
Report Date: 13-Jul-06 12:13 AM
Acquire Date: 12-JUL-2006 15:53:36.05

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	Cnt	F	Chn
		1	0		51	0		101	0		151	0		201	2		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	1		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	0		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	0		206	2		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	1		258	0		308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	0		209	3		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	1		410	2		460	0		510
0		11	0		61	0		111	0		161	0		211	5		261	0		311	0		361	0		411	1		461	0		511
0		12	0		62	0		112	0		162	0		212	5		262	0		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	1		213	5		263	0		313	0		363	0		413	1		463			
0		14	0		64	0		114	0		164	0		214	10		264	0		314	0		364	0		414	2		464			
0		15	0		65	0		115	0		165	0		215	7		265	0		315	0		365	0		415	1		465			
0		16	0		66	0		116	0		166	0		216	8		266	0		316	0		366	0		416	0		466			
0		17	0		67	0		117	0		167	0		217	6		267	0		317	0		367	0		417	2		467			
0		18	0		68	0		118	0		168	0		218	18		268	0		318	0		368	0		418	1		468			
0		19	0		69	0		119	0		169	0		219	6		269	0		319	0		369	0		419	0		469			
0		20	0		70	0		120	0		170	0		220	9		270	0		320	0		370	0		420	1		470			
0		21	0		71	0		121	0		171	0		221	9		271	0		321	0		371	2		421	0		471			
0		22	0		72	0		122	0		172	0		222	7		272	0		322	0		372	0		422	0		472			
0		23	0		73	0		123	0		173	0		223	6		273	0		323	0		373	1		423	0		473			
0		24	0		74	0		124	0		174	0		224	5		274	1		324	1		374	0		424	0		474			
0		25	0		75	0		125	0		175	0		225	3		275	0		325	2		375	3		425	0		475			
0		26	0		76	0		126	0		176	0		226	6		276	0		326	1		376	2		426	0		476			
0		27	0		77	0		127	0		177	0		227	4		277	0		327	0		377	0		427	0		477			
0		28	0		78	0		128	0		178	0		228	3		278	0		328	1		378	3		428	0		478			
0		29	0		79	0		129	0		179	0		229	2		279	0		329	1		379	0		429	0		479			
0		30	0		80	0		130	0		180	0		230	4		280	0		330	1		380	3		430	0		480			
0		31	0		81	0		131	1		181	0		231	4		281	0		331	0		381	3		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	1		233	2		283	0		333	0		383	2		433	0		483			
0		34	0		84	0		134	0		184	0		234	2		284	0		334	0		384	0		434	0		484			
0		35	0		85	0		135	0		185	0		235	6		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	4		287	0		337	0		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	4		288	0		338	0		388	1		438	0		488			
0		39	0		89	0		139	0		189	0		239	1		289	0		339	0		389	1		439	0		489			
0		40	0		90	0		140	0		190	0		240	1		290	0		340	0		390	0		440	1		490			
0		41	0		91	0		141	0		191	0		241	3		291	0		341	0		391	0		441	0		491			
0		42	0		92	0		142	0		192	0		242	2		292	0		342	0		392	0		442	0		492			
0		43	0		93	0		143	0		193	0		243	3		293	0		343	2		393	1		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	1		245	4		295	1		345	2		395	0		445	0		495			
0		46	0		96	0		146	0		196	0		246	2		296	0		346	2		396	0		446	0		496			
0		47	0		97	0		147	0		197	1		247	3		297	0		347	0		397	0		447	0		497			
0		48	0		98	0		148	0		198	0		248	0		298	0		348	1		398	0		448	0		498			
0		49	0		99	0		149	0		199	2		249	0		299	0		349	0		399	1		449	0		499			

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

VMS Peak Search Report V1.9 Generated 13-JUL-2006 00:13:46

```
Configuration     : RDND06$DKA100:[ALP116.SAMPLE]H7D0W1AA_120761553.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 12-JUL-2006 15:53:36
Sample ID         : H7D0W1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP116               Detector geometry:
Elapsed live time: 0 08:20:08.00         Elapsed real time: 0 08:20:08.00   0.0%
Start energy      :  2868.42             End energy       :  6692.50
Sensitivity       :     6.00             Sum Sensitivity  :     0.10
No peaks were found
```

VMS Nuclide Identification Report V3.1 Generated 13-JUL-2006 00:13:47

```
Configuration     : RDND06$DKA100:[ALP116.SAMPLE]H7D0W1AA_120761553.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : TH BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 12-JUL-2006 15:53:36
Sample ID         : H7D0W1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP116               Detector geometry:
Elapsed live time: 0 08:20:08.00         Elapsed real time: 0 08:20:08.00   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: 13-Jul-06  12:13 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
```

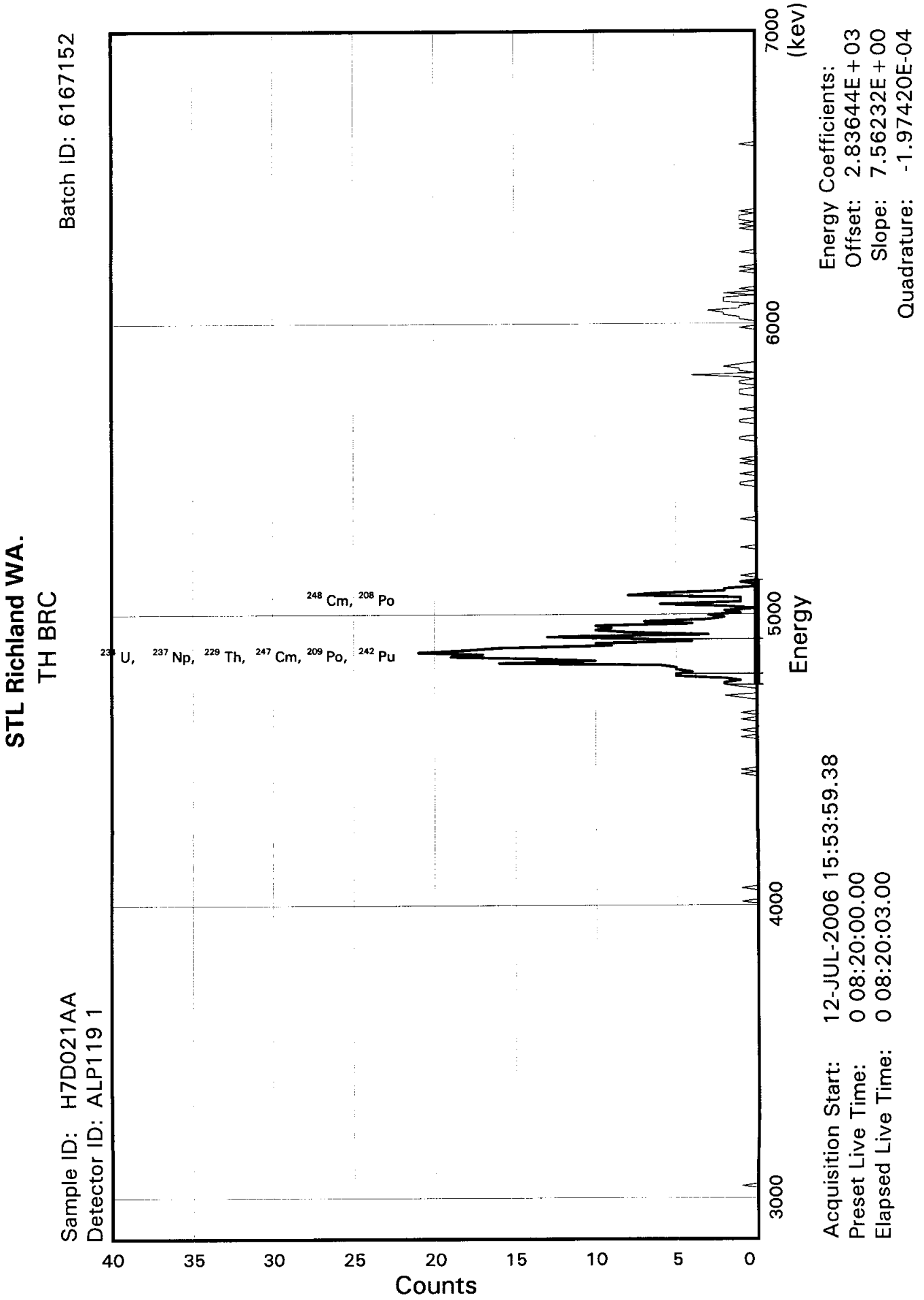
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H7D021AA

Detector: ALP119 1
Report Date: 13-Jul-06 04:57 AM
Acquire Date: 12-JUL-2006 15:53:59.38
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	3	2	0.004	5423.2	148.6	330	350
TH-229	304	1	0.607	4845.3	387.5	253	305
TH-230	7	0	0.014	4687.7	149.3	231	251
TH-232	1	0	0.002	4013.0	150.1	141	161

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6167152
Sample ID: H7D021AA
Detector ID: ALP119 1
^{248}Cm, ^{208}Po
^{234}U, ^{237}Np, ^{229}Th, ^{247}Cm, ^{209}Po, ^{242}Pu
Counts
40
35
30
25
20
15
10
5
0
Energy
3000
4000
5000
6000
7000
(kev)
Acquisition Start: 12-JUL-2006 15:53:59.38
Preset Live Time: 0 08:20:00.00
Elapsed Live Time: 0 08:20:03.00
Energy Coefficients:
Offset: 2.83644E+03
Slope: 7.56232E+00
Quadrature: -1.97420E-04

SAMPLE IDENTIITY: H7D021AA

TITLE : TH BRC

DETECTOR : ALP119 1
CONFIGURATION NAME : RDND06$DKA100:[ALP119.SAMPLE]H7D021AA_120761
553.CNF;1
ACQUIRE DATE of BACKGROUND: 22-JUN-2006 10:15:44

REPORT DATE : 13-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 12-JUL-2006 15:53:59 CALIB DATE : 22-JUN-2006 09:30:26

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

OFFSET : 2836.44 keV CONSTANT FWHM : 9.00000 Channels
SLOPE : 7.56232 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.197420E-03 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H7D021AA

Detector: ALP119 1
Report Date: 13-Jul-06 12:14 AM
Acquire Date: 12-JUL-2006 15:53:59.38
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	94	0	0	0.188	5130.8	320.4	261	304	0.00	0.00	P
PO-209	208	1	0	0.415	4899.1	156.6	256	277	0.00	0.00	P
PO-210	-9999	-9999	0	-9.998	5320.3	156.1	318	339	0.00	0.00	M
AC-227	12	4	17	0.019	6053.9	155.3	417	438	0.00	0.00	S
TH-227	12	4	17	0.019	6053.9	155.3	417	438	0.00	0.00	S
TH-228	-9999	-9999	0	-9.998	5439.1	156.0	334	355	0.00	0.00	M
TH-229	208	1	0	0.415	4861.2	156.6	256	277	0.00	0.00	P
TH-230	9	1	0	0.017	4703.6	156.8	235	256	0.00	0.00	
TH-232	2	0	0	0.004	4028.9	157.5	145	166	0.00	0.00	
U-232	-9999	-9999	0	-9.998	5336.1	156.1	320	341	0.00	0.00	M
U-234	208	1	0	0.415	4790.5	156.6	256	277	0.00	0.00	P
U-235	2	0	0	0.004	4413.7	157.1	196	217	0.00	0.00	
PU-236	7	8	11	0.005	5783.5	155.6	380	401	0.00	0.00	S
NP-237	208	1	0	0.415	4803.9	156.6	256	277	0.00	0.00	P
PU-238	-9999	-9999	0	-9.998	5514.9	155.9	344	365	0.00	0.00	M
U-238	0	0	0	0.000	4213.9	157.3	169	190	0.00	0.00	
PU-239	-9999	-9999	0	-9.998	5172.5	156.3	298	319	0.00	0.00	M I
AM-241	-9999	-9999	0	-9.998	5501.5	155.9	342	363	0.00	0.00	M
AM-242M	-9999	-9999	0	-9.998	5222.7	156.2	305	326	0.00	0.00	M
CM-242	-9999	-9999	0	-9.998	6128.6	155.2	427	448	0.00	0.00	M
PU-242	208	1	0	0.415	4916.4	156.6	256	277	0.00	0.00	P
AM-243	-9999	-9999	0	-9.998	5291.2	156.1	314	335	0.00	0.00	M
CM-244	10	10	11	0.009	5820.7	155.5	385	406	0.00	0.00	S
CM-246	-9999	-9999	0	-9.998	5402.4	156.0	329	350	0.00	0.00	M
CM-247	208	1	0	0.415	4886.3	156.6	256	277	0.00	0.00	P
CM-248	94	0	0	0.188	5094.5	320.4	261	304	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H7D021AA
Detector: ALP119 1
Report Date: 13-Jul-06 12:14 AM
Acquire Date: 12-JUL-2006 15:53:59.38

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	2	+	251	0	@	301	0	@	351	1	@	401	0		451	0		501
		2	0		52	0		102	0	+	152	0	+	202	0	+	252	0	@	302	0	@	352	1	-	402	0		452	0		502
0		3	0		53	0		103	0	+	153	0	+	203	0	+	253	1	@	303	1	@	353	2	-	403	0		453	0		503
0		4	0		54	0		104	0	+	154	0	+	204	0	+	254	0	+	304	0	@	354	1	-	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
0		6	0		56	0		106	1	+	156	0	+	206	2	@	256	1	@	306	0	@	356	0	-	406	1		456	1		506
0		7	0		57	0		107	0	+	157	0	+	207	2	@	257	0	@	307	0	@	357	0		407	0		457	0		507
0		8	0		58	0		108	0	+	158	0	+	208	1	@	258	0	@	308	1	@	358	0		408	0		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	5	@	260	0	@	310	1	@	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	1	+	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	5	@	264	0	-	314	0	+	364	0		414	0		464			
0		15	0		65	0		115	0	+	165	1	+	215	6	@	265	0	@	315	0	+	365	0		415	0		465			
0		16	0		66	0		116	0	+	166	0	+	216	16	@	266	0	@	316	0		366	0		416	0		466			
0		17	0		67	0		117	0		167	1	+	217	10	@	267	0	@	317	0		367	0	@	417	1		467			
0		18	0		68	0		118	0		168	0		218	14	@	268	0	@	318	0		368	0	@	418	0		468			
0		19	0		69	0		119	0	+	169	0		219	19	@	269	1	@	319	1		369	0	@	419	1		469			
0		20	0		70	0		120	0	+	170	0		220	17	@	270	0	@	320	1		370	0	@	420	0		470			
0		21	0		71	0		121	0	+	171	0		221	21	@	271	0	@	321	0		371	1	@	421	1		471			
0		22	0		72	0		122	0	+	172	0		222	18	@	272	0	@	322	0		372	0	@	422	1		472			
0		23	0		73	0		123	0	+	173	0		223	16	@	273	0	@	323	0		373	0	@	423	1		473			
0		24	0		74	0		124	0	+	174	0		224	9	@	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	1	@	425	1		475			
0		26	0		76	0		126	0	+	176	0		226	4	@	276	0	@	326	0		376	1	@	426	0		476			
1		27	0		77	0		127	0	+	177	0		227	7	@	277	0	@	327	1		377	2	-	427	0		477			
0		28	0		78	0		128	0	+	178	0		228	13	@	278	0	@	328	1		378	2	@	428	0		478			
0		29	0		79	0		129	0	+	179	0		229	3	@	279	0	-	329	0		379	3	@	429	0		479			
0		30	0		80	0		130	0	+	180	0		230	8	@	280	0	@	330	0	+	380	1	@	430	0		480			
0		31	0		81	0		131	0	+	181	0		231	10	@	281	0	@	331	0	+	381	1	@	431	0		481			
0		32	0		82	0		132	0	+	182	1		232	9	@	282	1	@	332	0	+	382	0	@	432	0		482			
0		33	0		83	0		133	0	+	183	0		233	10	@	283	0	@	333	1	+	383	2	@	433	0		483			
0		34	0		84	0		134	0	+	184	0		234	4	@	284	0	@	334	0	+	384	2	@	434	0		484			
0		35	0		85	0		135	0	+	185	1	+	235	7	@	285	0	@	335	0	@	385	2	@	435	0		485			
0		36	0		86	0		136	0	+	186	0	+	236	3	@	286	0	@	336	0	@	386	0	@	436	0		486			
0		37	0		87	0		137	0	+	187	0	+	237	2	@	287	0	@	337	0	@	387	2	@	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	1	@	289	0	@	339	0	@	389	1	-	439	0		489			
0		40	0		90	0		140	0	+	190	1	+	240	2	@	290	0	@	340	1	@	390	0	-	440	0		490			
0		41	0		91	0		141	0		191	0	+	241	0	@	291	0	@	341	1	@	391	0	-	441	0		491			
0		42	0		92	0		142	0		192	0	+	242	2	@	292	0	@	342	1	@	392	0	-	442	0		492			
0		43	0		93	0		143	0		193	1	+	243	6	@	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	0		195	0	+	245	1	@	295	0	@	345	1	@	395	0	-	445	0		495			
0		46	0		96	0	+	146	0	+	196	0	+	246	1	@	296	0	@	346	1	@	396	0	-	446	0		496			
0		47	0		97	0	+	147	0	+	197	0	+	247	8	@	297	0	@	347	0	@	397	1	-	447	0		497			
0		48	0		98	0	+	148	0	+	198	0	+	248	6	@	298	1	@	348	1	@	398	0	-	448	0		498			
0		49	0		99	0	+	149	0	+	199	0	+	249	2	@	299	1	@	349	4	@	399	1		449	0		499			
0		50	0		100	0	+	150	0	+	200	1	+	250	2	@	300	0	@	350	0	@	400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 13-JUL-2006 00:14:25

```
Configuration     : RDND06$DKA100:[ALP119.SAMPLE]H7D021AA_120761553.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 12-JUL-2006 15:53:59
Sample ID         : H7D021AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP119               Detector geometry:
Elapsed live time: 0 08:20:03.00         Elapsed real time: 0 08:20:03.00   0.0%
Start energy      :  2859.13 kev         End energy       :  6656.60 kev
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4861.19	208	0	60.50	269.64	256	21	6.93E-03	6.9	
2	0	5052.71	94	0	75.62	295.34	261	43	3.13E-03	10.3	

VMS Nuclide Identification Report V3.1 Generated 13-JUL-2006 00:14:27

```
Configuration     : RDND06$DKA100:[ALP119.SAMPLE]H7D021AA_120761553.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : TH BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 12-JUL-2006 15:53:59
Sample ID         : H7D021AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP119               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                     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	
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	
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
```

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

Configuration: RDND06$DKA100:[ALP119.SAMPLE]H7D021AA_120761553.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4861.18	256	277	208	198	0.69		
5052.71	261	304	94	291	-20.32	186	-0.06

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

End of Report

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

Sample Identity: H7D031AA

Detector: ALP120 1
Report Date: 13-Jul-06 04:58 AM
Acquire Date: 12-JUL-2006 15:54:10.80
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	4	0.002	5423.2	147.7	332	352
TH-229	364	1	0.727	4845.3	369.4	254	304
TH-230	7	1	0.013	4687.7	147.8	232	252
TH-232	1	0	0.002	4013.0	147.8	141	161

End of Alpha Region Report
(Produced by ANAL Report)

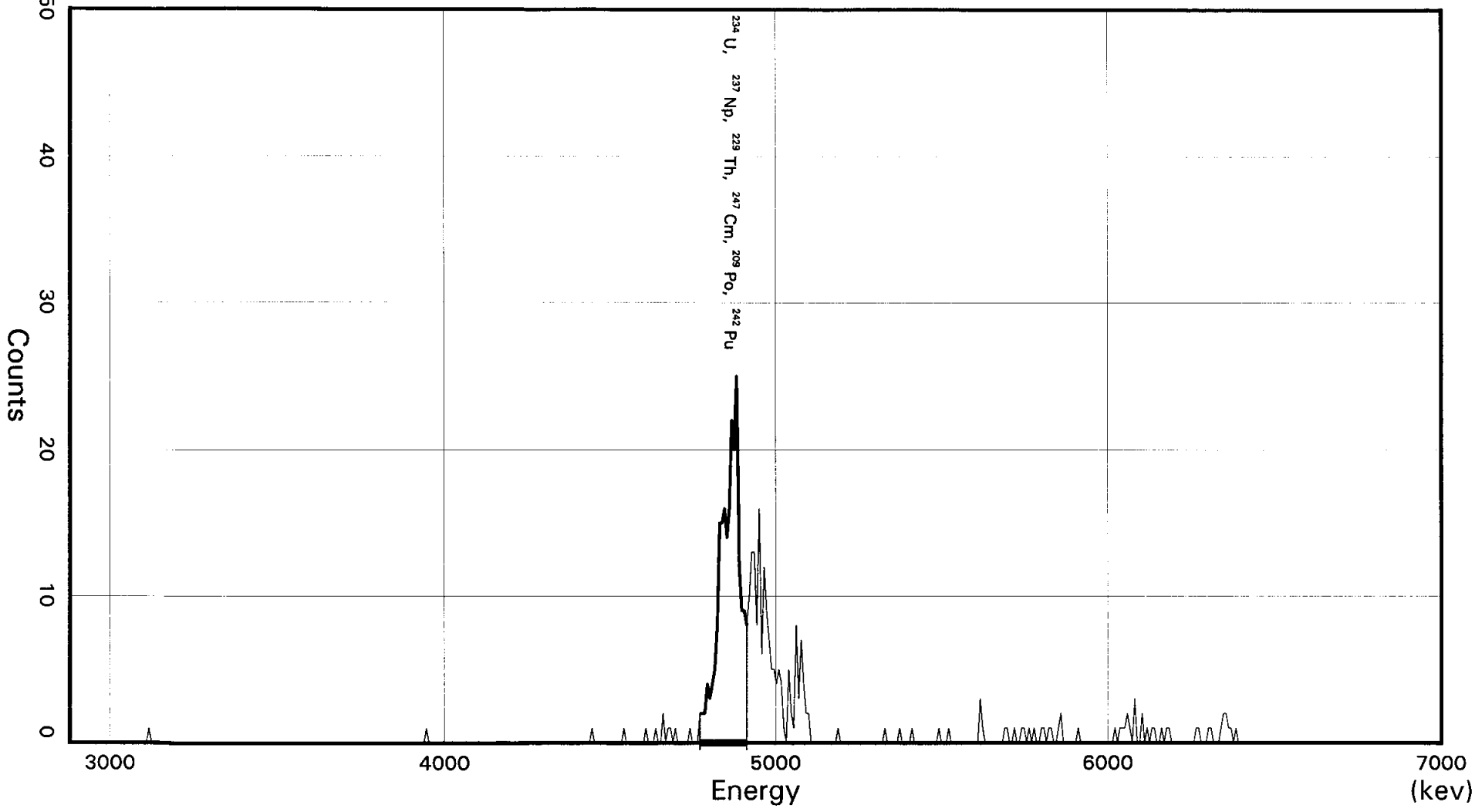
STL Richland WA.

TH BRC

Sample ID: H7D031AA

Detector ID: ALP120 1

Batch ID: 6167152



Acquisition Start: 12-JUL-2006 15:54:10.80

Preset Live Time: 0 08:20:00.00

Elapsed Live Time: 0 08:20:02.00

Energy Coefficients:

Offset: 2.85851E+03

Slope: 7.39562E+00

Quadrature: -1.24203E-05

SAMPLE IDENTITY: H7D031AA

TITLE : TH BRC

DETECTOR : ALP120 1
CONFIGURATION NAME : RDND06$DKA100:[ALP120.SAMPLE]H7D031AA_120761
554.CNF;1
ACQUIRE DATE of BACKGROUND: 22-JUN-2006 10:15:46

REPORT DATE : 13-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 12-JUL-2006 15:54:10 CALIB DATE : 22-JUN-2006 09:30:33

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

OFFSET : 2858.51 keV CONSTANT FWHM : 9.66667 Channels
SLOPE : 7.39562 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.124203E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H7D031AA

Detector: ALP120 1
Report Date: 13-Jul-06 12:14 AM
Acquire Date: 12-JUL-2006 15:54:10.80
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	-9.998	5135.7	140.4	295	314	0.00	0.00	M
PO-209	212	1	0	0.423	4904.0	140.4	259	278	0.00	0.00	P
PO-210	-9999	-9999	0	-9.998	5325.2	140.4	321	340	0.00	0.00	M
AC-227	7	0	10	0.014	6058.8	140.3	420	439	0.00	0.00	S
TH-227	7	0	10	0.014	6058.8	140.3	420	439	0.00	0.00	S
TH-228	-9999	-9999	0	-9.998	5444.0	140.4	337	356	0.00	0.00	M
TH-229	212	1	0	0.423	4866.1	140.4	259	278	0.00	0.00	P
TH-230	7	0	0	0.014	4708.5	140.4	238	257	0.00	0.00	
TH-232	1	0	0	0.002	4033.8	140.4	146	165	0.00	0.00	
U-232	-9999	-9999	0	-9.998	5341.0	140.4	323	342	0.00	0.00	M
U-234	212	1	0	0.423	4795.4	140.4	259	278	0.00	0.00	P
U-235	1	1	0	0.001	4418.6	140.4	198	217	0.00	0.00	
PU-236	6	14	8	-0.002	5788.5	140.3	384	403	0.00	0.00	S
NP-237	212	1	0	0.423	4808.8	140.4	259	278	0.00	0.00	P
PU-238	-9999	-9999	0	-9.998	5519.8	140.3	347	366	0.00	0.00	M
U-238	0	1	0	-0.001	4218.8	140.4	171	190	0.00	0.00	
PU-239	-9999	-9999	0	-9.998	5177.4	140.4	301	320	0.00	0.00	M
AM-241	-9999	-9999	0	-9.998	5506.4	140.3	346	365	0.00	0.00	M
AM-242M	-9999	-9999	0	-9.998	5227.6	140.4	308	327	0.00	0.00	M
CM-242	-9999	-9999	0	-9.998	6133.5	140.3	431	450	0.00	0.00	M
PU-242	212	1	0	0.423	4921.3	140.4	259	278	0.00	0.00	P
AM-243	-9999	-9999	0	-9.998	5296.1	140.4	317	336	0.00	0.00	M
CM-244	7	13	8	0.001	5825.6	140.3	389	408	0.00	0.00	S
CM-246	-9999	-9999	0	-9.998	5407.3	140.4	332	351	0.00	0.00	M
CM-247	212	1	0	0.423	4891.2	140.4	259	278	0.00	0.00	P
CM-248	-9999	-9999	0	-9.998	5099.4	140.4	291	310	0.00	0.00	M

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H7D031AA
Detector: ALP120 1
Report Date: 13-Jul-06 12:14 AM
Acquire Date: 12-JUL-2006 15:54:10.80

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	4	@	301	0	@	351	1	@	401	0		451	0		501
		2	0		52	0		102	0	+	152	0	+	202	0	+	252	2	@	302	0	@	352	1	@	402	0		452	0		502
0		3	0		53	0		103	0	+	153	0	+	203	0	+	253	2	@	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	1	-	405	0		455	0		505
0		6	0		56	0		106	0	+	156	0	+	206	0	+	256	0	@	306	1	@	356	2	-	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	2	@	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	1	@	360	0		410	0		460	0		510
0		11	0		61	0		111	0	+	161	0	+	211	2	@	261	0	@	311	0	@	361	0		411	1		461	0		511
0		12	0		62	0		112	0	+	162	0	+	212	4	@	262	0	@	312	0	@	362	0		412	1		462	0		512
0		13	0		63	0		113	0	+	163	0	+	213	3	@	263	0	@	313	0	@	363	1		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	1	+	215	5	@	265	1	@	315	0	@	365	0		415	0		465			
0		16	0		66	0		116	0		166	0	+	216	8	@	266	0	@	316	0	+	366	0		416	1		466			
0		17	0		67	0		117	0		167	0	+	217	15	@	267	0	-	317	0		367	0		417	1		467			
0		18	0		68	0		118	0		168	0		218	15	@	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	14	@	270	0	@	320	0		370	0	@	420	0		470			
0		21	0		71	0		121	0	+	171	0		221	16	@	271	0	@	321	0		371	0	@	421	1		471			
0		22	0		72	0		122	0	+	172	0		222	22	@	272	0	@	322	0		372	0	@	422	2		472			
0		23	0		73	0		123	0	+	173	0		223	20	@	273	0	@	323	3		373	0	@	423	2		473			
0		24	0		74	0		124	0	+	174	0		224	25	@	274	0	@	324	1		374	0	@	424	1		474			
0		25	0		75	0		125	0	+	175	0		225	12	@	275	0	@	325	0		375	0	@	425	1		475			
0		26	0		76	0		126	0	+	176	0		226	9	@	276	0	@	326	0		376	0	@	426	0		476			
0		27	0		77	0		127	0	+	177	0		227	9	@	277	0	@	327	0		377	0	@	427	1		477			
0		28	0		78	0		128	0	+	178	1		228	8		278	0	@	328	0		378	1	@	428	0		478			
0		29	0		79	0		129	0	+	179	0		229	10		279	0	@	329	0		379	0	@	429	0		479			
0		30	0		80	0		130	0	+	180	0		230	13		280	0	@	330	0		380	1	@	430	0		480			
0		31	0		81	0		131	0	+	181	0		231	13		281	0	@	331	0		381	1	-	431	0		481			
0		32	0		82	0		132	0	+	182	0		232	8		282	0	-	332	0		382	1	@	432	0		482			
0		33	0		83	0		133	0	+	183	0		233	16		283	0	@	333	1		383	2	@	433	0		483			
0		34	0		84	0		134	0	+	184	0		234	6		284	1	@	334	1	+	384	1	@	434	0		484			
1		35	0		85	0		135	0	+	185	0		235	12		285	0	@	335	0	+	385	0	@	435	0		485			
0		36	0		86	0		136	0	+	186	0		236	9		286	0	@	336	0	+	386	3	@	436	0		486			
0		37	0		87	0		137	0	+	187	1		237	7		287	0	@	337	1	+	387	0	@	437	0		487			
0		38	0		88	0		138	0	+	188	0	+	238	5		288	0	@	338	0	+	388	0	@	438	0		488			
0		39	0		89	0		139	0	+	189	0	+	239	5		289	0	@	339	0	@	389	2	@	439	0		489			
0		40	0		90	0		140	0	+	190	0	+	240	4		290	1	@	340	1	@	390	0	-	440	0		490			
0		41	0		91	0		141	0		191	1	+	241	5	+	291	0	@	341	1	@	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	1	@	393	1	-	443	0		493			
0		44	0		94	0		144	0		194	2	+	244	0	+	294	0	@	344	0	@	394	1	-	444	0		494			
0		45	0		95	0		145	0		195	0	+	245	5	@	295	1	@	345	1	@	395	0	-	445	0		495			
0		46	0		96	0	+	146	0		196	1	+	246	2	@	296	0	@	346	0	@	396	0	-	446	0		496			
0		47	0		97	1	+	147	0		197	1	+	247	1	@	297	0	@	347	0	@	397	1	-	447	0		497			
0		48	0		98	0	+	148	0	+	198	0	+	248	8	@	298	0	@	348	1	@	398	0	-	448	0		498			
0		49	0		99	0	+	149	0	+	199	1	+	249	3	@	299	0	@	349	1	@	399	1	-	449	0		499			
0		50	0		100	0	+	150	0	+	200	0	+	250	7	@	300	0	@	350	0	@	400	1	-	450	0		500			

VMS Peak Search Report V1.9 Generated 13-JUL-2006 00:14:47

```
Configuration     : RDND06$DKA100:[ALP120.SAMPLE]H7D031AA_120761554.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 12-JUL-2006 15:54:10
Sample ID         : H7D031AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP120               Detector geometry:
Elapsed live time: 0 08:20:02.00         Elapsed real time: 0 08:20:02.00   0.0%
Start energy      :  2880.70 kev         End energy       :  6641.81 kev
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4866.10	212	0	73.96	271.58	259	19	7.07E-03	6.9	

VMS Nuclide Identification Report V3.1 Generated 13-JUL-2006 00:14:48

Configuration	: RDND06$DKA100:[ALP120.SAMPLE]H7D031AA_120761554.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.4		
Sample title	: TH BRC		
Sample date	: 31-MAY-2006 12:00:00	Acquisition date	: 12-JUL-2006 15:54:10
Sample ID	: H7D031AA	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP120	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	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 "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

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

Configuration: RDND06$DKA100:[ALP120.SAMPLE]H7D031AA_120761554.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4866.10	259	278	212	211	0.07		

End of Report

STL RICHLAND

SEVERN TRENT **STL**

THORIUM ISOTOPIC COUNTING REQUEST

1353

C.R. Technician CP
Date Counted 7/13/06
C.R. Analyst CD
Date Analyzed 7/13/06

Counting Time
Sample 500 Minutes

Background See Alpha Analysis Report

SOP's
Operating: RICHRD008
Review: RICHRD0016

BRC 5/31 6/6/7/52

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)		
H7D00VAA		10		0	See Alpha Analysis Report for ROI Information			116	
		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				
		10		0	See Alpha Analysis Report for ROI Information				

Comments:

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

Approved by: AD

Date: 7/13/06

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

Sample Identity: H7D001AA

Detector: ALP116 1
Report Date: 13-Jul-06 02:14 PM
Acquire Date: 13-JUL-2006 05:33:59.14
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	3	0.005	5423.2	149.6	326	346
TH-229	499	0	0.998	4845.3	382.8	249	300
TH-230	1	0	0.002	4687.7	150.4	228	248
TH-232	1	0	0.002	4013.0	151.2	139	159

End of Alpha Region Report
(Produced by ANAL Report)

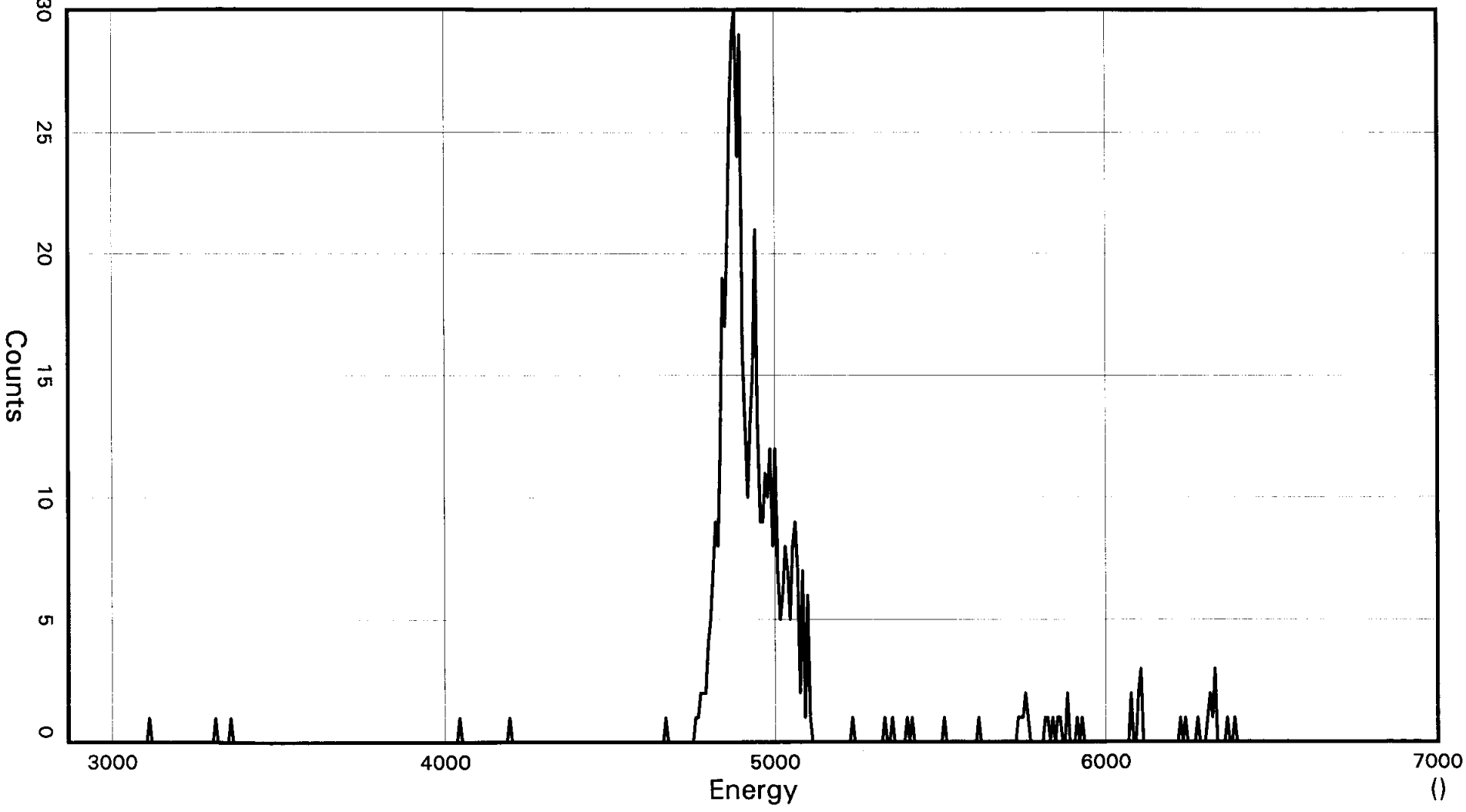
STL Richland WA.

TH BRC

Sample ID: H7D001AA

Detector ID: ALP116 1

Batch ID: 6167152



Acquisition Start: 13-JUL-2006 05:33:59.14

Preset Live Time: 0 08:20:00.00

Elapsed Live Time: 0 08:20:01.00

Energy Coefficients:

Offset: 2.84555E+03

Slope: 7.62237E+00

Quadrature: -2.12519E-04

SAMPLE IDENTIITY: H7D001AA

TITLE : TH BRC

DETECTOR : ALP116 1
CONFIGURATION NAME : RDND06$DKA100:[ALP116.SAMPLE]H7D001AA_130760
533.CNF;1
ACQUIRE DATE of BACKGROUND: 22-JUN-2006 10:15:09

REPORT DATE : 13-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 13-JUL-2006 05:33:59 CALIB DATE : 22-JUN-2006 09:30:10

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:20:01

OFFSET : 2845.55 keV CONSTANT FWHM : 8.83333 Channels
SLOPE : 7.62237 keV/C SENSITIVITY : 6.00000 Std Dev's
QUAD COEFF : -.212519E-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: H7D001AA
Detector: ALP116 1
Report Date: 13-Jul-06 01:54 PM
Acquire Date: 13-JUL-2006 05:33:59.14

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	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	1		253	0		303	1		353	2		403	0		453	0		503
0		4	0		54	0		104	0		154	0		204	1		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	0		206	2		256	0		306	0		356	0		406	1		456	0		506
0		7	0		57	0		107	0		157	0		207	2		257	0		307	0		357	1		407	0		457	0		507
0		8	0		58	0		108	1		158	0		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	1		409	0		459	0		509
0		10	0		60	0		110	0		160	0		210	7		260	0		310	0		360	0		410	1		460	0		510
0		11	1		61	0		111	0		161	0		211	9		261	0		311	0		361	0		411	2		461	0		511
0		12	0		62	0		112	0		162	0		212	8		262	0		312	0		362	0		412	1		462	0		512
0		13	0		63	0		113	0		163	0		213	12		263	0		313	0		363	0		413	3		463			
0		14	0		64	0		114	0		164	0		214	19		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	0		465			
0		16	0		66	0		116	0		166	0		216	21		266	1		316	0		366	0		416	0		466			
0		17	1		67	0		117	0		167	0		217	26		267	0		317	1		367	0		417	0		467			
0		18	0		68	0		118	0		168	0		218	29		268	0		318	0		368	0		418	1		468			
0		19	0		69	0		119	0		169	0		219	30		269	0		319	0		369	0		419	0		469			
0		20	0		70	0		120	0		170	0		220	24		270	0		320	0		370	0		420	0		470			
0		21	0		71	0		121	0		171	0		221	29		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	13		273	0		323	0		373	0		423	0		473			
0		24	0		74	0		124	0		174	0		224	10		274	0		324	0		374	0		424	0		474			
0		25	0		75	0		125	0		175	0		225	13		275	0		325	0		375	0		425	0		475			
0		26	0		76	0		126	0		176	0		226	15		276	0		326	0		376	0		426	0		476			
0		27	0		77	0		127	0		177	0		227	21		277	0		327	0		377	0		427	0		477			
0		28	0		78	0		128	1		178	0		228	13		278	0		328	0		378	0		428	0		478			
0		29	0		79	0		129	0		179	0		229	9		279	1		329	0		379	2		429	0		479			
0		30	0		80	0		130	0		180	0		230	9		280	0		330	0		380	0		430	0		480			
0		31	0		81	0		131	0		181	0		231	11		281	0		331	0		381	0		431	0		481			
0		32	0		82	0		132	0		182	0		232	10		282	1		332	0		382	2		432	0		482			
0		33	0		83	0		133	0		183	0		233	12		283	0		333	1		383	3		433	0		483			
0		34	0		84	0		134	0		184	0		234	8		284	0		334	1		384	0		434	0		484			
1		35	0		85	0		135	0		185	0		235	12		285	0		335	1		385	0		435	0		485			
0		36	0		86	0		136	0		186	0		236	7		286	0		336	2		386	0		436	0		486			
0		37	0		87	0		137	0		187	0		237	5		287	0		337	1		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	6		288	1		338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	8		289	0		339	0		389	0		439	0		489			
0		40	0		90	0		140	0		190	0		240	7		290	1		340	0		390	0		440	0		490			
0		41	0		91	0		141	0		191	1		241	5		291	0		341	0		391	0		441	0		491			
0		42	0		92	0		142	0		192	0		242	8		292	0		342	0		392	0		442	0		492			
0		43	0		93	0		143	0		193	0		243	9		293	0		343	0		393	0		443	0		493			
0		44	0		94	0		144	0		194	0		244	7		294	0		344	1		394	0		444	0		494			
0		45	0		95	0		145	0		195	0		245	2		295	0		345	1		395	0		445	0		495			
0		46	0		96	0		146	0		196	0		246	7		296	0		346	0		396	0		446	0		496			
0		47	0		97	0		147	0		197	0		247	1		297	0		347	1		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	1		299	0		349	1		399	1		449	0		499			

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

VMS Peak Search Report V1.9 Generated 13-JUL-2006 13:54:03

Configuration	: RDND06$DKA100:[ALP116.SAMPLE]H7D001AA_130760533.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: TH BRC		
Sample date	: 31-MAY-2006 12:00:00	Acquisition date	: 13-JUL-2006 05:33:59
Sample ID	: H7D001AA	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP116	Detector geometry	:
Elapsed live time	: 0 08:20:01.00	Elapsed real time	: 0 08:20:01.00 0.0%
Start energy	: 2868.42	End energy	: 6692.50
Sensitivity	: 6.00	Sum Sensitivity	: 0.10

No peaks were found

VMS Nuclide Identification Report V3.1 Generated 13-JUL-2006 13:54:04

Configuration	: RDND06$DKA100:[ALP116.SAMPLE]H7D001AA_130760533.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.4		
Sample title	: TH BRC		
Sample date	: 31-MAY-2006 12:00:00	Acquisition date	: 13-JUL-2006 05:33:59
Sample ID	: H7D001AA	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP116	Detector geometry	:
Elapsed live time	: 0 08:20:01.00	Elapsed real time	: 0 08:20:01.00 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: 13-Jul-06  01:54 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
```

STL RICHLAND

SEVERN TRENT **STL**

THORIUM ISOTOPIC COUNTING REQUEST

7/13
0016

C.R. Technician: OD
Date Counted: 7/12/06
C.R. Analyst: CO
Date Analyzed: 7/13/06

Counting Time
Sample: 500 Minutes

Background: See Alpha Analysis Report
BRC 5/31/06

SOP's
Operating: RICHRD008
Review: RICHRD0016
6167152

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)		
H7D05IAA		10		0	See Alpha Analysis Report for ROI Information			171	
H7D08IAA		10		0	See Alpha Analysis Report for ROI Information			172	
H7D1AIAA		10		0	See Alpha Analysis Report for ROI Information			173	
H7D1EIAA		10		0	See Alpha Analysis Report for ROI Information			174	
H7D1JIAA		10		0	See Alpha Analysis Report for ROI Information			175	
H7D1KIAA		10		0	See Alpha Analysis Report for ROI Information			176	
H7D1NIAA		10		0	See Alpha Analysis Report for ROI Information			177	
H7D1RIAA		10		0	See Alpha Analysis Report for ROI Information			178	
		10		0	See Alpha Analysis Report for ROI Information				

Comments:

121

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

Approved by: S

Date: 7/13/06

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

Sample Identity: H7D051AA

Detector: ALP171 1
Report Date: 13-Jul-06 05:20 AM
Acquire Date: 12-JUL-2006 15:56:03.80
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	6	-0.006	5423.2	116.4	317	337
TH-229	653	4	1.303	4845.3	354.8	218	279
TH-230	14	1	0.027	4687.7	116.3	190	210
TH-232	1	0	0.002	4013.0	116.2	74	94

End of Alpha Region Report
(Produced by ANAL Report)

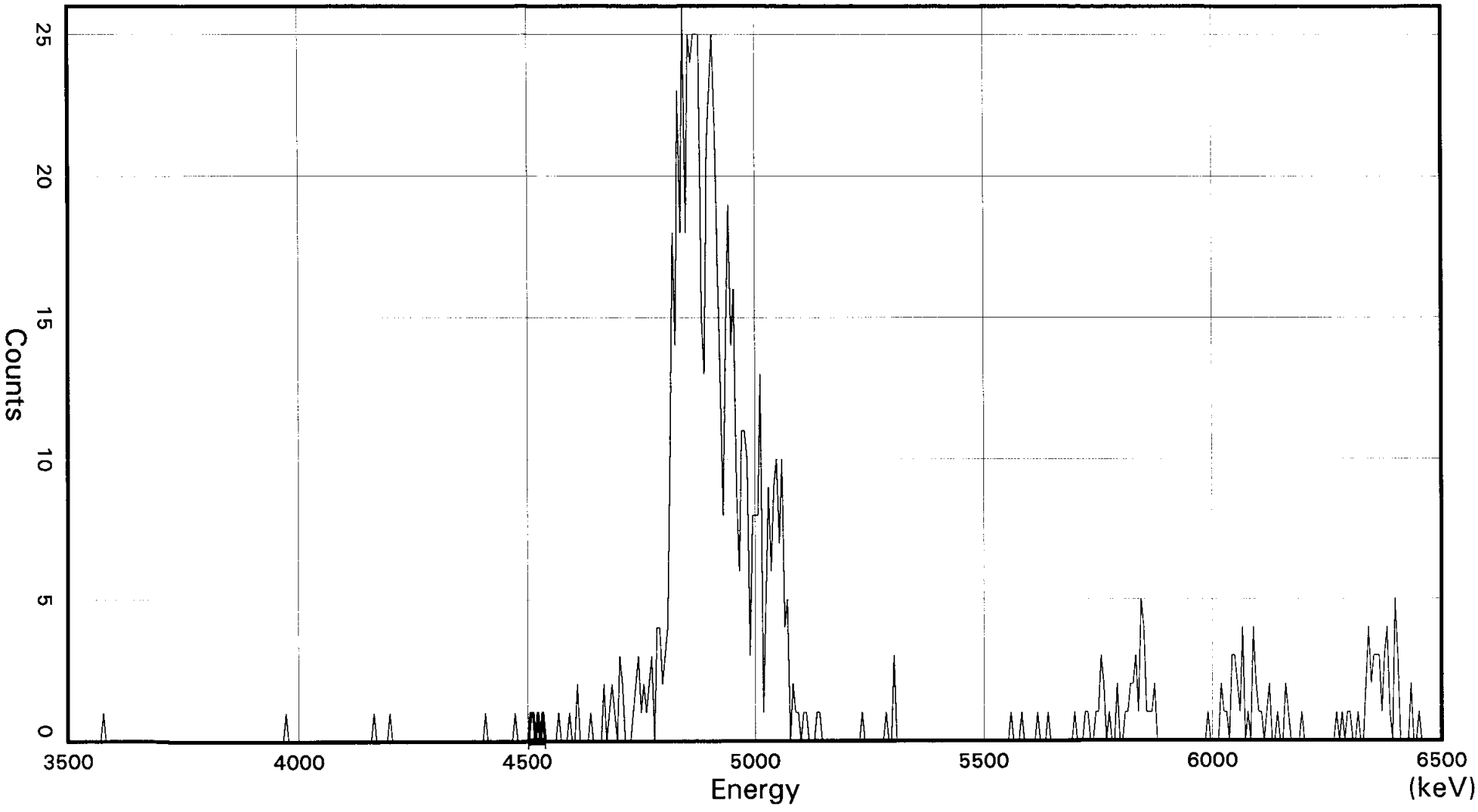
STL Richland WA.

TH BRC

Sample ID: H7D051AA

Detector ID: ALP171 1

Batch ID: 6167152



Acquisition Start: 12-JUL-2006 15:56:03.80

Preset Live Time: 0 08:20:00.00

Elapsed Live Time: 0 08:19:28.00

Energy Coefficients:

Offset: 3.49560E+03

Slope: 5.80529E+00

Quadrature: 2.24502E-05

SAMPLE IDENTITY: H7D051AA

TITLE : TH BRC

DETECTOR : ALP171 1
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H7D051AA_120761556A.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 13-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 12-JUL-2006 15:56:03 CALIB DATE : 07-JUL-2006 02:08:58

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

OFFSET : 3495.60 keV CONSTANT FWHM : 8.83333 Channels
SLOPE : 5.80529 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 2.245020E-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: H7D051AA
Detector: ALP171 1
Report Date: 13-Jul-06 12:16 AM
Acquire Date: 12-JUL-2006 15:56:03.80

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

0	50	0	100	0	150	0	200	14	250	0	300	0	350	2	400	0	450	3	500

VMS Peak Search Report V1.9 Generated 13-JUL-2006 00:16:36

```
Configuration     : $DISK1:[ALP171.SAMPLE]H7D051AA_120761556A.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 12-JUL-2006 15:56:03
Sample ID         : H7D051AA             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      :  3513.01 keV         End energy       :  6473.79 keV
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4515.12	4	0	23.22	175.50	173	7	1.33E-04	50.0	

VMS Nuclide Identification Report V3.0 Generated 13-JUL-2006 00:16:40

```
Configuration     : $DISK1:[ALP171.SAMPLE]H7D051AA_120761556A.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 12-JUL-2006 15:56:03
Sample ID         : H7D051AA             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                1
 Number of unidentified lines                     1
 Number of lines tentatively identified by NID    0        0.00%
**** 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: 13-Jul-06  12:16 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: H7D081AA

Detector: ALP171 2
Report Date: 13-Jul-06 05:21 AM
Acquire Date: 12-JUL-2006 15:56:03.80
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	6	0.006	5423.2	112.8	320	340
TH-229	612	6	1.219	4845.3	355.6	217	280
TH-230	8	1	0.015	4687.7	112.9	190	210
TH-232	2	2	0.002	4013.0	113.1	70	90

End of Alpha Region Report
(Produced by ANAL Report)

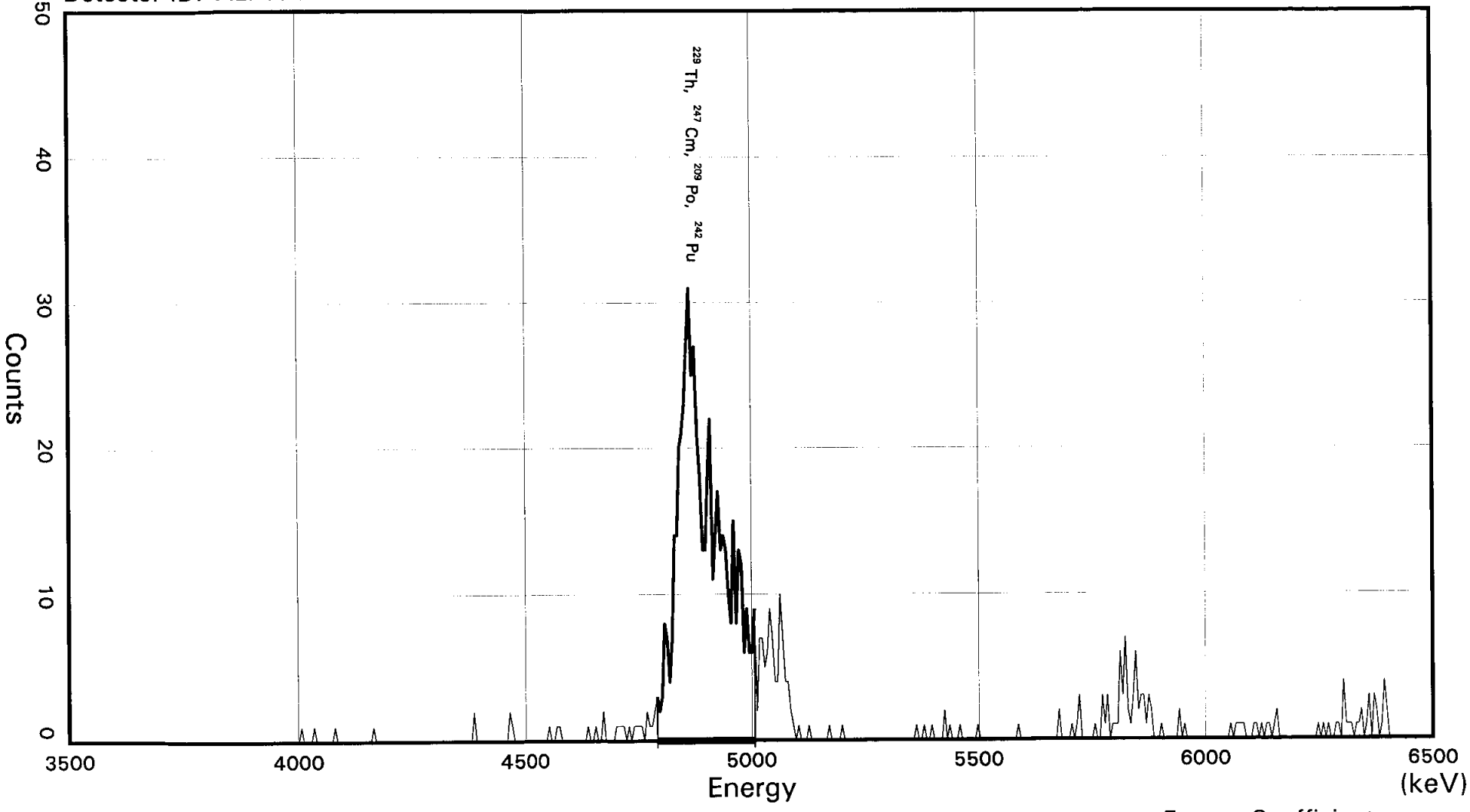
STL Richland WA.

TH BRC

Sample ID: H7D081AA

Detector ID: ALP171 2

Batch ID: 6167152



Acquisition Start: 12-JUL-2006 15:56:03.80

Preset Live Time: 0 08:20:00.00

Elapsed Live Time: 0 08:19:28.00

Energy Coefficients:

Offset: 3.53196E+03

Slope: 5.65669E+00

Quadrature: -2.57851E-05

```
SAMPLE IDENTIITY:              H7D081AA


TITLE            : TH BRC

DETECTOR                    : ALP171 2
CONFIGURATION NAME          : $DISK1:[ALP171.SAMPLE]H7D081AA_120761556B.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 13-Jul-06              SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 12-JUL-2006 15:56:03   CALIB DATE : 07-JUL-2006 02:09:12

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

OFFSET      :  3531.96 keV          CONSTANT FWHM  : 10.16670 Channels
SLOPE       :  5.65669 keV/C        SENSITIVITY    :  3.00000 Std Dev's
QUAD COEFF : -.257851E-04 keV/C^2   SUM SENSITIVITY:  1.00000 %
```

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

Sample Identity: H7D081AA

Detector: ALP171 2
Report Date: 13-Jul-06 12:16 AM
Acquire Date: 12-JUL-2006 15:56:03.80
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	5146.4	214.4	271	309	0.00	0.00	M
PO-209	522	4	0	1.041	4914.7	214.5	223	261	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5335.8	214.3	304	342	0.00	0.00	M
AC-227	7	3	12	0.011	6069.5	219.7	434	473	0.00	0.00	S
TH-227	7	3	12	0.011	6069.5	219.7	434	473	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5454.7	214.3	325	363	0.00	0.00	M
TH-229	522	4	0	1.041	4876.8	214.5	223	261	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4719.2	214.5	195	233	0.00	0.00	M I
TH-232	4	0	1	0.007	4044.5	214.8	76	114	0.00	0.00	S
U-232	-9999	-9999	0	-10.010	5351.6	214.3	307	345	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4806.1	214.5	210	248	0.00	0.00	M I
U-235	6	1	0	0.011	4429.3	214.6	144	182	0.00	0.00	S
PU-236	31	39	54	0.023	5799.1	214.2	387	425	0.00	0.00	S
NP-237	-9999	-9999	0	-10.010	4819.5	214.5	213	251	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.010	5530.5	214.3	339	377	0.00	0.00	M
U-238	-9999	-9999	0	-10.010	4229.5	214.7	108	146	0.00	0.00	M
PU-239	-9999	-9999	0	-10.010	5188.0	214.4	278	316	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5517.1	219.9	336	375	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5238.3	214.4	287	325	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6144.2	214.0	448	486	0.00	0.00	M
PU-242	522	4	0	1.041	4932.0	214.5	223	261	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5306.8	214.3	299	337	0.00	0.00	M
CM-244	30	32	54	0.028	5836.3	214.1	393	431	0.00	0.00	S
CM-246	-9999	-9999	0	-10.010	5418.0	214.3	319	357	0.00	0.00	M
CM-247	522	4	0	1.041	4901.9	214.5	223	261	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5110.1	214.4	264	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: H7D081AA
Detector: ALP171 2
Report Date: 13-Jul-06 12:16 AM
Acquire Date: 12-JUL-2006 15:56:03.80

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

VMS Peak Search Report V1.9 Generated 13-JUL-2006 00:16:43

```
Configuration     : $DISK1:[ALP171.SAMPLE]H7D081AA_120761556B.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 12-JUL-2006 15:56:03
Sample ID         : H7D081AA             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      :  3548.93 keV         End energy       :  6421.43 keV
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4876.76	522	0	90.51	237.99	223	38	1.74E-02	4.4	

VMS Nuclide Identification Report V3.0 Generated 13-JUL-2006 00:16:46

```
Configuration     : $DISK1:[ALP171.SAMPLE]H7D081AA_120761556B.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 12-JUL-2006 15:56:03
Sample ID         : H7D081AA             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                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          "M" = Manually accepted
       "E" = Manually edited            "A" = Nuclide specific abn. limit
```

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

Configuration: $DISK1:[ALP171.SAMPLE]H7D081AA_120761556B.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4876.75	223	261	522	525	-0.13		

End of Report

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

Sample Identity: H7D1A1AA

Detector: ALP171 3
Report Date: 13-Jul-06 05:21 AM
Acquire Date: 12-JUL-2006 15:56:03.80
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	119.3	309	329
TH-229	254	2	0.507	4845.3	322.2	215	269
TH-230	8	0	0.016	4687.7	119.4	185	205
TH-232	0	0	0.000	4013.0	119.5	72	92

End of Alpha Region Report
(Produced by ANAL Report)

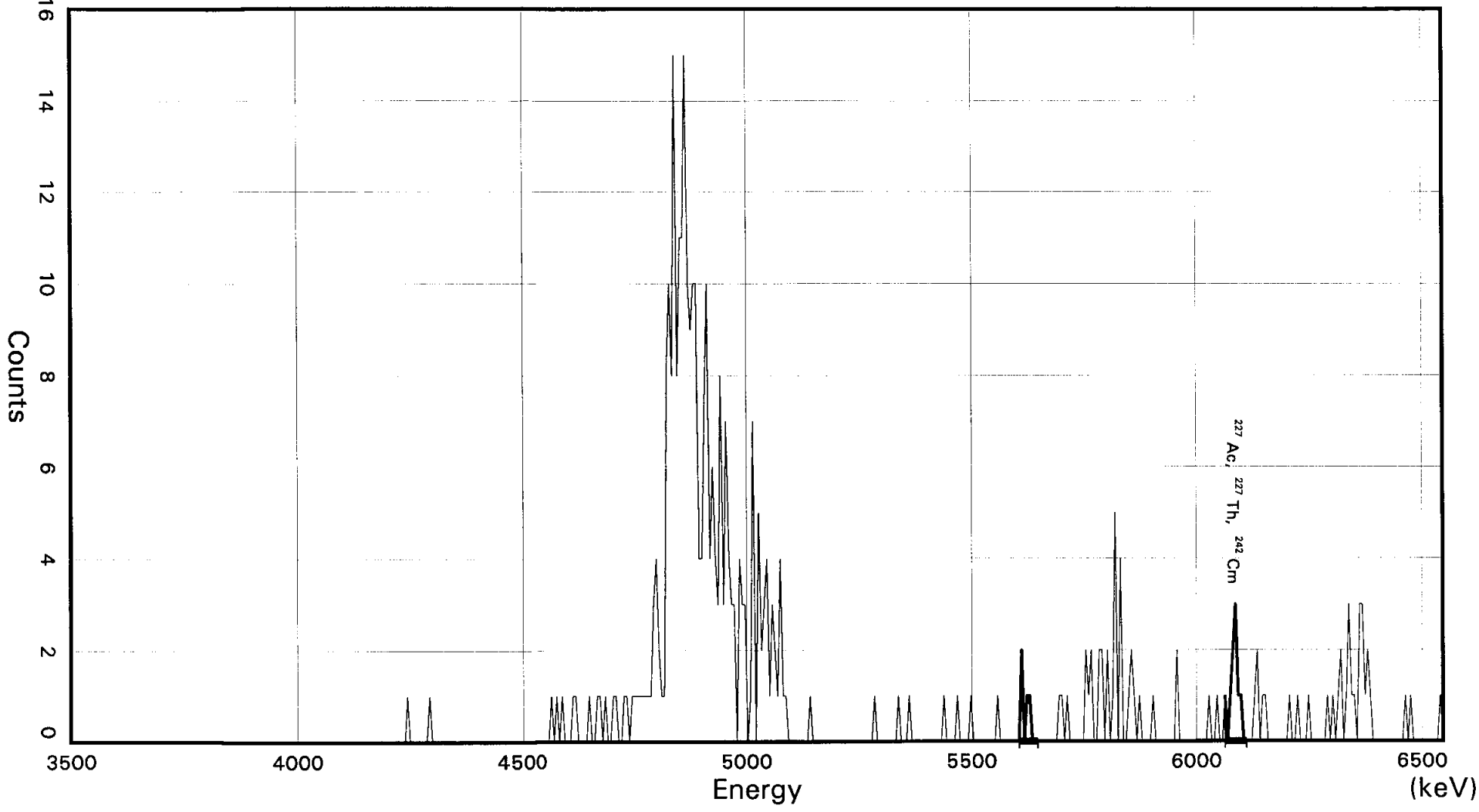
STL Richland WA.

TH BRC

Sample ID: H7D1A1AA

Detector ID: ALP171 3

Batch ID: 6167152



Acquisition Start: 12-JUL-2006 15:56:03.80

Preset Live Time: 0 08:20:00.00

Elapsed Live Time: 0 08:19:28.00

Energy Coefficients:

Offset: 3.49135E+03

Slope: 5.98005E+00

Quadrature: -2.72507E-05

SAMPLE IDENTIITY: H7D1A1AA

TITLE : TH BRC

DETECTOR : ALP171 3
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H7D1A1AA_120761556C.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 13-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 12-JUL-2006 15:56:03 CALIB DATE : 07-JUL-2006 02:09:29

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

OFFSET : 3491.35 keV CONSTANT FWHM : 8.83333 Channels
SLOPE : 5.98005 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.272507E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H7D1A1AA
Detector: ALP171 3
Report Date: 13-Jul-06 12:16 AM
Acquire Date: 12-JUL-2006 15:56:03.80

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

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

VMS Peak Search Report V1.9 Generated 13-JUL-2006 00:16:50

```
Configuration     : $DISK1:[ALP171.SAMPLE]H7D1A1AA_120761556C.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 12-JUL-2006 15:56:03
Sample ID         : H7D1A1AA             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      :  3509.29 keV         End energy       :  6545.99 keV
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5619.77	4	0	23.92	356.50	354	7	1.33E-04	50.0	
2	0	6083.79	9	0	29.90	434.37	431	8	3.00E-04	33.3	

VMS Nuclide Identification Report V3.0 Generated 13-JUL-2006 00:16:52

```
Configuration     : $DISK1:[ALP171.SAMPLE]H7D1A1AA_120761556C.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 12-JUL-2006 15:56:03
Sample ID         : H7D1A1AA             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 : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
CM-242	162.80D	1.20	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: 13-Jul-06  12:16 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
```

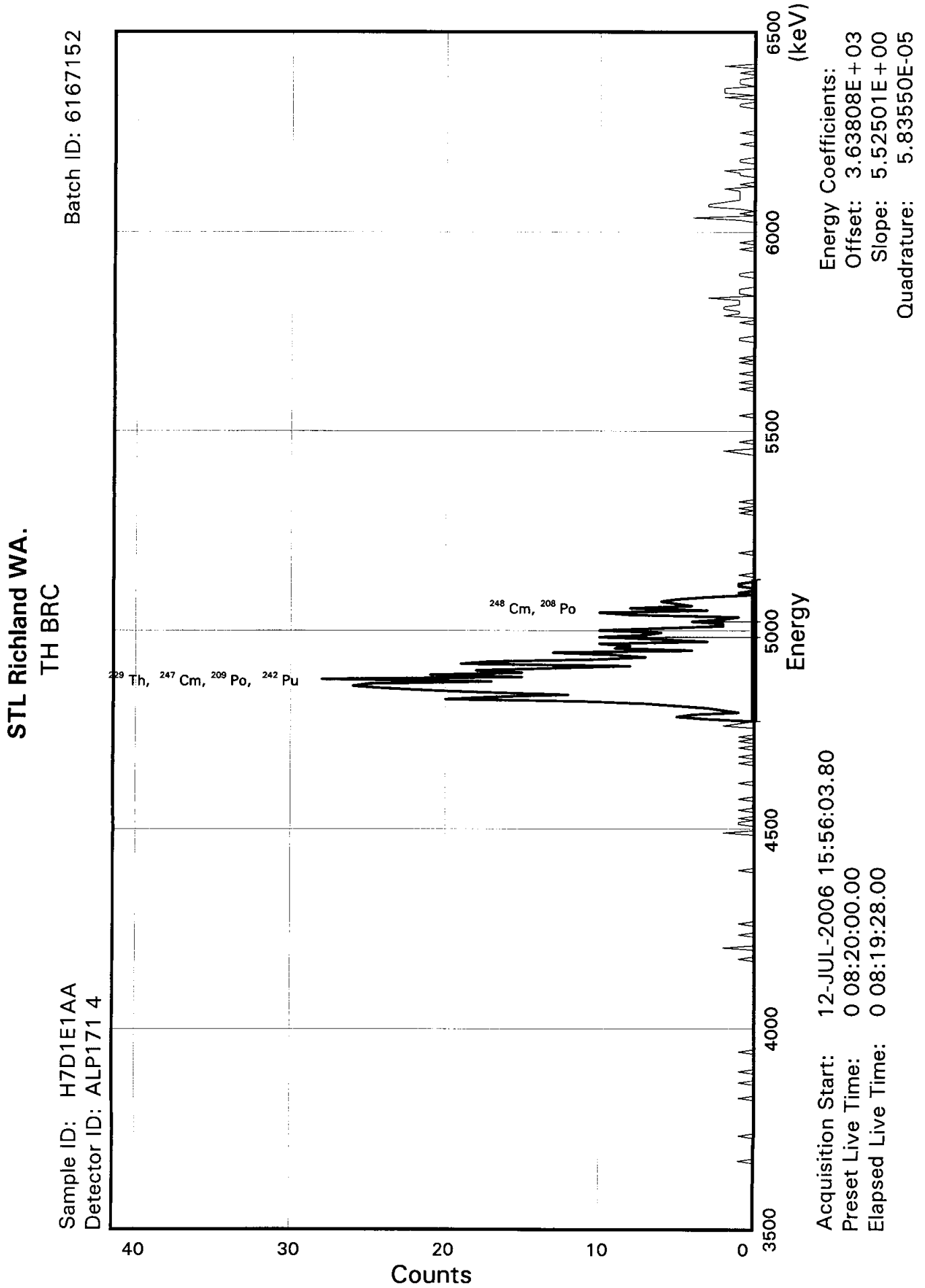
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H7D1E1AA

Detector: ALP171 4
Report Date: 13-Jul-06 05:21 AM
Acquire Date: 12-JUL-2006 15:56:03.80
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	0	0.006	5423.2	111.2	307	327
TH-229	559	3	1.116	4845.3	344.2	203	265
TH-230	4	0	0.008	4687.7	110.9	175	195
TH-232	1	0	0.002	4013.0	110.6	53	73

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6167152
Sample ID: H7D1E1AA
Detector ID: ALP171 4
229 Th, 247 Cm, 209 Po, 242 Pu
248 Cm, 208 Po
Counts
40
30
20
10
0
Energy
3500
4000
4500
5000
5500
6000
6500
(keV)
Acquisition Start: 12-JUL-2006 15:56:03.80
Preset Live Time: 0 08:20:00.00
Elapsed Live Time: 0 08:19:28.00
Energy Coefficients:
Offset: 3.63808E+03
Slope: 5.52501E+00
Quadrature: 5.83550E-05

SAMPLE IDENTITY: H7D1E1AA

TITLE : TH BRC

DETECTOR : ALP171 4
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H7D1E1AA_120761556D.CN
F;1
ACQUIRE DATE of BACKGROUND: 08-JUL-2006 07:53:15

REPORT DATE : 13-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 12-JUL-2006 15:56:03 CALIB DATE : 07-JUL-2006 02:09:39

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

OFFSET : 3638.08 keV CONSTANT FWHM : 11.00000 Channels
SLOPE : 5.52501 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 5.835500E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H7D1E1AA

Detector: ALP171 4
Report Date: 13-Jul-06 12:16 AM
Acquire Date: 12-JUL-2006 15:56:03.80
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	77	2	0	0.152	5145.2	144.4	243	269	0.00	0.00	P
PO-209	483	1	0	0.966	4913.5	249.8	205	250	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5334.7	250.3	288	333	0.00	0.00	M
AC-227	-9999	-9999	0	-10.010	6068.3	250.9	419	464	0.00	0.00	M
TH-227	-9999	-9999	0	-10.010	6068.3	250.9	419	464	0.00	0.00	M
TH-228	-9999	-9999	0	-10.010	5453.5	250.4	309	354	0.00	0.00	M
TH-229	483	1	0	0.966	4875.6	249.8	205	250	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4718.0	249.7	177	222	0.00	0.00	M I
TH-232	2	0	1	0.003	4043.3	249.0	55	100	0.00	0.00	S
U-232	-9999	-9999	0	-10.010	5350.5	244.7	291	335	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4804.9	249.8	192	237	0.00	0.00	M I
U-235	7	3	0	0.011	4428.1	249.4	124	169	0.00	0.00	S
PU-236	12	32	21	-0.009	5797.9	250.7	371	416	0.00	0.00	S
NP-237	-9999	-9999	0	-10.010	4818.3	249.8	195	240	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.010	5529.3	250.4	323	368	0.00	0.00	M
U-238	-9999	-9999	0	-10.010	4228.3	249.2	88	133	0.00	0.00	M
PU-239	-9999	-9999	0	-10.010	5186.9	250.1	261	306	0.00	0.00	M I
AM-241	-9999	-9999	0	-10.010	5515.9	250.4	320	365	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5237.1	250.2	270	315	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6143.0	251.0	433	478	0.00	0.00	M
PU-242	483	1	0	0.966	4930.8	249.8	205	250	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5305.6	250.2	282	327	0.00	0.00	M
CM-244	-9999	-9999	0	-10.010	5835.1	245.2	378	422	0.00	0.00	M
CM-246	-9999	-9999	0	-10.010	5416.8	250.3	302	347	0.00	0.00	M
CM-247	483	1	0	0.966	4900.7	249.8	205	250	0.00	0.00	P
CM-248	77	2	0	0.152	5108.9	144.4	243	269	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H7D1E1AA
Detector: ALP171 4
Report Date: 13-Jul-06 12:16 AM
Acquire Date: 12-JUL-2006 15:56:03.80

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

VMS Peak Search Report V1.9 Generated 13-JUL-2006 00:16:54

```
Configuration     : $DISK1:[ALP171.SAMPLE]H7D1E1AA_120761556D.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 12-JUL-2006 15:56:03
Sample ID         : H7D1E1AA             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      :  3654.66 keV         End energy       :  6482.19 keV
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4875.59	483	0104.98		223.45	205	45	1.61E-02	4.6	
2	0	5055.52	77	0 49.73		255.86	243	26	2.57E-03	11.4	

VMS Nuclide Identification Report V3.0 Generated 13-JUL-2006 00:16:56

```
Configuration     : $DISK1:[ALP171.SAMPLE]H7D1E1AA_120761556D.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 12-JUL-2006 15:56:03
Sample ID         : H7D1E1AA             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-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          "M" = Manually accepted
       "E" = Manually edited            "A" = Nuclide specific abn. limit
```

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

Configuration: $DISK1:[ALP171.SAMPLE]H7D1E1AA_120761556D.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4875.58	205	250	483	500	-0.77		
5055.51	243	269	77	105	-3.19	47	0.08

End of Report

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

Sample Identity: H7D1J1AA

Detector: ALP171 5
Report Date: 13-Jul-06 05:21 AM
Acquire Date: 12-JUL-2006 15:56:03.80
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	1	0.003	5423.2	118.0	301	321
TH-229	603	2	1.205	4845.3	348.5	203	262
TH-230	6	0	0.012	4687.7	118.2	176	196
TH-232	4	1	0.007	4013.0	118.4	62	82

End of Alpha Region Report
(Produced by ANAL Report)

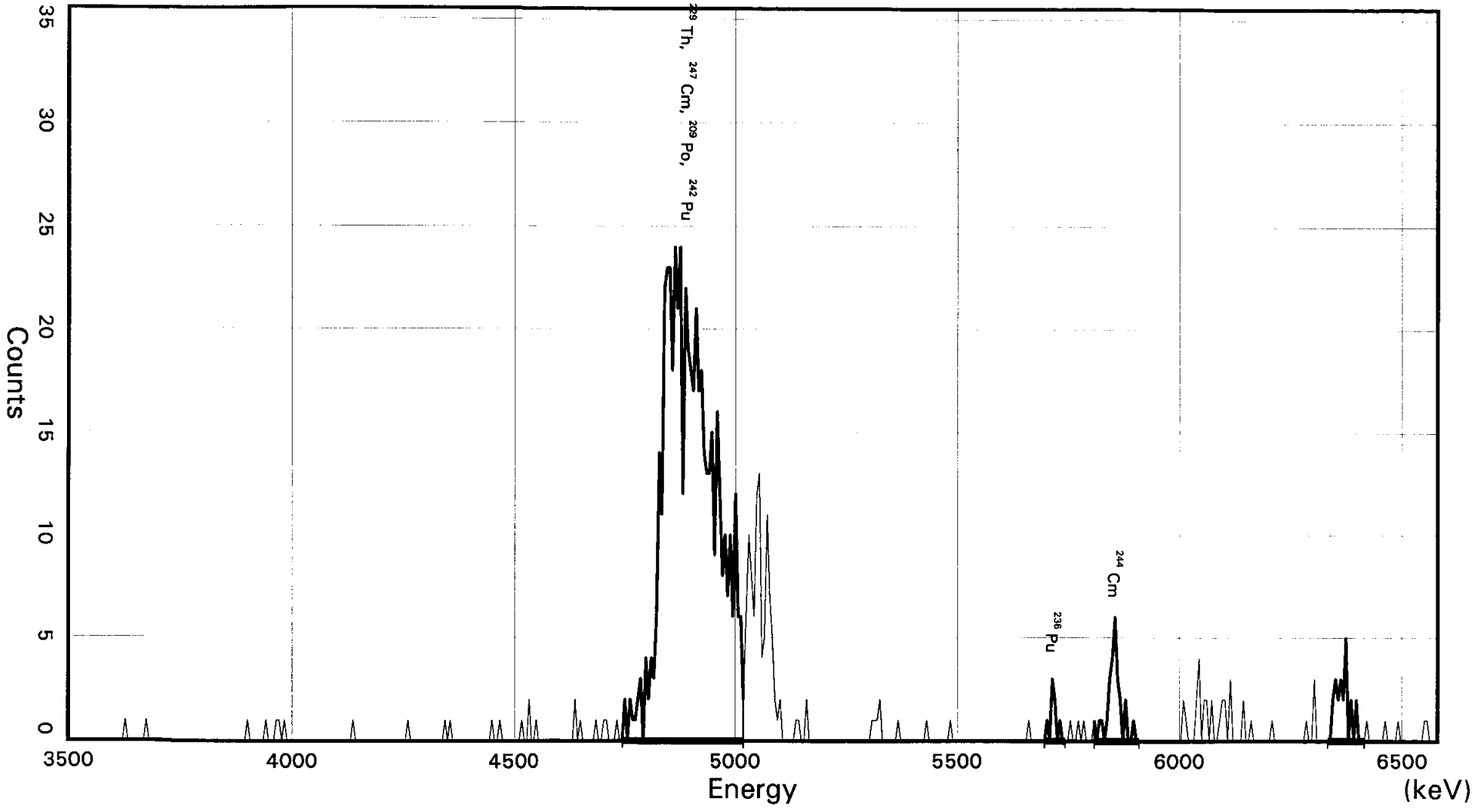
STL Richland WA.

TH BRC

Sample ID: H7D1J1AA

Detector ID: ALP171 5

Batch ID: 6167152



Acquisition Start: 12-JUL-2006 15:56:03.80

Preset Live Time: 0 08:20:00.00

Elapsed Live Time: 0 08:19:28.00

Energy Coefficients:

Offset: 3.55643E+03

Slope: 5.92919E+00

Quadrature: -4.83406E-05

SAMPLE IDENTIITY: H7D1J1AA

TITLE : TH BRC

DETECTOR : ALP171 5
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H7D1J1AA_120761556E.CN
F;1
ACQUIRE DATE of BACKGROUND: 08-JUL-2006 07:53:15

REPORT DATE : 13-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 12-JUL-2006 15:56:03 CALIB DATE : 08-JUL-2006 00:27:11

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

OFFSET : 3556.43 keV CONSTANT FWHM : 8.00000 Channels
SLOPE : 5.92919 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.483406E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H7D1J1AA

Detector: ALP171 5
Report Date: 13-Jul-06 12:17 AM
Acquire Date: 12-JUL-2006 15:56:03.80
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	5160.8	271.5	247	293	0.00	0.00	M
PO-209	522	2	0	1.043	4929.1	271.7	201	247	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5350.3	271.4	279	325	0.00	0.00	M
AC-227	15	5	25	0.024	6083.9	270.8	403	449	0.00	0.00	S
TH-227	15	5	25	0.024	6083.9	270.8	403	449	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5469.1	271.3	299	345	0.00	0.00	M
TH-229	522	2	0	1.043	4891.2	271.7	201	247	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4733.6	271.9	174	220	0.00	0.00	M I
TH-232	5	2	1	0.007	4058.9	272.4	60	106	0.00	0.00	S
U-232	-9999	-9999	0	-10.010	5366.0	271.4	281	327	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4820.5	271.8	189	235	0.00	0.00	M I
U-235	7	2	2	0.012	4443.7	272.1	125	171	0.00	0.00	S
PU-236	7	11	0	0.003	5813.5	47.2	362	370	0.00	0.00	P
NP-237	-9999	-9999	0	-10.010	4833.9	271.8	191	237	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.010	5544.9	271.3	312	358	0.00	0.00	M
U-238	-9999	-9999	0	-10.010	4243.9	266.3	92	137	0.00	0.00	M
PU-239	-9999	-9999	0	-10.010	5202.5	271.5	254	300	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5531.5	277.2	309	356	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5252.7	271.5	262	308	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6158.6	270.8	416	462	0.00	0.00	M
PU-242	522	2	0	1.043	4946.4	271.7	201	247	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5321.2	271.4	274	320	0.00	0.00	M
CM-244	25	47	0	0.003	5850.7	100.2	381	398	0.00	0.00	P
CM-246	-9999	-9999	0	-10.010	5432.4	271.3	293	339	0.00	0.00	M
CM-247	522	2	0	1.043	4916.3	271.7	201	247	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5124.5	277.5	240	287	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: H7D1J1AA
Detector: ALP171 5
Report Date: 13-Jul-06 12:17 AM
Acquire Date: 12-JUL-2006 15:56:03.80

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

VMS Peak Search Report V1.9 Generated 13-JUL-2006 00:16:58

Configuration : $DISK1:[ALP171.SAMPLE]H7D1J1AA_120761556E.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 31-MAY-2006 12:00:00 Acquisition date : 12-JUL-2006 15:56:03
Sample ID : H7D1J1AA 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 : 3574.21 keV End energy : 6579.50 keV
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4891.17	522	0	130.44	225.53	201	46	1.74E-02	4.4	
2	0	5713.16	7	0	23.72	364.83	362	8	2.34E-04	37.8	
3	0	5852.82	25	0	23.72	388.53	381	17	8.34E-04	20.0	
4	0	6362.92	21	0	41.50	475.18	470	14	7.01E-04	21.8	

VMS Nuclide Identification Report V3.0 Generated 13-JUL-2006 00:17:01

```
Configuration     : $DISK1:[ALP171.SAMPLE]H7D1J1AA_120761556E.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 12-JUL-2006 15:56:03
Sample ID         : H7D1J1AA             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                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	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-244	18.10Y	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]H7D1J1AA_120761556E.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4891.17	201	247	522	513	0.39		
5713.15	362	370	7	7	0.00		
5852.81	381	398	25	25	0.00		
6362.92	470	484	21	21	0.00		

End of Report

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

Sample Identity: H7D1K1AA

Detector: ALP171 6
Report Date: 13-Jul-06 05:23 AM
Acquire Date: 12-JUL-2006 15:56:03.80
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	4	3	0.005	5423.2	120.8	322	342
TH-229	286	2	0.571	4845.3	368.9	226	287
TH-230	5	1	0.009	4687.7	121.0	200	220
TH-232	2	2	0.002	4013.0	121.2	89	109

End of Alpha Region Report
(Produced by ANAL Report)

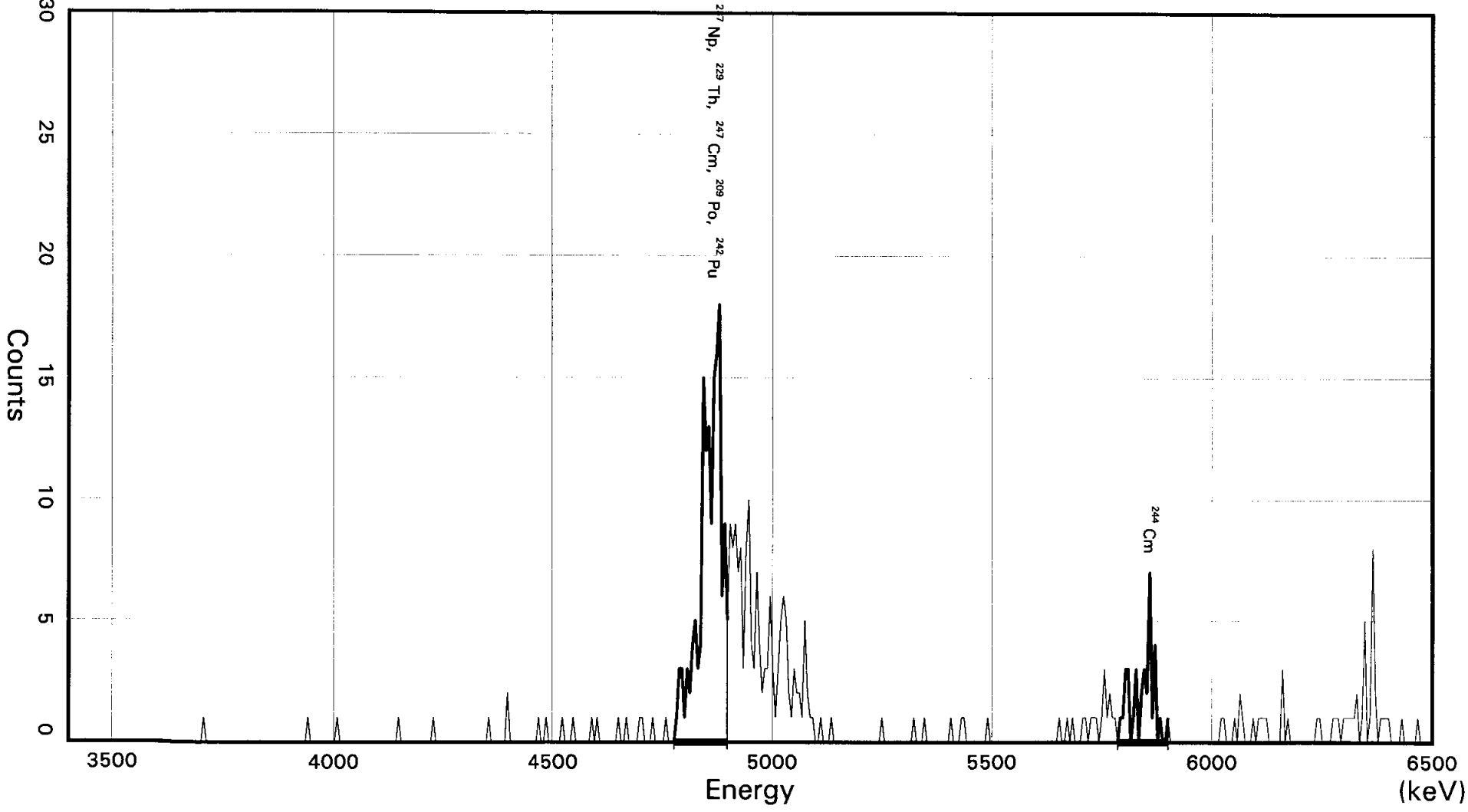
STL Richland WA.

TH BRC

Sample ID: H7D1K1AA

Detector ID: ALP171 6

Batch ID: 6167152



Acquisition Start: 12-JUL-2006 15:56:03.80

Preset Live Time: 0 08:20:00.00

Elapsed Live Time: 0 08:19:28.00

Energy Coefficients:

Offset: 3.38355E+03

Slope: 6.07069E+00

Quadrature: -4.63837E-05

SAMPLE IDENTIITY: H7D1K1AA

TITLE : TH BRC

DETECTOR : ALP171 6
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H7D1K1AA_120761556F.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 13-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 12-JUL-2006 15:56:03 CALIB DATE : 07-JUL-2006 02:10:11

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

OFFSET : 3383.55 keV CONSTANT FWHM : 7.66667 Channels
SLOPE : 6.07069 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.463837E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H7D1K1AA

Detector: ALP171 6
Report Date: 13-Jul-06 12:17 AM
Acquire Date: 12-JUL-2006 15:56:03.80
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	5137.0	120.9	275	295	0.00	0.00	M
PO-209	182	1	0	0.363	4905.3	121.0	230	250	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5326.5	120.8	306	326	0.00	0.00	M
AC-227	5	3	5	0.006	6060.1	126.6	427	448	0.00	0.00	S
TH-227	5	3	5	0.006	6060.1	126.6	427	448	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5445.3	120.8	326	346	0.00	0.00	M
TH-229	182	1	0	0.363	4867.4	121.0	230	250	0.00	0.00	P
TH-230	4	1	2	0.007	4709.8	121.0	204	224	0.00	0.00	S
TH-232	1	2	0	0.000	4035.1	121.2	93	113	0.00	0.00	
U-232	-9999	-9999	0	-10.010	5342.2	120.8	309	329	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4796.7	121.0	218	238	0.00	0.00	S I
U-235	3	1	0	0.005	4419.9	121.1	156	176	0.00	0.00	
PU-236	-9999	-9999	0	-10.010	5789.7	120.7	383	403	0.00	0.00	I
NP-237	182	1	0	0.363	4810.1	121.0	230	250	0.00	0.00	P
PU-238	-9999	-9999	0	-10.010	5521.1	120.8	338	358	0.00	0.00	M
U-238	2	0	0	0.004	4220.1	121.2	123	143	0.00	0.00	
PU-239	-9999	-9999	0	-10.010	5178.7	120.9	281	301	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5507.7	120.8	336	356	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5228.9	120.9	290	310	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6134.8	120.6	440	460	0.00	0.00	M
PU-242	182	1	0	0.363	4922.6	121.0	230	250	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5297.4	120.8	301	321	0.00	0.00	M
CM-244	33	75	0	-0.009	5826.9	114.6	397	416	0.00	0.00	P
CM-246	-9999	-9999	0	-10.010	5408.6	120.8	320	340	0.00	0.00	M
CM-247	182	1	0	0.363	4892.5	121.0	230	250	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5100.7	120.9	269	289	0.00	0.00	M

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H7D1K1AA
Detector: ALP171 6
Report Date: 13-Jul-06 12:17 AM
Acquire Date: 12-JUL-2006 15:56:03.80

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

VMS Peak Search Report V1.9 Generated 13-JUL-2006 00:17:04

```
Configuration     : $DISK1:[ALP171.SAMPLE]H7D1K1AA_120761556F.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 12-JUL-2006 15:56:03
Sample ID         : H7D1K1AA             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      :  3401.76 keV         End energy       :  6479.59 keV
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4867.37	182	0	54.64	244.88	230	20	6.07E-03	7.4	
2	0	5858.35	33	0	30.35	408.94	397	19	1.10E-03	17.4	

VMS Nuclide Identification Report V3.0 Generated 13-JUL-2006 00:17:06

```
Configuration     : $DISK1:[ALP171.SAMPLE]H7D1K1AA_120761556F.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 12-JUL-2006 15:56:03
Sample ID         : H7D1K1AA             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	
		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	1.00	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]H7D1K1AA_120761556F.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4867.37	230	250	182	147	2.59		
5858.34	397	416	33	33	0.00		

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

End of Report

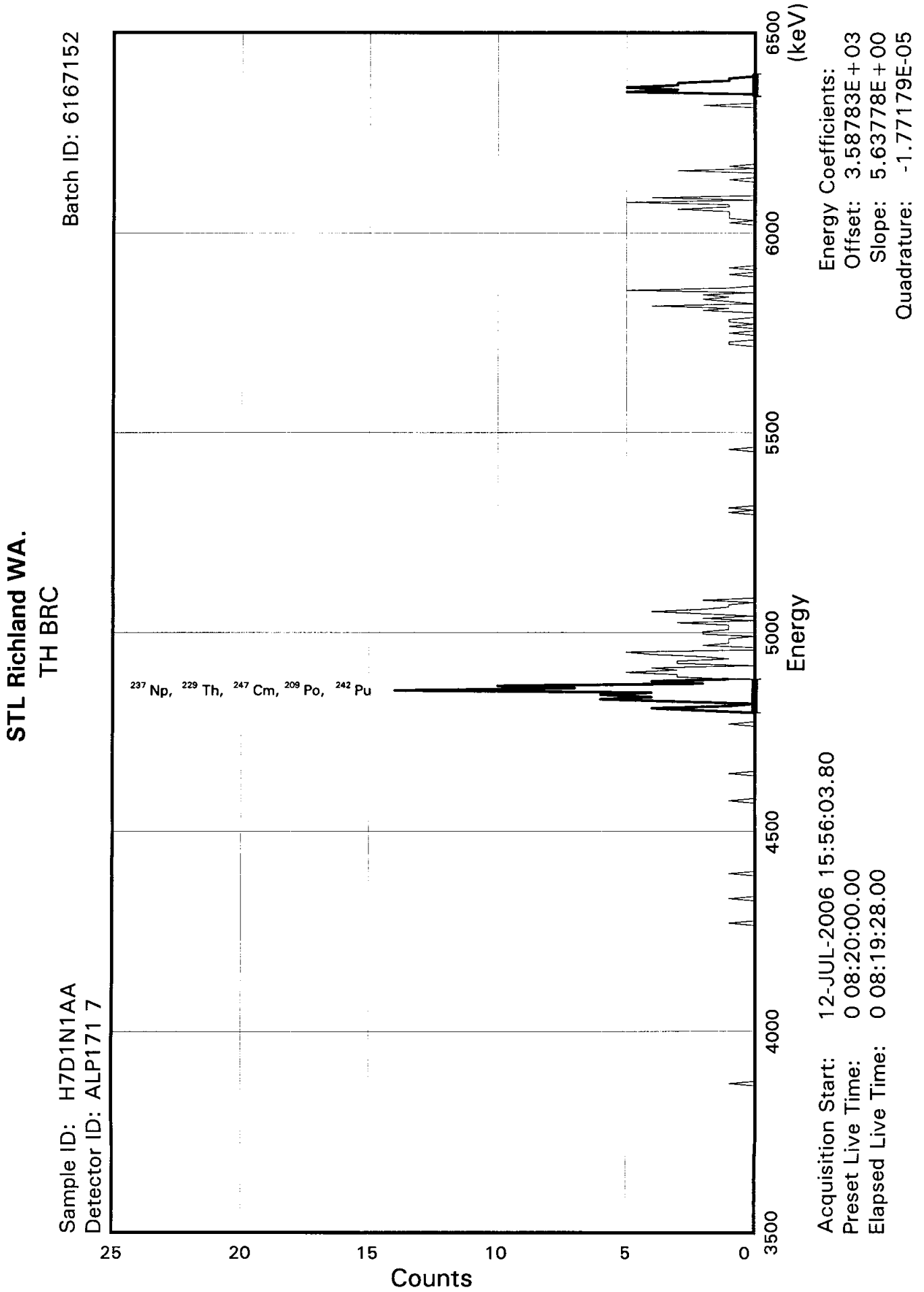
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H7D1N1AA

Detector: ALP171 7
Report Date: 13-Jul-06 05:23 AM
Acquire Date: 12-JUL-2006 15:56:03.80
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	1	-0.001	5423.2	112.5	311	331
TH-229	134	0	0.268	4845.3	343.4	208	269
TH-230	1	0	0.002	4687.7	112.6	180	200
TH-232	0	0	0.000	4013.0	112.7	60	80

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6167152
Sample ID: H7D1N1AA
Detector ID: ALP171 7
237 Np, 229 Th, 247 Cm, 209 Po, 242 Pu
Counts
25
20
15
10
5
0
Energy
3500
4000
4500
5000
5500
6000
6500
(keV)
Acquisition Start: 12-JUL-2006 15:56:03.80
Preset Live Time: 0 08:20:00.00
Elapsed Live Time: 0 08:19:28.00
Energy Coefficients:
Offset: 3.58783E+03
Slope: 5.63778E+00
Quadrature: -1.77179E-05

SAMPLE IDENTIITY: H7D1N1AA

TITLE : TH BRC

DETECTOR : ALP171 7
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H7D1N1AA_120761556G.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 13-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 12-JUL-2006 15:56:03 CALIB DATE : 07-JUL-2006 02:10:41

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

OFFSET : 3587.83 keV CONSTANT FWHM : 6.50000 Channels
SLOPE : 5.63778 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.177179E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H7D1N1AA

Detector: ALP171 7
Report Date: 13-Jul-06 12:17 AM
Acquire Date: 12-JUL-2006 15:56:03.80
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	5125.9	84.4	263	278	0.00	0.00	M
PO-209	71	0	0	0.142	4894.2	84.4	215	230	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5315.4	84.4	297	312	0.00	0.00	M
AC-227	12	0	7	0.023	6049.0	84.3	427	442	0.00	0.00	S
TH-227	12	0	7	0.023	6049.0	84.3	427	442	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5434.2	84.4	318	333	0.00	0.00	M
TH-229	71	0	0	0.142	4856.3	84.4	215	230	0.00	0.00	P
TH-230	1	0	0	0.002	4698.7	84.5	187	202	0.00	0.00	
TH-232	0	0	0	0.000	4024.0	84.5	67	82	0.00	0.00	
U-232	-9999	-9999	0	-10.010	5331.2	84.4	299	314	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4785.6	84.5	202	217	0.00	0.00	I
U-235	1	0	0	0.002	4408.8	84.5	136	151	0.00	0.00	
PU-236	6	8	5	0.003	5778.6	84.4	379	394	0.00	0.00	S
NP-237	71	0	0	0.142	4799.0	84.4	215	230	0.00	0.00	P
PU-238	-9999	-9999	0	-10.010	5510.0	84.4	331	346	0.00	0.00	M
U-238	0	0	0	0.000	4209.0	84.5	100	115	0.00	0.00	
PU-239	-9999	-9999	0	-10.010	5167.6	84.4	270	285	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5496.6	84.4	329	344	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5217.8	84.4	279	294	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6123.7	84.3	440	455	0.00	0.00	M
PU-242	71	0	0	0.142	4911.5	84.4	215	230	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5286.3	84.4	291	306	0.00	0.00	M
CM-244	14	33	5	-0.006	5815.8	84.4	386	401	0.00	0.00	S
CM-246	-9999	-9999	0	-10.010	5397.5	84.4	311	326	0.00	0.00	M
CM-247	71	0	0	0.142	4881.4	84.4	215	230	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5089.6	84.4	256	271	0.00	0.00	M

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H7D1N1AA
Detector: ALP171 7
Report Date: 13-Jul-06 12:17 AM
Acquire Date: 12-JUL-2006 15:56:03.80

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	0		351	2	-	401	0	-	451	0		501
		2	0		52	0	+	102	0		152	0	@	202	1		252	0	@	302	0		352	0		402	1	-	452	0		502
0		3	0		53	0	+	103	0		153	0	+	203	1		253	0	@	303	0		353	5		403	0	-	453	0		503
0		4	0		54	0	+	104	0		154	0	+	204	1		254	1	@	304	0		354	1		404	0	-	454	0		504
0		5	0		55	0	+	105	0		155	0	+	205	3		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	3		456	0		506
0		7	0		57	0	+	107	0		157	0	+	207	2	+	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	2	+	259	0	@	309	0		359	0		409	0		459	0		509
0		10	0		60	0	+	110	0		160	1	+	210	4	+	260	0	@	310	0		360	1		410	0		460	0		510
0		11	0		61	0	+	111	0		161	0	+	211	2	+	261	0	-	311	0		361	0		411	0		461	0		511
0		12	0		62	0	+	112	0		162	0	+	212	1	+	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	1		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	2	@	265	0	-	315	0		365	0		415	0		465			
0		16	0		66	0		116	0		166	2	@	216	0	@	266	0	-	316	0		366	0		416	0		466			
0		17	0	+	67	0		117	0		167	4	@	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	3	@	220	0	@	270	0	@	320	0		370	0		420	0		470			
0		21	0	+	71	1		121	0		171	6	@	221	0	@	271	0	@	321	0		371	0		421	0		471			
0		22	0	+	72	0		122	0		172	4	@	222	0	@	272	0	@	322	0		372	0		422	0		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	4	@	224	0	@	274	0	@	324	0		374	0		424	0		474			
0		25	0	+	75	0		125	0		175	14	@	225	0	@	275	0	@	325	0		375	0		425	0		475			
0		26	0	+	76	0		126	1		176	7	@	226	0	@	276	0	@	326	0		376	0		426	0		476			
0		27	0	+	77	0		127	0		177	10	@	227	0	@	277	0	+	327	0		377	0	@	427	0		477			
0		28	0	+	78	0		128	0		178	2	@	228	0	@	278	0	+	328	0		378	0	@	428	0		478			
0		29	0	+	79	0		129	0		179	4	@	229	0	@	279	0	@	329	1	+	379	0	@	429	0		479			
0		30	0	+	80	0		130	0		180	1		230	0	@	280	0	@	330	1	+	380	0	@	430	0		480			
0		31	0	+	81	0		131	0		181	3		231	0	@	281	0	@	331	0	+	381	0	@	431	0		481			
0		32	0	+	82	1		132	0		182	3		232	0	@	282	1	@	332	0	+	382	0	@	432	0		482			
0		33	0		83	0		133	0		183	5		233	0	@	283	0	@	333	0	+	383	1	@	433	0		483			
0		34	0		84	0		134	0		184	3		234	0	@	284	0	@	334	1	+	384	0	@	434	0		484			
0		35	0		85	0		135	0		185	4		235	0	@	285	0	@	335	0	+	385	1	@	435	2		485			
0		36	0		86	0	+	136	0		186	0		236	0	-	286	0	@	336	0	@	386	1	@	436	0		486			
0		37	0		87	0	+	137	0	+	187	3		237	0	-	287	0	@	337	1	@	387	1	@	437	0		487			
0		38	0		88	0	+	138	1	+	188	3		238	0	-	288	0	@	338	0	@	388	1	@	438	0		488			
0		39	0		89	0	+	139	0	+	189	1		239	0	-	289	0	@	339	1	@	389	3	@	439	0		489			
0		40	0		90	0	+	140	0	+	190	2		240	0	-	290	0	@	340	1	@	390	1	-	440	0		490			
0		41	0		91	0	+	141	0	+	191	4		241	0	@	291	0	@	341	0	@	391	1	@	441	5		491			
0		42	0		92	0	+	142	0	+	192	5		242	0	@	292	0	@	342	0	@	392	5	@	442	3		492			
0		43	0		93	1	+	143	0	+	193	0		243	0	@	293	0	@	343	0	@	393	0	-	443	5		493			
0		44	0		94	0	+	144	0	+	194	0		244	0	@	294	0	@	344	2	@	394	4	-	444	3		494			
0		45	0		95	0	+	145	0	+	195	2		245	0	-	295	0	+	345	1	-	395	0	-	445	3		495			
0		46	0		96	0	+	146	0	+	196	1		246	0	-	296	0	+	346	4	-	396	0	-	446	1		496			
0		47	0		97	0	+	147	0	+	197	1		247	0	@	297	0		347	0	-	397	0	-	447	1		497			
0		48	0		98	0	+	148	0	+	198	1		248	0	@	298	0		348	1	-	398	0	-	448	0		498			
0		49	0		99	0	+	149	0	+	199	0		249	0	@	299	0		349	2	-	399	0	-	449	0		499			
1		50	0	+	100	0	+	150	0	+	200	2		250	0	@	300	0		350	1	-	400	0	-	450	0		500			

VMS Peak Search Report V1.9 Generated 13-JUL-2006 00:17:08

```
Configuration     : $DISK1:[ALP171.SAMPLE]H7D1N1AA_120761556G.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 12-JUL-2006 15:56:03
Sample ID         : H7D1N1AA             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      :  3604.75 keV         End energy       :  6469.73 keV
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4856.28	71	0	28.19	225.15	215	15	2.37E-03	11.9	
2	0	6362.62	17	0	28.19	492.94	489	10	5.67E-04	24.3	

VMS Nuclide Identification Report V3.0 Generated 13-JUL-2006 00:17:10

```
Configuration     : $DISK1:[ALP171.SAMPLE]H7D1N1AA_120761556G.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 12-JUL-2006 15:56:03
Sample ID         : H7D1N1AA             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]H7D1N1AA_120761556G.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4856.28	215	230	71	68	0.36		
6362.62	489	499	17	21	-0.97		

End of Report

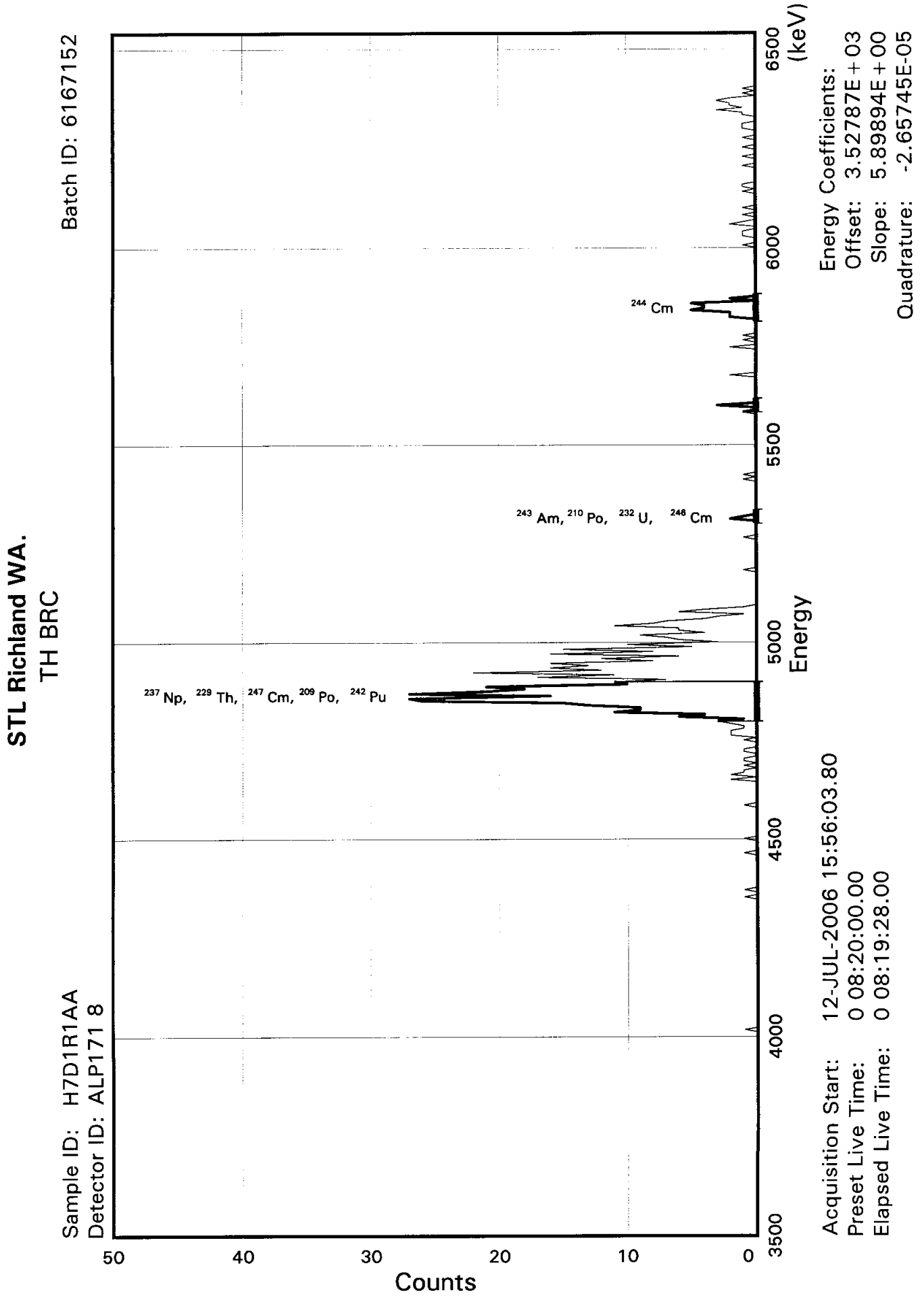
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H7D1R1AA

Detector: ALP171 8
Report Date: 13-Jul-06 05:23 AM
Acquire Date: 12-JUL-2006 15:56:03.80
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	1	0.003	5423.2	117.6	307	327
TH-229	538	1	1.076	4845.3	347.3	209	268
TH-230	9	1	0.017	4687.7	117.8	182	202
TH-232	1	2	0.000	4013.0	117.9	67	87

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6167152
Sample ID: H7D1R1AA
Detector ID: ALP171 8
237 Np, 229 Th, 247 Cm, 209 Po, 242 Pu
243 Am, 210 Po, 232 U, 246 Cm
244 Cm
Counts
50
40
30
20
10
0
Energy
3500
4000
4500
5000
5500
6000
6500
(keV)
Acquisition Start: 12-JUL-2006 15:56:03.80
Preset Live Time: 0 08:20:00.00
Elapsed Live Time: 0 08:19:28.00
Energy Coefficients:
Offset: 3.52787E+03
Slope: 5.89894E+00
Quadrature: -2.65745E-05

SAMPLE IDENTIITY: H7D1R1AA

TITLE : TH BRC

DETECTOR : ALP171 8
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H7D1R1AA_120761556H.CN
F;1
ACQUIRE DATE of BACKGROUND: 09-JUL-2006 10:13:03

REPORT DATE : 13-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 12-JUL-2006 15:56:03 CALIB DATE : 07-JUL-2006 02:11:05

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

OFFSET : 3527.87 keV CONSTANT FWHM : 7.33333 Channels
SLOPE : 5.89894 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.265745E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H7D1R1AA

Detector: ALP171 8
Report Date: 13-Jul-06 12:17 AM
Acquire Date: 12-JUL-2006 15:56:03.80
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	5135.7	100.0	262	279	0.00	0.00	M
PO-209	251	1	0	0.502	4904.0	100.1	216	233	0.00	0.00	P
PO-210	4	1	0	0.007	5325.2	35.3	301	307	0.00	0.00	P
AC-227	7	4	2	0.011	6058.9	99.9	419	436	0.00	0.00	S
TH-227	7	4	2	0.011	6058.9	99.9	419	436	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5444.0	100.0	314	331	0.00	0.00	M
TH-229	251	1	0	0.502	4866.1	100.1	216	233	0.00	0.00	P
TH-230	11	1	1	0.020	4708.5	100.1	189	206	0.00	0.00	S
TH-232	1	2	0	0.000	4033.8	100.2	75	92	0.00	0.00	
U-232	4	1	0	0.007	5341.0	35.3	301	307	0.00	0.00	P
U-234	-9999	-9999	0	-10.010	4795.4	100.1	204	221	0.00	0.00	S I
U-235	2	0	0	0.004	4418.6	100.1	140	157	0.00	0.00	
PU-236	-9999	-9999	0	-10.010	5788.5	99.9	373	390	0.00	0.00	I
NP-237	251	1	0	0.502	4808.8	100.1	216	233	0.00	0.00	P
PU-238	-9999	-9999	0	-10.010	5519.9	100.0	327	344	0.00	0.00	M
U-238	0	0	0	0.000	4218.8	100.2	106	123	0.00	0.00	
PU-239	-9999	-9999	0	-10.010	5177.4	100.0	269	286	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5506.4	100.0	325	342	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5227.6	100.0	277	294	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6133.6	105.8	431	449	0.00	0.00	M
PU-242	251	1	0	0.502	4921.3	100.1	216	233	0.00	0.00	P
AM-243	4	1	0	0.007	5296.1	35.3	301	307	0.00	0.00	P
CM-244	26	50	0	0.002	5825.7	70.5	388	400	0.00	0.00	P
CM-246	4	1	0	0.007	5407.3	35.3	301	307	0.00	0.00	P
CM-247	251	1	0	0.502	4891.2	100.1	216	233	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5099.4	100.0	256	273	0.00	0.00	M

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H7D1R1AA
Detector: ALP171 8
Report Date: 13-Jul-06 12:17 AM
Acquire Date: 12-JUL-2006 15:56:03.80

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	6		251	0	@	301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0	+	152	0	+	202	7		252	0	@	302	3		352	0		402	0		452	0		502
0		3	0		53	0		103	0	+	153	1	+	203	9		253	2	@	303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0	+	154	1	@	204	4		254	1	@	304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0	+	155	0	@	205	6		255	0	@	305	0		355	0		405	1		455	0		505
0		6	0		56	0	+	106	0	+	156	0	@	206	6	+	256	0	@	306	0		356	0		406	0		456	0		506
0		7	0		57	0	+	107	0	+	157	0	-	207	11	+	257	0		307	0		357	0		407	0		457	0		507
0		8	0		58	0	+	108	0		158	1	-	208	8	+	258	0		308	0		358	0		408	0		458	0		508
0		9	0		59	0	+	109	1		159	0	-	209	7	+	259	0		309	0		359	0		409	1		459	0		509
0		10	0		60	0	+	110	0		160	2	-	210	4	+	260	0		310	0		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	2	-	212	1	@	262	0		312	0		362	0		412	0		462	0		512
0		13	0		63	0	+	113	0		163	1	-	213	6	@	263	0		313	0		363	0		413	1		463			
0		14	0		64	0	+	114	0		164	1	-	214	4	@	264	0	+	314	0		364	0		414	0		464			
0		15	0		65	0	+	115	1		165	2	-	215	1	@	265	0	+	315	2		365	0		415	0		465			
0		16	0		66	0	+	116	0		166	3	-	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	0		417	1		467			
0		18	0		68	0	+	118	0		168	6	@	218	0	@	268	0	+	318	0		368	0		418	0		468			
0		19	0		69	0	+	119	0		169	4	@	219	0	@	269	0	+	319	0		369	0	@	419	0		469			
0		20	0		70	0	+	120	0		170	11	@	220	0	@	270	1	+	320	0		370	0	@	420	0		470			
0		21	0		71	0	+	121	0		171	9	@	221	0	@	271	0	+	321	0		371	1	@	421	1		471			
0		22	0		72	0	+	122	0		172	9	@	222	0	@	272	1	+	322	0		372	0	@	422	1		472			
0		23	0		73	0	+	123	0		173	13	@	223	0	@	273	0	+	323	0	+	373	0	@	423	1		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	26	@	225	0	@	275	0	@	325	0	+	375	1	@	425	0		475			
0		26	0	+	76	0		126	0		176	27	@	226	0	@	276	0	@	326	0	+	376	1	@	426	0		476			
0		27	0	+	77	0		127	0		177	16	@	227	0	-	277	0	@	327	2	+	377	1	@	427	1		477			
0		28	0	+	78	0		128	0		178	27	@	228	0	@	278	0	@	328	0	+	378	0	@	428	1		478			
0		29	0	+	79	0		129	0		179	21	@	229	0	@	279	0	@	329	0	+	379	0	@	429	3		479			
0		30	0	+	80	0		130	1		180	18	@	230	0	@	280	0	@	330	1	+	380	2	@	430	1		480			
0		31	0	+	81	0		131	0		181	21	@	231	1	@	281	0	@	331	0	+	381	1	-	431	2		481			
0		32	0	+	82	0		132	0		182	10	@	232	0	@	282	0	@	332	1	+	382	0	@	432	2		482			
0		33	1	+	83	0		133	0		183	11		233	0	@	283	0	@	333	0	+	383	0	@	433	3		483			
0		34	0	+	84	0		134	0		184	7		234	0	@	284	0	@	334	0	+	384	1	@	434	2		484			
0		35	0	+	85	0		135	0		185	17		235	0	@	285	0	@	335	0	+	385	0	@	435	0		485			
0		36	0	+	86	0		136	0		186	11		236	0	@	286	0	@	336	0	+	386	0	@	436	1		486			
0		37	0	+	87	0		137	0		187	22		237	0	-	287	0	@	337	0	+	387	1	-	437	0		487			
0		38	0	+	88	0		138	0		188	12		238	0	-	288	0	@	338	0	@	388	0	-	438	1		488			
0		39	0	+	89	0		139	0	+	189	16		239	0	-	289	0	@	339	0	@	389	0	-	439	0		489			
0		40	0	+	90	1	+	140	0	+	190	13		240	0	-	290	0	@	340	2	@	390	0	-	440	0		490			
0		41	0	+	91	0	+	141	2	+	191	16		241	0	-	291	0	@	341	2	-	391	0	-	441	0		491			
0		42	0	+	92	0	+	142	0	+	192	8		242	0	-	292	0	@	342	2	-	392	0	-	442	0		492			
0		43	0		93	1	+	143	2	+	193	12		243	0	-	293	0	+	343	5	-	393	0	-	443	0		493			
0		44	0		94	0	+	144	1	+	194	6		244	0	-	294	0	+	344	4	-	394	1	-	444	0		494			
0		45	0		95	0	+	145	1	+	195	16		245	1		295	0		345	4	-	395	0	-	445	0		495			
0		46	0		96	0	+	146	0	+	196	8		246	0		296	0		346	5	-	396	1	-	446	0		496			
0		47	0		97	0	+	147	1	+	197	15		247	0		297	0		347	0	-	397	1	-	447	0		497			
0		48	0		98	0	+	148	0	+	198	5		248	0		298	0		348	2	-	398	0	-	448	0		498			
0		49	0		99	0	+	149	1	+	199	10		249	0		299	1		349	0	-	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 13-JUL-2006 00:17:13

```
Configuration     : $DISK1:[ALP171.SAMPLE]H7D1R1AA_120761556H.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 12-JUL-2006 15:56:03
Sample ID         : H7D1R1AA             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      :  3545.57 keV         End energy       :  6541.16 keV
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4866.14	251	0	53.09	227.10	216	17	8.38E-03	6.3	
2	0	5315.75	4	0	23.60	303.50	301	6	1.33E-04	50.0	
3	0	5598.06	4	0	23.60	351.50	349	6	1.33E-04	50.0	
4	0	5847.93	26	0	29.49	394.00	388	12	8.68E-04	19.6	

VMS Nuclide Identification Report V3.0 Generated 13-JUL-2006 00:17:16

Configuration	: $DISK1:[ALP171.SAMPLE]H7D1R1AA_120761556H.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: TH BRC		
Sample date	: 31-MAY-2006 12:00:00	Acquisition date	: 12-JUL-2006 15:56:03
Sample ID	: H7D1R1AA	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	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	
PO-210	138.38D	1.24	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	
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-244	18.10Y	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]H7D1R1AA_120761556H.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4866.14	216	233	251	248	0.19		
5315.74	301	307	4	3	0.50		
5598.06	349	355	4	4	0.00		
5847.92	388	400	26	26	0.00		

End of Report

STL RICHLAND

SEVERN TRENT **STL**

THORIUM ISOTOPIC COUNTING REQUEST

1354

C.R. Technician CB
Date Counted 7/13/06

C.R. Analyst OD
Date Analyzed 7/13/06

Counting Time
Sample 500 Minutes

Background See Alpha Analysis Report
BRC 5/31/06 6167152

SOP's
Operating: RICHRD008
Review: RICHRD0016

WorkOrder #	Th-229 (4845 KeV) Tracer from Th-234 Beta Count (7)				TOTAL COUNTS			Det #	Comment
	ID	Activity	ROI Cts	BKG	Th-228 (5423 KeV) (6)	Th-230 (4688 KeV) (8)	Th-232 (4010 KeV) (9)		
H7DIX1AA		10		0	See Alpha Analysis Report for ROI Information			114	
H7JME1AA		10		0	See Alpha Analysis Report for ROI Information			119	
H7JME1AC		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				

Comments:

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

Approved by: OD

Date: 7/13/06

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

Sample Identity: H7D1X1AA

Detector: ALP114 1
Report Date: 13-Jul-06 02:16 PM
Acquire Date: 13-JUL-2006 05:34:20.62
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	5	0.005	5423.2	173.7	309	332
TH-229	678	1	1.355	4845.3	303.4	234	274
TH-230	22	2	0.042	4687.7	159.6	214	235
TH-232	0	0	0.000	4013.0	152.9	126	146

End of Alpha Region Report
(Produced by ANAL Report)

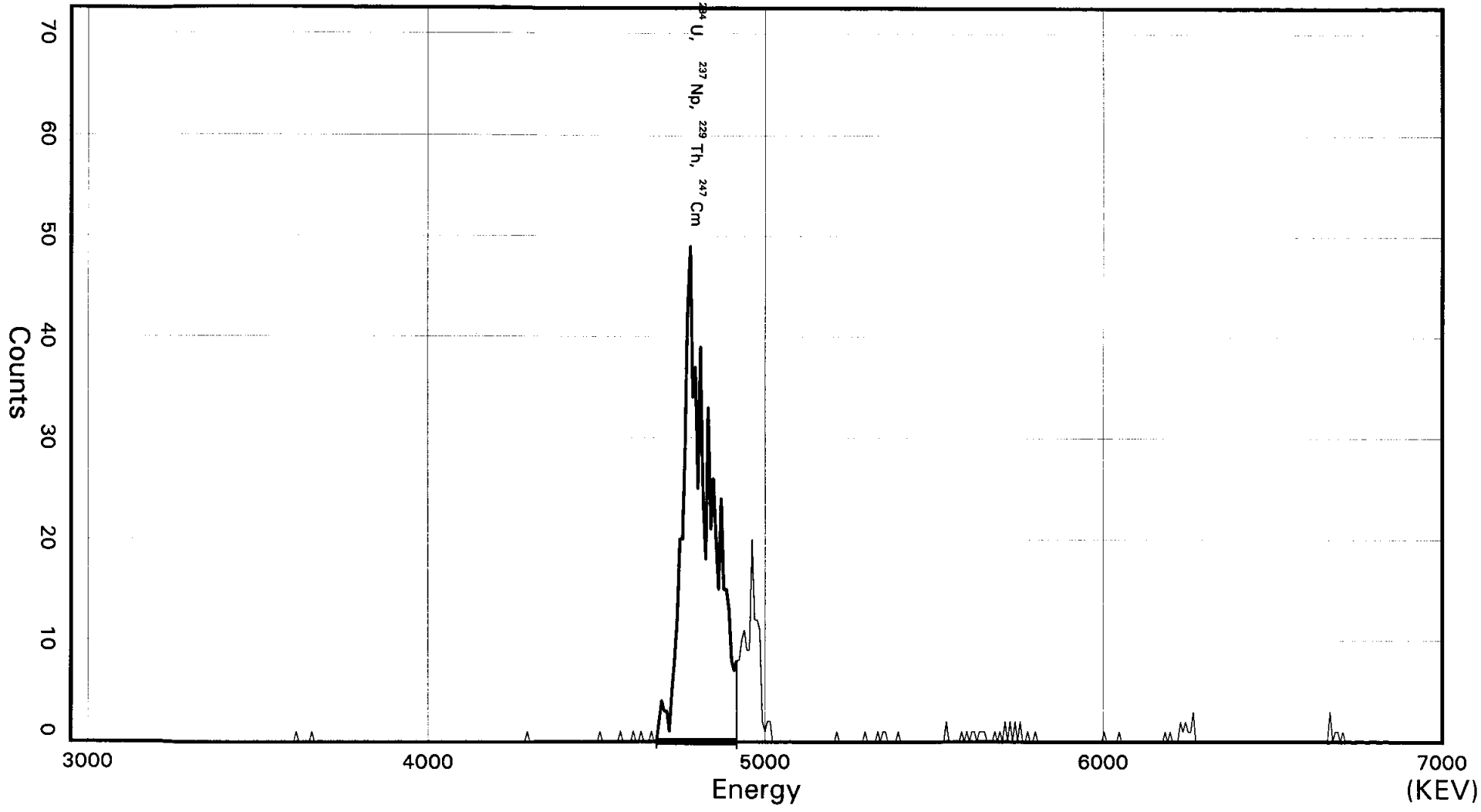
STL Richland WA.

TH BRC

Sample ID: H7D1X1AA

Detector ID: ALP114 1

Batch ID: 6167152



Acquisition Start: 13-JUL-2006 05:34:20.62

Preset Live Time: 0 08:20:00.00

Elapsed Live Time: 0 08:20:04.00

Energy Coefficients:

Offset: 2.92767E+03

Slope: 7.71015E+00

Quadrature: -2.44061E-04

SAMPLE IDENTIITY: H7D1X1AA

TITLE : TH BRC

DETECTOR : ALP114 1
CONFIGURATION NAME : RDND06$DKA100:[ALP114.SAMPLE]H7D1X1AA_130760
534.CNF;1
ACQUIRE DATE of BACKGROUND: 22-JUN-2006 10:15:05

REPORT DATE : 13-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 13-JUL-2006 05:34:20 CALIB DATE : 22-JUN-2006 09:29:59

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

OFFSET : 2927.67 keV CONSTANT FWHM : 7.40000 Channels
SLOPE : 7.71015 keV/C SENSITIVITY : 6.00000 Std Dev's
QUAD COEFF : -.244061E-03 keV/C^2 SUM SENSITIVITY: 0.10000 %

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

Sample Identity: H7D1X1AA

Detector: ALP114 1
Report Date: 13-Jul-06 01:54 PM
Acquire Date: 13-JUL-2006 05:34:20.62
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	-9.996	5068.2	234.8	265	296	0.00	0.00	M
PO-209	-9999	-9999	0	-9.996	4836.5	235.2	234	265	0.00	0.00	M I
PO-210	-9999	-9999	0	-9.996	5257.7	234.4	290	321	0.00	0.00	M
AC-227	1	3	2	-0.001	5991.3	232.9	387	418	0.00	0.00	S
TH-227	1	3	2	-0.001	5991.3	232.9	387	418	0.00	0.00	S
TH-228	-9999	-9999	0	-9.996	5376.5	234.2	305	336	0.00	0.00	M
TH-229	579	1	0	1.157	4798.6	235.3	229	260	0.00	0.00	P
TH-230	-9999	-9999	0	-9.996	4641.0	235.6	208	239	0.00	0.00	M I
TH-232	0	0	0	0.000	3966.3	237.0	120	151	0.00	0.00	S
U-232	-9999	-9999	0	-9.996	5273.5	234.4	292	323	0.00	0.00	M
U-234	579	1	0	1.157	4727.9	235.3	229	260	0.00	0.00	P
U-235	1	1	0	0.001	4351.1	236.2	170	201	0.00	0.00	S
PU-236	10	13	14	0.007	5721.0	233.5	351	382	0.00	0.00	S
NP-237	579	1	0	1.157	4741.3	235.3	229	260	0.00	0.00	P
PU-238	-9999	-9999	0	-9.996	5452.4	234.0	315	346	0.00	0.00	M
U-238	-9999	-9999	0	-9.996	4151.3	236.6	144	175	0.00	0.00	M
PU-239	-9999	-9999	0	-9.996	5109.9	234.7	270	301	0.00	0.00	M
AM-241	-9999	-9999	0	-9.996	5438.9	241.6	313	345	0.00	0.00	M
AM-242M	-9999	-9999	0	-9.996	5160.1	234.6	277	308	0.00	0.00	M
CM-242	-9999	-9999	0	-9.996	6066.1	232.8	397	428	0.00	0.00	M
PU-242	-9999	-9999	0	-9.996	4853.8	235.2	236	267	0.00	0.00	M I
AM-243	-9999	-9999	0	-9.996	5228.6	234.5	286	317	0.00	0.00	M
CM-244	7	24	14	-0.010	5758.2	233.4	356	387	0.00	0.00	S
CM-246	-9999	-9999	0	-9.996	5339.8	241.8	300	332	0.00	0.00	M
CM-247	579	1	0	1.157	4823.7	235.3	229	260	0.00	0.00	P
CM-248	-9999	-9999	0	-9.996	5031.9	234.8	260	291	0.00	0.00	M

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H7D1X1AA
Detector: ALP114 1
Report Date: 13-Jul-06 01:54 PM
Acquire Date: 13-JUL-2006 05:34:20.62

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

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
		451	0		501																					
		452	0		502																					
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VMS Peak Search Report V1.9 Generated 13-JUL-2006 13:54:27

```
Configuration     : RDND06$DKA100:[ALP114.SAMPLE]H7D1X1AA_130760534.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 13-JUL-2006 05:34:20
Sample ID         : H7D1X1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP114               Detector geometry:
Elapsed live time: 0 08:20:04.00         Elapsed real time: 0 08:20:04.00   0.0%
Start energy      :  2950.80 KEV         End energy       :  6811.29 KEV
Sensitivity       :     6.00             Sum Sensitivity  :     0.10
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4798.63	579	0100.23	244.56		229	31	1.93E-02	4.2	

VMS Nuclide Identification Report V3.1 Generated 13-JUL-2006 13:54:29

```
Configuration     : RDND06$DKA100:[ALP114.SAMPLE]H7D1X1AA_130760534.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : TH BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 13-JUL-2006 05:34:20
Sample ID         : H7D1X1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP114               Detector geometry:
Elapsed live time: 0 08:20:04.00         Elapsed real time: 0 08:20:04.00   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

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
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	
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			

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	
			---	---			
	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:[ALP114.SAMPLE]H7D1X1AA_130760534.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4798.63	229	260	579	581	-0.08		

End of Report

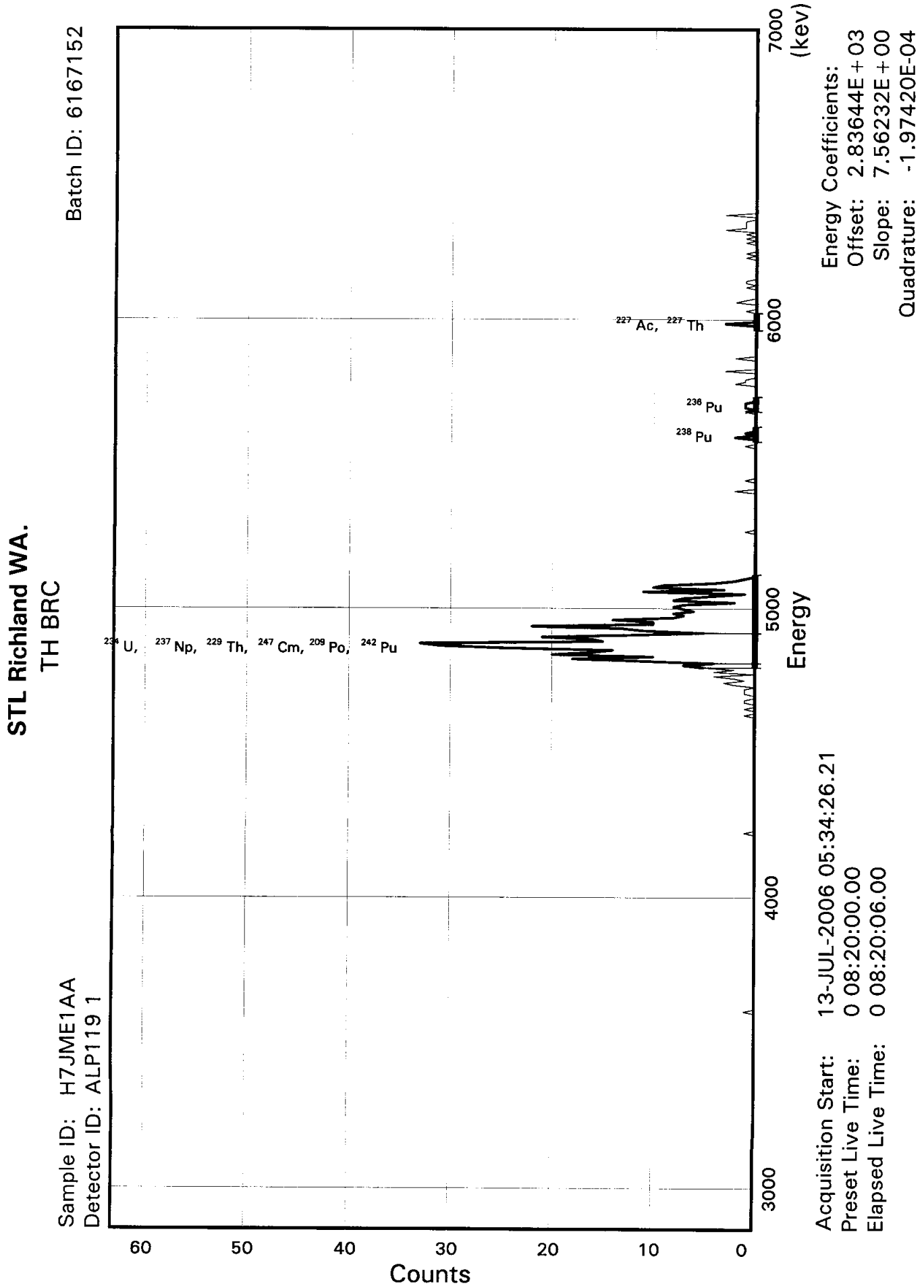
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H7JME1AA

Detector: ALP119 1
Report Date: 13-Jul-06 02:16 PM
Acquire Date: 13-JUL-2006 05:34:26.21
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	2	0.004	5423.2	148.6	330	350
TH-229	474	1	0.947	4845.3	380.1	252	303
TH-230	7	0	0.014	4687.7	149.3	231	251
TH-232	0	0	0.000	4013.0	150.1	141	161

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6167152
Sample ID: H7JME1AA
Detector ID: ALP119 1
234 U, 237 Np, 229 Th, 247 Cm, 209 Po, 242 Pu
227 Ac, 227 Th
236 Pu
238 Pu
Counts
60
50
40
30
20
10
0
Energy
3000
4000
5000
6000
7000
(kev)
Acquisition Start: 13-JUL-2006 05:34:26.21
Preset Live Time: 0 08:20:00.00
Elapsed Live Time: 0 08:20:06.00
Energy Coefficients:
Offset: 2.83644E+03
Slope: 7.56232E+00
Quadrature: -1.97420E-04

SAMPLE IDENTIITY: H7JME1AA

TITLE : TH BRC

DETECTOR : ALP119 1
CONFIGURATION NAME : RDND06$DKA100:[ALP119.SAMPLE]H7JME1AA_130760
534.CNF;1
ACQUIRE DATE of BACKGROUND: 22-JUN-2006 10:15:44

REPORT DATE : 13-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 13-JUL-2006 05:34:26 CALIB DATE : 22-JUN-2006 09:30:26

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:20:06

OFFSET : 2836.44 keV CONSTANT FWHM : 9.00000 Channels
SLOPE : 7.56232 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.197420E-03 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H7JME1AA

Detector: ALP119 1
Report Date: 13-Jul-06 01:54 PM
Acquire Date: 13-JUL-2006 05:34:26.21
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	-9.996	5133.3	119.1	297	313	0.00	0.00	M
PO-209	344	0	0	0.688	4901.6	119.3	261	277	0.00	0.00	P
PO-210	-9999	-9999	0	-9.996	5322.8	118.9	323	339	0.00	0.00	M
AC-227	4	3	2	0.005	6056.4	118.3	422	438	0.00	0.00	S
TH-227	4	3	2	0.005	6056.4	118.3	422	438	0.00	0.00	S
TH-228	-9999	-9999	0	-9.996	5441.6	118.8	339	355	0.00	0.00	M
TH-229	344	0	0	0.688	4863.7	119.3	261	277	0.00	0.00	P
TH-230	14	1	0	0.027	4706.1	119.4	240	256	0.00	0.00	
TH-232	0	0	0	0.000	4031.4	120.0	150	166	0.00	0.00	
U-232	-9999	-9999	0	-9.996	5338.6	118.9	325	341	0.00	0.00	M
U-234	344	0	0	0.688	4793.0	119.3	261	277	0.00	0.00	P
U-235	0	0	0	0.000	4416.2	119.7	201	217	0.00	0.00	
PU-236	4	4	0	0.004	5786.1	51.9	380	387	0.00	0.00	P
NP-237	344	0	0	0.688	4806.4	119.3	261	277	0.00	0.00	P
PU-238	4	1	0	0.007	5517.4	51.9	366	373	0.00	0.00	P
U-238	1	0	0	0.002	4216.4	119.8	174	190	0.00	0.00	
PU-239	-9999	-9999	0	-9.996	5175.0	119.0	303	319	0.00	0.00	M
AM-241	-9999	-9999	0	-9.996	5504.0	118.8	347	363	0.00	0.00	M
AM-242M	-9999	-9999	0	-9.996	5225.2	119.0	310	326	0.00	0.00	M
CM-242	-9999	-9999	0	-9.996	6131.1	118.2	432	448	0.00	0.00	M
PU-242	344	0	0	0.688	4918.9	119.3	261	277	0.00	0.00	P
AM-243	-9999	-9999	0	-9.996	5293.7	118.9	319	335	0.00	0.00	M
CM-244	9	12	0	0.006	5823.2	118.5	390	406	0.00	0.00	
CM-246	-9999	-9999	0	-9.996	5404.9	118.8	334	350	0.00	0.00	M
CM-247	344	0	0	0.688	4888.8	119.3	261	277	0.00	0.00	P
CM-248	-9999	-9999	0	-9.996	5097.0	119.1	292	308	0.00	0.00	M

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H7JME1AA
Detector: ALP119 1
Report Date: 13-Jul-06 01:54 PM
Acquire Date: 13-JUL-2006 05:34:26.21

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	2	@	301	0	@	351	0	+	401	0		451	0		501
		2	0		52	1		102	0	+	152	0	+	202	0	+	252	1	@	302	0	@	352	0	+	402	1		452	0		502
0		3	0		53	0		103	0	+	153	0	+	203	2	+	253	0	@	303	0	@	353	0	+	403	0		453	0		503
0		4	0		54	0		104	0	+	154	0	+	204	3	+	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	2	+	405	0		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	4		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	4		259	0	@	309	0	-	359	0		409	1		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	1		461	0		511
0		12	0		62	0		112	0	+	162	0	+	212	7	@	262	0	@	312	0	-	362	0		412	0		462	0		512
0		13	0		63	0		113	0	+	163	0	+	213	4	@	263	0	@	313	0	-	363	0		413	1		463			
0		14	0		64	0		114	0	+	164	0	+	214	11	@	264	0	@	314	1		364	0		414	0		464			
0		15	0		65	0		115	0	+	165	0	+	215	18	@	265	0	@	315	0		365	0		415	3		465			
0		16	0		66	0		116	0	+	166	0	+	216	10	@	266	0	@	316	0	+	366	0		416	1		466			
0		17	0		67	0		117	0		167	0	+	217	20	@	267	0	@	317	0	+	367	0		417	1		467			
0		18	0		68	0		118	0		168	0		218	16	@	268	0	@	318	2	+	368	0		418	1		468			
0		19	0		69	0		119	0		169	0		219	14	@	269	0	-	319	0	+	369	0		419	1		469			
0		20	0		70	0		120	0		170	0		220	25	@	270	0	@	320	1	+	370	0		420	0		470			
0		21	0		71	0		121	0		171	0		221	31	@	271	0	@	321	0	+	371	3		421	0		471			
0		22	0		72	0		122	0		172	0		222	33	@	272	0	@	322	0	+	372	0	@	422	3		472			
0		23	0		73	0		123	0		173	0		223	15	@	273	0	@	323	0		373	0	@	423	0		473			
0		24	0		74	0		124	0	+	174	0		224	16	@	274	1	@	324	0		374	0	@	424	0		474			
0		25	0		75	0		125	0	+	175	0		225	21	@	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	5		277	0	@	327	0		377	1	@	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	13		279	0	@	329	0		379	0	@	429	0		479			
0		30	0		80	0		130	0	+	180	0		230	22		280	0	@	330	1	+	380	0	@	430	0		480			
0		31	0		81	0		131	0	+	181	0		231	10		281	0	@	331	0	+	381	2	@	431	0		481			
0		32	0		82	0		132	0	+	182	0		232	10		282	0	@	332	1	+	382	1	-	432	0		482			
0		33	0		83	0		133	0	+	183	0		233	14		283	0	@	333	1	+	383	0	@	433	0		483			
0		34	0		84	0		134	1	+	184	0		234	8		284	0	-	334	1	+	384	0	@	434	0		484			
0		35	0		85	0		135	0	+	185	0		235	7		285	0	@	335	0	+	385	0	@	435	0		485			
0		36	0		86	0		136	0	+	186	0		236	8		286	0	@	336	0	+	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	1	@	438	0		488			
0		39	0		89	0		139	0	+	189	1		239	8		289	0	@	339	0		389	0	-	439	0		489			
0		40	0		90	0		140	0	+	190	0	+	240	7		290	0	@	340	0	+	390	1	-	440	0		490			
0		41	0		91	0		141	0		191	0	+	241	2		291	0	@	341	0	+	391	1	-	441	0		491			
0		42	0		92	0		142	0		192	1	+	242	8	+	292	0	@	342	0	+	392	0	-	442	0		492			
0		43	0		93	0		143	0		193	0	+	243	7	+	293	2	@	343	2	+	393	0	-	443	0		493			
0		44	0		94	0		144	0		194	0	+	244	4	+	294	0	@	344	1	+	394	0	-	444	0		494			
0		45	0		95	0		145	0		195	1	+	245	1	+	295	0	@	345	1	+	395	0	-	445	0		495			
0		46	0		96	0		146	0		196	1	+	246	11	+	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	0	-	447	0		497			
0		48	0		98	0		148	0		198	0	+	248	10	@	298	1	@	348	0	+	398	0	-	448	0		498			
0		49	0		99	0		149	0		199	1	+	249	9	@	299	0	@	349	3	+	399	0		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 13-JUL-2006 13:54:36

Configuration : RDND06$DKA100:[ALP119.SAMPLE]H7JME1AA_130760534.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 31-MAY-2006 12:00:00 Acquisition date : 13-JUL-2006 05:34:26
Sample ID : H7JME1AA Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP119 Detector geometry:
Elapsed live time: 0 08:20:06.00 Elapsed real time: 0 08:20:06.00 0.0%
Start energy : 2859.13 kev End energy : 6656.60 kev
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4863.71	344	0	75.62	269.98	261	16	1.15E-02	5.4	
2	0	4969.44	114	0	196.62	284.16	263	41	3.80E-03	9.4	
3	0	5596.35	4	0	30.25	368.50	366	7	1.33E-04	50.0	
4	0	5700.15	4	0	30.25	382.50	380	7	1.33E-04	50.0	
5	0	5981.49	4	0	30.25	420.50	418	8	1.33E-04	50.0	

VMS Nuclide Identification Report V3.1 Generated 13-JUL-2006 13:54:38

Configuration	: RDND06$DKA100:[ALP119.SAMPLE]H7JME1AA_130760534.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.4		
Sample title	: TH BRC		
Sample date	: 31-MAY-2006 12:00:00	Acquisition date	: 13-JUL-2006 05:34:26
Sample ID	: H7JME1AA	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP119	Detector geometry	:
Elapsed live time	: 0 08:20:06.00	Elapsed real time	: 0 08:20:06.00 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	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	
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-238	87.74Y	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:[ALP119.SAMPLE]H7JME1AA_130760534.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4863.71	261	277	344	263	4.37		
4969.44	263	304	114	444	-30.91	251	0.09
5596.34	366	373	4	3	0.50		
5700.14	380	387	4	4	0.00		
5981.48	418	426	4	3	0.50		

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

End of Report

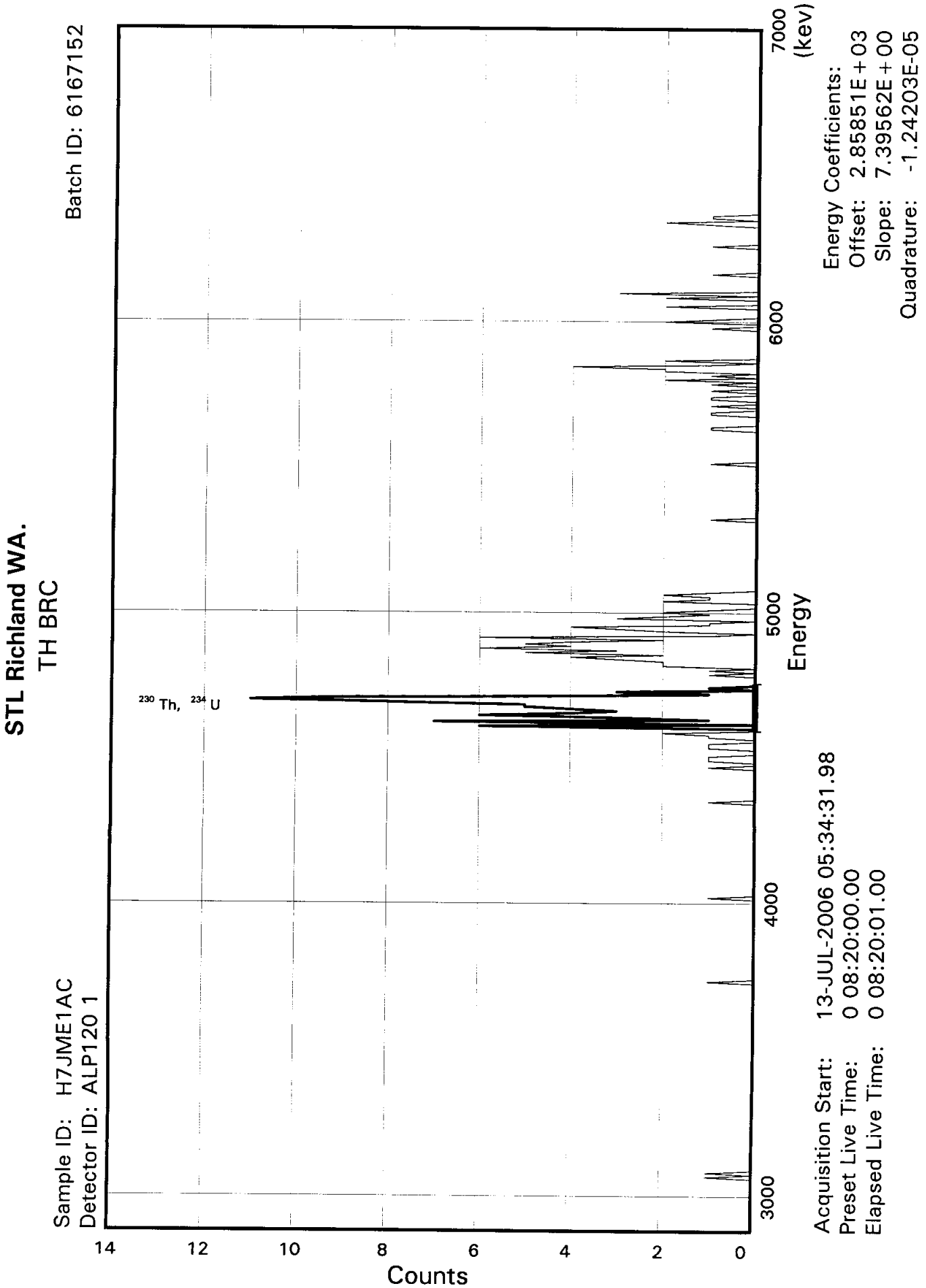
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H7JME1AC

Detector: ALP120 1
Report Date: 13-Jul-06 02:17 PM
Acquire Date: 13-JUL-2006 05:34:31.98
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	1	4	-0.002	5423.2	147.7	332	352
TH-229	81	1	0.161	4845.3	347.3	254	301
TH-230	81	1	0.161	4687.7	155.2	231	252
TH-232	1	0	0.002	4013.0	147.8	141	161

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6167152
Sample ID: H7JME1AC
Detector ID: ALP120 1
230 Th, 234 U
Counts
14
12
10
8
6
4
2
0
3000
4000
5000
6000
7000
(kev)
Energy
Energy Coefficients:
Offset: 2.85851E+03
Slope: 7.39562E+00
Quadrature: -1.24203E-05
Acquisition Start: 13-JUL-2006 05:34:31.98
Preset Live Time: 0 08:20:00.00
Elapsed Live Time: 0 08:20:01.00

SAMPLE IDENTIITY: H7JME1AC

TITLE : TH BRC

DETECTOR : ALP120 1
CONFIGURATION NAME : RDND06$DKA100:[ALP120.SAMPLE]H7JME1AC_130760
534.CNF;1
ACQUIRE DATE of BACKGROUND: 22-JUN-2006 10:15:46

REPORT DATE : 13-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 13-JUL-2006 05:34:31 CALIB DATE : 22-JUN-2006 09:30:33

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:20:01

OFFSET : 2858.51 keV CONSTANT FWHM : 9.66667 Channels
SLOPE : 7.39562 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.124203E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H7JME1AC
Detector: ALP120 1
Report Date: 13-Jul-06 01:54 PM
Acquire Date: 13-JUL-2006 05:34:31.98

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	0		301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	1		202	1		252	0		302	0		352	2		402	0		452	0		502
0		3	0		53	0		103	0		153	0		203	3		253	0		303	0		353	2		403	0		453	0		503
0		4	0		54	0		104	0		154	0		204	0		254	0		304	0		354	4		404	0		454	0		504
0		5	0		55	0		105	0		155	0		205	1		255	0		305	0		355	1		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	2		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	0		259	0		309	1		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	1		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	1		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	2		265	0		315	0		365	0		415	0		465			
0		16	0		66	0		116	0		166	0		216	2		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	1		118	0		168	1		218	3		268	0		318	0		368	0		418	0		468			
0		19	0		69	0		119	0		169	0		219	4		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	1		470			
0		21	0		71	0		121	0		171	1		221	5		271	0		321	0		371	0		421	2		471			
0		22	0		72	0		122	0		172	1		222	3		272	0		322	0		372	1		422	0		472			
0		23	0		73	0		123	0		173	1		223	6		273	0		323	0		373	0		423	1		473			
0		24	0		74	0		124	0		174	0		224	4		274	0		324	0		374	0		424	1		474			
0		25	0		75	0		125	0		175	0		225	5		275	0		325	1		375	2		425	0		475			
0		26	0		76	0		126	0		176	0		226	4		276	0		326	1		376	1		426	0		476			
0		27	0		77	0		127	0		177	1		227	2		277	0		327	0		377	0		427	0		477			
1		28	0		78	0		128	0		178	1		228	6		278	0		328	0		378	0		428	0		478			
0		29	0		79	0		129	0		179	1		229	1		279	0		329	0		379	0		429	0		479			
1		30	0		80	0		130	0		180	0		230	0		280	0		330	0		380	0		430	0		480			
0		31	0		81	0		131	0		181	0		231	2		281	0		331	0		381	0		431	0		481			
0		32	0		82	0		132	0		182	1		232	3		282	0		332	1		382	2		432	0		482			
0		33	0		83	0		133	0		183	1		233	4		283	1		333	1		383	0		433	0		483			
0		34	0		84	0		134	0		184	2		234	1		284	0		334	0		384	0		434	0		484			
0		35	0		85	0		135	0		185	0		235	1		285	0		335	0		385	0		435	0		485			
0		36	0		86	0		136	0		186	0		236	0		286	0		336	1		386	2		436	0		486			
0		37	0		87	0		137	0		187	6		237	3		287	0		337	0		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	2		288	0		338	0		388	3		438	0		488			
0		39	0		89	0		139	0		189	7		239	1		289	0		339	1		389	0		439	0		489			
0		40	0		90	0		140	0		190	1		240	2		290	0		340	1		390	0		440	0		490			
0		41	0		91	0		141	0		191	3		241	1		291	0		341	0		391	0		441	0		491			
0		42	0		92	0		142	0		192	6		242	0		292	0		342	0		392	0		442	0		492			
0		43	0		93	0		143	0		193	4		243	0		293	0		343	1		393	0		443	0		493			
0		44	0		94	0		144	0		194	3		244	0		294	0		344	0		394	0		444	0		494			
0		45	0		95	0		145	0		195	4		245	2		295	0		345	0		395	0		445	0		495			
0		46	0		96	0		146	0		196	5		246	1		296	0		346	1		396	0		446	0		496			
0		47	0		97	0		147	0		197	5		247	1		297	0		347	0		397	1		447	0		497			
0		48	0		98	0		148	0		198	8		248	2		298	0		348	2		398	0		448	0		498			
0		49	0		99	0		149	0		199	11		249	1		299	0		349	0		399	0		449	0		499			

0	50	0	100	0	150	0	200	9	250	0	300	0	350	1	400	0	450	0	500

VMS Peak Search Report V1.9 Generated 13-JUL-2006 13:54:40

Configuration	: RDND06$DKA100:[ALP120.SAMPLE]H7JME1AC_130760534.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: TH BRC		
Sample date	: 31-MAY-2006 12:00:00	Acquisition date	: 13-JUL-2006 05:34:31
Sample ID	: H7JME1AC	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP120	Detector geometry	:
Elapsed live time	: 0 08:20:01.00	Elapsed real time	: 0 08:20:01.00 0.0%
Start energy	: 2880.70 kev	End energy	: 6641.81 kev
Sensitivity	: 3.00	Sum Sensitivity	: 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4676.33	83	0	96.14	245.90	235	22	2.77E-03	11.0	

VMS Nuclide Identification Report V3.1 Generated 13-JUL-2006 13:54:41

```
Configuration     : RDND06$DKA100:[ALP120.SAMPLE]H7JME1AC_130760534.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : TH BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 13-JUL-2006 05:34:31
Sample ID         : H7JME1AC             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP120               Detector geometry:
Elapsed live time: 0 08:20:01.00         Elapsed real time: 0 08:20:01.00   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
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			
	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: 13-Jul-06  01:54 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
```

URANIUM ISOTOPIC

SAMPLE AND QC DATA

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

7/10/2006 3:28:07 PM

Lot No., Due Date: J6F140275; 07/12/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6167150; RUSIO Uiso by ALP

SDG, Matrix: 31903; 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 [signature] **Date** 7/10/06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 616750

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 A Adam Date: 7-11-06

7/10/2006 3:27:38 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	Mga	Sample Date / Units	Expected	Yield	Volumes
31903	**9H7D0010**			**J6F1402753**	P-0655	FILTER	6/14/2006 10:00:00		5/31/2006 11:20:00 AM			
RA-226	BXTE		0	7/6/2006 1:09:00 PM	**2.608E-01**	1.369E-01	1.396E-01	4.453E-01	PCI/SA	0.97	1.0E+0	2.49E-1
U-234	7YSR		0	7/7/2006 5:48:10 PM	**0.0E+00**	0.0E+00	1.278E-01	2.827E-01	PCI/SA	0.944	1.0E+0	6.224E-2
U-235	7YSR		0	7/7/2006 5:48:10 PM	**0.0E+00**	0.0E+00	1.278E-01	2.827E-01	PCI/SA	0.944	1.0E+0	6.224E-2
U-238	7YSR		0	7/7/2006 5:48:10 PM	**8.3448E-02**	1.064E-01	1.066E-01	4.997E-01	PCI/SA	0.944	1.0E+0	6.224E-2
31903	**9H7D0210**			**J6F1402754**	P-0656	FILTER	6/14/2006 10:00:00		5/31/2006 11:45:00 AM			
RA-226	BXTE		0	7/6/2006 1:11:00 PM	**2.0153E-01**	1.482E-01	1.499E-01	5.146E-01	PCI/SA	0.98	1.0E+0	2.496E-1
U-234	7YSR		0	7/7/2006 5:48:31 PM	**-3.1913E-02**	1.596E-02	1.616E-02	5.324E-01	PCI/SA	0.966	1.0E+0	6.25E-2
U-235	7YSR		0	7/7/2006 5:48:31 PM	**-2.3934E-02**	1.382E-02	1.395E-02	4.972E-01	PCI/SA	0.966	1.0E+0	6.25E-2
U-238	7YSR		0	7/7/2006 5:48:31 PM	**-5.5847E-02**	2.111E-02	2.158E-02	6.17E-01	PCI/SA	0.966	1.0E+0	6.25E-2
31903	**9H7D0310**			**J6F1402755**	P-0657	FILTER	6/14/2006 10:00:00		5/31/2006 12:10:00 PM			
RA-226	BXTE		0	7/6/2006 1:12:00 PM	**3.0457E-01**	1.243E-01	1.288E-01	3.629E-01	PCI/SA	0.921	1.0E+0	2.503E-1
U-234	7YSR		0	7/7/2006 5:48:48 PM	**6.5503E-02**	1.109E-01	1.11E-01	6.17E-01	PCI/SA	0.945	1.0E+0	6.277E-2
U-235	7YSR		0	7/7/2006 5:48:48 PM	**-1.747E-02**	1.235E-02	1.243E-02	4.989E-01	PCI/SA	0.945	1.0E+0	6.277E-2
U-238	7YSR		0	7/7/2006 5:48:48 PM	**7.4238E-02**	1.106E-01	1.107E-01	5.831E-01	PCI/SA	0.945	1.0E+0	6.277E-2
31903	**9H7D0510**			**J6F1402756**	P-0658	FILTER	6/14/2006 10:00:00		5/31/2006 12:20:00 PM			
RA-226	BXTE		0	7/6/2006 1:11:00 PM	**1.2057E-01**	1.431E-01	1.436E-01	5.32E-01	PCI/SA	1.032	1.0E+0	2.495E-1
U-234	7YSR		0	7/7/2006 5:49:22 PM	**-1.6643E-02**	1.177E-02	1.185E-02	4.752E-01	PCI/SA	0.989	1.0E+0	6.281E-2
U-235	7YSR		0	7/7/2006 5:49:22 PM	**-1.6643E-02**	1.177E-02	1.185E-02	4.752E-01	PCI/SA	0.989	1.0E+0	6.281E-2
U-238	7YSR		0	7/7/2006 5:49:22 PM	**0.0E+00**	0.0E+00	1.273E-01	2.818E-01	PCI/SA	0.989	1.0E+0	6.281E-2
31903	**9H7D0810**			**J6F1402757**	P-0659	FILTER	6/14/2006 10:00:00		5/31/2006 10:35:00 AM			
RA-226	BXTE		0	7/6/2006 2:50:00 PM	**3.3219E-01**	1.368E-01	1.41E-01	4.224E-01	PCI/SA	0.936	1.0E+0	2.499E-1
U-234	7YSR		0	7/7/2006 5:49:38 PM	**-5.9713E-02**	2.67E-02	2.718E-02	8.435E-01	PCI/SA	0.935	1.0E+0	6.245E-2
U-235	7YSR		0	7/7/2006 5:49:38 PM	**1.4926E-01**	1.493E-01	1.498E-01	4.045E-01	PCI/SA	0.935	1.0E+0	6.245E-2
U-238	7YSR		0	7/7/2006 5:49:38 PM	**0.0E+00**	0.0E+00	1.828E-01	4.045E-01	PCI/SA	0.935	1.0E+0	6.245E-2
31903	**9H7D0Q10**			**J6F1402751**	P-0653	FILTER	6/14/2006 10:00:00		5/31/2006 10:30:00 AM			
RA-226	BXTE		0	7/6/2006 1:10:00 PM	**4.869E-01**	2.198E-01	2.255E-01	7.193E-01	PCI/SA	0.904	1.0E+0	2.499E-1
U-234	7YSR		0	7/7/2006 5:47:32 PM	**1.7713E-01**	1.405E-01	1.413E-01	4.713E-01	PCI/SA	0.992	1.0E+0	6.247E-2
U-235	7YSR		0	7/7/2006 5:47:32 PM	**0.0E+00**	0.0E+00	1.205E-01	2.667E-01	PCI/SA	0.992	1.0E+0	6.247E-2
U-238	7YSR		0	7/7/2006 5:47:32 PM	**7.8729E-02**	1.004E-01	1.006E-01	4.713E-01	PCI/SA	0.992	1.0E+0	6.247E-2
31903	**9H7D0W10**			**J6F1402752**	P-0654	FILTER	6/14/2006 10:00:00		5/31/2006 11:00:00 AM			
RA-226	BXTE		0	7/6/2006 1:10:00 PM	**1.9402E-01**	1.595E-01	1.608E-01	5.631E-01	PCI/SA	0.847	1.0E+0	2.461E-1
U-234	7YSR		0	7/7/2006 5:47:54 PM	**1.7818E-01**	1.414E-01	1.421E-01	4.742E-01	PCI/SA	0.901	1.0E+0	6.161E-2
U-235	7YSR		0	7/7/2006 5:47:54 PM	**-1.9817E-02**	1.982E-02	1.988E-02	4.742E-01	PCI/SA	0.901	1.0E+0	6.161E-2
U-238	7YSR		0	7/7/2006 5:47:54 PM	**-3.9634E-02**	2.803E-02	2.821E-02	5.596E-01	PCI/SA	0.901	1.0E+0	6.161E-2
31903	**9H7D1A10**			**J6F1402758**	000480	FILTER	6/14/2006 10:00:00		5/31/2006 10:40:00 AM			
RA-226	BXTE		0	7/6/2006 1:40:03 PM	**-9.2468E-02**	1.5E-01	1.503E-01	6.447E-01	PCI/SA	0.899	1.0E+0	2.497E-1
U-234	7YSR		0	7/7/2006 5:49:59 PM	**-4.5209E-02**	3.197E-02	3.218E-02	6.383E-01	PCI/SA	0.936	1.0E+0	6.243E-2
U-235	7YSR		0	7/7/2006 5:49:59 PM	**0.0E+00**	0.0E+00	1.383E-01	3.06E-01	PCI/SA	0.936	1.0E+0	6.243E-2
U-238	7YSR		0	7/7/2006 5:49:59 PM	**0.0E+00**	0.0E+00	1.383E-01	3.06E-01	PCI/SA	0.936	1.0E+0	6.243E-2
31903	**9H7D1E10**			**J6F1402759**	000481	FILTER	6/14/2006 10:00:00		5/31/2006 11:05:00 AM			
RA-226	BXTE		0	7/6/2006 1:42:03 PM	**1.541E-01**	1.473E-01	1.48E-01	5.254E-01	PCI/SA	0.914	1.0E+0	2.503E-1
U-234	7YSR		0	7/7/2006 9:44:00 PM	**-1.9532E-02**	1.953E-02	1.959E-02	4.676E-01	PCI/SA	1.055	1.0E+0	6.246E-2
U-235	7YSR		0	7/7/2006 9:44:00 PM	**0.0E+00**	0.0E+00	1.196E-01	2.646E-01	PCI/SA	1.055	1.0E+0	6.246E-2
U-238	7YSR		0	7/7/2006 9:44:00 PM	**-3.9064E-02**	2.762E-02	2.78E-02	5.517E-01	PCI/SA	1.055	1.0E+0	6.246E-2
31903	**9H7D1J10**			**J6F14027510**	000482	FILTER	6/14/2006 10:00:00		5/31/2006 11:25:00 AM			
RA-226	BXTE		0	7/6/2006 1:41:00 PM	**2.3332E-01**	1.903E-01	1.917E-01	6.715E-01	PCI/SA	0.873	1.0E+0	2.506E-1
U-234	7YSR		0	7/7/2006 9:44:13 PM	**2.6329E-01**	1.52E-01	1.534E-01	2.378E-01	PCI/SA	1.004	1.0E+0	6.264E-2
U-235	7YSR		0	7/7/2006 9:44:13 PM	**-1.7562E-02**	1.756E-02	1.762E-02	4.204E-01	PCI/SA	1.004	1.0E+0	6.264E-2
U-238	7YSR		0	7/7/2006 9:44:13 PM	**-3.5124E-02**	2.484E-02	2.499E-02	4.96E-01	PCI/SA	1.004	1.0E+0	6.264E-2
31903	**9H7D1K10**			**J6F14027511**	000483	FILTER	6/14/2006 10:00:00		5/31/2006 11:50:00 AM			
RA-226	BXTE		0	7/6/2006 1:40:01 PM	**4.3572E-02**	1.076E-01	1.077E-01	4.218E-01	PCI/SA	1.085	1.0E+0	2.488E-1

6167150, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 14,
**Results Inserted | ReTestInserted | Updated | NotInserted => 48 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H7JMD1AA=> , mat:FILTER | Air *wo:H7JMD1AA=> , mat:FILTER | Air *wo:H7JMD1AC=> , mat:FILTER | Air *wo:H7JMD1AC=> , mat:FILTER | Air.

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	
U-234	7YSR	0		7/7/2006 9:44:21 PM	**5.1122E-01**	2.286E-01	2.323E-01	2.771E-01	PCI/SA	0.964	1.0E+0	6.221E-2	
U-235	7YSR	0		7/7/2006 9:44:21 PM	**1.0224E-01**	1.022E-01	1.026E-01	2.771E-01	PCI/SA	0.964	1.0E+0	6.221E-2	
U-238	7YSR	0		7/7/2006 9:44:21 PM	**8.1799E-02**	1.043E-01	1.045E-01	4.897E-01	PCI/SA	0.964	1.0E+0	6.221E-2	
31903	**9H7D1N10**			**J6F14027512**	000484	FILTER	6/14/2006 10:00:00	5/31/2006 12:15:00 PM					
RA-226	BXTE	0		7/6/2006 1:42:01 PM	**2.5875E-01**	1.148E-01	1.18E-01	3.344E-01	PCI/SA	0.898	1.0E+0	2.499E-1	
U-234	7YSR	0		7/7/2006 9:44:39 PM	**6.5185E-02**	9.709E-02	9.723E-02	5.12E-01	PCI/SA	1.001	1.0E+0	6.279E-2	
U-235	7YSR	0		7/7/2006 9:44:39 PM	**-2.3012E-02**	1.329E-02	1.341E-02	4.782E-01	PCI/SA	1.001	1.0E+0	6.279E-2	
U-238	7YSR	0		7/7/2006 9:44:39 PM	**-5.3694E-02**	2.029E-02	2.075E-02	5.934E-01	PCI/SA	1.001	1.0E+0	6.279E-2	
31903	**9H7D1R10**			**J6F14027513**	000485	FILTER	6/14/2006 10:00:00	5/31/2006 12:25:00 PM					
RA-226	BXTE	0		7/6/2006 1:41:01 PM	**1.5633E-01**	1.063E-01	1.075E-01	3.633E-01	PCI/SA	0.918	1.0E+0	2.498E-1	
U-234	7YSR	0		7/7/2006 9:44:53 PM	**-4.467E-02**	1.998E-02	2.031E-02	6.31E-01	PCI/SA	0.928	1.0E+0	6.247E-2	
U-235	7YSR	0		7/7/2006 9:44:53 PM	**-1.7868E-02**	1.263E-02	1.272E-02	5.103E-01	PCI/SA	0.928	1.0E+0	6.247E-2	
U-238	7YSR	0		7/7/2006 9:44:53 PM	**-3.5736E-02**	1.787E-02	1.81E-02	5.963E-01	PCI/SA	0.928	1.0E+0	6.247E-2	
31903	**9H7D1X10**			**J6F14027514**	000486	FILTER	6/14/2006 10:00:00	5/31/2006 11:10:00 AM					
RA-226	BXTE	0		7/6/2006 1:41:01 PM	**7.0279E-01**	1.603E-01	1.755E-01	3.809E-01	PCI/SA	0.937	1.0E+0	2.489E-1	
U-234	7YSR	0		7/7/2006 9:45:05 PM	**-2.495E-02**	1.44E-02	1.454E-02	5.185E-01	PCI/SA	1.076	1.0E+0	6.218E-2	
U-235	7YSR	0		7/7/2006 9:45:05 PM	**8.7304E-02**	1.046E-01	1.048E-01	4.75E-01	PCI/SA	1.076	1.0E+0	6.218E-2	
U-238	7YSR	0		7/7/2006 9:45:05 PM	**0.0E+00**	0.0E+00	1.273E-01	2.817E-01	PCI/SA	1.076	1.0E+0	6.218E-2	
31903	**H7JMD1AB**			**J6F160000150**	INTRA-LAB BLANK	FILTER	6/14/2006 10:00:00	5/31/2006 10:30:00 AM					
U-234	7YSR	0	B	7/7/2006 9:45:26 PM	**-3.4863E-03**	1.559E-03	1.584E-03	4.922E-02	PCI/SA	1.047	1.0E+0	1.0E+0	
U-235	7YSR	0	B	7/7/2006 9:45:26 PM	**0.0E+00**	0.0E+00	1.067E-02	2.36E-02	PCI/SA	1.047	1.0E+0	1.0E+0	
U-238	7YSR	0	B	7/7/2006 9:45:26 PM	**8.7082E-03**	8.708E-03	8.736E-03	2.36E-02	PCI/SA	1.047	1.0E+0	1.0E+0	
31903	**H7JMD1CS**			**J6F160000150**	INTRA-LAB CHECK	FILTER	6/14/2006 10:00:00	5/31/2006 10:30:00 AM					
U-234	7YSR	0	S	7/7/2006 9:46:42 PM	**1.0523E+00**	8.676E-02	1.199E-01	4.03E-02	PCI/SA	9.7036E-01	0.925	1.0E+0	1.0E+0
U-235	7YSR	0	S	7/7/2006 9:46:42 PM	**4.2777E-02**	1.746E-02	1.778E-02	1.932E-02	PCI/SA	4.4273E-02	0.925	1.0E+0	1.0E+0
U-238	7YSR	0	S	7/7/2006 9:46:42 PM	**1.1193E+00**	8.933E-02	1.254E-01	1.932E-02	PCI/SA	1.0163E+00	0.925	1.0E+0	1.0E+0

6167150, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 14,
**Results Inserted | ReTestInserted | Updated | NotInserted => 48 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H7JMD1AA=> , mat:FILTER | Air *wo:H7JMD1AA=> , mat:FILTER | Air *wo:H7JMD1AC=> , mat:FILTER | Air *wo:H7JMD1AC=> , mat:FILTER | Air.

7/10/2006 3:27:40 PM

ICOC Fraction Transfer/Status Report

ByDate: 7/10/2005, 7/15/2006, Batch: '6167150', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6167150						
AC		**CalcC**	**HansenM**	6/26/2006 8:41:20		
SC			wagarr	IsBatched	6/16/2006 4:55:22 PM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	6/26/2006 8:41:20 AM	RICH-RC-5016 REVISION 5
SC			HansenM	Prep2C	6/26/2006 8:41:59 AM	RICH-RC-5016 REVISION 5
SC			AndersonE	Sep1C	7/7/2006 9:31:00 AM	RICH-RC-5067 REV 6
SC			ManisD	Sep2C	7/7/2006 3:14:53 PM	RICH-RC-5039 REV 5
SC			DAWKINSO	InCnt1	7/7/2006 4:11:22 PM	RICH-RD-0008 REVISION 4
SC			BlackCL	CalcC	7/8/2006 10:00:54 AM	RICH-RD-0008 REVISION 4
AC			**HansenM**	6/26/2006 8:41:59		
AC			**AndersonE**	7/7/2006 9:31:00 AM		
AC			**ManisD**	7/7/2006 3:14:53 PM		
AC			**DAWKINSO**	7/7/2006 4:11:22 PM		
AC			**BlackCL**	7/8/2006 10:00:54		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 6

ICOCFractions v4.8.18

STL RICHLAND

6/23/2006 4:38:26 PM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell , Brown & Caldwell

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

Pipet #: _____

AnalyDueDate: 07/11/2006

Sep1 DT/Tm Tech:

Batch: 6167150 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:
1 **H7D0Q-1-AG** J6F140275-1-SAMP 05/31/2006 10:30	0.833sa	500.14sa	37.51g,in	0.0625g	UITC15757 05/24/06,pd 01/20/04,r	200				
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
2 **H7D0W-1-AG** J6F140275-2-SAMP 05/31/2006 11:00	0.833sa,g	507.87sa,g	37.56g,in	0.0616g	UITC15758 05/24/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
3 **H7D00-1-AG** J6F140275-3-SAMP 05/31/2006 11:20	0.833sa,g	502.02sa,g	37.51g,in	0.0622g	UITC15759 05/24/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
4 **H7D02-1-AG** J6F140275-4-SAMP 05/31/2006 11:45	0.833sa,g	501.25sa,g	37.61g,in	0.0625g	UITC15760 05/24/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
5 **H7D03-1-AG** J6F140275-5-SAMP 05/31/2006 12:10	0.833sa,g	500.30sa,g	37.70g,in	0.0628g	UITC15761 05/24/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
6 **H7D05-1-AG** J6F140275-6-SAMP 05/31/2006 12:20	0.833sa,g	500.93sa,g	37.77g,in	0.0628g	UITC15762 05/24/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
7 **H7D08-1-AG** J6F140275-7-SAMP 05/31/2006 10:35	0.833sa,g	500.48sa,g	37.52g,in	0.0624g	UITC15763 05/24/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:

STL RICHLAND

6/23/2006 4:38:27 PM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell , Brown & Caldwell

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

Pipet #:

AnalyDueDate: 07/11/2006

Sep1 DT/Tm Tech:

Batch: 6167150 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 H7D1A-1-AG J6F140275-8-SAMP 05/31/2006 10:40	0.833sa,g	502.47sa,g	37.66g,in	0.0624g	UITC15764 05/24/06,pd 01/20/04,r					
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
9 H7D1E-1-AG J6F140275-9-SAMP 05/31/2006 11:05	0.833sa,g	500.96sa,g	37.56g,in	0.0625g	UITC15765 05/24/06,pd 01/20/04,r					
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
10H7D1J-1-AG J6F140275-10-SAMP 05/31/2006 11:25	0.833sa,g	500.26sa,g	37.62g,in	0.0626g	UITC15766 05/24/06,pd 01/20/04,r					
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
11H7D1K-1-AG J6F140275-11-SAMP 05/31/2006 11:50	0.833sa,g	502.94sa,g	37.56g,in	0.0622g	UITC15767 05/24/06,pd 01/20/04,r					
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
12H7D1N-1-AG J6F140275-12-SAMP 05/31/2006 12:15	0.833sa,g	500.83sa,g	37.75g,in	0.0628g	UITC15768 05/24/06,pd 01/20/04,r					
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
13H7D1R-1-AG J6F140275-13-SAMP 05/31/2006 12:25	0.833sa,g	500.27sa,g	37.52g,in	0.0625g	UITC15769 05/24/06,pd 01/20/04,r					
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
14H7D1X-1-AG J6F140275-14-SAMP 05/31/2006 11:10	0.833sa,g	503.21sa,g	37.56g,in	0.0622g	UITC15770 05/24/06,pd 01/20/04,r					
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:

STL RICHLAND

6/23/2006 4:38:27 PM

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: 07/11/2006

Sep1 DT/Tm Tech:

Batch: 6167150 pCi/sampl

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:
15H7JMD-1-AA-B J6F160000-150-BLK 05/31/2006 10:30			1.00sa,in	1.00sa	UITC15771 05/24/06,pd 01/20/04,r					
		AmtRec:		#Containers: 1			Scr:	Alpha:		Beta:
16H7JMD-1-AC-C J6F160000-150-LCS 05/31/2006 10:30			1.00sa,in	1.00sa	UISF0458 06/15/06,pd 01/20/04,r					
		AmtRec:		#Containers: 1			Scr:	Alpha:		Beta:

85

87

Comments:

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

H7D0Q1AG-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:

H7JMD1AA-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:

H7JMD1AC-LCS:

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

H7D0Q1AG-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

H7JMD1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

H7JMD1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

222

Batch Nbr: 6167150

Alpha Spec, UIso by ALP , Results

7/8/2006 9:58:23 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	H7D0Q1AG	U-234	1.77E-01	(1.41E-01)	U4	PCI/SA	R	1.02E-01	4.71E-01		99%	
Calc	SR	FILTER	H7D0Q1AG	U-235	0.00E+00	(1.21E-01)	U4	PCI/SA	R		2.67E-01		99%	
Calc	SR	FILTER	H7D0Q1AG	U-238	7.87E-02	(1.01E-01)	U4	PCI/SA	R	1.02E-01	4.71E-01		99%	
Calc	SR	FILTER	H7D0W1AG	U-234	1.78E-01	(1.42E-01)	U4	PCI/SA	R	1.03E-01	4.74E-01		90%	
Calc	SR	FILTER	H7D0W1AG	U-235	-1.98E-02	(1.99E-02)	U4	PCI/SA	R	1.03E-01	4.74E-01		90%	
Calc	SR	FILTER	H7D0W1AG	U-238	-3.96E-02	(2.82E-02)	U4	PCI/SA	R	1.46E-01	5.60E-01		90%	
Calc	SR	FILTER	H7D001AG	U-234	0.00E+00	(1.28E-01)	U4	PCI/SA	R		2.83E-01		94%	
Calc	SR	FILTER	H7D001AG	U-235	0.00E+00	(1.28E-01)	U4	PCI/SA	R		2.83E-01		94%	
Calc	SR	FILTER	H7D001AG	U-238	8.34E-02	(1.07E-01)	U4	PCI/SA	R	1.09E-01	5.00E-01		94%	
Calc	SR	FILTER	H7D021AG	U-234	-3.19E-02	(1.62E-02)	U4	PCI/SA	R	1.31E-01	5.32E-01		97%	
Calc	SR	FILTER	H7D021AG	U-235	-2.39E-02	(1.40E-02)	U4	PCI/SA	R	1.14E-01	4.97E-01		97%	
Calc	SR	FILTER	H7D021AG	U-238	-5.58E-02	(2.16E-02)	U4	PCI/SA	R	1.74E-01	6.17E-01		97%	
Calc	SR	FILTER	H7D031AG	U-234	6.55E-02	(1.11E-01)	U4	PCI/SA	R	1.61E-01	6.17E-01		95%	
Calc	SR	FILTER	H7D031AG	U-235	-1.75E-02	(1.24E-02)	U4	PCI/SA	R	1.02E-01	4.99E-01		95%	
Calc	SR	FILTER	H7D031AG	U-238	7.42E-02	(1.11E-01)	U4	PCI/SA	R	1.44E-01	5.83E-01		95%	
Calc	SR	FILTER	H7D051AG	U-234	-1.66E-02	(1.18E-02)	U4	PCI/SA	R	9.68E-02	4.75E-01		99%	
Calc	SR	FILTER	H7D051AG	U-235	-1.66E-02	(1.18E-02)	U4	PCI/SA	R	9.68E-02	4.75E-01		99%	
Calc	SR	FILTER	H7D051AG	U-238	0.00E+00	(1.27E-01)	U4	PCI/SA	R		2.82E-01		99%	
Calc	SR	FILTER	H7D081AG	U-234	-5.97E-02	(2.72E-02)	U4	PCI/SA	R	2.20E-01	8.44E-01		93%	
Calc	SR	FILTER	H7D081AG	U-235	1.49E-01	(1.50E-01)	U4	PCI/SA	R		4.05E-01		93%	
Calc	SR	FILTER	H7D081AG	U-238	0.00E+00	(1.83E-01)	U4	PCI/SA	R		4.05E-01		93%	
Calc	SR	FILTER	H7D1A1AG	U-234	-4.52E-02	(3.22E-02)	U4	PCI/SA	R	1.66E-01	6.38E-01		94%	
Calc	SR	FILTER	H7D1A1AG	U-235	0.00E+00	(1.38E-01)	U4	PCI/SA	R		3.06E-01		94%	
Calc	SR	FILTER	H7D1A1AG	U-238	0.00E+00	(1.38E-01)	U4	PCI/SA	R		3.06E-01		94%	
Calc	SR	FILTER	H7D1E1AG	U-234	-1.95E-02	(1.96E-02)	U4	PCI/SA	R	1.02E-01	4.68E-01		106%	
Calc	SR	FILTER	H7D1E1AG	U-235	0.00E+00	(1.20E-01)	U4	PCI/SA	R		2.65E-01		106%	
Calc	SR	FILTER	H7D1E1AG	U-238	-3.91E-02	(2.78E-02)	U4	PCI/SA	R	1.44E-01	5.52E-01		106%	
Calc	SR	FILTER	H7D1J1AG	U-234	2.63E-01	(1.53E-01)		PCI/SA	R		2.38E-01		100%	
Calc	SR	FILTER	H7D1J1AG	U-235	-1.76E-02	(1.76E-02)	U4	PCI/SA	R	9.13E-02	4.20E-01		100%	
Calc	SR	FILTER	H7D1J1AG	U-238	-3.51E-02	(2.50E-02)	U4	PCI/SA	R	1.29E-01	4.96E-01		100%	
Calc	SR	FILTER	H7D1K1AG	U-234	5.11E-01	(2.32E-01)		PCI/SA	R		2.77E-01		96%	
Calc	SR	FILTER	H7D1K1AG	U-235	1.02E-01	(1.03E-01)	U4	PCI/SA	R		2.77E-01		96%	
Calc	SR	FILTER	H7D1K1AG	U-238	8.18E-02	(1.04E-01)	U4	PCI/SA	R	1.06E-01	4.90E-01		96%	
Calc	SR	FILTER	H7D1N1AG	U-234	6.52E-02	(9.72E-02)	U4	PCI/SA	R	1.26E-01	5.12E-01		100%	
Calc	SR	FILTER	H7D1N1AG	U-235	-2.30E-02	(1.34E-02)	U4	PCI/SA	R	1.09E-01	4.78E-01		100%	
Calc	SR	FILTER	H7D1N1AG	U-238	-5.37E-02	(2.07E-02)	U4	PCI/SA	R	1.67E-01	5.93E-01		100%	
Calc	SR	FILTER	H7D1R1AG	U-234	-4.47E-02	(2.03E-02)	U4	PCI/SA	R	1.64E-01	6.31E-01		93%	

Oh 7/10/06

() - (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:51
RADCALC v4.8.18
STL Richland

Batch Nbr: 6167150

Alpha Spec, Uiso by ALP , Results

7/8/2006 9:58:23 AM

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Calc	SR	FILTER	**H7D1R1AG**	U-235	**-1.79E-02**	**(1.27E-02)**	**U4**	PCI/SA	R	1.04E-01	5.10E-01		93%	
Calc	SR	FILTER	**H7D1R1AG**	U-238	**-3.57E-02**	**(1.81E-02)**	**U4**	PCI/SA	R	1.47E-01	5.96E-01		93%	
Calc	SR	FILTER	**H7D1X1AG**	U-234	**-2.49E-02**	**(1.45E-02)**	**U4**	PCI/SA	R	1.18E-01	5.18E-01		108%	
Calc	SR	FILTER	**H7D1X1AG**	U-235	**8.73E-02**	**(1.05E-01)**	**U4**	PCI/SA	R	9.67E-02	4.75E-01		108%	
Calc	SR	FILTER	**H7D1X1AG**	U-238	**0.00E+00**	**(1.27E-01)**	**U4**	PCI/SA	R		2.82E-01		108%	
Calc	SR	FILTER	**H7JMD1AA**	U-234	**-3.49E-03**	**(1.58E-03)**	**U4**	PCI/SA	R	1.28E-02	4.92E-02	**B**	105%	
Calc	SR	FILTER	**H7JMD1AA**	U-235	**0.00E+00**	**(1.07E-02)**	**U4**	PCI/SA	R		2.36E-02	**B**	105%	
Calc	SR	FILTER	**H7JMD1AA**	U-238	**8.71E-03**	**(8.74E-03)**	**U4**	PCI/SA	R		2.36E-02	**B**	105%	
Calc	SR	FILTER	**H7JMD1AC**	U-234	**1.05E+00**	**(1.20E-01)**		PCI/SA	R	1.05E-02	4.03E-02	**S**	93%	108%
Calc	SR	FILTER	**H7JMD1AC**	U-235	**4.28E-02**	**(1.78E-02)**		PCI/SA	R		1.93E-02	**S**	93%	97%
Calc	SR	FILTER	**H7JMD1AC**	U-238	**1.12E+00**	**(1.25E-01)**		PCI/SA	R		1.93E-02	**S**	93%	110%

() - (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: 6167150

Alpha Spec, Uiso by ALP , Calculated Results

7/8/2006 9:58:23 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	**H7D0Q1AG**	**PCI/SA**		05/31/06 10:30	07/07/06 17:47			1	1.00 SA	
536403,P-0653					,J6F140275-1 v4.8.18		FILTER					UITC15757 Alq		0.062474 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	07/07/06 16:07	U-232	737	3	ALP10	ED	Y	N	3.6914E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200	1000.3166			Y		(1.107E-02)						(0.000E+00)	16.006616		
1	07/07/06 16:07	U-234	2	1	ALP10	ED	N	N	3.6914E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200	1000.3166			Y		(1.107E-02)			5%			(0.000E+00)	16.006616		
2	07/07/06 16:07	U-235	0	0	ALP10	ED	N	N	3.6914E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200	1000.3166			Y		(1.107E-02)			5%			(0.000E+00)	16.006616		
3	07/07/06 16:07	U-238	1	1	ALP10	ED	N	N	3.6914E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200	1000.3166			Y		(1.107E-02)			5%			(0.000E+00)	16.006616		

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
	07/08/06	U-232	R	**71.918234**		3.68200E+00	9.974541	9.974541	1.00 SA	99%				
				(5.362267)		(1.3575E-01)	(0.474109)	(0.474109)	(0.028284)					
	07/08/06	U-234	R	**0.177133**	**U4**	9.00032E-03	0.024567	0.024567	1.00 SA	99%		0.471276		
				(0.141267)		(7.1414E-03)	(0.019542)	(0.019542)	(0.028284)			0.102362		
	07/08/06	U-235	R	**0.00E00**	**U4**	0.00000E+00	0.00E00	0.00E00	1.00 SA	99%		0.266674		
				(0.120519)		(0.0000E+00)	(0.016715)	(0.016715)	(0.028284)					
	07/08/06	U-238	R	**0.078729**	**U4**	4.00032E-03	0.010919	0.010919	1.00 SA	99%		0.471276		
				(0.10055)		(5.0990E-03)	(0.013931)	(0.013931)	(0.028284)			0.102362		

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	**H7D0W1AG**	**PCI/SA**		05/31/06 11:00	07/07/06 17:47			1	1.00 SA	
536403,P-0654					,J6F140275-2 v4.8.18		FILTER					UITC15758 Alq		0.061605 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	07/07/06 16:07	U-232	743	10	ALP11	ED	Y	N	4.0933E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.2333333	1000.2833			Y		(1.228E-02)						(0.000E+00)	16.232372		
1	07/07/06 16:07	U-234	2	1	ALP11	ED	N	N	4.0933E-01		N	90%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.2333333	1000.2833			Y		(1.228E-02)			4%			(0.000E+00)	16.232372		
2	07/07/06 16:07	U-235	0	1	ALP11	ED	N	N	4.0933E-01		N	90%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.2333333	1000.2833			Y		(1.228E-02)			4%			(0.000E+00)	16.232372		
3	07/07/06 16:07	U-238	0	2	ALP11	ED	N	N	4.0933E-01		N	90%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.2333333	1000.2833			Y		(1.228E-02)			4%			(0.000E+00)	16.232372		

() - (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: 6167150

Alpha Spec, UIso by ALP , Calculated Results

7/8/2006 9:58:24 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
	07/08/06	U-232	R	**66.104775**		3.70067E+00	9.040746	9.040746	1.00 SA	90%				
				(4.926428)		(1.3617E-01)	(0.429212)	(0.429212)	(0.028284)					
	07/08/06	U-234	R	**0.178179**	U4	8.98863E-03	0.024368	0.024368	1.00 SA	90%		0.474247		
				(0.142123)		(7.1332E-03)	(0.019387)	(0.019387)	(0.028284)			0.103042		
	07/08/06	U-235	R	**-0.019817**	U4	-9.99717E-04	-0.00271	-0.00271	1.00 SA	90%		0.474246		
				(0.019881)		(9.9972E-04)	(0.002715)	(0.002715)	(0.028284)			0.103042		
	07/08/06	U-238	R	**-0.039634**	U4	-1.99943E-03	-0.005421	-0.005421	1.00 SA	90%		0.559559		
				(0.028206)		(1.4138E-03)	(0.003845)	(0.003845)	(0.028284)			0.145723		

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	**H7D001AG**	**PCI/SA**		05/31/06 11:20	07/07/06 17:48			1	1.00 SA	
536403,P-0655					,J6F140275-3 v4.8.18		FILTER					UITC15759 Alq		0.06224 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	07/07/06 16:08	U-232	697	5	ALP12	ED	Y	N	3.6724E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.15	1000.2333			Y		(1.102E-02)						(0.000E+00)	16.066784		
1	07/07/06 16:08	U-234	0	0	ALP12	ED	N	N	3.6724E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.15	1000.2333			Y		(1.102E-02)			5%			(0.000E+00)	16.066784		
2	07/07/06 16:08	U-235	0	0	ALP12	ED	N	N	3.6724E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.15	1000.2333			Y		(1.102E-02)			5%			(0.000E+00)	16.066784		
3	07/07/06 16:08	U-238	1	1	ALP12	ED	N	N	3.6724E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.15	1000.2333			Y		(1.102E-02)			5%			(0.000E+00)	16.066784		

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
	07/08/06	U-232	R	**68.529334**		3.47739E+00	9.468931	9.468931	1.00 SA	94%				
				(5.146211)		(1.3192E-01)	(0.457973)	(0.457973)	(0.028284)					
	07/08/06	U-234	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	94%		0.282717		
				(0.12777)		(0.0000E+00)	(0.017654)	(0.017654)	(0.028284)					
	07/08/06	U-235	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	94%		0.282717		
				(0.12777)		(0.0000E+00)	(0.017654)	(0.017654)	(0.028284)					
	07/08/06	U-238	R	**0.083448**	U4	3.99649E-03	0.01153	0.01153	1.00 SA	94%		0.499718		
				(0.106605)		(5.0953E-03)	(0.014715)	(0.014715)	(0.028284)			0.108565		

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	**H7D021AG**	**PCI/SA**		05/31/06 11:45	07/07/06 17:48			1	1.00 SA	
536403,P-0656					,J6F140275-4 v4.8.18		FILTER					UITC15760 Alq		0.062502 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	07/07/06 16:08	U-232	730	25	ALP69	ED	Y	N	3.7411E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	2500.0166			Y		(1.122E-02)						(0.000E+00)	15.999487		

() - (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: 6167150

Alpha Spec, UIso by ALP , Calculated Results

7/8/2006 9:58:24 AM

1	07/07/06 16:08	U-234	0	4	ALP69	ED	N	N	3.7411E-01	N	97%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.1166666	2500.0166			Y		(1.122E-02)		5%		(0.000E+00)	15.999487	
2	07/07/06 16:08	U-235	0	3	ALP69	ED	N	N	3.7411E-01	N	97%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.1166666	2500.0166			Y		(1.122E-02)		5%		(0.000E+00)	15.999487	
3	07/07/06 16:08	U-238	0	7	ALP69	ED	N	N	3.7411E-01	N	97%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.1166666	2500.0166			Y		(1.122E-02)		5%		(0.000E+00)	15.999487	

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
	07/08/06	U-232	R	**70.080797**		3.63787E+00	9.724032	9.724032	1.00 SA	97%				
				(5.233917)		(1.3503E-01)	(0.464083)	(0.464083)	(0.028284)					
	07/08/06	U-234	R	**-0.031913**	**U4**	-1.59999E-03	-0.004428	-0.004428	1.00 SA	97%		0.532354		
				(0.016162)		(7.9999E-04)	(0.002228)	(0.002228)	(0.028284)			0.131203		
	07/08/06	U-235	R	**-0.023934**	**U4**	-1.19999E-03	-0.003321	-0.003321	1.00 SA	97%		0.497219		
				(0.013952)		(6.9282E-04)	(0.001927)	(0.001927)	(0.028284)			0.113625		
	07/08/06	U-238	R	**-0.055847**	**U4**	-2.79998E-03	-0.007749	-0.007749	1.00 SA	97%		0.617028		
				(0.021581)		(1.0583E-03)	(0.002961)	(0.002961)	(0.028284)			0.173565		

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	**H7D031AG**	**PCI/SA**		05/31/06 12:10	07/07/06 17:48			1	1.00 SA	
536403,P-0657					,J6F140275-5 v4.8.18		FILTER					UITC15761 Alq		0.062771 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	07/07/06 16:08	U-232	664	20	ALP83	ED	Y	N	3.4771E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	2500.0333			Y		(1.043E-02)						(0.000E+00)	15.931041		
1	07/07/06 16:08	U-234	1	5	ALP83	ED	N	N	3.4771E-01		N	95%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	2500.0333			Y		(1.043E-02)			5%			(0.000E+00)	15.931041		
2	07/07/06 16:08	U-235	0	2	ALP83	ED	N	N	3.4771E-01		N	95%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	2500.0333			Y		(1.043E-02)			5%			(0.000E+00)	15.931041		
3	07/07/06 16:08	U-238	1	4	ALP83	ED	N	N	3.4771E-01		N	95%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	2500.0333			Y		(1.043E-02)			5%			(0.000E+00)	15.931041		

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
	07/08/06	U-232	R	**68.34924**		3.31172E+00	9.524517	9.524517	1.00 SA	95%				
				(5.166407)		(1.2884E-01)	(0.467924)	(0.467924)	(0.028284)					
	07/08/06	U-234	R	**0.065503**	**U4**	2.99961E-03	0.009128	0.009128	1.00 SA	95%		0.616965		
				(0.111039)		(5.0790E-03)	(0.015464)	(0.015464)	(0.028284)			0.160642		
	07/08/06	U-235	R	**-0.01747**	**U4**	-7.99989E-04	-0.002434	-0.002434	1.00 SA	95%		0.498948		
				(0.012434)		(5.6568E-04)	(0.001727)	(0.001727)	(0.028284)			0.101599		
	07/08/06	U-238	R	**0.074238**	**U4**	3.39960E-03	0.010345	0.010345	1.00 SA	95%		0.583066		
				(0.110731)		(5.0632E-03)	(0.015419)	(0.015419)	(0.028284)			0.143683		

() - (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: 6167150 — Alpha Spec, Uiso by ALP , Calculated Results — 7/8/2006 9:58:24 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	**H7D051AG**	**PCI/SA**		05/31/06 12:20	07/07/06 17:49			1	1.00 SA	
536403,P-0658					,J6F140275-6 v4.8.18		FILTER					UITC15762 Alq		0.062808 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	07/07/06 16:09	U-232	693	14	ALP84	ED	Y	N	3.4843E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	2500.15			Y		(1.045E-02)						(0.000E+00)	15.921539		
1	07/07/06 16:09	U-234	0	2	ALP84	ED	N	N	3.4843E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	2500.15			Y		(1.045E-02)			5%			(0.000E+00)	15.921539		
2	07/07/06 16:09	U-235	0	2	ALP84	ED	N	N	3.4843E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	2500.15			Y		(1.045E-02)			5%			(0.000E+00)	15.921539		
3	07/07/06 16:09	U-238	0	0	ALP84	ED	N	N	3.4843E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	2500.15			Y		(1.045E-02)			5%			(0.000E+00)	15.921539		

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
	07/08/06	U-232	R	**71.169993**		3.45767E+00	9.923509	9.923509	1.00 SA	99%				
				(5.348588)		(1.3157E-01)	(0.480842)	(0.480842)	(0.028284)					
	07/08/06	U-234	R	**-0.016643**	**U4**	-7.99952E-04	-0.002321	-0.002321	1.00 SA	99%		0.475211		
				(0.011845)		(5.6565E-04)	(0.001646)	(0.001646)	(0.028284)			0.096776		
	07/08/06	U-235	R	**-0.016643**	**U4**	-7.99952E-04	-0.002321	-0.002321	1.00 SA	99%		0.475211		
				(0.011845)		(5.6565E-04)	(0.001646)	(0.001646)	(0.028284)			0.096776		
	07/08/06	U-238	R	**0.00E00**	**U4**	0.00000E+00	0.00E00	0.00E00	1.00 SA	99%		0.281774		
				(0.127344)		(0.0000E+00)	(0.017756)	(0.017756)	(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
7	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H7D081AG**	**PCI/SA**		05/31/06 10:35	07/07/06 17:49			1	1.00 SA	
536403,P-0659					,J6F140275-7 v4.8.18		FILTER					UITC15763 Alq		0.062448 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	07/07/06 16:09	U-232	489	38	ALP85	ED	Y	N	2.5840E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	2500.1166			Y		(7.752E-03)						(0.000E+00)	16.013228		
1	07/07/06 16:09	U-234	0	5	ALP85	ED	N	N	2.5840E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	2500.1166			Y		(7.752E-03)			5%			(0.000E+00)	16.013228		
2	07/07/06 16:09	U-235	1	0	ALP85	ED	N	N	2.5840E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	2500.1166			Y		(7.752E-03)			5%			(0.000E+00)	16.013228		
3	07/07/06 16:09	U-238	0	0	ALP85	ED	N	N	2.5840E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	2500.1166			Y		(7.752E-03)			5%			(0.000E+00)	16.013228		

() - (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: 6167150 — Alpha Spec, UIso by ALP , Calculated Results — 7/8/2006 9:58:24 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
	07/08/06	U-232	R	**67.816329**		2.42939E+00	9.401752	9.401752	1.00 SA	93%				
				(5.370646)		(1.1058E-01)	(0.51252)	(0.51252)	(0.028284)					
	07/08/06	U-234	R	**-0.059713**	U4	-1.99991E-03	-0.008278	-0.008278	1.00 SA	93%		0.84351		
				(0.027179)		(8.9439E-04)	(0.003738)	(0.003738)	(0.028284)			0.219632		
	07/08/06	U-235	R	**0.149265**	U4	4.99917E-03	0.020693	0.020693	1.00 SA	93%		0.404508		
				(0.149799)		(4.9992E-03)	(0.020733)	(0.020733)	(0.028284)					
	07/08/06	U-238	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	93%		0.404508		
				(0.182811)		(0.0000E+00)	(0.025344)	(0.025344)	(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	**H7D1A1AG**	**PCI/SA**		05/31/06 10:40	07/07/06 17:49			1	1.00 SA	
536403,000480					,J6F140275-8 v4.8.18		FILTER					UITC15764 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	07/07/06 16:09	U-232	643	8	ALP87	ED	Y	N	3.4106E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1833333	1000.0166			Y		(1.023E-02)						(0.000E+00)	16.017134		
1	07/07/06 16:09	U-234	0	2	ALP87	ED	N	N	3.4106E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1833333	1000.0166			Y		(1.023E-02)			5%			(0.000E+00)	16.017134		
2	07/07/06 16:09	U-235	0	0	ALP87	ED	N	N	3.4106E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1833333	1000.0166			Y		(1.023E-02)			5%			(0.000E+00)	16.017134		
3	07/07/06 16:09	U-238	0	0	ALP87	ED	N	N	3.4106E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1833333	1000.0166			Y		(1.023E-02)			5%			(0.000E+00)	16.017134		

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
	07/08/06	U-232	R	**67.779044**		3.20406E+00	9.394291	9.394291	1.00 SA	94%				
				(5.145749)		(1.2670E-01)	(0.466298)	(0.466298)	(0.028284)					
	07/08/06	U-234	R	**-0.045209**	U4	-1.99997E-03	-0.006266	-0.006266	1.00 SA	94%		0.638255		
				(0.03218)		(1.4142E-03)	(0.004446)	(0.004446)	(0.028284)			0.166219		
	07/08/06	U-235	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	94%		0.306015		
				(0.138299)		(0.0000E+00)	(0.019168)	(0.019168)	(0.028284)					
	07/08/06	U-238	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	94%		0.306015		
				(0.138299)		(0.0000E+00)	(0.019168)	(0.019168)	(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	**H7D1E1AG**	**PCI/SA**		05/31/06 11:05	07/07/06 21:43			1	1.00 SA	
536403,000481					,J6F140275-9 v4.8.18		FILTER					UITC15765 Alq		0.062455 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	07/07/06 20:03	U-232	787	4	ALP10	ED	Y	N	3.6914E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1333333	1000.3166			Y		(1.107E-02)						(0.000E+00)	16.011516		

() - (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: 6167150 Alpha Spec, UIso by ALP , Calculated Results 7/8/2006 9:58:24 AM

1	07/07/06 20:03	U-234	0	1	ALP10	ED	N	N	3.6914E-01	N	106%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.1333333	1000.3166			Y		(1.107E-02)		5%		(0.000E+00)	16.011516	
2	07/07/06 20:03	U-235	0	0	ALP10	ED	N	N	3.6914E-01	N	106%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.1333333	1000.3166			Y		(1.107E-02)		5%		(0.000E+00)	16.011516	
3	07/07/06 20:03	U-238	0	2	ALP10	ED	N	N	3.6914E-01	N	106%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.1333333	1000.3166			Y		(1.107E-02)		5%		(0.000E+00)	16.011516	

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
	07/08/06	U-232	R	**76.754088**		3.92838E+00	10.641981	10.641981	1.00 SA	106%				
				(5.678503)		(1.4019E-01)	(0.496137)	(0.496137)	(0.028284)					
	07/08/06	U-234	R	**-0.019532**	U4	-9.99683E-04	-0.002708	-0.002708	1.00 SA	106%		0.467623		
				(0.019594)		(9.9968E-04)	(0.002712)	(0.002712)	(0.028284)			0.101588		
	07/08/06	U-235	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	106%		0.264568		
				(0.119568)		(0.0000E+00)	(0.016578)	(0.016578)	(0.028284)					
	07/08/06	U-238	R	**-0.039064**	U4	-1.99937E-03	-0.005416	-0.005416	1.00 SA	106%		0.551731		
				(0.027798)		(1.4138E-03)	(0.003842)	(0.003842)	(0.028284)			0.143666		

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	**H7D1J1AG**	**PCI/SA**		05/31/06 11:25	07/07/06 21:44			1	1.00 SA	
536403,000482					,J6F140275-10 v4.8.18		FILTER					UITC15766 Alq		0.062642 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	07/07/06 20:04	U-232	828	9	ALP11	ED	Y	N	4.0933E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1666666	1000.2833			Y		(1.228E-02)						(0.000E+00)	15.963642		
1	07/07/06 20:04	U-234	3	0	ALP11	ED	N	N	4.0933E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1666666	1000.2833			Y		(1.228E-02)			5%			(0.000E+00)	15.963642		
2	07/07/06 20:04	U-235	0	1	ALP11	ED	N	N	4.0933E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1666666	1000.2833			Y		(1.228E-02)			5%			(0.000E+00)	15.963642		
3	07/07/06 20:04	U-238	0	2	ALP11	ED	N	N	4.0933E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1666666	1000.2833			Y		(1.228E-02)			5%			(0.000E+00)	15.963642		

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
	07/08/06	U-232	R	**72.509508**		4.12756E+00	10.083618	10.083618	1.00 SA	100%				
				(5.335009)		(1.4379E-01)	(0.463575)	(0.463575)	(0.028284)					
	07/08/06	U-234	R	**0.263288**		1.49875E-02	0.036614	0.036614	1.00 SA	100%		0.237837		
				(0.153442)		(8.6530E-03)	(0.021235)	(0.021235)	(0.028284)					
	07/08/06	U-235	R	**-0.017562**	U4	-9.99717E-04	-0.002442	-0.002442	1.00 SA	100%		0.420394		
				(0.017618)		(9.9972E-04)	(0.002446)	(0.002446)	(0.028284)			0.091333		
	07/08/06	U-238	R	**-0.035124**	U4	-1.99943E-03	-0.004885	-0.004885	1.00 SA	100%		0.496011		
				(0.024993)		(1.4138E-03)	(0.003464)	(0.003464)	(0.028284)			0.129164		

() - (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: 6167150

Alpha Spec, Uiso by ALP , Calculated Results

7/8/2006 9:58:24 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	**H7D1K1AG**	**PCI/SA**		05/31/06 11:50	07/07/06 21:44			1	1.00 SA	
536403,000483					,J6F140275-11 v4.8.18		FILTER					UITC15767 Alq		0.062209 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	07/07/06 20:04	U-232	714	5	ALP12	ED	Y	N	3.6724E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.2333			Y		(1.102E-02)						(0.000E+00)	16.074801		
1	07/07/06 20:04	U-234	5	0	ALP12	ED	N	N	3.6724E-01		N	96%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.2333			Y		(1.102E-02)			5%			(0.000E+00)	16.074801		
2	07/07/06 20:04	U-235	1	0	ALP12	ED	N	N	3.6724E-01		N	96%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.2333			Y		(1.102E-02)			5%			(0.000E+00)	16.074801		
3	07/07/06 20:04	U-238	1	1	ALP12	ED	N	N	3.6724E-01		N	96%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.2333			Y		(1.102E-02)			5%			(0.000E+00)	16.074801		

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
	07/08/06	U-232	R	**70.285099**		3.56470E+00	9.706688	9.706688	1.00 SA	96%				
				(5.261948)		(1.3361E-01)	(0.46601)	(0.46601)	(0.028284)					
	07/08/06	U-234	R	**0.511224**		2.49979E-02	0.070602	0.070602	1.00 SA	96%		0.277083		
				(0.232314)		(1.1179E-02)	(0.031826)	(0.031826)	(0.028284)					
	07/08/06	U-235	R	**0.102245**	**U4**	4.99958E-03	0.01412	0.01412	1.00 SA	96%		0.277083		
				(0.102577)		(4.9996E-03)	(0.014143)	(0.014143)	(0.028284)					
	07/08/06	U-238	R	**0.081799**	**U4**	3.99982E-03	0.011297	0.011297	1.00 SA	96%		0.489689		
				(0.104477)		(5.0986E-03)	(0.014414)	(0.014414)	(0.028284)			0.106366		

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	**H7D1N1AG**	**PCI/SA**		05/31/06 12:15	07/07/06 21:44			1	1.00 SA	
536403,000484					,J6F140275-12 v4.8.18		FILTER					UITC15768 Alq		0.062787 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	07/07/06 20:04	U-232	755	25	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)	15.926795		
1	07/07/06 20:04	U-234	1	4	ALP69	ED	N	N	3.7411E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	2500.0166			Y		(1.122E-02)			5%			(0.000E+00)	15.926795		
2	07/07/06 20:04	U-235	0	3	ALP69	ED	N	N	3.7411E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	2500.0166			Y		(1.122E-02)			5%			(0.000E+00)	15.926795		
3	07/07/06 20:04	U-238	0	7	ALP69	ED	N	N	3.7411E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	2500.0166			Y		(1.122E-02)			5%			(0.000E+00)	15.926795		

() - (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: 6167150

Alpha Spec, UIso by ALP , Calculated Results

7/8/2006 9:58:24 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
	07/08/06	U-232	R	**72.188222**		3.76437E+00	10.062164	10.062164	1.00 SA	100%				
				(5.369092)		(1.3738E-01)	(0.475359)	(0.475359)	(0.028284)					
	07/08/06	U-234	R	**0.065185**	U4	3.39918E-03	0.009086	0.009086	1.00 SA	100%		0.511995		
				(0.097228)		(5.0628E-03)	(0.013542)	(0.013542)	(0.028284)			0.126172		
	07/08/06	U-235	R	**-0.023012**	U4	-1.19999E-03	-0.003208	-0.003208	1.00 SA	100%		0.478207		
				(0.013413)		(6.9282E-04)	(0.001861)	(0.001861)	(0.028284)			0.109268		
	07/08/06	U-238	R	**-0.053694**	U4	-2.79998E-03	-0.007484	-0.007484	1.00 SA	100%		0.593422		
				(0.020746)		(1.0583E-03)	(0.00286)	(0.00286)	(0.028284)			0.16691		

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	**H7D1R1AG**	**PCI/SA**		05/31/06 12:25	07/07/06 21:44			1	1.00 SA	
536403,000485					,J6F140275-13 v4.8.18		FILTER					UITC15769 Alq		0.062475 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	07/07/06 20:04	U-232	650	20	ALP83	ED	Y	N	3.4771E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	2500.0333			Y		(1.043E-02)						(0.000E+00)	16.006509		
1	07/07/06 20:04	U-234	0	5	ALP83	ED	N	N	3.4771E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	2500.0333			Y		(1.043E-02)			5%			(0.000E+00)	16.006509		
2	07/07/06 20:04	U-235	0	2	ALP83	ED	N	N	3.4771E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	2500.0333			Y		(1.043E-02)			5%			(0.000E+00)	16.006509		
3	07/07/06 20:04	U-238	0	4	ALP83	ED	N	N	3.4771E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	2500.0333			Y		(1.043E-02)			5%			(0.000E+00)	16.006509		

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
	07/08/06	U-232	R	**67.210372**		3.24119E+00	9.321656	9.321656	1.00 SA	93%				
				(5.09487)		(1.2746E-01)	(0.461056)	(0.461056)	(0.028284)					
	07/08/06	U-234	R	**-0.04467**	U4	-1.99997E-03	-0.006195	-0.006195	1.00 SA	93%		0.630956		
				(0.020306)		(8.9442E-04)	(0.002794)	(0.002794)	(0.028284)			0.164292		
	07/08/06	U-235	R	**-0.017868**	U4	-7.99989E-04	-0.002478	-0.002478	1.00 SA	93%		0.510259		
				(0.012718)		(5.6568E-04)	(0.001758)	(0.001758)	(0.028284)			0.103907		
	07/08/06	U-238	R	**-0.035736**	U4	-1.59998E-03	-0.004956	-0.004956	1.00 SA	93%		0.596287		
				(0.018104)		(7.9999E-04)	(0.002495)	(0.002495)	(0.028284)			0.146947		

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	**H7D1X1AG**	**PCI/SA**		05/31/06 11:10	07/07/06 21:45			1	1.00 SA	
536403,000486					,J6F140275-14 v4.8.18		FILTER					UITC15770 Alq		0.062176 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	07/07/06 20:05	U-232	753	17	ALP84	ED	Y	N	3.4843E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	2500.15			Y		(1.045E-02)						(0.000E+00)	16.08343		

() - (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: 6167150 Alpha Spec, UIso by ALP , Calculated Results 7/8/2006 9:58:25 AM

1	07/07/06 20:05	U-234	0	3	ALP84	ED	N	N	3.4843E-01	N	108%	N		1.0000E+00	4.5045E-01	1.0000E+00
			200.05	2500.15			Y		(1.045E-02)		5%			(0.000E+00)	16.08343	
2	07/07/06 20:05	U-235	1	2	ALP84	ED	N	N	3.4843E-01	N	108%	N		1.0000E+00	4.5045E-01	1.0000E+00
			200.05	2500.15			Y		(1.045E-02)		5%			(0.000E+00)	16.08343	
3	07/07/06 20:05	U-238	0	0	ALP84	ED	N	N	3.4843E-01	N	108%	N		1.0000E+00	4.5045E-01	1.0000E+00
			200.05	2500.15			Y		(1.045E-02)		5%			(0.000E+00)	16.08343	

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
	07/08/06	U-232	R	**78.122898**		3.75726E+00	10.783334	10.783334	1.00 SA	108%				
				(5.811118)		(1.3718E-01)	(0.509565)	(0.509565)	(0.028284)					
	07/08/06	U-234	R	**-0.02495**	U4	-1.19993E-03	-0.003444	-0.003444	1.00 SA	108%		0.518461		
				(0.014543)		(6.9278E-04)	(0.001998)	(0.001998)	(0.028284)			0.118467		
	07/08/06	U-235	R	**0.087304**	U4	4.19880E-03	0.012051	0.012051	1.00 SA	108%		0.475009		
				(0.104834)		(5.0307E-03)	(0.014454)	(0.014454)	(0.028284)			0.096728		
	07/08/06	U-238	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	108%		0.281668		
				(0.127296)		(0.0000E+00)	(0.017571)	(0.017571)	(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	**H7JMD1AA**	**PCI/SA**	**B**	05/31/06 10:30	07/07/06 21:45			1	1.00 SA	
0,INTRA-LAB BLANK					,J6F160000-150		FILTER					UITC15771 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	07/07/06 20:05	U-232	548	37	ALP85	ED	Y	N	2.5840E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1833333	2500.1166			Y		(7.752E-03)						(0.000E+00)	1.00		
1	07/07/06 20:05	U-234	0	5	ALP85	ED	N	N	2.5840E-01		N	105%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1833333	2500.1166			Y		(7.752E-03)			5%			(0.000E+00)	1.00		
2	07/07/06 20:05	U-235	0	0	ALP85	ED	N	N	2.5840E-01		N	105%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1833333	2500.1166			Y		(7.752E-03)			5%			(0.000E+00)	1.00		
3	07/07/06 20:05	U-238	1	0	ALP85	ED	N	N	2.5840E-01		N	105%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1833333	2500.1166			Y		(7.752E-03)			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
	07/08/06	U-232	R	**4.746309**		2.72269E+00	10.536815	10.536815	1.00 SA	105%				
				(0.353449)		(1.1697E-01)	(0.552104)	(0.552104)	(0.017321)					
	07/08/06	U-234	R	**-0.003486**	U4	-1.99991E-03	-0.00774	-0.00774	1.00 SA	105%		0.049221		
				(0.001584)		(8.9439E-04)	(0.003493)	(0.003493)	(0.017321)			0.012818		
	07/08/06	U-235	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	105%		0.023599		
				(0.010665)		(0.0000E+00)	(0.023677)	(0.023677)	(0.017321)					
	07/08/06	U-238	R	**0.008708**	U4	4.99542E-03	0.019332	0.019332	1.00 SA	105%		0.023599		
				(0.008736)		(4.9954E-03)	(0.019367)	(0.019367)	(0.017321)					

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

RecCnt:16 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: 6167150

Alpha Spec, UIso by ALP , Calculated Results

7/8/2006 9:58:25 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	H7JMD1AC	PCI/SA	S	05/31/06 10:30	07/07/06 21:46		UISF0458	1	1.00 SA	
0,INTRA-LAB CHECK					,J6F160000-150		FILTER					UISF0458 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	07/07/06 20:06	U-232	638	7	ALP87	ED	Y	N	3.4106E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1833333	1000.0166			Y		(1.023E-02)						(0.000E+00)	1.00		
1	07/07/06 20:06	U-234	148	2	ALP87	ED	N	N	3.4106E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1833333	1000.0166			Y		(1.023E-02)			5%			(0.000E+00)	1.00		
2	07/07/06 20:06	U-235	6	0	ALP87	ED	N	N	3.4106E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1833333	1000.0166			Y		(1.023E-02)			5%			(0.000E+00)	1.00		
3	07/07/06 20:06	U-238	157	0	ALP87	ED	N	N	3.4106E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1833333	1000.0166			Y		(1.023E-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
	07/08/06	U-232	R	**4.199992**		3.18008E+00	9.323991	9.323991	1.00 SA	93%				
				(0.305042)		(1.2621E-01)	(0.463862)	(0.463862)	(0.017321)					
	07/08/06	U-234	R	**1.052307**		7.37322E-01	2.336123	2.336123	1.00 SA	93%	108%	0.040297		
				(0.119853)		(6.0788E-02)	(0.235615)	(0.235615)	(0.017321)			0.010495		
	07/08/06	U-235	R	**0.042777**		2.99725E-02	0.094965	0.094965	1.00 SA	93%	97%	0.019321		
				(0.017784)		(1.2236E-02)	(0.03916)	(0.03916)	(0.017321)					
	07/08/06	U-238	R	**1.119326**		7.84281E-01	2.484907	2.484907	1.00 SA	93%	110%	0.019321		
				(0.125367)		(6.2592E-02)	(0.245296)	(0.245296)	(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

STL RICHLAND

SEVERN TRENT **STL**

URANIUM ISOTOPIC COUNTING REQUEST

1929

C.R. Technician OD

Date Counted 7/7/06

Counting Time
Sample _____ Minutes
Background See Alpha Regions Report
BRC 5/31/06 6167150

SOP's
Operating: RICHRD008
Review: RICHRD0016

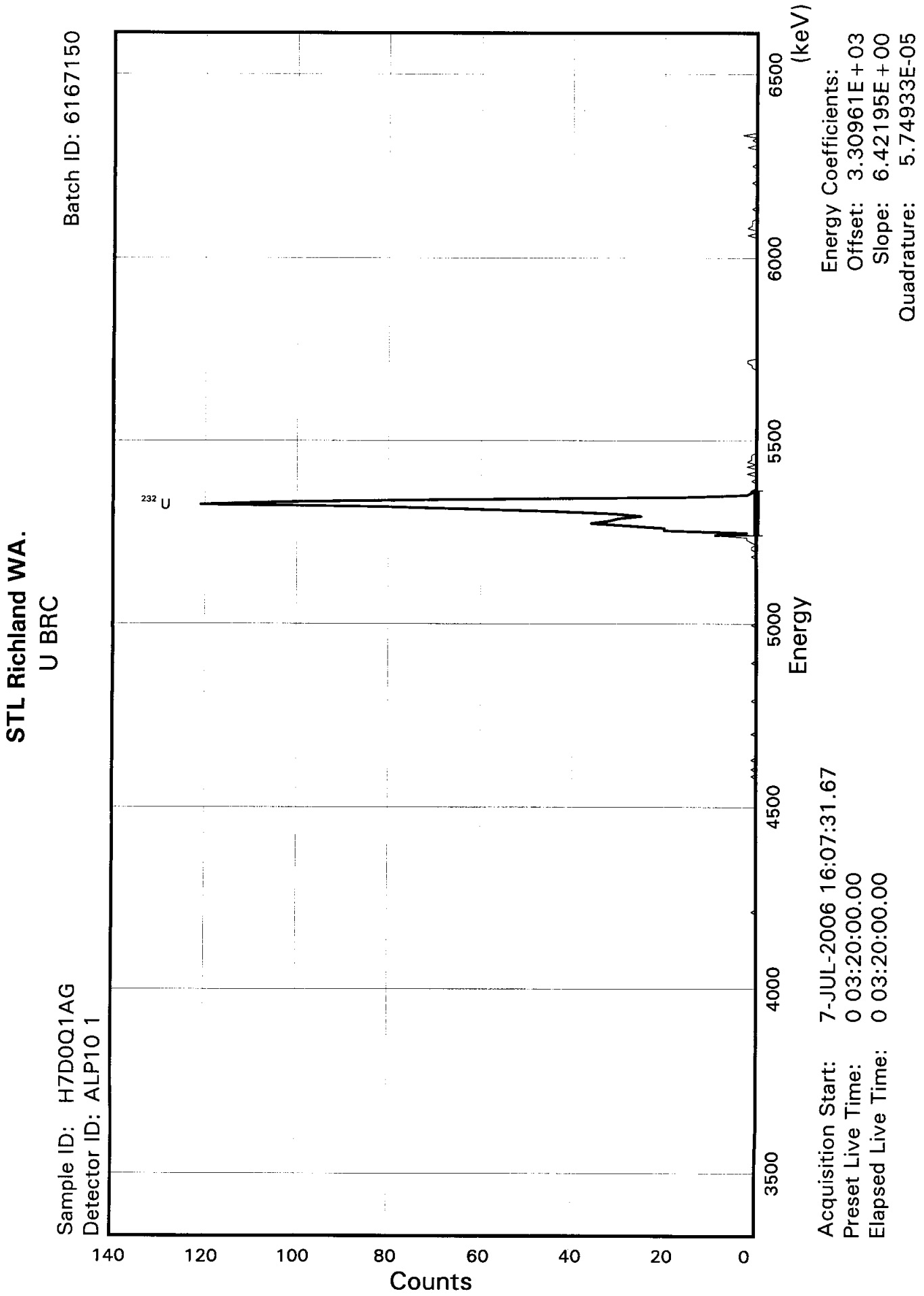
WorkOrder #	U-232 (5320 KeV) Tracer	TOTAL COUNTS U-238 (4196 KeV)	U-235 (4396 KeV)	U-234 (4776 KeV)	Det #	Comments/Edits
H7D001AG	See Counting Room Printout for ROI information				10	
H7D0W1AG	See Counting Room Printout for ROI information				11	
H7D001AG	See Counting Room Printout for ROI information				12	
H7D021AG	See Counting Room Printout for ROI information				69	
H7D031AG	See Counting Room Printout for ROI information				83	
H7D051AG	See Counting Room Printout for ROI information				84	
H7D081AG	See Counting Room Printout for ROI information				85	
H7D1A1AG	See Counting Room Printout for ROI information				87	
	See Counting Room Printout for ROI information					

Comments:

Form No: RC-011, 7/02, Rev 8

Approved by: OD

Date: 7/7/06


STL Richland WA.
U BRC
Batch ID: 6167150
Sample ID: H7D0Q1AG
Detector ID: ALP10 1
232 U
Counts
140
120
100
80
60
40
20
0
3500
4000
4500
5000
5500
6000
6500
Energy
(keV)
Acquisition Start: 7-JUL-2006 16:07:31.67
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:00.00
Energy Coefficients:
Offset: 3.30961E+03
Slope: 6.42195E+00
Quadrature: 5.74933E-05

SAMPLE IDENTIITY: H7D0Q1AG

TITLE : U BRC

DETECTOR : ALP10 1
CONFIGURATION NAME : $DISK1:[ALP10.SAMPLE]H7D0Q1AG_070761607.CNF;
1
ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:25

REPORT DATE : 07-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 07-JUL-2006 16:07:31 CALIB DATE : 06-JUL-2006 01:19:51

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

OFFSET : 3309.61 keV CONSTANT FWHM : 7.00000 Channels
SLOPE : 6.42195 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : 5.749330E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H7D0Q1AG

Detector: ALP10 1
Report Date: 07-Jul-06 07:27 PM
Acquire Date: 7-JUL-2006 16:07:31.67
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	737	3	0	3.682	5325.4	122.7	300	319	0.00	0.00	P
U-234	2	1	0	0.009	4779.9	122.5	215	234	0.00	0.00	
U-235	0	0	0	0.000	4403.1	122.4	157	176	0.00	0.00	
U-238	1	1	0	0.004	4203.3	122.3	126	145	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H7D0Q1AG
Detector: ALP10 1
Report Date: 07-Jul-06 07:27 PM
Acquire Date: 7-JUL-2006 16:07:31.67

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	0		251	2	+	301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0		202	0		252	20	+	302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0		203	0		253	20	+	303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0		204	0		254	28	+	304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	1		205	0		255	36	+	305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0		206	0		256	32	+	306	0		356	0		406	1		456	0		506
0		7	0		57	0		107	0	+	157	0		207	0		257	30	+	307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0	+	158	0		208	0		258	25	+	308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	0	+	159	0		209	0		259	31	+	309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0	+	160	0		210	0		260	44	+	310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	0	+	161	0		211	0		261	62	+	311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0	+	162	0		212	1		262	81	+	312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0	+	163	0		213	0		263	121	+	313	0		363	0		413	0		463			
0		14	0		64	0		114	0	+	164	0		214	0		264	103	+	314	0		364	0		414	2		464			
0		15	0		65	0		115	0	+	165	0	+	215	0		265	70	+	315	0		365	0		415	0		465			
0		16	0		66	0		116	0	+	166	1	+	216	0		266	17	+	316	0		366	0		416	0		466			
0		17	0		67	0		117	0	+	167	0	+	217	0		267	2	+	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	1		319	0		369	0		419	3		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	1		371	0		421	0		471			
0		22	0		72	0		122	0	+	172	0	+	222	0		272	0		322	1		372	0		422	0		472			
0		23	0		73	0		123	0	+	173	0	+	223	0		273	1		323	2		373	0		423	0		473			
0		24	0		74	0		124	0	+	174	0	+	224	0		274	0		324	2		374	0		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	0		276	2		326	0		376	0		426	0		476			
0		27	0		77	0	+	127	0		177	0	+	227	0		277	0		327	0		377	2		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	0	+	229	0		279	2		329	0		379	0		429	0		479			
0		30	0		80	0	+	130	0		180	1	+	230	0		280	0		330	0		380	2		430	0		480			
0		31	0		81	0	+	131	0		181	0	+	231	0		281	2		331	0		381	1		431	0		481			
0		32	0		82	0	+	132	0		182	0	+	232	0		282	1		332	0		382	1		432	0		482			
0		33	0		83	0	+	133	0		183	0	+	233	0		283	1		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	0		337	0		387	0		437	0		487			
0		38	0		88	0	+	138	0		188	0		238	0		288	0		338	0		388	1		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	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	1		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	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	0		195	0		245	1		295	0		345	0		395	0		445	0		495			
0		46	0		96	0		146	0		196	1		246	0		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	1		198	0		248	2		298	0		348	0		398	0		448	0		498			
0		49	0		99	0		149	0		199	0		249	2		299	0		349	0		399	1		449	0		499			
0		50	0		100	0		150	0		200	0		250	9	+	300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 7-JUL-2006 19:27:48

Configuration : $DISK1:[ALP10.SAMPLE]H7D0Q1AG_070761607.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 31-MAY-2006 12:00:00 Acquisition date : 7-JUL-2006 16:07:31
Sample ID : H7D0Q1AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP10 Detector geometry:
Elapsed live time: 0 03:20:00.00 Elapsed real time: 0 03:20:00.00 0.0%
Start energy : 3328.88 keV End energy : 6612.72 keV
Sensitivity : 4.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5325.44	737	0	32.11	313.02	300	19	6.14E-02	3.7	

VMS Nuclide Identification Report V3.0 Generated 7-JUL-2006 19:27:50

```
Configuration     : $DISK1:[ALP10.SAMPLE]H7D0Q1AG_070761607.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : U BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 7-JUL-2006 16:07:31
Sample ID         : H7D0Q1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP10                Detector geometry:
Elapsed live time: 0 03:20:00.00         Elapsed real time: 0 03:20:00.00   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			

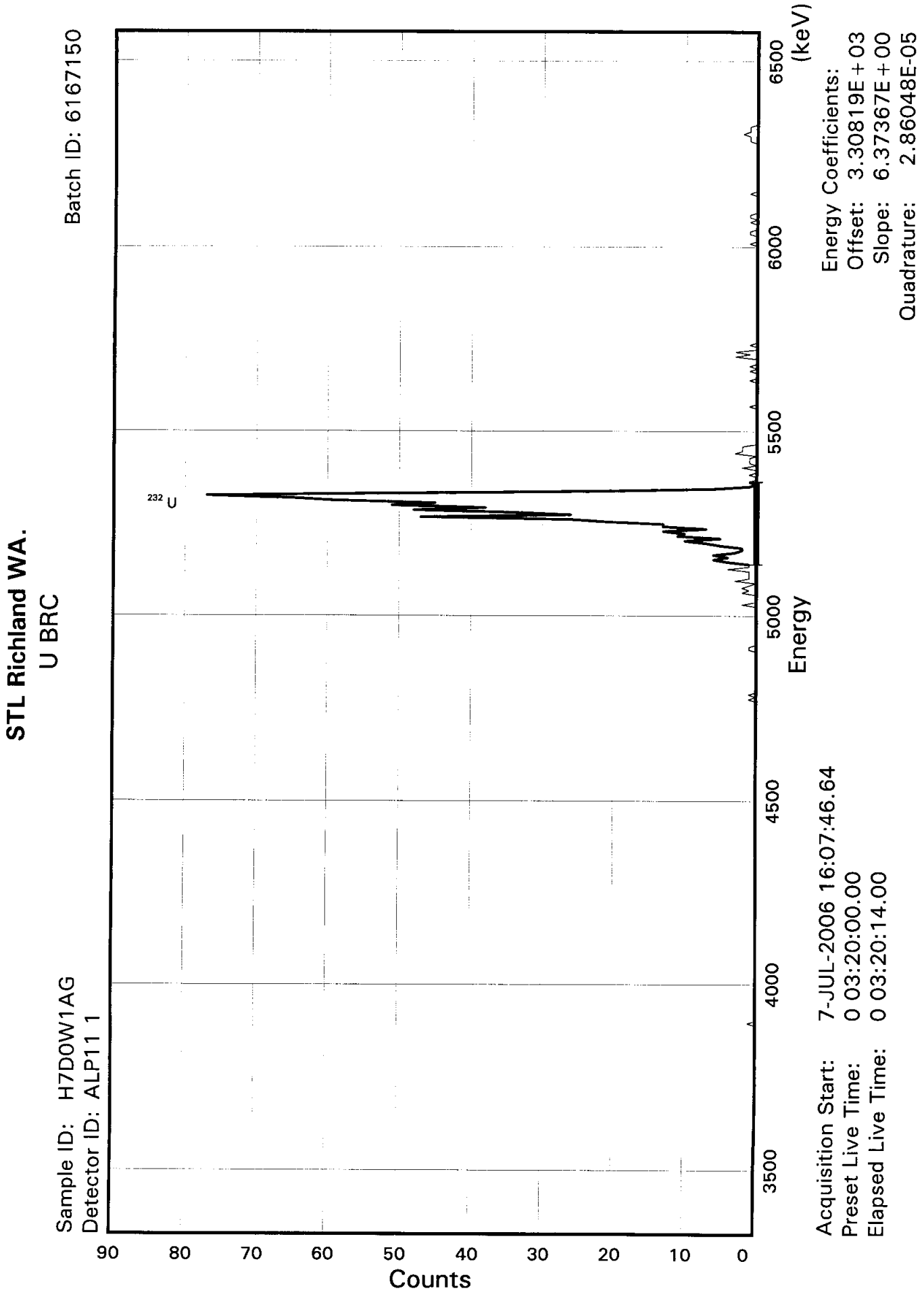
Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

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

Configuration: $DISK1:[ALP10.SAMPLE]H7D0Q1AG_070761607.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5325.43	300	319	737	735	0.07		

End of Report


STL Richland WA.
U BRC
Batch ID: 6167150
Sample ID: H7D0W1AG
Detector ID: ALP11 1
232 U
Counts
90
80
70
60
50
40
30
20
10
0
Energy
3500
4000
4500
5000
5500
6000
6500
(keV)
Acquisition Start: 7-JUL-2006 16:07:46.64
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:14.00
Energy Coefficients:
Offset: 3.30819E+03
Slope: 6.37367E+00
Quadrature: 2.86048E-05

SAMPLE IDENTIITY: H7D0W1AG

TITLE : U BRC

DETECTOR : ALP11 1
CONFIGURATION NAME : $DISK1:[ALP11.SAMPLE]H7D0W1AG_070761607.CNF;
1
ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:28

REPORT DATE : 07-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 07-JUL-2006 16:07:46 CALIB DATE : 06-JUL-2006 01:20:09

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:14

OFFSET : 3308.19 keV CONSTANT FWHM : 8.50000 Channels
SLOPE : 6.37367 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : 2.860480E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H7D0W1AG

Detector: ALP11 1
Report Date: 07-Jul-06 07:28 PM
Acquire Date: 7-JUL-2006 16:07:46.64
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	743	10	0	3.701	5303.2	223.7	287	322	0.00	0.00	P
U-234	2	1	0	0.009	4757.7	223.5	202	237	0.00	0.00	
U-235	0	1	0	-0.001	4380.9	223.4	143	178	0.00	0.00	S
U-238	0	2	0	-0.002	4181.1	223.3	111	146	0.00	0.00	S

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H7D0W1AG
Detector: ALPI1 1
Report Date: 07-Jul-06 07:28 PM
Acquire Date: 7-JUL-2006 16:07:46.64

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

VMS Peak Search Report V1.9 Generated 7-JUL-2006 19:28:15

Configuration	: $DISK1:[ALP11.SAMPLE]H7D0W1AG_070761607.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: U BRC		
Sample date	: 31-MAY-2006 12:00:00	Acquisition date	: 7-JUL-2006 16:07:46
Sample ID	: H7D0W1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP11	Detector geometry	:
Elapsed live time	: 0 03:20:14.00	Elapsed real time	: 0 03:20:14.00 0.0%
Start energy	: 3327.31 keV	End energy	: 6579.00 keV
Sensitivity	: 4.00	Sum Sensitivity	: 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5303.22	743	0	70.11	312.57	287	35	6.18E-02	3.7	

VMS Nuclide Identification Report V3.0 Generated 7-JUL-2006 19:28:17

Configuration	: $DISK1:[ALP11.SAMPLE]H7D0W1AG_070761607.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 31-MAY-2006 12:00:00	Acquisition date	: 7-JUL-2006 16:07:46
Sample ID	: H7D0W1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP11	Detector geometry	:
Elapsed live time	: 0 03:20:14.00	Elapsed real time	: 0 03:20:14.00 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]H7D0W1AG_070761607.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5303.22	287	322	743	740	0.11		

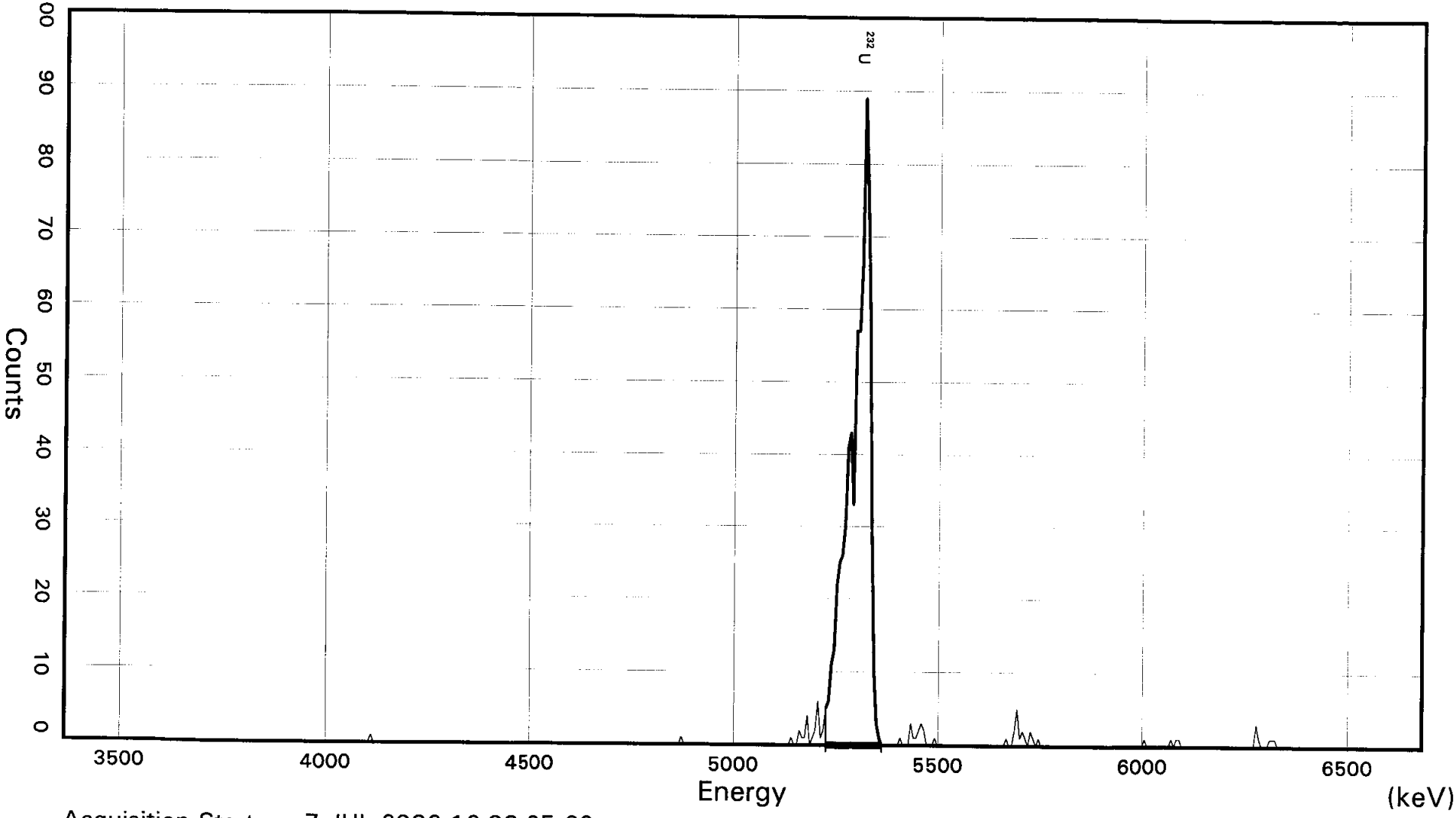
End of Report

STL Richland WA.

U BRC

Sample ID: H7D001AG
Detector ID: ALP12 1

Batch ID: 6167150



Acquisition Start: 7-JUL-2006 16:08:05.29
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:09.00

Energy Coefficients:
Offset: 3.34637E+03
Slope: 6.53599E+00
Quadrature: -4.70662E-05

SAMPLE IDENTIITY: H7D001AG

TITLE : U BRC

DETECTOR : ALP12 1
CONFIGURATION NAME : $DISK1:[ALP12.SAMPLE]H7D001AG_070761608.CNF;
1
ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:31

REPORT DATE : 07-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 07-JUL-2006 16:08:05 CALIB DATE : 06-JUL-2006 01:20:03

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:09

OFFSET : 3346.37 keV CONSTANT FWHM : 7.16667 Channels
SLOPE : 6.53599 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : -.470662E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H7D001AG

Detector: ALP12 1
Report Date: 07-Jul-06 07:28 PM
Acquire Date: 7-JUL-2006 16:08:05.29
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	697	5	0	3.477	5308.7	136.7	288	309	0.00	0.00	P
U-234	0	0	0	0.000	4763.1	136.8	204	225	0.00	0.00	
U-235	0	0	0	0.000	4386.3	136.9	146	167	0.00	0.00	
U-238	1	1	0	0.004	4186.5	137.0	116	137	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H7D001AG
Detector: ALP12 1
Report Date: 07-Jul-06 07:28 PM
Acquire Date: 7-JUL-2006 16:08:05.29

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	66	+	301	0		351	0		401	1		451	0		501
		2	0		52	0		102	0	+	152	0		202	0		252	89	+	302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0	+	153	0		203	0		253	76	+	303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0	+	154	0	+	204	0		254	57	+	304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0	+	155	0	+	205	0		255	28	+	305	0		355	0		405	1		455	0		505
0		6	0		56	0		106	0	+	156	0	+	206	0		256	10	+	306	1		356	0		406	1		456	0		506
0		7	0		57	0		107	0	+	157	0	+	207	0		257	3	+	307	0		357	0		407	1		457	0		507
0		8	0		58	0		108	0	+	158	0	+	208	0		258	1	+	308	0		358	1		408	0		458	0		508
0		9	0		59	0		109	0	+	159	0	+	209	0		259	0		309	2		359	0		409	0		459	0		509
0		10	0		60	0		110	0	+	160	0	+	210	0		260	0		310	5		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	2		362	0		412	0		462	0		512
0		13	0		63	0		113	0	+	163	0	+	213	0		263	0		313	1		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	2		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	1	+	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	1		368	1		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	3		320	0		370	1		420	0		470			
0		21	0		71	0	+	121	0		171	0	+	221	0		271	1		321	0		371	1		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	0		473			
0		24	0		74	0	+	124	0		174	0	+	224	0		274	3		324	0		374	0		424	0		474			
0		25	0		75	0	+	125	0		175	0	+	225	1		275	2		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	2		278	0		328	0		378	0		428	0		478			
0		29	0		79	0	+	129	0		179	0		229	1		279	1		329	0		379	0		429	0		479			
0		30	0		80	0	+	130	0		180	0		230	1		280	0		330	0		380	0		430	0		480			
0		31	0		81	0	+	131	0		181	0		231	4		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	1		234	2		284	0		334	0		384	0		434	0		484			
0		35	0		85	0	+	135	0		185	0		235	6		285	0		335	0		385	0		435	0		485			
0		36	0		86	0	+	136	0		186	0		236	1		286	0		336	0		386	0		436	0		486			
0		37	0		87	0	+	137	0		187	0		237	2		287	0		337	0		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	5	+	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	11	+	290	0		340	0		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	13	+	291	0		341	0		391	0		441	0		491			
0		42	0		92	0		142	0		192	0		242	22	+	292	0		342	0		392	0		442	0		492			
0		43	0		93	0		143	0		193	0		243	25	+	293	0		343	0		393	0		443	0		493			
0		44	0		94	0		144	0		194	0		244	26	+	294	0		344	0		394	0		444	0		494			
0		45	0		95	0		145	0		195	0		245	30	+	295	0		345	0		395	0		445	0		495			
0		46	0		96	0	+	146	0		196	0		246	41	+	296	0		346	0		396	0		446	0		496			
0		47	0		97	0	+	147	0		197	0		247	43	+	297	0		347	0		397	0		447	0		497			
0		48	0		98	0	+	148	0		198	0		248	33	+	298	0		348	0		398	0		448	0		498			
0		49	0		99	0	+	149	0		199	0		249	57	+	299	0		349	0		399	0		449	0		499			
0		50	0		100	0	+	150	0		200	0		250	57	+	300	0		350	0		400	3		450	0		500			

VMS Peak Search Report V1.9 Generated 7-JUL-2006 19:28:31

Configuration : $DISK1:[ALP12.SAMPLE]H7D001AG_070761608.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 31-MAY-2006 12:00:00 Acquisition date : 7-JUL-2006 16:08:05
Sample ID : H7D001AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP12 Detector geometry:
Elapsed live time: 0 03:20:09.00 Elapsed real time: 0 03:20:09.00 0.0%
Start energy : 3365.98 keV End energy : 6680.46 keV
Sensitivity : 4.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5308.70	697	0	52.29	300.89	288	21	5.80E-02	3.8	

VMS Nuclide Identification Report V3.0 Generated 7-JUL-2006 19:28:33

Configuration	: $DISK1:[ALP12.SAMPLE]H7D001AG_070761608.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 31-MAY-2006 12:00:00	Acquisition date	: 7-JUL-2006 16:08:05
Sample ID	: H7D001AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP12	Detector geometry	:
Elapsed live time	: 0 03:20:09.00	Elapsed real time	: 0 03:20:09.00 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			

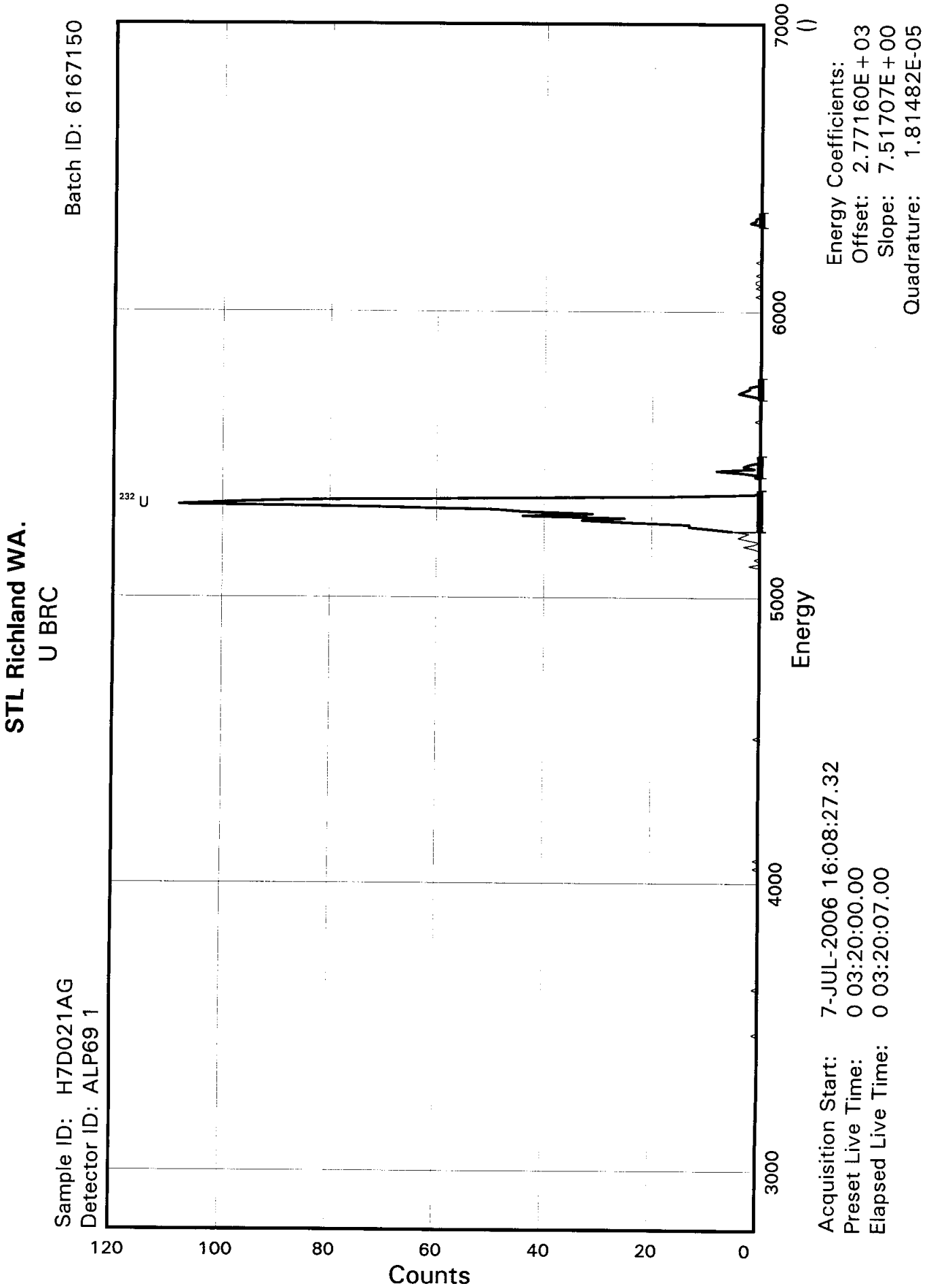
Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

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

Configuration: $DISK1:[ALP12.SAMPLE]H7D001AG_070761608.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5308.69	288	309	697	699	-0.08		

End of Report


STL Richland WA.
U BRC
Batch ID: 6167150
Sample ID: H7D021AG
Detector ID: ALP69 1
232 U
Counts
Energy
120
100
80
60
40
20
0
3000
4000
5000
6000
7000
()
Acquisition Start: 7-JUL-2006 16:08:27.32
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:07.00
Energy Coefficients:
Offset: 2.77160E+03
Slope: 7.51707E+00
Quadrature: 1.81482E-05

SAMPLE IDENTITY: H7D021AG

TITLE : U BRC

DETECTOR : ALP69 1
CONFIGURATION NAME : RDND06$DKA100:[ALP69.SAMPLE]H7D021AG_0707616
08.CNF;1
ACQUIRE DATE of BACKGROUND: 12-JUN-2006 08:12:59

REPORT DATE : 07-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 07-JUL-2006 16:08:27 CALIB DATE : 12-JUN-2006 06:25:06

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:07

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: H7D021AG

Detector: ALP69 1
Report Date: 07-Jul-06 07:28 PM
Acquire Date: 7-JUL-2006 16:08:27.32
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	730	25	0	3.638	5325.7	143.1	327	346	0.00	0.00	P
U-234	0	4	0	-0.002	4780.1	143.0	255	274	0.00	0.00	
U-235	0	3	0	-0.001	4403.3	143.0	204	223	0.00	0.00	
U-238	0	7	0	-0.003	4203.5	143.0	178	197	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H7D021AG
Detector: ALP69 1
Report Date: 07-Jul-06 07:28 PM
Acquire Date: 7-JUL-2006 16:08:27.32

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	1		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	3		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0	+	255	0		305	8		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	3		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0	+	208	0	+	258	0		308	2		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	2		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	1		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	0	+	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	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	0		469			
0		20	0		70	0		120	1		170	0	+	220	0	+	270	3		320	0		370	0		420	2		470			
0		21	0		71	0		121	0		171	0	+	221	0	+	271	1		321	0		371	0		421	1		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	2		323	0		373	0		423	0		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	0		276	2		326	0		376	0		426	0		476			
0		27	0		77	0		127	0		177	0		227	0		277	5	+	327	0		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	9	+	328	1		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	13	+	329	0		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	13	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	1		231	0		281	24	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	33	+	332	0		382	0		432	0		482			
0		33	0		83	0		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	44	+	334	0		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	31	+	335	0		385	0		435	0		485			
0		36	0		86	0		136	0	+	186	0		236	0		286	44	+	336	0		386	1		436	0		486			
0		37	0		87	0		137	0	+	187	0		237	0		287	49	+	337	0		387	0		437	0		487			
0		38	0		88	0		138	0	+	188	0		238	0		288	73	+	338	0		388	0		438	0		488			
0		39	0		89	0		139	0	+	189	0		239	0		289	108	+	339	0		389	0		439	0		489			
0		40	0		90	0		140	0	+	190	0		240	0		290	99	+	340	2		390	1		440	0		490			
0		41	0		91	0		141	0	+	191	0		241	0		291	87	+	341	4		391	0		441	0		491			
0		42	0		92	0		142	0	+	192	0		242	0		292	53	+	342	3		392	1		442	0		492			
0		43	1		93	0		143	0	+	193	0		243	0		293	17	+	343	2		393	1		443	0		493			
0		44	0		94	0		144	0	+	194	0		244	0		294	1	+	344	2		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	1		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 7-JUL-2006 19:28:49

Configuration : RDND06$DKA100:[ALP69.SAMPLE]H7D021AG_070761608.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 31-MAY-2006 12:00:00 Acquisition date : 7-JUL-2006 16:08:27
Sample ID : H7D021AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP69 Detector geometry:
Elapsed live time: 0 03:20:07.00 Elapsed real time: 0 03:20:07.00 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	5325.70	730	0	45.10	339.49	327	19	6.08E-02	3.7	
2	0	5443.86	18	0	37.59	355.19	352	10	1.50E-03	23.6	
3	0	5717.32	13	0	30.07	391.50	388	10	1.08E-03	27.7	
4	0	6312.40	4	0	30.07	470.50	468	7	3.33E-04	50.0	

VMS Nuclide Identification Report V3.1 Generated 7-JUL-2006 19:28:51

Configuration	: RDND06$DKA100:[ALP69.SAMPLE]H7D021AG_070761608.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.4		
Sample title	: U BRC		
Sample date	: 31-MAY-2006 12:00:00	Acquisition date	: 7-JUL-2006 16:08:27
Sample ID	: H7D021AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP69	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	: 60.00		

Summary of Nuclide Activity

Total number of lines in spectrum	4	
Number of unidentified lines	3	
Number of lines tentatively identified by NID	1	25.00%

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]H7D021AG_070761608.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5325.69	327	346	730	728	0.07		
5443.86	352	362	18	18	0.00		
5717.31	388	398	13	13	0.00		
6312.40	468	475	4	4	0.00		

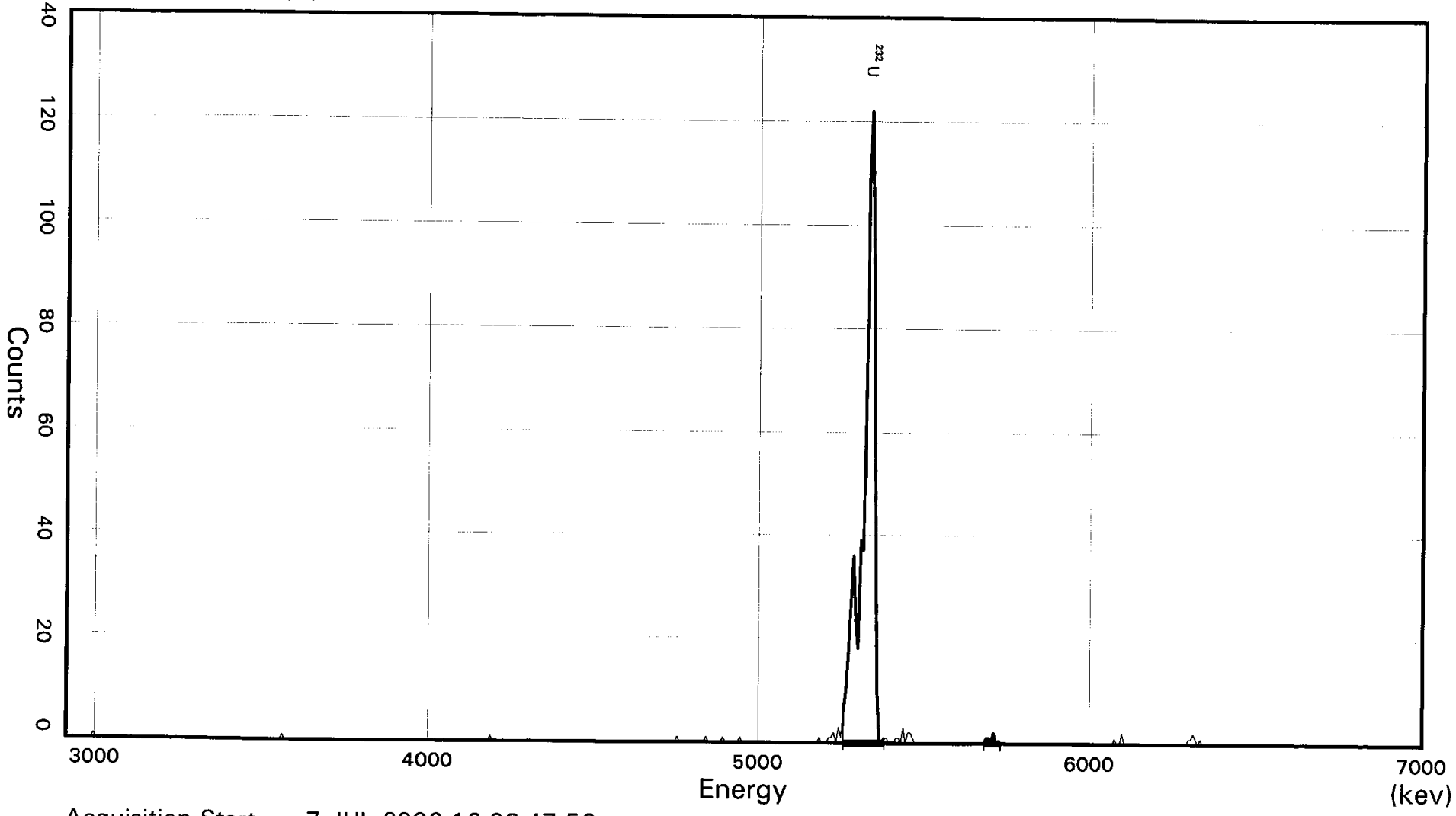
End of Report

STL Richland WA.

U BRC

Sample ID: H7D031AG
Detector ID: ALP83 1

Batch ID: 6167150



Acquisition Start: 7-JUL-2006 16:08:47.56
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:01.00

Energy Coefficients:
Offset: 2.89305E+03
Slope: 7.36477E+00
Quadrature: -2.22552E-04

SAMPLE IDENTIITY: H7D031AG

TITLE : U BRC

DETECTOR : ALP83 1
CONFIGURATION NAME : RDND06$DKA100:[ALP83.SAMPLE]H7D031AG_070761608.CNF;1
ACQUIRE DATE of BACKGROUND: 09-JUN-2006 06:58:07

REPORT DATE : 07-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 07-JUL-2006 16:08:47 CALIB DATE : 09-JUN-2006 06:21:49

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:01

OFFSET : 2893.05 keV CONSTANT FWHM : 9.00000 Channels
SLOPE : 7.36477 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.222552E-03 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H7D031AG

Detector: ALP83 1
Report Date: 07-Jul-06 07:28 PM
Acquire Date: 7-JUL-2006 16:08:47.56
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	664	20	0	3.312	5331.9	122.7	324	341	0.00	0.00	P
U-234	1	5	0	0.003	4786.3	123.3	249	266	0.00	0.00	
U-235	0	2	0	-0.001	4409.5	123.6	197	214	0.00	0.00	
U-238	1	4	0	0.003	4209.7	123.9	169	186	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H7D031AG
Detector: ALP83 1
Report Date: 07-Jul-06 07:28 PM
Acquire Date: 7-JUL-2006 16:08:47.56

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	2		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	1		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
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	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	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			
1		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	0		216	0	+	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	0		218	0		268	1		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	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	3		322	0		372	0		422	1		472			
0		23	0		73	0		123	0	+	173	0		223	0		273	1		323	0		373	0		423	0		473			
0		24	0		74	0		124	0	+	174	0		224	1		274	6	+	324	0		374	0		424	1		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	10	+	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	1	+	177	0		227	0		277	27	+	327	0		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	36	+	328	0		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	23	+	329	0		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	18	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	1		281	39	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	37	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	65	+	333	0		383	0		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	113	+	334	1		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	122	+	335	1		385	0		435	0		485			
0		36	0		86	0		136	0	+	186	0		236	0		286	90	+	336	0		386	0		436	0		486			
0		37	0		87	0		137	0		187	0		237	0		287	43	+	337	2		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	0		288	10	+	338	0		388	1		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	1		91	0		141	0		191	0		241	0		291	1		341	0		391	2		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	0		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	0		246	0		296	1		346	0		396	0		446	0		496			
0		47	0		97	0		147	0	+	197	0		247	0		297	1		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	3		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 7-JUL-2006 19:28:54

Configuration : RDND06$DKA100:[ALP83.SAMPLE]H7D031AG_070761608.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 31-MAY-2006 12:00:00 Acquisition date : 7-JUL-2006 16:08:47
Sample ID : H7D031AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP83 Detector geometry:
Elapsed live time: 0 03:20:01.00 Elapsed real time: 0 03:20:01.00 0.0%
Start energy : 2915.14 kev End energy : 6605.47 kev
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5331.87	664	0	44.19	334.53	324	17	5.53E-02	3.9	
2	0	5699.09	4	0	29.46	385.50	383	7	3.33E-04	50.0	

VMS Nuclide Identification Report V3.1 Generated 7-JUL-2006 19:28:55

Configuration : RDND06$DKA100:[ALP83.SAMPLE]H7D031AG_070761608.CNF;1
Analyses by : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title : U BRC
Sample date : 31-MAY-2006 12:00:00 Acquisition date : 7-JUL-2006 16:08:47
Sample ID : H7D031AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP83 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 : 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 : 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:[ALP83.SAMPLE]H7D031AG_070761608.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5331.86	324	341	664	657	0.27		
5699.09	383	390	4	4	0.00		

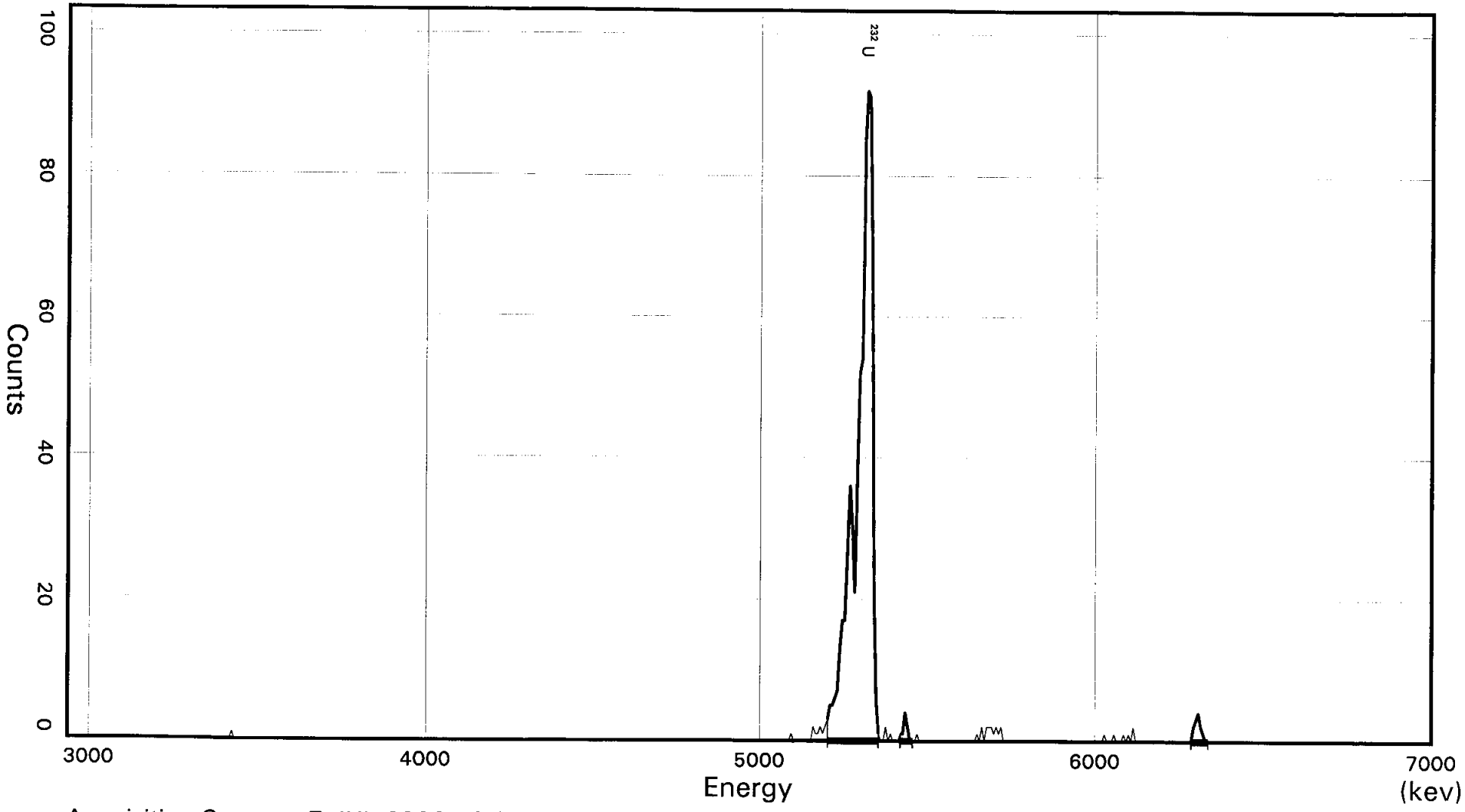
End of Report

STL Richland WA.

U BRC

Sample ID: H7D051AG
Detector ID: ALP84 1

Batch ID: 6167150



Acquisition Start: 7-JUL-2006 16:09:19.37
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:06.00

Energy Coefficients:
Offset: 2.91475E+03
Slope: 7.27474E+00
Quadrature: -1.17694E-04

SAMPLE IDENTITY: H7D051AG

TITLE : U BRC

DETECTOR : ALP84 1
CONFIGURATION NAME : RDND06$DKA100:[ALP84.SAMPLE]H7D051AG_0707616
09.CNF;1
ACQUIRE DATE of BACKGROUND: 09-JUN-2006 06:58:10

REPORT DATE : 07-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 07-JUL-2006 16:09:19 CALIB DATE : 09-JUN-2006 06:21:40

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:06

OFFSET : 2914.75 keV CONSTANT FWHM : 5.00000 Channels
SLOPE : 7.27474 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.117694E-03 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H7D051AG

Detector: ALP84 1
Report Date: 07-Jul-06 07:29 PM
Acquire Date: 7-JUL-2006 16:09:19.37
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	693	14	0	3.458	5314.8	151.2	316	337	0.00	0.00	P
U-234	0	2	0	-0.001	4769.2	151.5	240	261	0.00	0.00	
U-235	0	2	0	-0.001	4392.4	151.8	188	209	0.00	0.00	
U-238	0	0	0	0.000	4192.6	144.7	161	181	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H7D051AG
Detector: ALP84 1
Report Date: 07-Jul-06 07:29 PM
Acquire Date: 7-JUL-2006 16:09:19.37

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		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		1	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		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		0+	259		0	309		0	359		0	409		0	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		1	311		0	361		0	411		0	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		2	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		2	315		0	365		0	415		0	465			
	0	16		0	66		0	116		0+	166		0	216		0	266		3+	316		0	366		0	416		0	466			
	0	17		0	67		0	117		0+	167		0	217		0	267		5+	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		2	468			
	0	19		0	69		0	119		0+	169		0	219		0	269		6+	319		0	369		0	419		3	469			
	0	20		1	70		0	120		0+	170		0	220		0	270		7+	320		0	370		0	420		4	470			
	0	21		0	71		0	121		0+	171		0	221		0	271		13+	321		0	371		0	421		2	471			
	0	22		0	72		0	122		0+	172		0	222		0	272		17+	322		0	372		0	422		1	472			
	0	23		0	73		0	123		0+	173		0	223		0	273		17+	323		0	373		0	423		0	473			
	0	24		0	74		0	124		0+	174		0	224		0	274		27+	324		0	374		0	424		0	474			
	0	25		0	75		0	125		0+	175		0	225		0	275		36+	325		0	375		0	425		0	475			
	0	26		0	76		0	126		0+	176		0	226		0	276		30+	326		0	376		0	426		0	476			
	0	27		0	77		0	127		0+	177		0	227		0	277		21+	327		0	377		0	427		0	477			
	0	28		0	78		0	128		0+	178		0	228		0	278		38+	328		1	378		0	428		0	478			
	0	29		0	79		0	129		0+	179		0	229		0	279		52+	329		0	379		0	429		0	479			
	0	30		0	80		0	130		0+	180		0	230		0	280		54+	330		2	380		0	430		0	480			
	0	31		0	81		0	131		0+	181		0	231		0	281		85+	331		0	381		1	431		0	481			
	0	32		0	82		0	132		0	182		0	232		0	282		92+	332		2	382		0	432		0	482			
	0	33		0	83		0	133		0	183		0	233		0	283		91+	333		2	383		0	433		0	483			
	0	34		0	84		0	134		0	184		0	234		0	284		65+	334		2	384		0	434		0	484			
	0	35		0	85		0	135		0	185		0	235		0	285		22+	335		1	385		1	435		0	485			
	0	36		0	86		0	136		0	186		0	236		0	286		6+	336		2	386		0	436		0	486			
	0	37		0	87		0	137		0	187		0	237		0	287		1	337		1	387		0	437		0	487			
	0	38		0	88		0	138		0+	188		0	238		0	288		0	338		2	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			
	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		0	341		0	391		1	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		0	343		0	393		2	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		0+	246		0	296		1	346		0	396		0	446		0	496			
	0	47		0	97		0	147		0+	197		0+	247		0	297		1	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		2	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 7-JUL-2006 19:29:27

Configuration : RDND06$DKA100:[ALP84.SAMPLE]H7D051AG_070761609.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 31-MAY-2006 12:00:00 Acquisition date : 7-JUL-2006 16:09:19
Sample ID : H7D051AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP84 Detector geometry:
Elapsed live time: 0 03:20:06.00 Elapsed real time: 0 03:20:06.00 0.0%
Start energy : 2936.57 kev End energy : 6608.56 kev
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5314.77	693	0	43.65	331.69	316	21	5.77E-02	3.8	
2	0	5432.10	7	0	21.82	348.00	346	5	5.83E-04	37.8	
3	0	6304.29	11	0	29.10	469.50	467	7	9.16E-04	30.2	

VMS Nuclide Identification Report V3.1 Generated 7-JUL-2006 19:29:29

Configuration	: RDND06$DKA100:[ALP84.SAMPLE]H7D051AG_070761609.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.4		
Sample title	: U BRC		
Sample date	: 31-MAY-2006 12:00:00	Acquisition date	: 7-JUL-2006 16:09:19
Sample ID	: H7D051AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP84	Detector geometry	:
Elapsed live time	: 0 03:20:06.00	Elapsed real time	: 0 03:20:06.00 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	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:[ALP84.SAMPLE]H7D051AG_070761609.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5314.76	316	337	693	693	0.00		
5432.10	346	351	7	8	-0.38		
6304.29	467	474	11	12	-0.30		

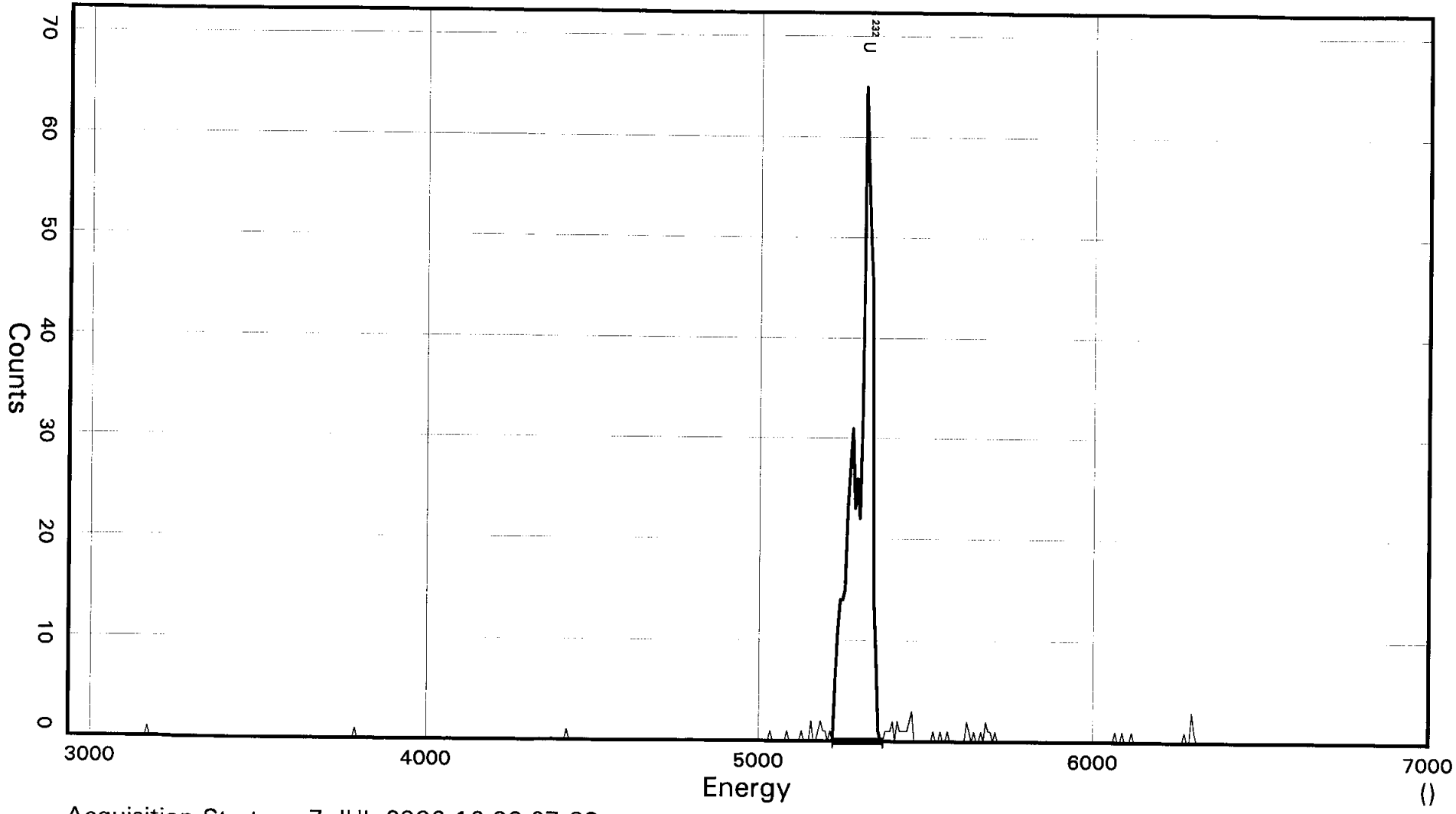
End of Report

STL Richland WA.

U BRC

Sample ID: H7D081AG
Detector ID: ALP85 1

Batch ID: 6167150



Acquisition Start: 7-JUL-2006 16:09:37.38
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:02.00

Energy Coefficients:
Offset: 2.91304E+03
Slope: 7.16241E+00
Quadrature: 6.93387E-06

SAMPLE IDENTITY: H7D081AG

TITLE : U BRC

DETECTOR : ALP85 1
CONFIGURATION NAME : RDND06$DKA100:[ALP85.SAMPLE]H7D081AG_0707616
09.CNF;1
ACQUIRE DATE of BACKGROUND: 09-JUN-2006 06:58:12

REPORT DATE : 07-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 07-JUL-2006 16:09:37 CALIB DATE : 09-JUN-2006 06:21:45

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:02

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: H7D081AG

Detector: ALP85 1
Report Date: 07-Jul-06 07:29 PM
Acquire Date: 7-JUL-2006 16:09:37.38
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	38	0	2.429	5317.6	150.5	322	343	0.00	0.00	P
U-234	0	5	0	-0.002	4772.0	150.5	246	267	0.00	0.00	
U-235	1	0	0	0.005	4395.2	150.5	193	214	0.00	0.00	
U-238	0	0	0	0.000	4195.4	150.5	165	186	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H7D081AG
Detector: ALP85 1
Report Date: 07-Jul-06 07:29 PM
Acquire Date: 7-JUL-2006 16:09:37.38

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	0		301	1		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0	+	202	0	+	252	0		302	1		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	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	3		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	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	0	+	259	1		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	1	+	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	2		313	0		363	0		413	0		463			
0		14	0		64	0		114	0		164	0	+	214	0	+	264	0		314	1		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	1		316	0		366	0		416	0		466			
0		17	0		67	0		117	0	+	167	0		217	0	+	267	2		317	1		367	0		417	0		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	1		319	0		369	0		419	1		469			
0		20	0		70	0		120	0	+	170	0		220	0		270	0		320	1		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	1		122	0	+	172	0		222	0		272	0	+	322	0		372	0		422	3		472			
0		23	0		73	0		123	0	+	173	0		223	0		273	6	+	323	0		373	0		423	1		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	11	+	324	0		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	14	+	325	0		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	0		276	14	+	326	0		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	15	+	327	0		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	23	+	328	2		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	27	+	329	1		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	31	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	23	+	331	1		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	26	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	22	+	333	0		383	0		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	33	+	334	1		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	65	+	335	0		385	0		435	0		485			
1		36	0		86	0		136	0	+	186	0		236	0		286	57	+	336	2		386	0		436	0		486			
0		37	0		87	0		137	0		187	0		237	0		287	50	+	337	1		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	0		288	45	+	338	1		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	0		289	14	+	339	0		389	0		439	0		489			
0		40	0		90	0		140	0		190	0		240	0		290	8	+	340	1		390	1		440	0		490			
0		41	0		91	0		141	0		191	0		241	0		291	1	+	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	0		343	0		393	1		443	0		493			
0		44	0		94	0		144	0	+	194	0		244	0		294	1		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	1		296	1		346	0		396	0		446	0		496			
0		47	0		97	0		147	0	+	197	0	+	247	0		297	2		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	2		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 7-JUL-2006 19:29:41

Configuration : RDND06$DKA100:[ALP85.SAMPLE]H7D081AG_070761609.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 31-MAY-2006 12:00:00 Acquisition date : 7-JUL-2006 16:09:37
Sample ID : H7D081AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP85 Detector geometry:
Elapsed live time: 0 03:20:02.00 Elapsed real time: 0 03:20:02.00 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	5317.59	489	0	42.97	335.61	322	21	4.07E-02	4.5	

VMS Nuclide Identification Report V3.1 Generated 7-JUL-2006 19:29:42

```
Configuration     : RDND06$DKA100:[ALP85.SAMPLE]H7D081AG_070761609.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : U BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 7-JUL-2006 16:09:37
Sample ID         : H7D081AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP85                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  :    70.00
```

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:[ALP85.SAMPLE]H7D081AG_070761609.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5317.58	322	343	489	485	0.18		

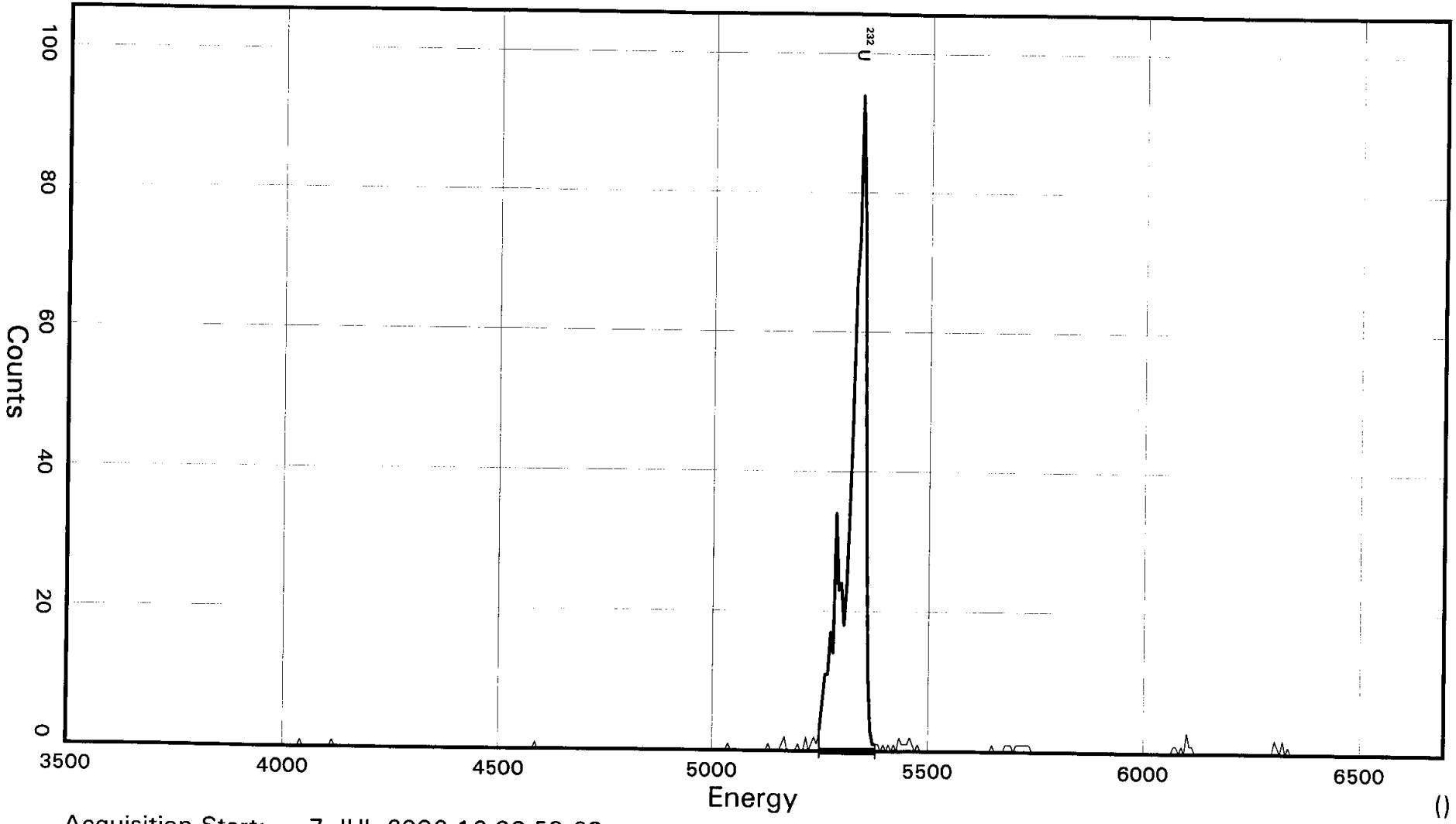
End of Report

STL Richland WA.

U BRC

Sample ID: H7D1A1AG
Detector ID: ALP87 1

Batch ID: 6167150



()

Acquisition Start: 7-JUL-2006 16:09:53.28
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:11.00

Energy Coefficients:
Offset: 3.52509E+03
Slope: 6.19894E+00
Quadrature: -2.09215E-05

SAMPLE IDENTITY: H7D1A1AG

TITLE : U BRC

DETECTOR : ALP87 1
CONFIGURATION NAME : RDND06$DKA100:[ALP87.SAMPLE]H7D1A1AG_0707616
09.CNF;1
ACQUIRE DATE of BACKGROUND: 09-JUN-2006 06:58:13

REPORT DATE : 07-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 07-JUL-2006 16:09:53 CALIB DATE : 09-JUN-2006 06:21:54

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:11

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: H7D1A1AG

Detector: ALP87 1
Report Date: 07-Jul-06 07:30 PM
Acquire Date: 7-JUL-2006 16:09:53.28
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	643	8	0	3.204	5336.3	129.9	278	299	0.00	0.00	P
U-234	0	2	0	-0.002	4790.7	130.0	190	211	0.00	0.00	
U-235	0	0	0	0.000	4413.9	130.1	129	150	0.00	0.00	
U-238	0	0	0	0.000	4214.1	130.1	97	118	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H7D1A1AG
Detector: ALP87 1
Report Date: 07-Jul-06 07:30 PM
Acquire Date: 7-JUL-2006 16:09:53.28

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	1		302	1		352	0		402	2		452	0		502
0		3	0		53	0	+	103	0		153	0	+	203	0		253	0		303	1		353	0		403	0		453	0		503
0		4	0		54	0	+	104	0		154	0	+	204	0		254	1		304	1		354	0		404	1		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	1		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	2		308	0		358	0		408	0		458	0		508
0		9	0		59	0	+	109	0		159	0	+	209	1		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	0	+	211	0		261	1		311	0		361	1		411	0		461	0		511
0		12	0		62	0	+	112	0		162	0		212	0		262	2		312	0		362	1		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	1		264	0		314	0		364	1		414	0		464			
0		15	0		65	0	+	115	0		165	0		215	2		265	1		315	0		365	0		415	0		465			
0		16	0		66	0	+	116	0		166	0		216	0		266	0		316	0		366	3		416	0		466			
0		17	0		67	0	+	117	0		167	0		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	1		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	1		270	0		320	0		370	0		420	0		470			
0		21	0		71	0		121	1		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	2		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	1		275	0		325	0		375	0		425	0		475			
0		26	0		76	0		126	0		176	0		226	2		276	0		326	0		376	0		426	0		476			
0		27	0		77	0		127	0		177	0		227	1		277	0		327	0		377	0		427	0		477			
0		28	0		78	0		128	0		178	0		228	3	+	278	0		328	0		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	0		230	11	+	280	0		330	0		380	0		430	0		480			
0		31	0		81	0	+	131	0		181	0		231	11	+	281	0		331	0		381	0		431	0		481			
0		32	0		82	0	+	132	0		182	0		232	17	+	282	0		332	0		382	0		432	0		482			
0		33	1		83	0	+	133	0		183	0		233	14	+	283	0		333	0		383	0		433	0		483			
0		34	0		84	0	+	134	0		184	0		234	34	+	284	0		334	0		384	0		434	0		484			
0		35	0		85	0	+	135	0		185	0		235	23	+	285	0		335	0		385	0		435	0		485			
0		36	0		86	0	+	136	0		186	0		236	24	+	286	0		336	0		386	0		436	0		486			
0		37	0		87	0	+	137	0		187	0		237	18	+	287	0		337	0		387	0		437	0		487			
0		38	0		88	0	+	138	0		188	0		238	24	+	288	0		338	0		388	0		438	0		488			
0		39	0		89	0	+	139	0		189	0		239	35	+	289	0		339	0		389	0		439	0		489			
0		40	0		90	0	+	140	0	+	190	0		240	48	+	290	0		340	0		390	0		440	0		490			
0		41	0		91	0	+	141	0	+	191	0		241	67	+	291	0		341	0		391	0		441	0		491			
0		42	0		92	0	+	142	0	+	192	0		242	73	+	292	0		342	0		392	0		442	0		492			
0		43	0		93	0	+	143	0	+	193	0		243	94	+	293	1		343	0		393	0		443	0		493			
0		44	0		94	0	+	144	0	+	194	1		244	77	+	294	0		344	0		394	0		444	0		494			
0		45	1		95	0	+	145	0	+	195	0		245	42	+	295	0		345	0		395	0		445	0		495			
0		46	0		96	0	+	146	0	+	196	0		246	12	+	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	0		447	0		497			
0		48	0	+	98	0	+	148	0	+	198	0		248	1	+	298	1		348	0		398	0		448	0		498			
0		49	0	+	99	0	+	149	0	+	199	0		249	1		299	1		349	0		399	2		449	0		499			
0		50	0	+	100	0	+	150	0	+	200	0		250	1		300	1		350	0		400	1		450	0		500			

VMS Peak Search Report V1.9 Generated 7-JUL-2006 19:30:08

Configuration : RDND06$DKA100:[ALP87.SAMPLE]H7D1A1AG_070761609.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 31-MAY-2006 12:00:00 Acquisition date : 7-JUL-2006 16:09:53
Sample ID : H7D1A1AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP87 Detector geometry:
Elapsed live time: 0 03:20:11.00 Elapsed real time: 0 03:20:11.00 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	5336.27	643	0	37.19	292.47	278	21	5.35E-02	3.9	

VMS Nuclide Identification Report V3.1 Generated 7-JUL-2006 19:30:09

Configuration	: RDND06$DKA100:[ALP87.SAMPLE]H7D1A1AG_070761609.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.4		
Sample title	: U BRC		
Sample date	: 31-MAY-2006 12:00:00	Acquisition date	: 7-JUL-2006 16:09:53
Sample ID	: H7D1A1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP87	Detector geometry	:
Elapsed live time	: 0 03:20:11.00	Elapsed real time	: 0 03:20:11.00 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]H7D1A1AG_070761609.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5336.27	278	299	643	639	0.16		

End of Report

SEVERN TRENT **STL**

URANIUM ISOTOPIC COUNTING REQUEST

2326

C.R. Technician: OP

Date Counted: 7/7/06

Counting Time
Sample: 200 Minutes
Background: See Alpha Regions Report BRC 5/31/06

SOP's
Operating: RICHRD008
Review: RICHRD0016 6/6/7150

WorkOrder #	U-232 (5320 KeV) Tracer	TOTAL COUNTS U-238 (4196 KeV)	U-235 (4396 KeV)	U-234 (4776 KeV)	Det #	Comments/Edits
H7D1E1AG	See Counting Room Printout for ROI information				10	
H7D1J1AG	See Counting Room Printout for ROI information				11	
H7D1K1AG	See Counting Room Printout for ROI information				12	
H7D1N1AG	See Counting Room Printout for ROI information				64	
H7D1R1AG	See Counting Room Printout for ROI information				83	
H7D1X1AG	See Counting Room Printout for ROI information				84	
H7JMD1AA	See Counting Room Printout for ROI information				85	
H7JMD1AC	See Counting Room Printout for ROI information				87	
	See Counting Room Printout for ROI information					

Comments:

Form No: RC-011, 7/02, Rev 8

Approved by: S

Date: 7/8/06

STL RICHLAND

297

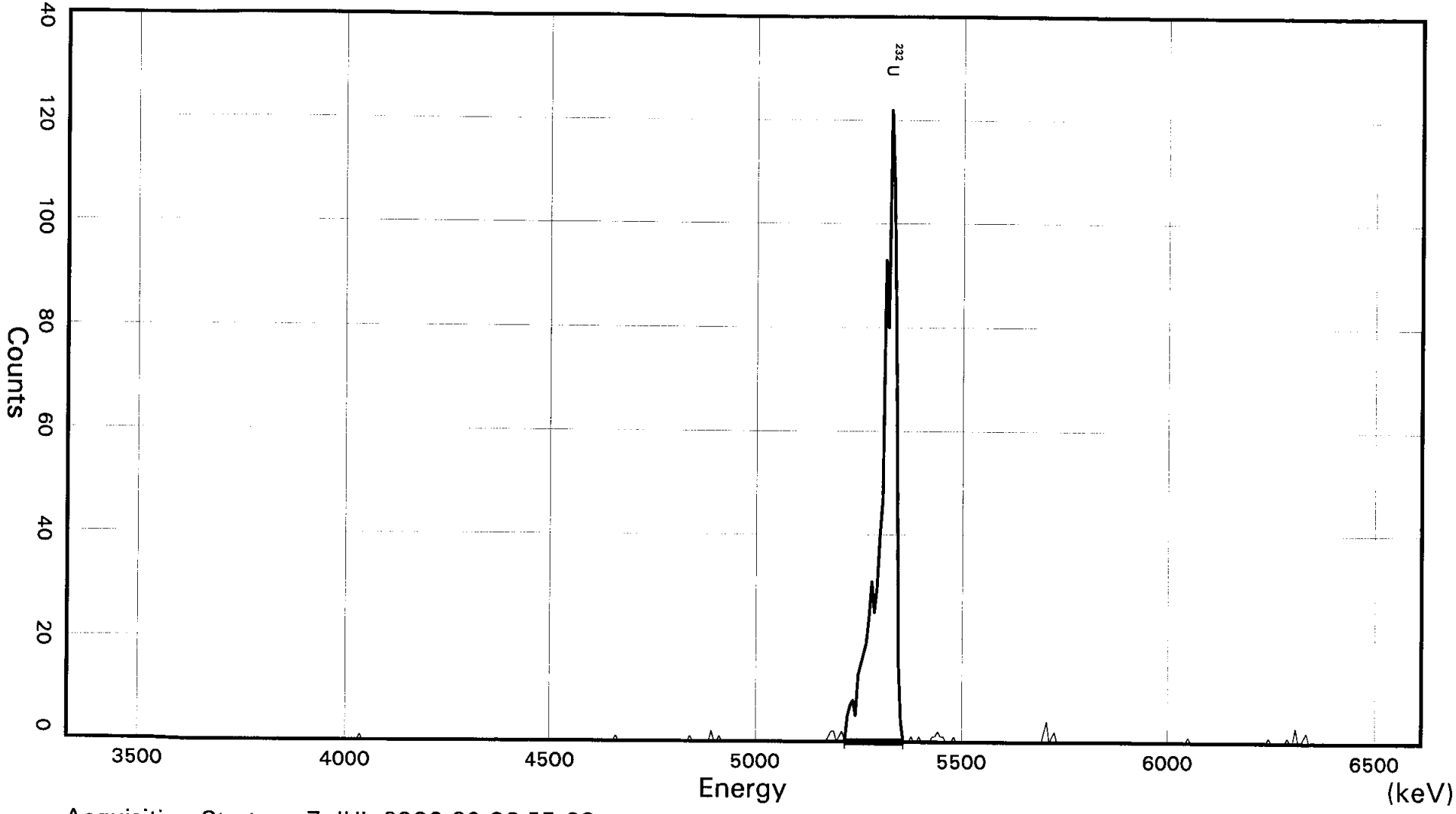
STL Richland WA.

U BRC

Sample ID: H7D1E1AG

Detector ID: ALP10 1

Batch ID: 6167150



Acquisition Start: 7-JUL-2006 20:03:55.83

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:08.00

Energy Coefficients:

Offset: 3.30961E+03

Slope: 6.42195E+00

Quadrature: 5.74933E-05

SAMPLE IDENTIITY: H7D1E1AG

TITLE : U BRC

DETECTOR : ALP10 1
CONFIGURATION NAME : $DISK1:[ALP10.SAMPLE]H7D1E1AG_070762003.CNF;
1
ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:25

REPORT DATE : 07-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 07-JUL-2006 20:03:55 CALIB DATE : 06-JUL-2006 01:19:51

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

OFFSET : 3309.61 keV CONSTANT FWHM : 7.00000 Channels
SLOPE : 6.42195 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : 5.749330E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H7D1E1AG

Detector: ALP10 1
Report Date: 07-Jul-06 11:24 PM
Acquire Date: 7-JUL-2006 20:03:55.83
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	787	4	0	3.928	5325.1	142.1	296	318	0.00	0.00	P
U-234	0	1	0	-0.001	4779.5	141.8	211	233	0.00	0.00	
U-235	0	0	0	0.000	4402.7	141.7	153	175	0.00	0.00	
U-238	0	2	0	-0.002	4202.9	141.6	122	144	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H7D1E1AG
Detector: ALP10 1
Report Date: 07-Jul-06 11:24 PM
Acquire Date: 7-JUL-2006 20:03:55.83

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	13	+	301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0		202	0		252	15	+	302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0	+	153	0		203	0		253	17	+	303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0	+	154	0		204	0		254	19	+	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	1		455	0		505
0		6	0		56	0		106	0	+	156	0		206	0		256	31	+	306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0	+	157	0		207	0		257	25	+	307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0	+	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	40	+	309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0	+	160	1		210	0		260	47	+	310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	0	+	161	0	+	211	0		261	93	+	311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0	+	162	0	+	212	0		262	80	+	312	0		362	0		412	1		462	0		512
0		13	0		63	1		113	0	+	163	0	+	213	0		263	122	+	313	0		363	0		413	0		463			
0		14	0		64	0		114	0	+	164	0	+	214	0		264	107	+	314	0		364	0		414	0		464			
0		15	0		65	0		115	0	+	165	0	+	215	0		265	72	+	315	0		365	0		415	3		465			
0		16	0		66	0		116	0	+	166	0	+	216	0		266	16	+	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	0		467			
0		18	0		68	0		118	0	+	168	0	+	218	0		268	0		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	2		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	1		321	2		371	0		421	0		471			
0		22	0		72	0	+	122	0	+	172	0	+	222	0		272	0		322	4		372	0		422	0		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	1		324	1		374	0		424	0		474			
0		25	0		75	0	+	125	0	+	175	0	+	225	0		275	0		325	2		375	1		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	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	0		380	0		430	0		480			
0		31	0		81	0	+	131	0		181	0	+	231	0		281	2		331	0		381	0		431	0		481			
0		32	0		82	0	+	132	0		182	0	+	232	0		282	1		332	0		382	0		432	0		482			
0		33	0		83	0	+	133	0		183	0	+	233	0		283	1		333	0		383	0		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	0		287	1		337	0		387	0		437	0		487			
0		38	0		88	0	+	138	0		188	1		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	1		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	2		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	0		195	0		245	2		295	0		345	0		395	0		445	0		495			
0		46	0		96	0		146	0		196	2		246	0	+	296	0		346	0		396	0		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	0		248	7	+	298	0		348	0		398	0		448	0		498			
0		49	0		99	0		149	0		199	1		249	8	+	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	0		450	0		500			

VMS Peak Search Report V1.9 Generated 7-JUL-2006 23:24:18

Configuration : $DISK1:[ALP10.SAMPLE]H7D1E1AG_070762003.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 31-MAY-2006 12:00:00 Acquisition date : 7-JUL-2006 20:03:55
Sample ID : H7D1E1AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP10 Detector geometry:
Elapsed live time: 0 03:20:08.00 Elapsed real time: 0 03:20:08.00 0.0%
Start energy : 3328.88 keV End energy : 6612.72 keV
Sensitivity : 4.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5325.07	787	0	32.11	312.96	296	22	6.55E-02	3.6	

VMS Nuclide Identification Report V3.0 Generated 7-JUL-2006 23:24:21

Configuration	: $DISK1:[ALP10.SAMPLE]H7D1E1AG_070762003.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 31-MAY-2006 12:00:00	Acquisition date	: 7-JUL-2006 20:03:55
Sample ID	: H7D1E1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP10	Detector geometry	:
Elapsed live time	: 0 03:20:08.00	Elapsed real time	: 0 03:20:08.00 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:[ALP10.SAMPLE]H7D1E1AG_070762003.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5325.07	296	318	787	780	0.25		

End of Report

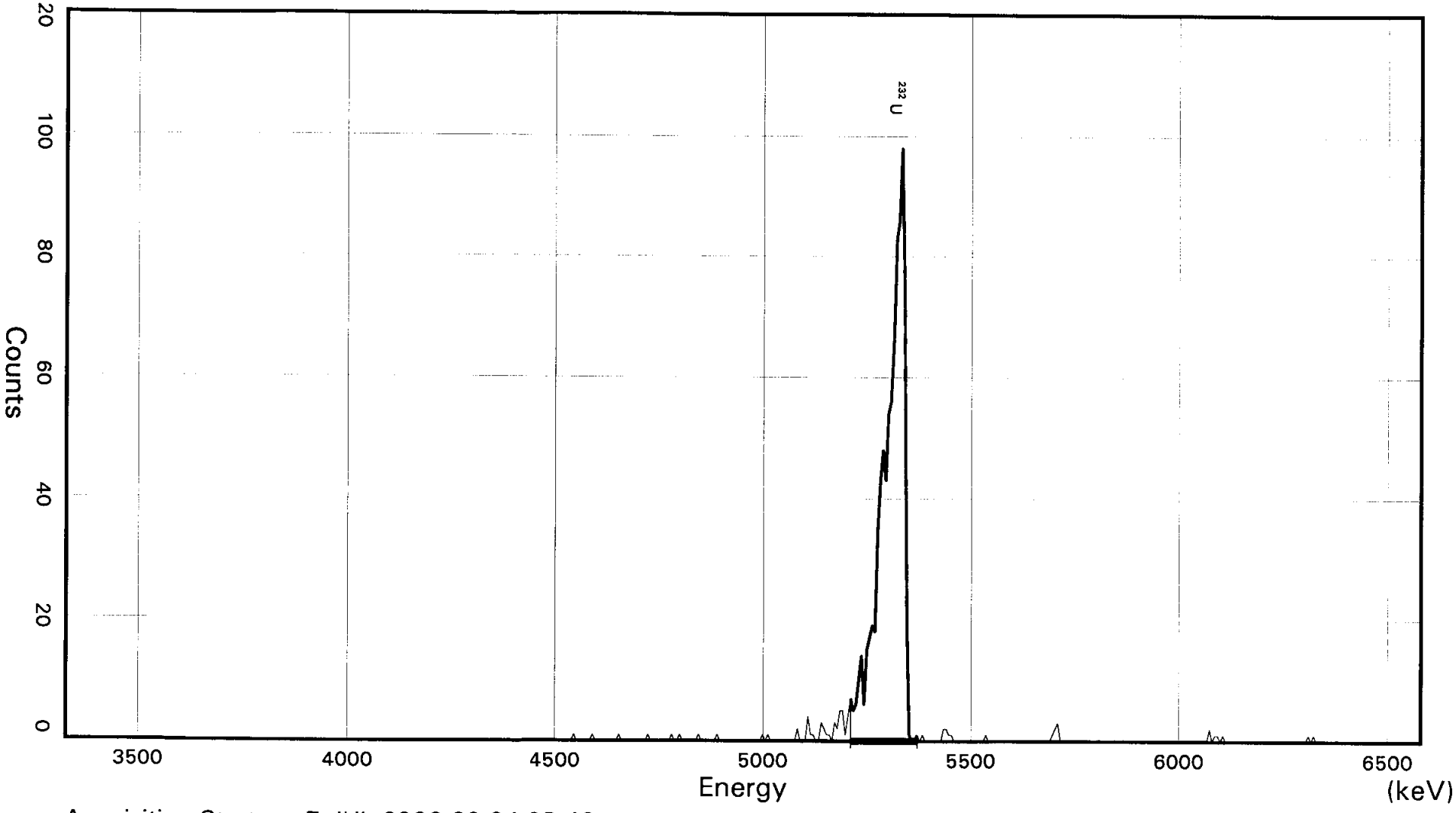
STL Richland WA.

U BRC

Sample ID: H7D1J1AG

Detector ID: ALP11 1

Batch ID: 6167150



Acquisition Start: 7-JUL-2006 20:04:08.40

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:10.00

Energy Coefficients:

Offset: 3.30819E+03

Slope: 6.37367E+00

Quadrature: 2.86048E-05

SAMPLE IDENTIITY: H7D1J1AG

TITLE : U BRC

DETECTOR : ALP11 1
CONFIGURATION NAME : $DISK1:[ALP11.SAMPLE]H7D1J1AG_070762004.CNF;
1
ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:28

REPORT DATE : 07-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 07-JUL-2006 20:04:08 CALIB DATE : 06-JUL-2006 01:20:09

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:10

OFFSET : 3308.19 keV CONSTANT FWHM : 8.50000 Channels
SLOPE : 6.37367 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : 2.860480E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H7D1J1AG

Detector: ALP11 1
Report Date: 07-Jul-06 11:24 PM
Acquire Date: 7-JUL-2006 20:04:08.40
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	828	9	0	4.128	5315.0	159.8	298	323	0.00	0.00	P
U-234	3	0	0	0.015	4769.4	159.7	213	238	0.00	0.00	
U-235	0	1	0	-0.001	4392.6	159.6	154	179	0.00	0.00	
U-238	0	2	0	-0.002	4192.8	159.5	122	147	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H7D1J1AG
Detector: ALP11 1
Report Date: 07-Jul-06 11:24 PM
Acquire Date: 7-JUL-2006 20:04:08.40

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		0	251		10+	301		0	351		0	401		0	451		0	501
		2		0	52		0	102		0	152		0	202		0	252		14+	302		0	352		0	402		0	452		0	502
	0	3		0	53		0	103		0	153		0	203		0	253		6+	303		0	353		0	403		0	453		0	503
	0	4		0	54		0	104		0+	154		0	204		0	254		15+	304		0	354		0	404		0	454		0	504
	0	5		0	55		0	105		0+	155		0	205		0	255		17+	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		18+	307		0	357		0	407		0	457		0	507
	0	8		0	58		0	108		0+	158		0	208		0	258		35+	308		0	358		0	408		0	458		0	508
	0	9		0	59		0	109		0+	159		0	209		0	259		43+	309		0	359		0	409		0	459		0	509
	0	10		0	60		0	110		0+	160		0	210		0	260		48+	310		0	360		0	410		0	460		0	510
	0	11		0	61		0	111		0+	161		1	211		0	261		43+	311		0	361		0	411		0	461		0	511
	0	12		0	62		0	112		0+	162		0	212		0	262		54+	312		0	362		0	412		0	462		0	512
	0	13		0	63		0	113		0+	163		0+	213		0	263		56+	313		0	363		0	413		0	463			
	0	14		0	64		0	114		0+	164		0+	214		0	264		66+	314		0	364		0	414		0	464			
	0	15		0	65		0	115		0+	165		0+	215		1	265		83+	315		0	365		0	415		0	465			
	0	16		0	66		0	116		0+	166		0+	216		0	266		86+	316		0	366		0	416		0	466			
	0	17		0	67		0	117		0+	167		0+	217		1	267		98+	317		0	367		0	417		0	467			
	0	18		0	68		0	118		0+	168		0+	218		0	268		71+	318		0	368		0	418		0	468			
	0	19		0	69		0	119		0+	169		0+	219		0	269		20+	319		0	369		0	419		0	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		0	471			
	0	22		0	72		0+	122		0+	172		1+	222		0	272		0+	322		0	372		0	422		1	472			
	0	23		0	73		0+	123		0+	173		0+	223		0	273		1	323		0	373		0	423		0	473			
	0	24		0	74		0+	124		0+	174		0+	224		0	274		0	324		1	374		0	424		0	474			
	0	25		0	75		0+	125		0+	175		0+	225		0	275		1	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		0	327		0	377		0	427		0	477			
	0	28		0	78		0+	128		0+	178		0+	228		2	278		0	328		0	378		0	428		0	478			
	0	29		0	79		0+	129		0+	179		0+	229		0	279		0	329		0	379		0	429		0	479			
	0	30		0	80		0+	130		0	180		0+	230		0	280		0	330		0	380		0	430		0	480			
	0	31		0	81		0+	131		0	181		1+	231		0	281		0	331		0	381		0	431		0	481			
	0	32		0	82		0+	132		0	182		0+	232		4	282		0	332		0	382		0	432		0	482			
	0	33		0	83		0+	133		0	183		0+	233		1	283		2	333		0	383		2	433		0	483			
	0	34		0	84		0+	134		0	184		1+	234		1	284		2	334		0	384		0	434		0	484			
	0	35		0	85		0+	135		0	185		0+	235		0	285		1	335		0	385		1	435		0	485			
	0	36		0	86		0+	136		0	186		0+	236		0	286		1	336		0	386		1	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		2	288		0	338		0	388		1	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		1	290		0	340		0	390		0	440		0	490			
	0	41		0	91		0+	141		0	191		1	241		0	291		0	341		0	391		0	441		0	491			
	0	42		0	92		0+	142		0	192		0	242		3	292		0	342		0	392		0	442		0	492			
	0	43		0	93		0+	143		0	193		0	243		2	293		0	343		0	393		0	443		0	493			
	0	44		0	94		0+	144		1	194		0	244		5	294		0	344		0	394		0	444		0	494			
	0	45		0	95		0+	145		0	195		0	245		5	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		4	297		0	347		0	397		0	447		0	497			
	0	48		0	98		0	148		0	198		1	248		7+	298		0	348		0	398		0	448		0	498			
	0	49		0	99		0	149		0	199		0	249		5+	299		1	349		0	399		0	449		0	499			
	0	50		0	100		0	150		0	200		0	250		6+	300		0	350		0	400		0	450		0	500			

VMS Peak Search Report V1.9 Generated 7-JUL-2006 23:24:47

Configuration : $DISK1:[ALP11.SAMPLE]H7D1J1AG_070762004.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 31-MAY-2006 12:00:00 Acquisition date : 7-JUL-2006 20:04:08
Sample ID : H7D1J1AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP11 Detector geometry:
Elapsed live time: 0 03:20:10.00 Elapsed real time: 0 03:20:10.00 0.0%
Start energy : 3327.31 keV End energy : 6579.00 keV
Sensitivity : 4.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5315.01	828	0	57.36	314.42	298	25	6.89E-02	3.5	

VMS Nuclide Identification Report V3.0 Generated 7-JUL-2006 23:24:49

Configuration	: $DISK1:[ALP11.SAMPLE]H7D1J1AG_070762004.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 31-MAY-2006 12:00:00	Acquisition date	: 7-JUL-2006 20:04:08
Sample ID	: H7D1J1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP11	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:[ALP11.SAMPLE]H7D1J1AG_070762004.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5315.00	298	323	828	822	0.21		

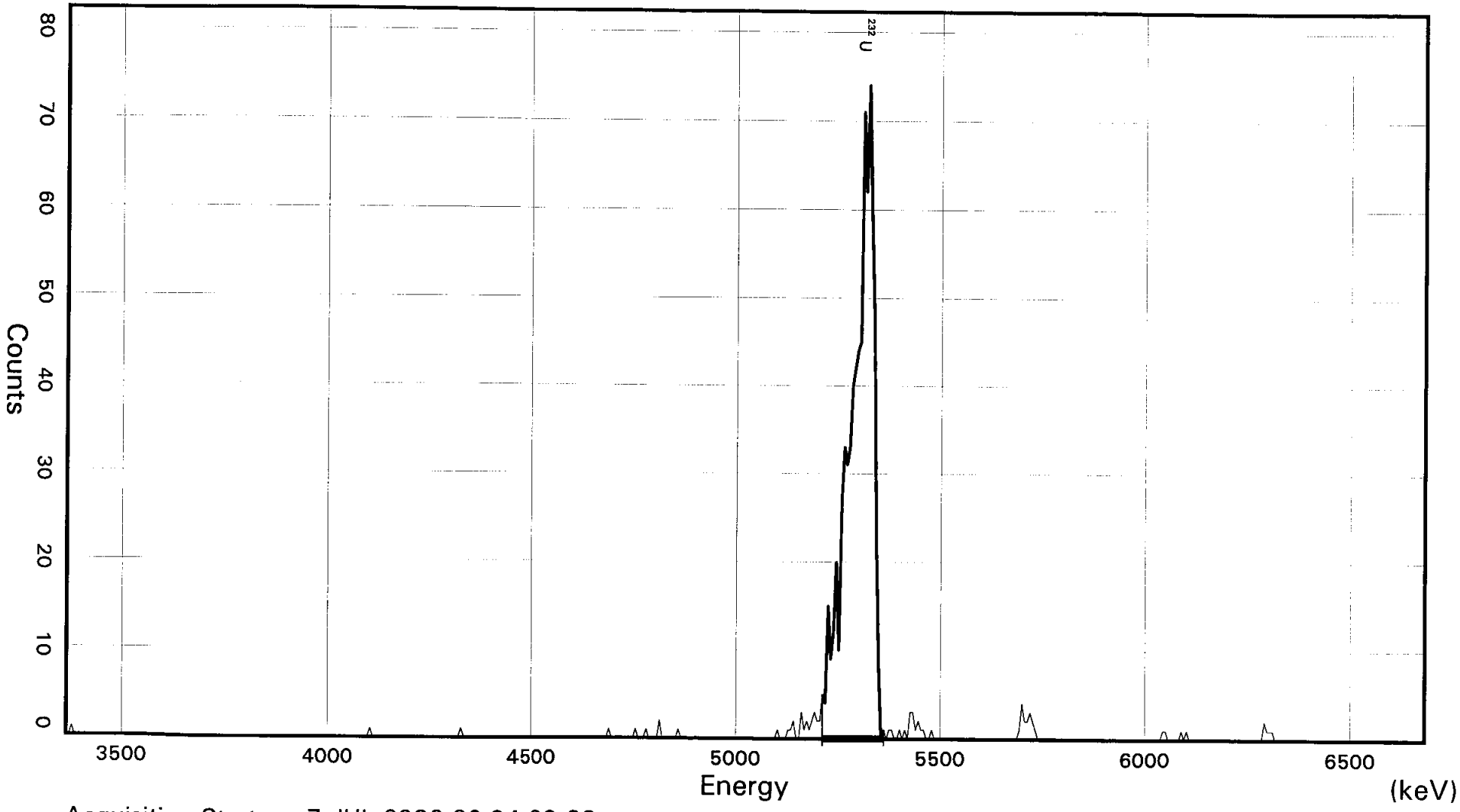
End of Report

STL Richland WA.

U BRC

Sample ID: H7D1K1AG
Detector ID: ALP12 1

Batch ID: 6167150



Acquisition Start: 7-JUL-2006 20:04:20.82
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:01.00

Energy Coefficients:
Offset: 3.34637E+03
Slope: 6.53599E+00
Quadrature: -4.70662E-05

SAMPLE IDENTIITY: H7D1K1AG

TITLE : U BRC

DETECTOR : ALP12 1
CONFIGURATION NAME : $DISK1:[ALP12.SAMPLE]H7D1K1AG_070762004.CNF;
1
ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:31

REPORT DATE : 07-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 07-JUL-2006 20:04:20 CALIB DATE : 06-JUL-2006 01:20:03

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:01

OFFSET : 3346.37 keV CONSTANT FWHM : 7.16667 Channels
SLOPE : 6.53599 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : -.470662E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H7D1K1AG

Detector: ALP12 1
Report Date: 07-Jul-06 11:25 PM
Acquire Date: 7-JUL-2006 20:04:20.82
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	714	5	0	3.565	5309.1	149.7	286	309	0.00	0.00	P
U-234	5	0	0	0.025	4763.6	149.9	202	225	0.00	0.00	
U-235	1	0	0	0.005	4386.8	150.0	144	167	0.00	0.00	
U-238	1	1	0	0.004	4187.0	150.1	114	137	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H7D1K1AG
Detector: ALP12 1
Report Date: 07-Jul-06 11:25 PM
Acquire Date: 7-JUL-2006 20:04:20.82

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	71	+	301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0	+	152	0	+	202	0		252	62	+	302	0		352	0		402	2		452	0		502
0		3	0		53	0		103	0	+	153	0	+	203	0		253	74	+	303	0		353	0		403	1		453	0		503
0		4	0		54	0		104	0	+	154	0	+	204	0		254	59	+	304	0		354	0		404	1		454	0		504
1		5	0		55	0		105	0	+	155	0	+	205	0		255	47	+	305	0		355	0		405	1		455	0		505
0		6	0		56	0		106	0	+	156	1	+	206	0		256	22	+	306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0	+	157	0	+	207	0		257	8	+	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	0		259	1		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0	+	160	0	+	210	0		260	0		310	1		360	0		410	0		460	0		510
0		11	0		61	0		111	0	+	161	0	+	211	0		261	1		311	4		361	0		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	0		313	2		363	0		413	0		463			
0		14	0		64	0	+	114	0	+	164	0	+	214	0		264	0		314	3		364	1		414	0		464			
0		15	0		65	0	+	115	0	+	165	0	+	215	0		265	1		315	2		365	1		415	0		465			
0		16	0		66	1	+	116	0	+	166	1	+	216	0		266	0		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	1		269	3		319	0		369	0		419	0		469			
0		20	0		70	0	+	120	0		170	1	+	220	0		270	3		320	0		370	0		420	0		470			
0		21	0		71	0	+	121	0		171	0	+	221	0		271	1		321	0		371	1		421	0		471			
0		22	0		72	0	+	122	0		172	0	+	222	0		272	2		322	0		372	0		422	0		472			
0		23	0		73	0	+	123	0		173	0	+	223	1		273	1		323	0		373	1		423	0		473			
0		24	0		74	0	+	124	0		174	0	+	224	1		274	1		324	0		374	0		424	0		474			
0		25	0		75	0	+	125	0		175	2	+	225	2		275	0		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	1		327	0		377	0		427	0		477			
0		28	0		78	0	+	128	0		178	0		228	3		278	0		328	0		378	0		428	0		478			
0		29	0		79	0	+	129	0		179	0		229	1		279	0		329	0		379	0		429	0		479			
0		30	0		80	0	+	130	0		180	0		230	2		280	0		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	1		232	2		282	0		332	0		382	0		432	0		482			
0		33	0		83	0	+	133	0		183	0		233	3		283	0		333	0		383	0		433	0		483			
0		34	0		84	0	+	134	0		184	0		234	2		284	0		334	0		384	0		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	5	+	286	0		336	0		386	0		436	0		486			
0		37	0		87	0	+	137	0		187	0		237	4	+	287	0		337	0		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	15	+	288	0		338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	9	+	289	0		339	0		389	0		439	0		489			
0		40	0		90	0		140	0		190	0		240	12	+	290	0		340	0		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	20	+	291	0		341	0		391	0		441	0		491			
0		42	0		92	0		142	0		192	0		242	10	+	292	0		342	0		392	0		442	0		492			
0		43	0		93	0		143	0		193	0		243	27	+	293	0		343	0		393	0		443	0		493			
0		44	0		94	0	+	144	0		194	0		244	33	+	294	0		344	0		394	0		444	0		494			
0		45	0		95	0	+	145	0		195	0		245	31	+	295	0		345	0		395	0		445	0		495			
0		46	0		96	0	+	146	0		196	0		246	33	+	296	0		346	0		396	0		446	0		496			
0		47	0		97	0	+	147	0		197	0		247	40	+	297	0		347	0		397	0		447	0		497			
0		48	0		98	0	+	148	0		198	0		248	42	+	298	0		348	0		398	0		448	0		498			
0		49	0		99	0	+	149	0		199	0		249	44	+	299	0		349	0		399	0		449	0		499			
0		50	0		100	1	+	150	0		200	0		250	45	+	300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 7-JUL-2006 23:25:02

Configuration	: $DISK1:[ALP12.SAMPLE]H7D1K1AG_070762004.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: U BRC		
Sample date	: 31-MAY-2006 12:00:00	Acquisition date	: 7-JUL-2006 20:04:20
Sample ID	: H7D1K1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP12	Detector geometry	:
Elapsed live time	: 0 03:20:01.00	Elapsed real time	: 0 03:20:01.00 0.0%
Start energy	: 3365.98 keV	End energy	: 6680.46 keV
Sensitivity	: 4.00	Sum Sensitivity	: 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5309.15	714	0	65.36	300.96	286	23	5.95E-02	3.7	

VMS Nuclide Identification Report V3.0 Generated 7-JUL-2006 23:25:04

```
Configuration     : $DISK1:[ALP12.SAMPLE]H7D1K1AG_070762004.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : U BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 7-JUL-2006 20:04:20
Sample ID         : H7D1K1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP12                Detector geometry:
Elapsed live time: 0 03:20:01.00         Elapsed real time: 0 03:20:01.00   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			

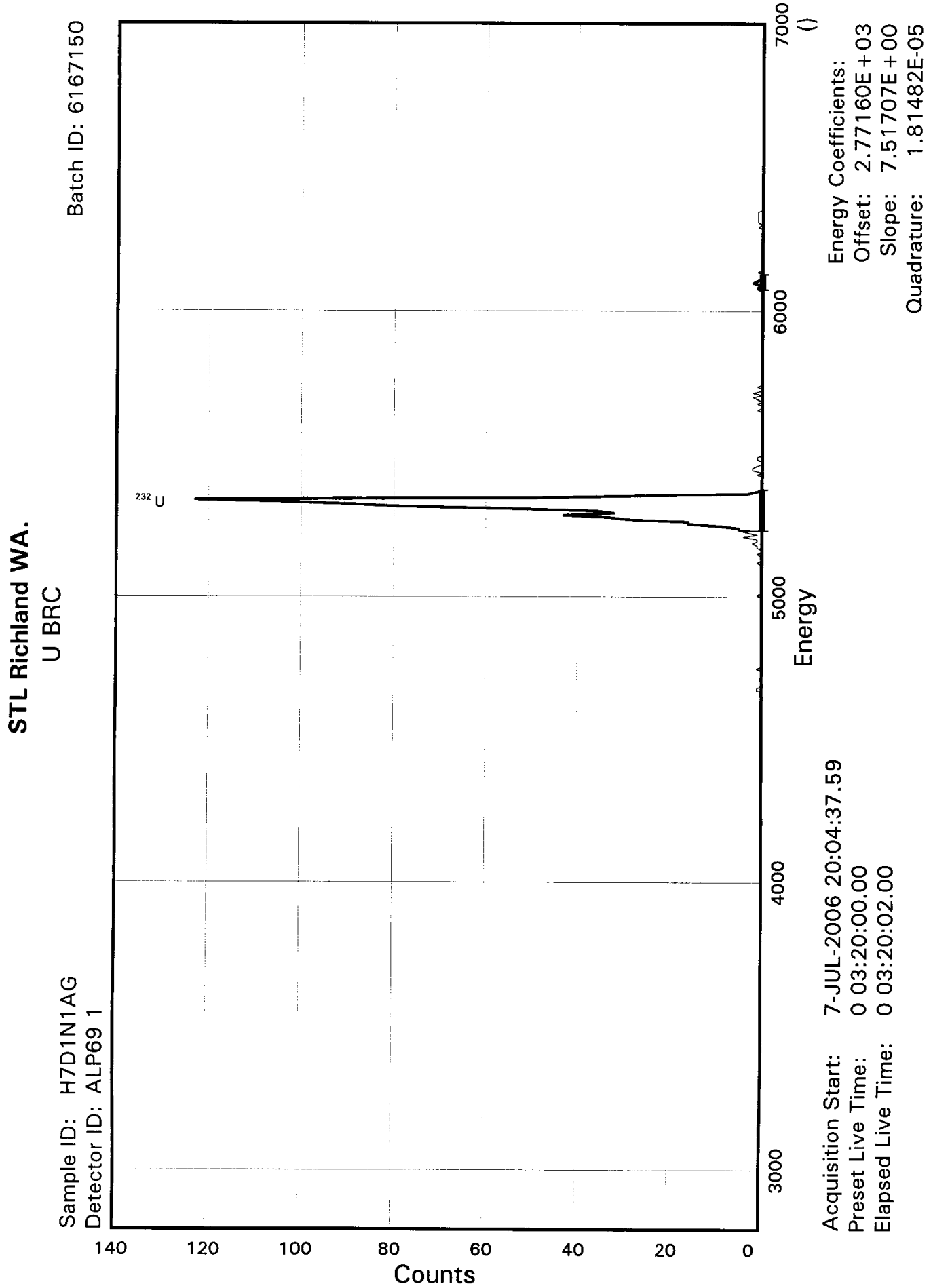
Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

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

Configuration: $DISK1:[ALP12.SAMPLE]H7D1K1AG_070762004.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5309.14	286	309	714	714	0.00		

End of Report


STL Richland WA.
U BRC
Batch ID: 6167150
Sample ID: H7D1N1AG
Detector ID: ALP69 1
232 U
Counts
Energy
140
120
100
80
60
40
20
0
3000
4000
5000
6000
7000
()
Acquisition Start: 7-JUL-2006 20:04:37.59
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: H7D1N1AG

TITLE : U BRC

DETECTOR : ALP69 1
CONFIGURATION NAME : RDND06$DKA100:[ALP69.SAMPLE]H7D1N1AG_0707620
04.CNF;1
ACQUIRE DATE of BACKGROUND: 12-JUN-2006 08:12:59

REPORT DATE : 07-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 07-JUL-2006 20:04:37 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: H7D1N1AG

Detector: ALP69 1
Report Date: 07-Jul-06 11:24 PM
Acquire Date: 7-JUL-2006 20:04:37.59
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	755	25	0	3.764	5326.8	143.1	327	346	0.00	0.00	P
U-234	1	4	0	0.003	4781.2	143.0	255	274	0.00	0.00	
U-235	0	3	0	-0.001	4404.4	143.0	204	223	0.00	0.00	
U-238	0	7	0	-0.003	4204.6	143.0	178	197	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H7D1N1AG
Detector: ALP69 1
Report Date: 07-Jul-06 11:24 PM
Acquire Date: 7-JUL-2006 20:04:37.59

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	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	1		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	1		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	2		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	0		306	2		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	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	1		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	1		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	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	1		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	1		468			
0		19	0		69	0		119	0		169	0	+	219	0	+	269	1		319	0		369	0		419	0		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	2		321	0		371	0		421	1		471			
0		22	0		72	0		122	0		172	0	+	222	0	+	272	1		322	0		372	0		422	1		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	4		324	0		374	0		424	1		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	3		326	0		376	0		426	0		476			
0		27	0		77	0		127	0		177	0		227	0		277	5	+	327	0		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	5	+	328	0		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	9	+	329	0		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	16	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	16	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	29	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	33	+	333	1		383	0		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	43	+	334	0		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	32	+	335	0		385	0		435	0		485			
0		36	0		86	0		136	0	+	186	0		236	0		286	36	+	336	1		386	0		436	0		486			
0		37	0		87	0		137	0	+	187	0		237	0		287	54	+	337	0		387	0		437	0		487			
0		38	0		88	0		138	0	+	188	0		238	0		288	79	+	338	1		388	0		438	0		488			
0		39	0		89	0		139	0	+	189	0		239	0		289	89	+	339	2		389	1		439	0		489			
0		40	0		90	0		140	0	+	190	0		240	0		290	103	+	340	0		390	1		440	0		490			
0		41	0		91	0		141	0	+	191	0		241	0		291	123	+	341	2		391	0		441	0		491			
0		42	0		92	0		142	0	+	192	0		242	0		292	50	+	342	0		392	2		442	0		492			
0		43	0		93	0		143	0	+	193	0		243	0		293	28	+	343	0		393	1		443	0		493			
0		44	0		94	0		144	0	+	194	0		244	0		294	3	+	344	1		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	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	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 7-JUL-2006 23:24:53

Configuration : RDND06$DKA100:[ALP69.SAMPLE]H7D1N1AG_070762004.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 31-MAY-2006 12:00:00 Acquisition date : 7-JUL-2006 20:04:37
Sample ID : H7D1N1AG 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	5326.76	755	0	45.10	339.64	327	19	6.29E-02	3.6	
2	0	6093.93	4	0	30.07	441.50	439	7	3.33E-04	50.0	

VMS Nuclide Identification Report V3.1 Generated 7-JUL-2006 23:24:54

```
Configuration     : RDND06$DKA100:[ALP69.SAMPLE]H7D1N1AG_070762004.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : U BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 7-JUL-2006 20:04:37
Sample ID         : H7D1N1AG             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]H7D1N1AG_070762004.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5326.75	327	346	755	754	0.04		
6093.92	439	446	4	5	-0.50		

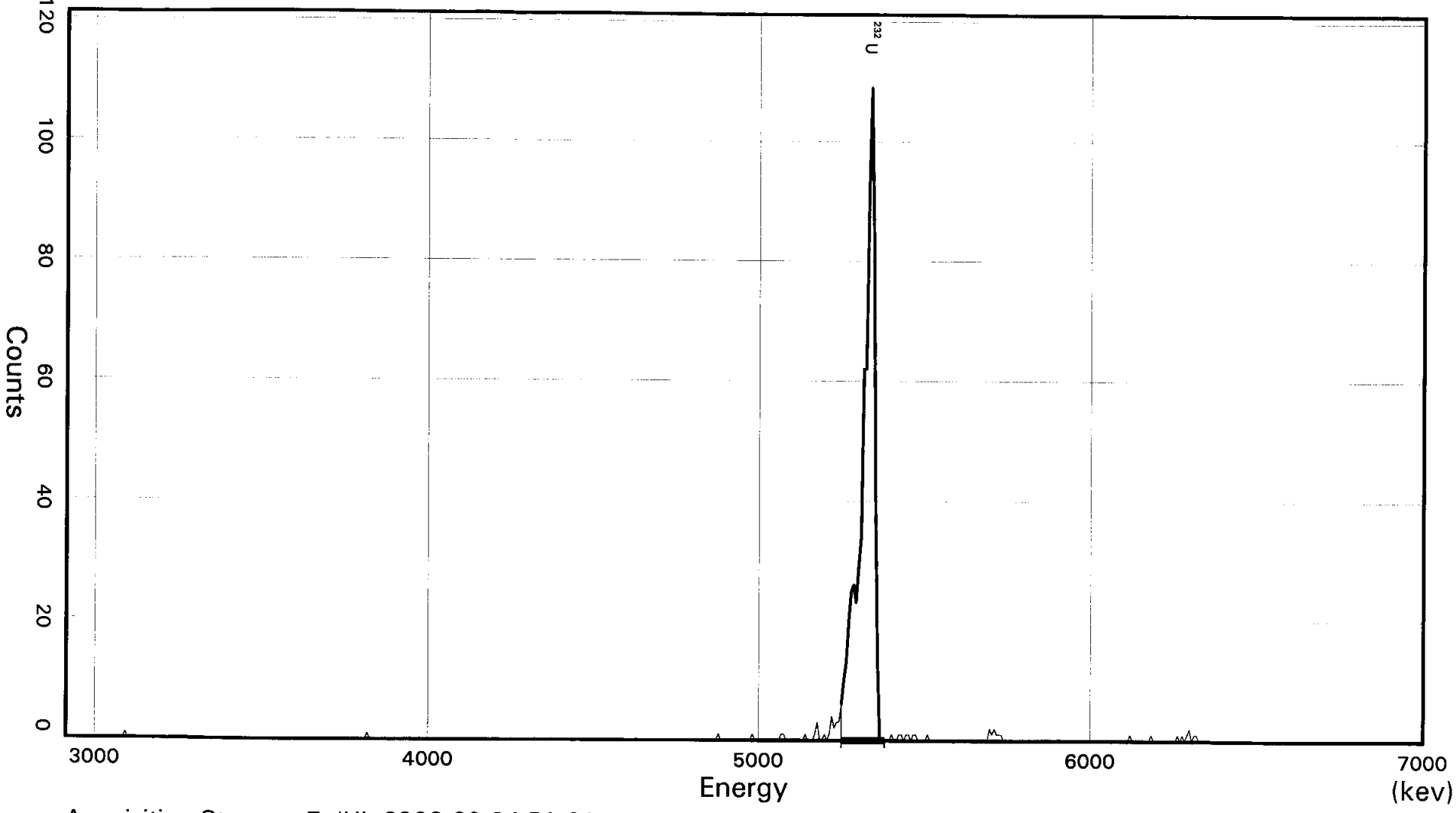
End of Report

STL Richland WA.

U BRC

Sample ID: H7D1R1AG
Detector ID: ALP83 1

Batch ID: 6167150



Acquisition Start: 7-JUL-2006 20:04:51.01
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:03.00

Energy Coefficients:
Offset: 2.89305E+03
Slope: 7.36477E+00
Quadrature: -2.22552E-04

SAMPLE IDENTIITY: H7D1R1AG

TITLE : U BRC

DETECTOR : ALP83 1
CONFIGURATION NAME : RDND06$DKA100:[ALP83.SAMPLE]H7D1R1AG_0707620
04.CNF;1
ACQUIRE DATE of BACKGROUND: 09-JUN-2006 06:58:07

REPORT DATE : 07-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 07-JUL-2006 20:04:51 CALIB DATE : 09-JUN-2006 06:21:49

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

OFFSET : 2893.05 keV CONSTANT FWHM : 9.00000 Channels
SLOPE : 7.36477 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.222552E-03 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H7D1R1AG

Detector: ALP83 1
Report Date: 07-Jul-06 11:24 PM
Acquire Date: 7-JUL-2006 20:04:51.01
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	650	20	0	3.241	5331.2	129.9	323	341	0.00	0.00	P
U-234	0	5	0	-0.002	4785.6	130.5	248	266	0.00	0.00	
U-235	0	2	0	-0.001	4408.8	130.9	196	214	0.00	0.00	
U-238	0	4	0	-0.002	4209.0	131.1	168	186	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H7D1R1AG
Detector: ALP83 1
Report Date: 07-Jul-06 11:24 PM
Acquire Date: 7-JUL-2006 20:04:51.01

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	1		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	1		353	0		403	1		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	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	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	0		458	0		508
0		9	0		59	0		109	0		159	0	+	209	0	+	259	0		309	1		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	1		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0	+	213	0	+	263	3		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	1		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	1		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	1		318	0		368	0		418	1		468			
0		19	0		69	0		119	0	+	169	0		219	0		269	4		319	0		369	0		419	2		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	3		321	0		371	0		421	1		471			
0		22	0		72	0		122	0	+	172	0		222	1		272	3		322	0		372	0		422	1		472			
0		23	0		73	0		123	0	+	173	0		223	0		273	6	+	323	0		373	0		423	0		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	10	+	324	0		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	13	+	325	0		375	0		425	0		475			
0		26	0		76	1		126	0	+	176	0		226	0		276	20	+	326	0		376	0		426	0		476			
1		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	26	+	328	0		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	23	+	329	0		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	29	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	34	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	62	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	62	+	333	0		383	0		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	92	+	334	0		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	109	+	335	2		385	0		435	0		485			
0		36	0		86	0		136	0	+	186	0		236	1		286	84	+	336	1		386	0		436	0		486			
0		37	0		87	0		137	0		187	0		237	0		287	37	+	337	2		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	0		288	13	+	338	1		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	0		289	0	+	339	1		389	0		439	0		489			
0		40	0		90	0		140	0		190	0		240	0		290	0	+	340	1		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	0		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	0		346	0		396	0		446	0		496			
0		47	0		97	0		147	0	+	197	0		247	0		297	1		347	0		397	0		447	0		497			
0		48	0		98	0		148	0	+	198	0	+	248	1		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 7-JUL-2006 23:24:57

Configuration : RDND06$DKA100:[ALP83.SAMPLE]H7D1R1AG_070762004.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 31-MAY-2006 12:00:00 Acquisition date : 7-JUL-2006 20:04:51
Sample ID : H7D1R1AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP83 Detector geometry:
Elapsed live time: 0 03:20:03.00 Elapsed real time: 0 03:20:03.00 0.0%
Start energy : 2915.14 kev End energy : 6605.47 kev
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5331.20	650	0	44.19	334.44	323	18	5.42E-02	3.9	

VMS Nuclide Identification Report V3.1 Generated 7-JUL-2006 23:24:59

```
Configuration     : RDND06$DKA100:[ALP83.SAMPLE]H7D1R1AG_070762004.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : U BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 7-JUL-2006 20:04:51
Sample ID         : H7D1R1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP83                Detector geometry:
Elapsed live time: 0 03:20:03.00         Elapsed real time: 0 03:20:03.00   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                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:[ALP83.SAMPLE]H7D1R1AG_070762004.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5331.19	323	341	650	645	0.20		

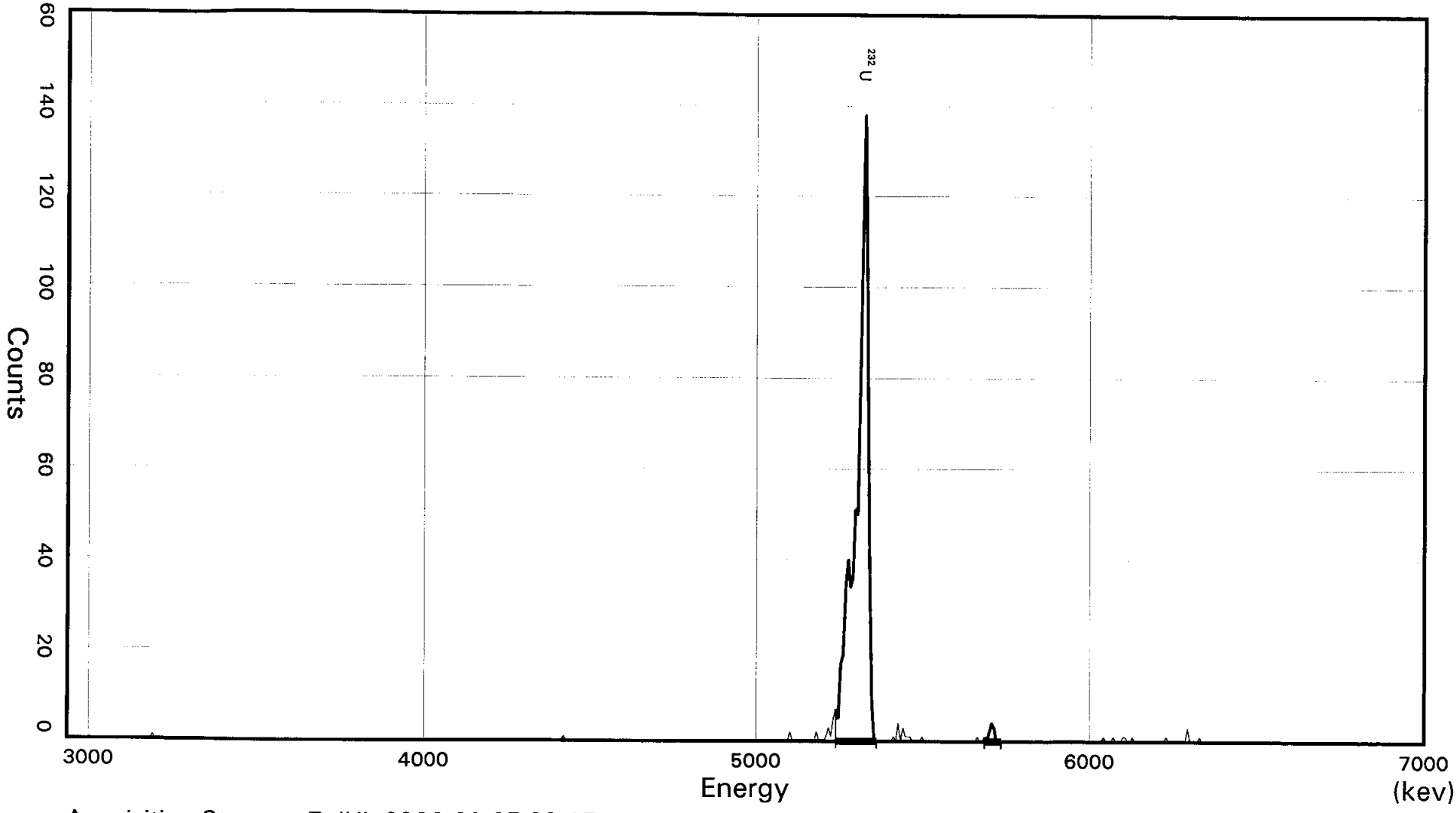
End of Report

STL Richland WA.

U BRC

Sample ID: H7D1X1AG
Detector ID: ALP84 1

Batch ID: 6167150



Acquisition Start: 7-JUL-2006 20:05:03.17
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:03.00

Energy Coefficients:
Offset: 2.91475E+03
Slope: 7.27474E+00
Quadrature: -1.17694E-04

SAMPLE IDENTIITY: H7D1X1AG

TITLE : U BRC

DETECTOR : ALP84 1
CONFIGURATION NAME : RDND06$DKA100:[ALP84.SAMPLE]H7D1X1AG_0707620
05.CNF;1
ACQUIRE DATE of BACKGROUND: 09-JUN-2006 06:58:10

REPORT DATE : 07-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 07-JUL-2006 20:05:03 CALIB DATE : 09-JUN-2006 06:21:40

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

OFFSET : 2914.75 keV CONSTANT FWHM : 5.00000 Channels
SLOPE : 7.27474 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.117694E-03 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H7D1X1AG

Detector: ALP84 1
Report Date: 07-Jul-06 11:25 PM
Acquire Date: 7-JUL-2006 20:05:03.17
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	753	17	0	3.757	5321.0	122.4	321	338	0.00	0.00	P
U-234	0	3	0	-0.001	4775.5	122.7	245	262	0.00	0.00	
U-235	1	2	0	0.004	4398.7	122.9	193	210	0.00	0.00	
U-238	0	0	0	0.000	4198.9	115.7	166	182	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H7D1X1AG
Detector: ALP84 1
Report Date: 07-Jul-06 11:25 PM
Acquire Date: 7-JUL-2006 20:05:03.17

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
		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	2		302	1		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	0		307	1		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	1	+	208	0	+	258	0		308	0		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	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	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	2		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	3		318	0		368	0		418	3		468			
0		19	0		69	0		119	0	+	169	0		219	0		269	1		319	0		369	0		419	0		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	7	+	321	0		371	0		421	0		471			
0		22	0		72	0		122	0	+	172	0		222	0		272	5	+	322	0		372	0		422	0		472			
0		23	0		73	0		123	0	+	173	0		223	0		273	17	+	323	0		373	0		423	1		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	19	+	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	0	+	176	0		226	0		276	40	+	326	0		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	36	+	328	0		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	51	+	329	0		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	50	+	330	1		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	78	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	112	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0		183	0		233	0		283	138	+	333	1		383	1		433	0		483			
0		34	0		84	0		134	0		184	0		234	0		284	87	+	334	0		384	0		434	0		484			
0		35	0		85	0		135	0		185	0		235	0		285	35	+	335	2		385	0		435	0		485			
0		36	0		86	0		136	0		186	0		236	0		286	9	+	336	4		386	0		436	0		486			
0		37	0		87	0		137	0		187	0		237	0		287	0	+	337	3		387	1		437	0		487			
1		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	1		441	0		491			
0		42	0		92	0		142	0		192	0		242	0		292	0		342	0		392	1		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	0		294	0		344	0		394	0		444	0		494			
0		45	0		95	0		145	0	+	195	0	+	245	0		295	1		345	0		395	1		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	4		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	3		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 7-JUL-2006 23:25:12

Configuration : RDND06$DKA100:[ALP84.SAMPLE]H7D1X1AG_070762005.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 31-MAY-2006 12:00:00 Acquisition date : 7-JUL-2006 20:05:03
Sample ID : H7D1X1AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP84 Detector geometry:
Elapsed live time: 0 03:20:03.00 Elapsed real time: 0 03:20:03.00 0.0%
Start energy : 2936.57 kev End energy : 6608.56 kev
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5321.03	753	0	29.10	332.56	321	17	6.27E-02	3.6	
2	0	5706.06	11	0	21.82	386.11	383	7	9.16E-04	30.2	

VMS Nuclide Identification Report V3.1 Generated 7-JUL-2006 23:25:13

```
Configuration     : RDND06$DKA100:[ALP84.SAMPLE]H7D1X1AG_070762005.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : U BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 7-JUL-2006 20:05:03
Sample ID         : H7D1X1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP84                Detector geometry:
Elapsed live time: 0 03:20:03.00         Elapsed real time: 0 03:20:03.00   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 : 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:[ALP84.SAMPLE]H7D1X1AG_070762005.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5321.02	321	338	753	752	0.04		
5706.05	383	390	11	10	0.30		

End of Report

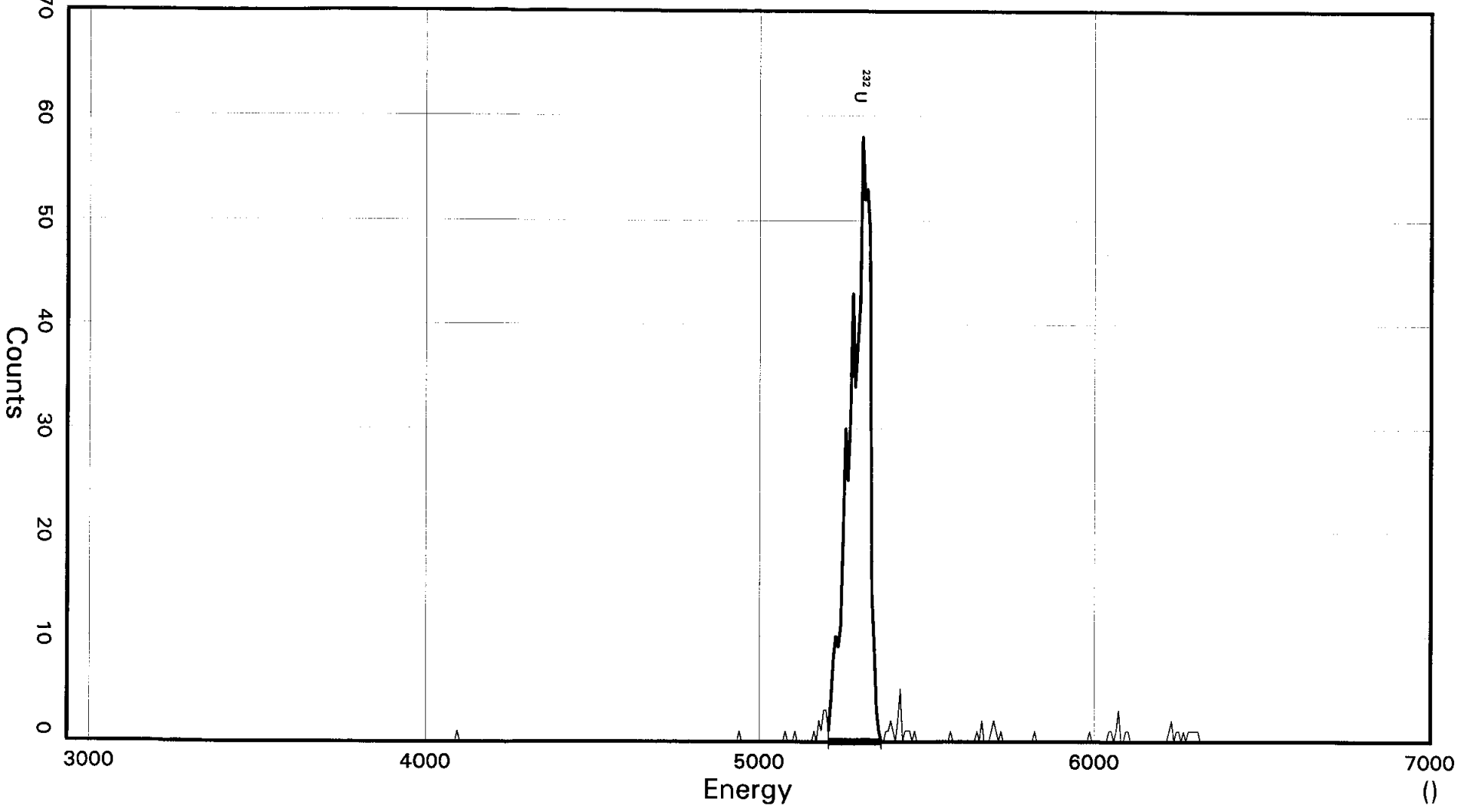
STL Richland WA.

U BRC

Sample ID: H7JMD1AA

Detector ID: ALP85 1

Batch ID: 6167150



Acquisition Start: 7-JUL-2006 20:05:20.81

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:11.00

Energy Coefficients:

Offset: 2.91304E+03

Slope: 7.16241E+00

Quadrature: 6.93387E-06

SAMPLE IDENTIITY: H7JMD1AA

TITLE : U BRC

DETECTOR : ALP85 1
CONFIGURATION NAME : RDND06$DKA100:[ALP85.SAMPLE]H7JMD1AA_0707620
05.CNF;1
ACQUIRE DATE of BACKGROUND: 09-JUN-2006 06:58:12

REPORT DATE : 07-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 07-JUL-2006 20:05:20 CALIB DATE : 09-JUN-2006 06:21:45

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:11

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: H7JMD1AA

Detector: ALP85 1
Report Date: 07-Jul-06 11:25 PM
Acquire Date: 7-JUL-2006 20:05:20.81
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	548	37	0	2.723	5298.1	157.7	320	342	0.00	0.00	P
U-234	0	5	0	-0.002	4752.6	157.7	244	266	0.00	0.00	
U-235	0	0	0	0.000	4375.8	157.6	191	213	0.00	0.00	
U-238	1	0	0	0.005	4176.0	157.6	163	185	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H7JMD1AA
Detector: ALP85 1
Report Date: 07-Jul-06 11:25 PM
Acquire Date: 7-JUL-2006 20:05:20.81

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	1		302	1		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0	+	203	0	+	253	0		303	1		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	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	1		306	1		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	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	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	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	0		464			
0		15	0		65	0		115	1	+	165	0		215	0	+	265	0		315	0		365	0		415	1		465			
0		16	0		66	0		116	0	+	166	0		216	0	+	266	2		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	1		468			
0		19	0		69	0		119	0	+	169	0		219	0		269	3		319	0		369	0		419	0		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	4	+	321	1		371	0		421	1		471			
0		22	0		72	0		122	0	+	172	0		222	0		272	8	+	322	0		372	0		422	1		472			
0		23	0		73	0		123	0	+	173	0		223	0		273	10	+	323	0		373	0		423	1		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	9	+	324	0		374	0		424	1		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	11	+	325	0		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	0		276	20	+	326	0		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	30	+	327	0		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	25	+	328	0		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	31	+	329	0		379	1		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	43	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	34	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	38	+	332	1		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	1		283	42	+	333	0		383	0		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	58	+	334	2		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	52	+	335	0		385	0		435	0		485			
0		36	0		86	0		136	0		186	0		236	0		286	53	+	336	0		386	0		436	0		486			
0		37	0		87	0		137	0		187	0		237	0		287	49	+	337	0		387	1		437	0		487			
0		38	0		88	0		138	0		188	0		238	0		288	14	+	338	1		388	1		438	0		488			
0		39	0		89	0		139	0		189	0		239	0		289	9	+	339	2		389	0		439	0		489			
0		40	0		90	0		140	0		190	0		240	0		290	3	+	340	1		390	1		440	0		490			
0		41	0		91	0		141	0	+	191	0		241	0		291	1	+	341	0		391	3		441	0		491			
0		42	0		92	0		142	0	+	192	0		242	0		292	0		342	1		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	0		294	1		344	0		394	1		444	0		494			
0		45	0		95	0		145	0	+	195	0	+	245	0		295	1		345	0		395	1		445	0		495			
0		46	0		96	0		146	0	+	196	0	+	246	0		296	2		346	0		396	0		446	0		496			
0		47	0		97	0		147	0	+	197	0	+	247	0		297	1		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	2		349	0		399	0		449	0		499			
0		50	0		100	0		150	0	+	200	0	+	250	0		300	5		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 7-JUL-2006 23:25:34

```
Configuration     : RDND06$DKA100:[ALP85.SAMPLE]H7JMD1AA_070762005.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 7-JUL-2006 20:05:20
Sample ID         : H7JMD1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP85                Detector geometry:
Elapsed live time: 0 03:20:11.00         Elapsed real time: 0 03:20:11.00   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	5298.15	548	0	71.62	332.90	320	22	4.56E-02	4.3	

VMS Nuclide Identification Report V3.1 Generated 7-JUL-2006 23:25:36

```
Configuration     : RDND06$DKA100:[ALP85.SAMPLE]H7JMD1AA_070762005.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : U BRC
Sample date       : 31-MAY-2006 12:00:00 Acquisition date : 7-JUL-2006 20:05:20
Sample ID         : H7JMD1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP85                Detector geometry:
Elapsed live time: 0 03:20:11.00         Elapsed real time: 0 03:20:11.00   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                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:[ALP85.SAMPLE]H7JMD1AA_070762005.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5298.14	320	342	548	545	0.13		

End of Report

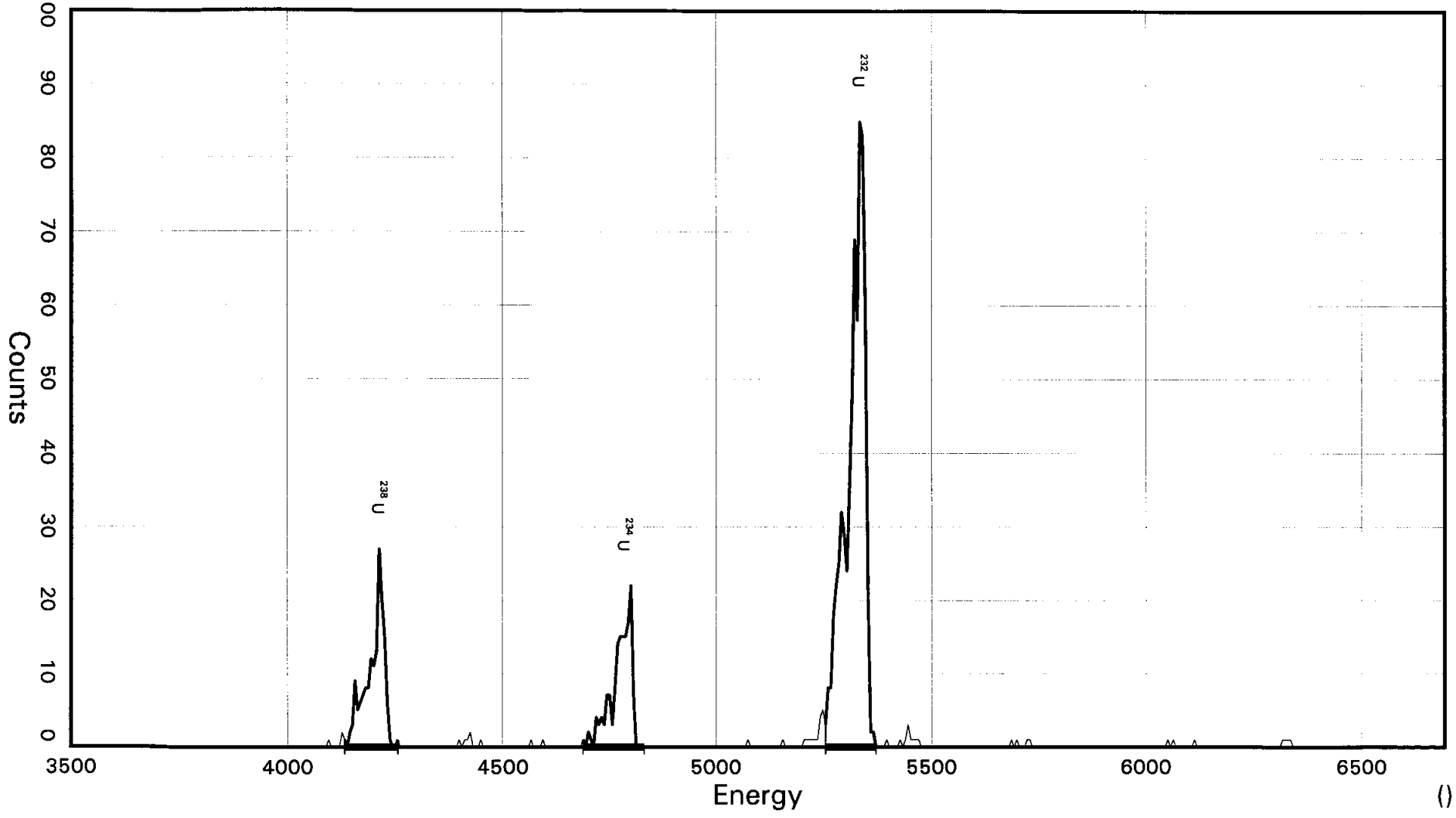
STL Richland WA.

U BRC

Sample ID: H7JMD1AC

Detector ID: ALP87 1

Batch ID: 6167150



Acquisition Start: 7-JUL-2006 20:06:36.13

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:11.00

Energy Coefficients:

Offset: 3.52509E+03

Slope: 6.19894E+00

Quadrature: -2.09215E-05

SAMPLE IDENTIITY: H7JMD1AC

TITLE : U BRC

DETECTOR : ALP87 1
CONFIGURATION NAME : RDND06$DKA100:[ALP87.SAMPLE]H7JMD1AC_0707620
06.CNF;1
ACQUIRE DATE of BACKGROUND: 09-JUN-2006 06:58:13

REPORT DATE : 07-Jul-06 SAMPLE DATE: 31-MAY-2006 12:00:00
ACQUIRE DATE: 07-JUL-2006 20:06:36 CALIB DATE : 09-JUN-2006 06:21:54

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:11

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: H7JMD1AC

Detector: ALP87 1
Report Date: 07-Jul-06 11:26 PM
Acquire Date: 7-JUL-2006 20:06:36.13
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	638	7	0	3.180	5330.7	117.6	279	298	0.00	0.00	P
U-234	148	2	0	0.737	4785.1	142.4	188	211	0.00	0.00	P
U-235	6	0	0	0.030	4408.3	117.7	130	149	0.00	0.00	
U-238	157	0	0	0.784	4208.5	123.9	98	118	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H7JMD1AC
Detector: ALP87 1
Report Date: 07-Jul-06 11:26 PM
Acquire Date: 7-JUL-2006 20:06:36.13

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	3	+	101	0		151	14	+	201	0		251	0		301	1		351	0		401	1		451	0		501
		2	0		52	9	+	102	0		152	15	+	202	0		252	1		302	0		352	0		402	1		452	0		502
0		3	0		53	5	+	103	0		153	15	+	203	0		253	0		303	0		353	0		403	1		453	0		503
0		4	0		54	6	+	104	0		154	15	+	204	0		254	0		304	0		354	0		404	1		454	0		504
0		5	0		55	7	+	105	0		155	17	+	205	0		255	0		305	1		355	0		405	0		455	0		505
0		6	0		56	8	+	106	0		156	22	+	206	0		256	0		306	1		356	0		406	0		456	0		506
0		7	0		57	8	+	107	0		157	7	+	207	0		257	1		307	0		357	0		407	0		457	0		507
0		8	0		58	12	+	108	0		158	0	+	208	0		258	0		308	0		358	1		408	0		458	0		508
0		9	0		59	11	+	109	0		159	0	+	209	0		259	1		309	0		359	0		409	0		459	0		509
0		10	0		60	13	+	110	0		160	0	+	210	0		260	3		310	0		360	1		410	0		460	0		510
0		11	0		61	27	+	111	0		161	0		211	0		261	1		311	0		361	0		411	0		461	0		511
0		12	0		62	20	+	112	0		162	0		212	0		262	1		312	0		362	0		412	0		462	0		512
0		13	0		63	15	+	113	0		163	0		213	1		263	1		313	0		363	0		413	0		463			
0		14	0		64	6	+	114	0		164	0		214	0		264	1		314	0		364	0		414	0		464			
0		15	0		65	1	+	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	0		317	0		367	0		417	0		467			
0		18	0		68	1		118	1		168	0		218	0		268	0		318	0		368	1		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	1		271	0		321	0		371	0		421	0		471			
0		22	0		72	0		122	0		172	0		222	1		272	0		322	0		372	0		422	0		472			
0		23	0		73	0		123	1		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	4		277	0		327	0		377	0		427	0		477			
0		28	0		78	0		128	0		178	0		228	5		278	0		328	0		378	0		428	0		478			
0		29	0		79	0		129	0		179	0		229	3	+	279	0		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	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	18	+	282	0		332	0		382	0		432	0		482			
0		33	0		83	0	+	133	0		183	0		233	22	+	283	0		333	0		383	0		433	0		483			
0		34	0		84	0	+	134	0		184	0		234	25	+	284	0		334	0		384	0		434	0		484			
0		35	0		85	0	+	135	0		185	0		235	32	+	285	0		335	0		385	0		435	0		485			
0		36	0		86	0	+	136	0		186	0		236	29	+	286	0		336	0		386	0		436	0		486			
0		37	0		87	0	+	137	0		187	0		237	24	+	287	0		337	0		387	0		437	0		487			
0		38	0		88	0	+	138	1	+	188	0		238	35	+	288	0		338	0		388	0		438	0		488			
0		39	0		89	0	+	139	0	+	189	0		239	47	+	289	0		339	0		389	0		439	0		489			
0		40	0		90	0	+	140	2	+	190	0		240	69	+	290	0		340	0		390	0		440	0		490			
0		41	0		91	1	+	141	1	+	191	0		241	58	+	291	0		341	0		391	0		441	0		491			
0		42	1		92	0	+	142	0	+	192	0		242	85	+	292	0		342	0		392	0		442	0		492			
0		43	0		93	1	+	143	4	+	193	0		243	83	+	293	0		343	0		393	0		443	0		493			
0		44	0		94	1	+	144	3	+	194	0		244	60	+	294	0		344	0		394	0		444	0		494			
0		45	0		95	2	+	145	4	+	195	0		245	20	+	295	0		345	0		395	0		445	0		495			
0		46	0		96	0	+	146	3	+	196	0		246	2	+	296	0		346	0		396	0		446	0		496			
0		47	2		97	0	+	147	7	+	197	0		247	2	+	297	0		347	0		397	0		447	0		497			
0		48	1	+	98	0	+	148	7	+	198	0		248	0		298	0		348	0		398	0		448	0		498			
0		49	0	+	99	1	+	149	3	+	199	0		249	0		299	1		349	0		399	0		449	0		499			
0		50	2	+	100	0		150	8	+	200	1		250	0		300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 7-JUL-2006 23:26:50

Configuration : RDND06$DKA100:[ALP87.SAMPLE]H7JMD1AC_070762006.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 31-MAY-2006 12:00:00 Acquisition date : 7-JUL-2006 20:06:36
Sample ID : H7JMD1AC Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP87 Detector geometry:
Elapsed live time: 0 03:20:11.00 Elapsed real time: 0 03:20:11.00 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	4210.74	157	0	37.19	110.65	98	20	1.31E-02	8.0	
2	0	4784.33	148	0	43.39	203.28	188	23	1.23E-02	8.2	
3	0	5330.65	638	0	37.19	291.56	279	19	5.31E-02	4.0	

VMS Nuclide Identification Report V3.1 Generated 7-JUL-2006 23:26:51

Configuration : RDND06$DKA100:[ALP87.SAMPLE]H7JMD1AC_070762006.CNF;1
Analyses by : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title : U BRC
Sample date : 31-MAY-2006 12:00:00 Acquisition date : 7-JUL-2006 20:06:36
Sample ID : H7JMD1AC Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP87 Detector geometry:
Elapsed live time: 0 03:20:11.00 Elapsed real time: 0 03:20:11.00 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 3
Number of unidentified lines 0
Number of lines tentatively identified by NID 3 100.00%

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			

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:[ALP87.SAMPLE]H7JMD1AC_070762006.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4210.73	98	118	157	155	0.16		
4784.33	188	211	148	148	0.00		
5330.65	279	298	638	630	0.32		

End of Report

ALPHA

SAMPLE AND QC DATA

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

7/12/2006 2:40:09 PM

Lot No., Due Date: J6F140275; 07/12/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6167154; RALPHA-A Alpha by GPC-Am

SDG, Matrix: 31903; 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** 7-12-06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 647154

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: 7-13-06

STL RICHLAND

6/23/2006 4:00:15 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: 07/11/2006

Sep1 DT/Tm Tech:

Batch: 6167154 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

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:
1 H7D0Q-1-AE J6F140275-1-SAMP 05/31/2006 10:30	0.833sa	12.58g,in AmtRec: FILTER	#Containers: 1	1.5	0.2	150	0A Scr:	1859 Alpha:	7/10/06	Beta:
2 H7D0W-1-AE J6F140275-2-SAMP 05/31/2006 11:00	0.833sa,g	12.52g,in AmtRec: FILTER	#Containers: 1		0.2		10B Scr:	Alpha:		Beta:
3 H7D00-1-AE J6F140275-3-SAMP 05/31/2006 11:20	0.833sa,g	12.56g,in AmtRec: FILTER	#Containers: 1		0.2		10C Scr:	Alpha:		Beta:
4 H7D02-1-AE J6F140275-4-SAMP 05/31/2006 11:45	0.833sa,g	12.57g,in AmtRec: FILTER	#Containers: 1		0.1		10D Scr:	Alpha:		Beta:
5 H7D03-1-AE J6F140275-5-SAMP 05/31/2006 12:10	0.833sa,g	12.65g,in AmtRec: FILTER	#Containers: 1		1.0		10E Scr:	Alpha:		Beta:
6 H7D05-1-AE J6F140275-6-SAMP 05/31/2006 12:20	0.833sa,g	12.54g,in AmtRec: FILTER	#Containers: 1		0.2		1A Scr:	0911 Alpha:	7/11/06	Beta:
7 H7D08-1-AE J6F140275-7-SAMP 05/31/2006 10:35	0.833sa,g	12.66g,in AmtRec: FILTER	#Containers: 1		0.4		1B 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

ISV - Insufficient Volume for Analysis

WO Cnt: 7

Prep_SamplePrep v4.8.24

STL RICHLAND

6/23/2006 4:00:17 PM

Sample Preparation/Analysis

536403, Brown and Caldwell , Brown & Caldwell

BA Gross Alpha PrpRC5016/5014
S7 Gross Alpha by GPC using Am-241 curve
01 STANDARD TEST SET

Balance Id:1120373922

Pipet #: _____

AnalyDueDate: 07/11/2006

Sep1 DT/Tm Tech:

Batch: 6167154 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

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 H7D1A-1-AE J6F140275-8-SAMP 05/31/2006 10:40	0.833sa,g	12.55g,in	AmtRec: FILTER #Containers: 1	1.5	0.3	150	10C	0911	7/11/06	Scr: Alpha: Beta:
9 H7D1E-1-AE J6F140275-9-SAMP 05/31/2006 11:05	0.833sa,g	12.66g,in	AmtRec: FILTER #Containers: 1		0.3		10D			Scr: Alpha: Beta:
10H7D1J-1-AE J6F140275-10-SAMP 05/31/2006 11:25	0.833sa,g	12.68g,in	AmtRec: FILTER #Containers: 1		0.4		10E			Scr: Alpha: Beta:
11H7D1K-1-AE J6F140275-11-SAMP 05/31/2006 11:50	0.833sa,g	12.51g,in	AmtRec: FILTER #Containers: 1		0.6		10F	1224 ~~1156~~ 7/11/06	7/11/06	Scr: Alpha: Beta:
12H7D1N-1-AE J6F140275-12-SAMP 05/31/2006 12:15	0.833sa,g	12.55g,in	AmtRec: FILTER #Containers: 1		0.2		10B			Scr: Alpha: Beta:
13H7D1R-1-AE J6F140275-13-SAMP 05/31/2006 12:25	0.833sa,g	12.60g,in	AmtRec: FILTER #Containers: 1		0.1		10C			Scr: Alpha: Beta:
14H7D1X-1-AE J6F140275-14-SAMP 05/31/2006 11:10	0.833sa,g	12.59g,in	AmtRec: FILTER #Containers: 1		0.4		10D			Scr: Alpha: Beta:

6/23/2006 4:00:18 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 #: _____

AnalyDueDate: 07/11/2006

Sep1 DT/Tm Tech:

Batch: 6167154 pCi/sampl

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

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:
15H7JMH-1-AA-B J6F160000-154-BLK 05/31/2006 10:30		1.00sa,in AmtRec:	#Containers: 1	1.5	0.2	1.50	1SE	1204 ~~1156~~ 7/11/06	7/11/06	
							Scr:	Alpha:	Beta:	
16H7JMH-1-AC-C J6F160000-154-LCS 05/31/2006 10:30		1.00sa,in AmtRec:	ASC0392 06/15/06,pd 02/09/06,r #Containers: 1	↓	0.6	↓	10A	1549	7/11/06	
							Scr:	Alpha:	Beta:	

Comments:

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

H7D0Q1AE-SAMP Constituent List:
ALPHA RDL:20 pCi/sam LCL: UCL: RPD:
H7JMH1AA-BLK:
ALPHA RDL:20 pCi/sam LCL: UCL: RPD:
H7JMH1AC-LCS:

H7D0Q1AE-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H7JMH1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H7JMH1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

7/12/2006 2:10:00 PM

ICOC Fraction Transfer/Status Report

ByDate: 7/12/2005, 7/17/2006, Batch: '6167154', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6167154						
AC		**CalcC**	**HansenM**	6/26/2006 2:46:20 PM		
SC			wagarr	IsBatched	6/16/2006 4:55:22 PM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	6/26/2006 2:46:20 PM	RICH-RC-5016 REVISION 5
SC			ScottM	InPrep2	7/10/2006 8:24:46 AM	RICH-RC-5014 REVISION 6
SC			ScottM	Prep2C	7/10/2006 2:27:27 PM	RICH-RC-5014 REVISION 6
SC			DAWKINSO	CalcC	7/11/2006 9:23:31 PM	RICH-RD-0003 REVISION 4
AC			**ScottM**	7/10/2006 8:24:46		
AC			**ScottM**	7/10/2006 2:27:27 PM		
AC			**DAWKINSO**	7/11/2006 9:23:31 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 4

ICOCFractions v4.8.18

7/12/2006 2:09:59 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
31903	**9H7D0010**			**J6F1402753**	P-0655	FILTER	6/14/2006 10:00:00		5/31/2006 11:20:00 AM			
ALPHA	BAS7	0		7/10/2006 5:43:32 PM	**2.7812E+00**	1.54E+00	1.567E+00	5.727E+00	PCI/SA	1.0	1.0E+0	2.084E-2
BETA	BDS8	0		7/10/2006 12:24:15 PM	**1.6755E+01**	1.683E+00	2.259E+00	5.174E+00	PCI/SA	1.0	1.0E+0	3.351E-2
RA-226	BXTE	0		7/6/2006 1:09:00 PM	**2.608E-01**	1.369E-01	1.396E-01	4.453E-01	PCI/SA	0.97	1.0E+0	2.49E-1
RA-228	BXTF	0		7/11/2006 7:12:14 AM	**6.1877E-01**	5.395E-01	5.695E-01	2.587E+00	PCI/SA	0.891	1.0E+0	2.49E-1
U-234	7YSR	0		7/7/2006 5:48:10 PM	**0.0E+00**	0.0E+00	1.278E-01	2.827E-01	PCI/SA	0.944	1.0E+0	3.224E-2
U-235	7YSR	0		7/7/2006 5:48:10 PM	**0.0E+00**	0.0E+00	1.278E-01	2.827E-01	PCI/SA	0.944	1.0E+0	3.224E-2
U-238	7YSR	0		7/7/2006 5:48:10 PM	**8.3448E-02**	1.064E-01	1.066E-01	4.997E-01	PCI/SA	0.944	1.0E+0	3.224E-2
31903	**9H7D0210**			**J6F1402754**	P-0656	FILTER	6/14/2006 10:00:00		5/31/2006 11:45:00 AM			
ALPHA	BAS7	0		7/10/2006 5:43:32 PM	**2.29E+00**	1.452E+00	1.471E+00	5.616E+00	PCI/SA	1.0	1.0E+0	2.089E-2
BETA	BDS8	0		7/10/2006 12:24:15 PM	**2.1206E+01**	1.893E+00	2.43E+00	5.728E+00	PCI/SA	1.0	1.0E+0	3.411E-2
RA-226	BXTE	0		7/6/2006 1:11:00 PM	**2.0153E-01**	1.482E-01	1.499E-01	5.146E-01	PCI/SA	0.98	1.0E+0	2.496E-1
RA-228	BXTF	0		7/11/2006 7:12:23 AM	**1.2078E+00**	5.041E-01	5.041E-01	2.122E+00	PCI/SA	0.881	1.0E+0	2.496E-1
U-234	7YSR	0		7/7/2006 5:48:31 PM	**-3.1913E-02**	1.596E-02	1.616E-02	5.324E-01	PCI/SA	0.966	1.0E+0	3.25E-2
U-235	7YSR	0		7/7/2006 5:48:31 PM	**-2.3934E-02**	1.382E-02	1.395E-02	4.972E-01	PCI/SA	0.966	1.0E+0	3.25E-2
U-238	7YSR	0		7/7/2006 5:48:31 PM	**-5.5847E-02**	2.111E-02	2.158E-02	6.17E-01	PCI/SA	0.966	1.0E+0	3.25E-2
31903	**9H7D0310**			**J6F1402755**	P-0657	FILTER	6/14/2006 10:00:00		5/31/2006 12:10:00 PM			
ALPHA	BAS7	0		7/10/2006 5:43:32 PM	**2.7802E+00**	1.354E+00	1.384E+00	4.661E+00	PCI/SA	1.0	1.0E+0	2.106E-2
BETA	BDS8	0		7/10/2006 3:01:31 PM	**1.6988E+01**	1.74E+00	2.139E+00	5.509E+00	PCI/SA	1.0	1.0E+0	3.34E-2
RA-226	BXTE	0		7/6/2006 1:12:00 PM	**3.0457E-01**	1.243E-01	1.288E-01	3.629E-01	PCI/SA	0.921	1.0E+0	2.503E-1
RA-228	BXTF	0		7/11/2006 7:12:23 AM	**1.7255E-02**	4.551E-01	4.703E-01	2.273E+00	PCI/SA	0.846	1.0E+0	2.503E-1
U-234	7YSR	0		7/7/2006 5:48:48 PM	**6.5503E-02**	1.109E-01	1.11E-01	6.17E-01	PCI/SA	0.945	1.0E+0	3.277E-2
U-235	7YSR	0		7/7/2006 5:48:48 PM	**-1.747E-02**	1.235E-02	1.243E-02	4.989E-01	PCI/SA	0.945	1.0E+0	3.277E-2
U-238	7YSR	0		7/7/2006 5:48:48 PM	**7.4238E-02**	1.106E-01	1.107E-01	5.831E-01	PCI/SA	0.945	1.0E+0	3.277E-2
31903	**9H7D0510**			**J6F1402756**	P-0658	FILTER	6/14/2006 10:00:00		5/31/2006 12:20:00 PM			
ALPHA	BAS7	0		7/11/2006 7:55:37 AM	**3.1276E+00**	1.437E+00	1.474E+00	4.915E+00	PCI/SA	1.0	1.0E+0	2.085E-2
BETA	BDS8	0		7/10/2006 3:01:31 PM	**1.3918E+01**	1.685E+00	1.95E+00	5.525E+00	PCI/SA	1.0	1.0E+0	3.318E-2
RA-226	BXTE	0		7/6/2006 1:11:00 PM	**1.2057E-01**	1.431E-01	1.436E-01	5.32E-01	PCI/SA	1.032	1.0E+0	2.495E-1
RA-228	BXTF	0		7/11/2006 7:12:23 AM	**4.9795E-01**	4.217E-01	4.439E-01	2.028E+00	PCI/SA	0.942	1.0E+0	2.495E-1
U-234	7YSR	0		7/7/2006 5:49:22 PM	**-1.6643E-02**	1.177E-02	1.185E-02	4.752E-01	PCI/SA	0.989	1.0E+0	3.281E-2
U-235	7YSR	0		7/7/2006 5:49:22 PM	**-1.6643E-02**	1.177E-02	1.185E-02	4.752E-01	PCI/SA	0.989	1.0E+0	3.281E-2
U-238	7YSR	0		7/7/2006 5:49:22 PM	**0.0E+00**	0.0E+00	1.273E-01	2.818E-01	PCI/SA	0.989	1.0E+0	3.281E-2
31903	**9H7D0810**			**J6F1402757**	P-0659	FILTER	6/14/2006 10:00:00		5/31/2006 10:35:00 AM			
ALPHA	BAS7	0		7/11/2006 7:55:37 AM	**3.1938E+00**	1.455E+00	1.492E+00	5.004E+00	PCI/SA	1.0	1.0E+0	2.107E-2
BETA	BDS8	0		7/10/2006 3:01:31 PM	**1.6219E+01**	1.724E+00	2.059E+00	5.351E+00	PCI/SA	1.0	1.0E+0	3.334E-2
RA-226	BXTE	0		7/6/2006 2:50:00 PM	**3.3219E-01**	1.368E-01	1.41E-01	4.224E-01	PCI/SA	0.936	1.0E+0	2.499E-1
RA-228	BXTF	0		7/11/2006 7:12:30 AM	**7.318E-01**	4.528E-01	4.528E-01	2.002E+00	PCI/SA	0.847	1.0E+0	2.499E-1
U-234	7YSR	0		7/7/2006 5:49:38 PM	**-5.9713E-02**	2.67E-02	2.718E-02	8.435E-01	PCI/SA	0.935	1.0E+0	3.245E-2
U-235	7YSR	0		7/7/2006 5:49:38 PM	**1.4926E-01**	1.493E-01	1.498E-01	4.045E-01	PCI/SA	0.935	1.0E+0	3.245E-2
U-238	7YSR	0		7/7/2006 5:49:38 PM	**0.0E+00**	0.0E+00	1.828E-01	4.045E-01	PCI/SA	0.935	1.0E+0	3.245E-2
31903	**9H7D0Q10**			**J6F1402751**	P-0653	FILTER	6/14/2006 10:00:00		5/31/2006 10:30:00 AM			
ALPHA	BAS7	0		7/10/2006 5:43:32 PM	**3.7642E+00**	1.577E+00	1.625E+00	5.305E+00	PCI/SA	1.0	1.0E+0	2.095E-2
BETA	BDS8	0		7/10/2006 12:24:15 PM	**1.6548E+01**	1.734E+00	2.077E+00	5.42E+00	PCI/SA	1.0	1.0E+0	3.344E-2
RA-226	BXTE	0		7/6/2006 1:10:00 PM	**4.869E-01**	2.198E-01	2.255E-01	7.193E-01	PCI/SA	0.904	1.0E+0	2.499E-1
RA-228	BXTF	0		7/11/2006 7:12:14 AM	**1.751E+00**	6.392E-01	6.511E-01	2.726E+00	PCI/SA	0.801	1.0E+0	2.499E-1
U-234	7YSR	0		7/7/2006 5:47:32 PM	**1.7713E-01**	1.405E-01	1.413E-01	4.713E-01	PCI/SA	0.992	1.0E+0	3.247E-2
U-235	7YSR	0		7/7/2006 5:47:32 PM	**0.0E+00**	0.0E+00	1.205E-01	2.667E-01	PCI/SA	0.992	1.0E+0	3.247E-2
U-238	7YSR	0		7/7/2006 5:47:32 PM	**7.8729E-02**	1.004E-01	1.006E-01	4.713E-01	PCI/SA	0.992	1.0E+0	3.247E-2
31903	**9H7D0W10**			**J6F1402752**	P-0654	FILTER	6/14/2006 10:00:00		5/31/2006 11:00:00 AM			
ALPHA	BAS7	0		7/10/2006 5:43:32 PM	**2.9105E+00**	1.446E+00	1.478E+00	5.13E+00	PCI/SA	1.0	1.0E+0	2.054E-2
BETA	BDS8	0		7/10/2006 12:24:15 PM	**1.9342E+01**	1.729E+00	2.186E+00	5.05E+00	PCI/SA	1.0	1.0E+0	3.324E-2
RA-226	BXTE	0		7/6/2006 1:10:00 PM	**1.9402E-01**	1.595E-01	1.608E-01	5.631E-01	PCI/SA	0.847	1.0E+0	2.461E-1

6167154, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 14,
**Results Inserted | ReTestInserted | Updated | NotInserted => 16 | 0 | 0 | 0.
**Diff RptDb | Qtims => .

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-228	BXTF	0		7/11/2006 7:12:14 AM	**1.9622E+00**	6.622E-01	6.69E-01	2.745E+00	PCI/SA		0.768	1.0E+0	2.461E-1
U-234	7YSR	0		7/7/2006 5:47:54 PM	**1.7818E-01**	1.414E-01	1.421E-01	4.742E-01	PCI/SA		0.901	1.0E+0	3.161E-2
U-235	7YSR	0		7/7/2006 5:47:54 PM	**-1.9817E-02**	1.982E-02	1.988E-02	4.742E-01	PCI/SA		0.901	1.0E+0	3.161E-2
U-238	7YSR	0		7/7/2006 5:47:54 PM	**-3.9634E-02**	2.803E-02	2.821E-02	5.596E-01	PCI/SA		0.901	1.0E+0	3.161E-2
31903	**9H7D1A10**			**J6F1402758**	000480	FILTER	6/14/2006 10:00:00	5/31/2006 10:40:00 AM					
ALPHA	BAS7	0		7/11/2006 7:55:37 AM	**3.0843E+00**	1.473E+00	1.507E+00	5.133E+00	PCI/SA		1.0	1.0E+0	2.081E-2
BETA	BDS8	0		7/10/2006 3:01:31 PM	**2.4512E+01**	1.876E+00	2.51E+00	5.162E+00	PCI/SA		1.0	1.0E+0	3.395E-2
RA-226	BXTE	0		7/6/2006 1:40:03 PM	**-9.2468E-02**	1.5E-01	1.503E-01	6.447E-01	PCI/SA		0.899	1.0E+0	2.497E-1
RA-228	BXTF	0		7/11/2006 7:12:30 AM	**1.3786E-01**	3.634E-01	4.258E-01	2.1E+00	PCI/SA		0.829	1.0E+0	2.497E-1
U-234	7YSR	0		7/7/2006 5:49:59 PM	**-4.5209E-02**	3.197E-02	3.218E-02	6.383E-01	PCI/SA		0.936	1.0E+0	3.243E-2
U-235	7YSR	0		7/7/2006 5:49:59 PM	**0.0E+00**	0.0E+00	1.383E-01	3.06E-01	PCI/SA		0.936	1.0E+0	3.243E-2
U-238	7YSR	0		7/7/2006 5:49:59 PM	**0.0E+00**	0.0E+00	1.383E-01	3.06E-01	PCI/SA		0.936	1.0E+0	3.243E-2
31903	**9H7D1E10**			**J6F1402759**	000481	FILTER	6/14/2006 10:00:00	5/31/2006 11:05:00 AM					
ALPHA	BAS7	0		7/11/2006 7:55:37 AM	**7.7193E+00**	1.918E+00	2.075E+00	5.051E+00	PCI/SA		1.0	1.0E+0	2.105E-2
BETA	BDS8	0		7/10/2006 3:01:34 PM	**1.949E+01**	1.738E+00	2.191E+00	5.115E+00	PCI/SA		1.0	1.0E+0	3.399E-2
RA-226	BXTE	0		7/6/2006 1:42:03 PM	**1.541E-01**	1.473E-01	1.48E-01	5.254E-01	PCI/SA		0.914	1.0E+0	2.503E-1
RA-228	BXTF	0		7/11/2006 7:12:42 AM	**6.097E-01**	3.845E-01	3.931E-01	1.771E+00	PCI/SA		0.818	1.0E+0	2.503E-1
U-234	7YSR	0		7/7/2006 9:44:00 PM	**-1.9532E-02**	1.953E-02	1.959E-02	4.676E-01	PCI/SA		1.055	1.0E+0	3.246E-2
U-235	7YSR	0		7/7/2006 9:44:00 PM	**0.0E+00**	0.0E+00	1.196E-01	2.646E-01	PCI/SA		1.055	1.0E+0	3.246E-2
U-238	7YSR	0		7/7/2006 9:44:00 PM	**-3.9064E-02**	2.762E-02	2.78E-02	5.517E-01	PCI/SA		1.055	1.0E+0	3.246E-2
31903	**9H7D1J10**			**J6F14027510**	000482	FILTER	6/14/2006 10:00:00	5/31/2006 11:25:00 AM					
ALPHA	BAS7	0		7/11/2006 7:55:37 AM	**4.3519E+00**	1.532E+00	1.596E+00	4.514E+00	PCI/SA		1.0	1.0E+0	2.111E-2
BETA	BDS8	0		7/10/2006 3:01:34 PM	**2.1127E+01**	1.727E+00	2.253E+00	4.853E+00	PCI/SA		1.0	1.0E+0	3.327E-2
RA-226	BXTE	0		7/6/2006 1:41:00 PM	**2.3332E-01**	1.903E-01	1.917E-01	6.715E-01	PCI/SA		0.873	1.0E+0	2.506E-1
RA-228	BXTF	0		7/11/2006 7:12:42 AM	**4.2228E-01**	4.01E-01	4.227E-01	1.985E+00	PCI/SA		0.758	1.0E+0	2.506E-1
U-234	7YSR	0		7/7/2006 9:44:13 PM	**2.6329E-01**	1.52E-01	1.534E-01	2.378E-01	PCI/SA		1.004	1.0E+0	3.264E-2
U-235	7YSR	0		7/7/2006 9:44:13 PM	**-1.7562E-02**	1.756E-02	1.762E-02	4.204E-01	PCI/SA		1.004	1.0E+0	3.264E-2
U-238	7YSR	0		7/7/2006 9:44:13 PM	**-3.5124E-02**	2.484E-02	2.499E-02	4.96E-01	PCI/SA		1.004	1.0E+0	3.264E-2
31903	**9H7D1K10**			**J6F14027511**	000483	FILTER	6/14/2006 10:00:00	5/31/2006 11:50:00 AM					
ALPHA	BAS7	0		7/11/2006 11:09:28	**9.0232E+00**	2.063E+00	2.267E+00	4.957E+00	PCI/SA		1.0	1.0E+0	2.072E-2
BETA	BDS8	0		7/10/2006 3:01:34 PM	**2.4396E+01**	1.849E+00	2.51E+00	5.133E+00	PCI/SA		1.0	1.0E+0	3.343E-2
RA-226	BXTE	0		7/6/2006 1:40:01 PM	**4.3572E-02**	1.076E-01	1.077E-01	4.218E-01	PCI/SA		1.085	1.0E+0	2.488E-1
RA-228	BXTF	0		7/11/2006 7:12:42 AM	**2.6924E-01**	3.657E-01	3.657E-01	1.73E+00	PCI/SA		0.965	1.0E+0	2.488E-1
U-234	7YSR	0		7/7/2006 9:44:21 PM	**5.1122E-01**	2.286E-01	2.323E-01	2.771E-01	PCI/SA		0.964	1.0E+0	3.221E-2
U-235	7YSR	0		7/7/2006 9:44:21 PM	**1.0224E-01**	1.022E-01	1.026E-01	2.771E-01	PCI/SA		0.964	1.0E+0	3.221E-2
U-238	7YSR	0		7/7/2006 9:44:21 PM	**8.1799E-02**	1.043E-01	1.045E-01	4.897E-01	PCI/SA		0.964	1.0E+0	3.221E-2
31903	**9H7D1N10**			**J6F14027512**	000484	FILTER	6/14/2006 10:00:00	5/31/2006 12:15:00 PM					
ALPHA	BAS7	0		7/11/2006 11:09:28	**3.5792E+00**	1.51E+00	1.555E+00	5.047E+00	PCI/SA		1.0	1.0E+0	2.087E-2
BETA	BDS8	0		7/10/2006 3:01:28 PM	**2.0716E+01**	1.798E+00	2.303E+00	5.252E+00	PCI/SA		1.0	1.0E+0	3.331E-2
RA-226	BXTE	0		7/6/2006 1:42:01 PM	**2.5875E-01**	1.148E-01	1.18E-01	3.344E-01	PCI/SA		0.898	1.0E+0	2.499E-1
RA-228	BXTF	0		7/11/2006 7:12:42 AM	**6.2279E-01**	3.551E-01	3.559E-01	1.572E+00	PCI/SA		0.807	1.0E+0	2.499E-1
U-234	7YSR	0		7/7/2006 9:44:39 PM	**6.5185E-02**	9.709E-02	9.723E-02	5.12E-01	PCI/SA		1.001	1.0E+0	3.279E-2
U-235	7YSR	0		7/7/2006 9:44:39 PM	**-2.3012E-02**	1.329E-02	1.341E-02	4.782E-01	PCI/SA		1.001	1.0E+0	3.279E-2
U-238	7YSR	0		7/7/2006 9:44:39 PM	**-5.3694E-02**	2.029E-02	2.075E-02	5.934E-01	PCI/SA		1.001	1.0E+0	3.279E-2
31903	**9H7D1R10**			**J6F14027513**	000485	FILTER	6/14/2006 10:00:00	5/31/2006 12:25:00 PM					
ALPHA	BAS7	0		7/11/2006 11:09:28	**1.9515E+00**	1.313E+00	1.328E+00	5.086E+00	PCI/SA		1.0	1.0E+0	2.098E-2
BETA	BDS8	0		7/10/2006 3:01:28 PM	**2.0042E+01**	1.763E+00	2.399E+00	5.163E+00	PCI/SA		1.0	1.0E+0	3.327E-2
RA-226	BXTE	0		7/6/2006 1:41:01 PM	**1.5633E-01**	1.063E-01	1.075E-01	3.633E-01	PCI/SA		0.918	1.0E+0	2.498E-1
RA-228	BXTF	0		7/11/2006 7:12:53 AM	**1.2625E+00**	5.361E-01	5.556E-01	2.372E+00	PCI/SA		0.8	1.0E+0	2.498E-1
U-234	7YSR	0		7/7/2006 9:44:53 PM	**-4.467E-02**	1.998E-02	2.031E-02	6.31E-01	PCI/SA		0.928	1.0E+0	3.247E-2
U-235	7YSR	0		7/7/2006 9:44:53 PM	**-1.7868E-02**	1.263E-02	1.272E-02	5.103E-01	PCI/SA		0.928	1.0E+0	3.247E-2
U-238	7YSR	0		7/7/2006 9:44:53 PM	**-3.5736E-02**	1.787E-02	1.81E-02	5.963E-01	PCI/SA		0.928	1.0E+0	3.247E-2
31903	**9H7D1X10**			**J6F14027514**	000486	FILTER	6/14/2006 10:00:00	5/31/2006 11:10:00 AM					
ALPHA	BAS7	0		7/11/2006 11:09:28	**7.4524E+00**	1.907E+00	2.055E+00	5.104E+00	PCI/SA		1.0	1.0E+0	2.084E-2

6167154, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 14,
**Results Inserted | ReTestInserted | Updated | NotInserted => 16 | 0 | 0 | 0.
**Diff RptDb | Qtims => .

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	
BETA	BDS8	0		7/10/2006 3:01:28 PM	**3.2061E+00**	1.309E+00	1.336E+00	5.128E+00	PCI/SA		1.0	1.0E+0	3.346E-2
RA-226	BXTE	0		7/6/2006 1:41:01 PM	**7.0279E-01**	1.603E-01	1.755E-01	3.809E-01	PCI/SA		0.937	1.0E+0	2.489E-1
RA-228	BXTF	0		7/11/2006 7:12:53 AM	**2.4454E+00**	5.04E-01	5.289E-01	1.818E+00	PCI/SA		0.845	1.0E+0	2.489E-1
U-234	7YSR	0		7/7/2006 9:45:05 PM	**-2.495E-02**	1.44E-02	1.454E-02	5.185E-01	PCI/SA		1.076	1.0E+0	3.218E-2
U-235	7YSR	0		7/7/2006 9:45:05 PM	**8.7304E-02**	1.046E-01	1.048E-01	4.75E-01	PCI/SA		1.076	1.0E+0	3.218E-2
U-238	7YSR	0		7/7/2006 9:45:05 PM	**0.0E+00**	0.0E+00	1.273E-01	2.817E-01	PCI/SA		1.076	1.0E+0	3.218E-2
31903	**H7JMH1AB**			**J6F160000154**	INTRA-LAB BLANK	FILTER	6/14/2006 10:00:00	5/31/2006 10:30:00 AM					
ALPHA	BAS7	0	B	7/11/2006 11:09:28	**5.2905E-02**	2.724E-02	2.775E-02	9.523E-02	PCI/SA		1.0	1.0E+0	1.0E+0
31903	**H7JMH1CS**			**J6F160000154**	INTRA-LAB CHECK	FILTER	6/14/2006 10:00:00	5/31/2006 10:30:00 AM					
ALPHA	BAS7	0	S	7/11/2006 2:33:38 PM	**2.1401E+00**	1.291E-01	2.535E-01	1.027E-01	PCI/SA	2.3877E+00	1.0	1.0E+0	1.0E+0

6167154, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 14,
**Results Inserted | ReTestInserted | Updated | NotInserted => 16 | 0 | 0 | 0.
**Diff RptDb | Qtims => .

Batch Nbr: 6167154

Alpha Beta, Alpha by GPC-Am , Results Summary Report

7/11/2006 9:21:35 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	**H7D0Q1AE**	ALPHA	**3.76E+00**	**(1.63E+00)**		PCI/SA	R	2.16E+00	5.30E+00	CRDL	100%	
Calc	S7	FILTER	**H7D0W1AE**	ALPHA	**2.91E+00**	**(1.48E+00)**		PCI/SA	R	2.07E+00	5.13E+00		100%	
Calc	S7	FILTER	**H7D001AE**	ALPHA	**2.78E+00**	**(1.57E+00)**		PCI/SA	R	2.36E+00	5.73E+00		100%	
Calc	S7	FILTER	**H7D021AE**	ALPHA	**2.29E+00**	**(1.47E+00)**	**U4**	PCI/SA	R	2.34E+00	5.62E+00		100%	
Calc	S7	FILTER	**H7D031AE**	ALPHA	**2.78E+00**	**(1.38E+00)**		PCI/SA	R	1.83E+00	4.66E+00		100%	
Calc	S7	FILTER	**H7D051AE**	ALPHA	**3.13E+00**	**(1.47E+00)**		PCI/SA	R	1.97E+00	4.92E+00		100%	
Calc	S7	FILTER	**H7D081AE**	ALPHA	**3.19E+00**	**(1.49E+00)**		PCI/SA	R	2.02E+00	5.00E+00		100%	
Calc	S7	FILTER	**H7D1A1AE**	ALPHA	**3.08E+00**	**(1.51E+00)**		PCI/SA	R	2.06E+00	5.13E+00		100%	
Calc	S7	FILTER	**H7D1E1AE**	ALPHA	**7.72E+00**	**(2.08E+00)**		PCI/SA	R	2.06E+00	5.05E+00		100%	
Calc	S7	FILTER	**H7D1J1AE**	ALPHA	**4.35E+00**	**(1.60E+00)**		PCI/SA	R	1.76E+00	4.51E+00		100%	
Calc	S7	FILTER	**H7D1K1AE**	ALPHA	**9.02E+00**	**(2.27E+00)**		PCI/SA	R	1.98E+00	4.96E+00		100%	
Calc	S7	FILTER	**H7D1N1AE**	ALPHA	**3.58E+00**	**(1.56E+00)**		PCI/SA	R	2.04E+00	5.05E+00		100%	
Calc	S7	FILTER	**H7D1R1AE**	ALPHA	**1.95E+00**	**(1.33E+00)**	**U4**	PCI/SA	R	2.05E+00	5.09E+00		100%	
Calc	S7	FILTER	**H7D1X1AE**	ALPHA	**7.45E+00**	**(2.05E+00)**		PCI/SA	R	2.08E+00	5.10E+00		100%	
Calc	S7	FILTER	**H7JMH1AA**	ALPHA	**5.29E-02**	**(2.78E-02)**		PCI/SA	R	3.71E-02	9.52E-02	**B**	100%	
Calc	S7	FILTER	**H7JMH1AC**	ALPHA	**2.14E+00**	**(2.54E-01)**		PCI/SA	R	4.11E-02	1.03E-01	**S**	100%	90%

P Anderson
7-11-06

() - (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: 6167154

Alpha Beta, Alpha by GPC-Am , Calculated Results

7/11/2006 9:21:35 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	S7	FILTER	*STLE	GabWoBS	**H7D0Q1AE**	**PCI/SA**		05/31/06 10:30	07/10/06 17:43			1	1.00 Sa	
536403,P-0653					,J6F140275-1 v4.8.24		FILTER			00.2				0.020952 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	07/10/06 18:58	ALPHA	17	22	GPC10A	1.5	N	N	3.9598E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.368E-02)	(0.000E+00)		8%			(0.000E+00)	47.727199		

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
	07/11/06	ALPHA	R	**3.764248**		6.93333E-02	0.175092	0.175092	1.00 Sa	100%		5.304718		
				(1.625065)		(2.9044E-02)	(0.074917)	(0.074917)	(0.028284)			2.163205		

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	**H7D0W1AE**	**PCI/SA**		05/31/06 11:00	07/10/06 17:43			1	1.00 Sa	
536403,P-0654					,J6F140275-2 v4.8.24		FILTER			00.2				0.020535 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	07/10/06 18:58	ALPHA	14	20	GPC10B	1.5	N	N	4.0195E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.349E-02)	(0.000E+00)		8%			(0.000E+00)	48.697115		

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
	07/11/06	ALPHA	R	**2.910545**		5.33333E-02	0.132686	0.132686	1.00 Sa	100%		5.129881		
				(1.477519)		(2.6499E-02)	(0.066924)	(0.066924)	(0.028284)			2.073198		

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	**H7D001AE**	**PCI/SA**		05/31/06 11:20	07/10/06 17:43			1	1.00 Sa	
536403,P-0655					,J6F140275-3 v4.8.24		FILTER			00.2				0.020841 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	07/10/06 18:58	ALPHA	15	25	GPC10C	1.5	N	N	3.8858E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.294E-02)	(0.000E+00)		8%			(0.000E+00)	47.982887		

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
	07/11/06	ALPHA	R	**2.781166**		5.00000E-02	0.128675	0.128675	1.00 Sa	100%		5.72718		
				(1.567047)		(2.7689E-02)	(0.072124)	(0.072124)	(0.028284)			2.362529		

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	**H7D021AE**	**PCI/SA**		05/31/06 11:45	07/10/06 17:43			1	1.00 Sa	
536403,P-0656					,J6F140275-4 v4.8.24		FILTER			00.1				0.020889 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	07/10/06 18:58	ALPHA	15	28	GPC10D	1.5	N	N	4.1432E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.205E-02)	(0.000E+00)		8%			(0.000E+00)	47.871177		

() - (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: 6167154

Alpha Beta, Alpha by GPC-Am , Calculated Results

7/11/2006 9:21:35 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
	07/11/06	ALPHA	R	**2.290018**	**U4**	4.40000E-02	0.106198	0.106198	1.00 Sa	100%		5.616437		
				(1.471237)		(2.7905E-02)	(0.067955)	(0.067955)	(0.028284)			2.33946		

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	**H7D031AE**	**PCI/SA**		05/31/06 12:10	07/10/06 17:43			1	1.00 Sa	
536403,P-0657					,J6F140275-5 v4.8.24		FILTER			01.0				0.021062 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	07/10/06 18:58	ALPHA	12	15	GPC10E	1.5	N	N	3.8463E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.138E-02)	(0.000E+00)		8%			(0.000E+00)	47.47828		

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
	07/11/06	ALPHA	R	**2.780152**		5.00000E-02	0.129995	0.129995	1.00 Sa	100%		4.661069		
				(1.38425)		(2.4358E-02)	(0.064293)	(0.064293)	(0.028284)			1.82934		

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	**H7D051AE**	**PCI/SA**		05/31/06 12:20	07/11/06 07:55			1	1.00 Sa	
536403,P-0658					,J6F140275-6 v4.8.24		FILTER			00.2				0.020853 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	07/11/06 09:10	ALPHA	14	18	GPC10A	1.5	N	N	3.9598E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.368E-02)	(0.000E+00)		8%			(0.000E+00)	47.955067		

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
	07/11/06	ALPHA	R	**3.127605**		5.73333E-02	0.144787	0.144787	1.00 Sa	100%		4.915294		
				(1.473923)		(2.6348E-02)	(0.067724)	(0.067724)	(0.028284)			1.966035		

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	**H7D081AE**	**PCI/SA**		05/31/06 10:35	07/11/06 07:55			1	1.00 Sa	
536403,P-0659					,J6F140275-7 v4.8.24		FILTER			00.4				0.021071 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	07/11/06 09:10	ALPHA	15	20	GPC10B	1.5	N	N	4.0160E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.348E-02)	(0.000E+00)		8%			(0.000E+00)	47.457846		

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
	07/11/06	ALPHA	R	**3.193849**		6.00000E-02	0.149403	0.149403	1.00 Sa	100%		5.003742		
				(1.492025)		(2.7325E-02)	(0.069265)	(0.069265)	(0.028284)			2.02222		

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	**H7D1A1AE**	**PCI/SA**		05/31/06 10:40	07/11/06 07:55			1	1.00 Sa	
536403,000480					,J6F140275-8 v4.8.24		FILTER			00.3				0.020806 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: 6167154

Alpha Beta, Alpha by GPC-Am , Calculated Results

7/11/2006 9:21:36 PM

0	07/11/06 09:10	ALPHA	14	19	GPC10C	1.5	N	N	3.8841E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.293E-02)	(0.000E+00)		8%			(0.000E+00)	48.064166		

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
	07/11/06	ALPHA	R	**3.084342**		5.53333E-02	0.142461	0.142461	1.00 Sa	100%		5.132539		
				(1.5074)		(2.6424E-02)	(0.069142)	(0.069142)	(0.028284)			2.063967		

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	**H7D1E1AE**	**PCI/SA**		05/31/06 11:05	07/11/06 07:55			1	1.00 Sa	
536403,000481					,J6F140275-9 v4.8.24		FILTER			00.3				0.021051 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	07/11/06 09:10	ALPHA	29	22	GPC10D	1.5	N	N	4.1395E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.204E-02)	(0.000E+00)		8%			(0.000E+00)	47.503362		

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
	07/11/06	ALPHA	R	**7.719308**		1.49333E-01	0.360751	0.360751	1.00 Sa	100%		5.050656		
				(2.075459)		(3.7106E-02)	(0.094754)	(0.094754)	(0.028284)			2.059602		

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	**H7D1J1AE**	**PCI/SA**		05/31/06 11:25	07/11/06 07:55			1	1.00 Sa	
536403,000482					,J6F140275-10 v4.8.24		FILTER			00.4				0.021114 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	07/11/06 09:10	ALPHA	16	14	GPC10E	1.5	N	N	3.8565E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.141E-02)	(0.000E+00)		8%			(0.000E+00)	47.362163		

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
	07/11/06	ALPHA	R	**4.351853**		7.86667E-02	0.203984	0.203984	1.00 Sa	100%		4.514002		
				(1.596212)		(2.7697E-02)	(0.073896)	(0.073896)	(0.028284)			1.75832		

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	**H7D1K1AE**	**PCI/SA**		05/31/06 11:50	07/11/06 11:09			1	1.00 Sa	
536403,000483					,J6F140275-11 v4.8.24		FILTER			00.6				0.02072 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	07/11/06 12:24	ALPHA	30	18	GPC10A	1.5	N	N	3.9513E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.365E-02)	(0.000E+00)		8%			(0.000E+00)	48.26295		

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
	07/11/06	ALPHA	R	**9.023198**		1.64000E-01	0.41505	0.41505	1.00 Sa	100%		4.957486		
				(2.267385)		(3.7488E-02)	(0.101533)	(0.101533)	(0.028284)			1.982911		

() - (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: 6167154

Alpha Beta, Alpha by GPC-Am , Calculated Results

7/11/2006 9:21:36 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	S7	FILTER	*STLE	GabWoBS	**H7D1N1AE**	**PCI/SA**		05/31/06 12:15	07/11/06 11:09			1	1.00 Sa	
536403,000484					,J6F140275-12 v4.8.24		FILTER			00.2				0.020874 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	07/11/06 12:24	ALPHA	16	20	GPC10B	1.5	N	N	4.0195E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.349E-02)	(0.000E+00)		8%			(0.000E+00)	47.90729		

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
	07/11/06	ALPHA	R	**3.579173**		6.66667E-02	0.165857	0.165857	1.00 Sa	100%		5.046679		
				(1.555302)		(2.8127E-02)	(0.071439)	(0.071439)	(0.028284)			2.039573		

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	S7	FILTER	*STLE	GabWoBS	**H7D1R1AE**	**PCI/SA**		05/31/06 12:25	07/11/06 11:09			1	1.00 Sa	
536403,000485					,J6F140275-13 v4.8.24		FILTER			00.1				0.02098 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	07/11/06 12:24	ALPHA	11	19	GPC10C	1.5	N	N	3.8874E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.295E-02)	(0.000E+00)		8%			(0.000E+00)	47.663827		

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
	07/11/06	ALPHA	R	**1.951471**	**U4**	3.53333E-02	0.090892	0.090892	1.00 Sa	100%		5.085505		
				(1.328267)		(2.3767E-02)	(0.061645)	(0.061645)	(0.028284)			2.045053		

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	S7	FILTER	*STLE	GabWoBS	**H7D1X1AE**	**PCI/SA**		05/31/06 11:10	07/11/06 11:09			1	1.00 Sa	
536403,000486					,J6F140275-14 v4.8.24		FILTER			00.4				0.020841 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	07/11/06 12:24	ALPHA	28	22	GPC10D	1.5	N	N	4.1377E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.204E-02)	(0.000E+00)		8%			(0.000E+00)	47.98202		

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
	07/11/06	ALPHA	R	**7.452351**		1.42667E-01	0.344801	0.344801	1.00 Sa	100%		5.103839		
				(2.054613)		(3.6503E-02)	(0.092975)	(0.092975)	(0.028284)			2.081289		

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	S7	FILTER	*STLE	GabWoBS	**H7JMH1AA**	**PCI/SA**	**B**	05/31/06 10:30	07/11/06 11:09			1	1.00 Sa	
0,INTRA-LAB BLANK					,J6F160000-154		FILTER			00.2				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	07/11/06 12:24	ALPHA	11	14	GPC10E	1.5	N	N	3.8598E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.142E-02)	(0.000E+00)		8%			(0.000E+00)	1.00		

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

RecCnt:15 RADCALC v4.8.24

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: 6167154

Alpha Beta, Alpha by GPC-Am , Calculated Results

7/11/2006 9:21:36 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
	07/11/06	ALPHA	R	**0.052905**		4.53333E-02	0.11745	0.11745	1.00 Sa	100%		0.095227		
				(0.027755)		(2.3343E-02)	(0.061301)	(0.061301)	(0.017321)			0.037093		

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	**H7JMH1AC**	**PCI/SA**	**S**	05/31/06 10:30	07/11/06 14:33		ASC0392	1	1.00 Sa	
0,INTRA-LAB CHECK					,J6F160000-154		FILTER			00.6		ASC0392 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	07/11/06 15:48	ALPHA	287	18	GPC10A	1.5	N	N	3.9513E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.365E-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
	07/11/06	ALPHA	R	**2.14015**		1.87733E+00	4.751137	4.751137	1.00 Sa	100%	90%	0.102718		
				(0.253521)		(1.1326E-01)	(0.503546)	(0.503546)	(0.017321)			0.041086		

() - (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

UST Number: H7D0Q1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-A File: [quad10.sample.A]H7D0Q1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.A_15;4248

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00017	00000	0150	00000	1000	10-JUL-2006 18:58:32.54

Bkg File: [quad10.bkgrnd]2006-07-09_2244.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00022	0500	0.04	00000	1000	9-JUL-2006 22:44:05.31

UST Number: H7D0W1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-B File: [quad10.sample.B]H7D0W1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.B_15;4245

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00014	00000	0150	00000	1000	10-JUL-2006 18:58:32.54

Bkg File: [quad10.bkgrnd]2006-07-09_2244.B_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00020	0500	0.04	00000	1000	9-JUL-2006 22:44:05.31

UST Number: H7D001AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-C File: [quad10.sample.C]H7D001AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.C_15;4254

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00015	00000	0150	00000	1000	10-JUL-2006 18:58:32.54

Bkg File: [quad10.bkgrnd]2006-07-09_2244.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00025	0500	0.05	00000	1000	9-JUL-2006 22:44:05.31

UST Number: H7D021AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-D File: [quad10.sample.D]H7D021AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.D_15;4248

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00015	00000	0150	00000	1000	10-JUL-2006 18:58:32.54

Bkg File: [quad10.bkgrnd]2006-07-09_2244.D_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00028	0500	0.06	00000	1000	9-JUL-2006 22:44:05.31

UST Number: H7D031AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-E File: [quad10.sample.E]H7D031AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.E_15;4243

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00012	00000	0150	00000	1000	10-JUL-2006 18:58:32.54

Bkg File: [quad10.bkgrnd]2006-07-09_2244.E_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00015	0500	0.03	00000	1000	9-JUL-2006 22:44:05.31

UST Number: H7D051AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-A File: [quad10.sample.A]H7D051AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.A_15;4249

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00014	00000	0150	00000	1000	11-JUL-2006 09:10:37.03

Bkg File: [quad10.bkgrnd]2006-07-11_0603.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00018	0500	0.04	00000	1000	11-JUL-2006 06:03:09.94

UST Number: H7D081AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-B File: [quad10.sample.B]H7D081AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.B_15;4246

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00015	00000	0150	00000	1000	11-JUL-2006 09:10:37.03

Bkg File: [quad10.bkgrnd]2006-07-11_0603.B_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00020	0500	0.04	00000	1000	11-JUL-2006 06:03:09.94

UST Number: H7D1A1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-C File: [quad10.sample.C]H7D1A1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.C_15;4255

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00014	00000	0150	00000	1000	11-JUL-2006 09:10:37.03

Bkg File: [quad10.bkgrnd]2006-07-11_0603.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00019	0500	0.04	00000	1000	11-JUL-2006 06:03:09.94

UST Number: H7D1E1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-D File: [quad10.sample.D]H7D1E1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.D_15;4249

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00029	00000	0150	00000	1000	11-JUL-2006 09:10:37.03

Bkg File: [quad10.bkgrnd]2006-07-11_0603.D_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00022	0500	0.04	00000	1000	11-JUL-2006 06:03:09.94

UST Number: H7D1J1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-E File: [quad10.sample.E]H7D1J1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.E_15;4244

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00016	00000	0150	00000	1000	11-JUL-2006 09:10:37.03

Bkg File: [quad10.bkgrnd]2006-07-11_0603.E_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00014	0500	0.03	00000	1000	11-JUL-2006 06:03:09.94

UST Number: H7D1K1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-A File: [quad10.sample.A]H7D1K1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.A_15;4249

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00030	00000	0150	00000	1000	11-JUL-2006 12:24:28.79

Bkg File: [quad10.bkgrnd]2006-07-11_0603.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00018	0500	0.04	00000	1000	11-JUL-2006 06:03:09.94

UST Number: H7D1N1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-B File: [quad10.sample.B]H7D1N1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.B_15;4246

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00016	00000	0150	00000	1000	11-JUL-2006 12:24:28.79

Bkg File: [quad10.bkgrnd]2006-07-11_0603.B_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00020	0500	0.04	00000	1000	11-JUL-2006 06:03:09.94

UST Number: H7D1R1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-C File: [quad10.sample.C]H7D1R1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.C_15;4255

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00011	00000	0150	00000	1000	11-JUL-2006 12:24:28.79

Bkg File: [quad10.bkgrnd]2006-07-11_0603.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00019	0500	0.04	00000	1000	11-JUL-2006 06:03:09.94

UST Number: H7D1X1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-D File: [quad10.sample.D]H7D1X1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.D_15;4249

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00028	00000	0150	00000	1000	11-JUL-2006 12:24:28.79

Bkg File: [quad10.bkgrnd]2006-07-11_0603.D_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00022	0500	0.04	00000	1000	11-JUL-2006 06:03:09.94

UST Number: H7JMH1AA Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-E File: [quad10.sample.E]H7JMH1AA.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.E_15;4244

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00011	00000	0150	00000	1000	11-JUL-2006 12:24:28.79

Bkg File: [quad10.bkgrnd]2006-07-11_0603.E_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00014	0500	0.03	00000	1000	11-JUL-2006 06:03:09.94

UST Number: H7JMH1AC Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-A File: [quad10.sample.A]H7JMH1AC.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.A_15;4249

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00287	00000	0150	00000	1000	11-JUL-2006 15:48:38.81

Bkg File: [quad10.bkgrnd]2006-07-11_0603.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00018	0500	0.04	00000	1000	11-JUL-2006 06:03:09.94

BETA

SAMPLE AND QC DATA

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

7/11/2006 3:47:36 PM

Lot No., Due Date: J6F140275; 07/12/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6167156; RBETA-SR Beta by GPC-Sr/Y

SDG, Matrix: 31903; 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~~ ✓ SAA 7-13-06

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. 10-08303

First Level Review Pam Anderson **Date** 7-11-06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6167156

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: Sheryl A Adam Date: 7-13-06

STL RICHLAND

6/23/2006 4:00:19 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: 07/11/2006

Sep1 DT/Tm Tech:

Batch: 6167156 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:
1 H7D0Q-1-AF J6F140275-1-SAMP 05/31/2006 10:30	0.833sa	500.14sa	50.10g,in	0.0834g	Dish PPT 1.4	~~150~~ 150	32A	1338	7/10/06	
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
2 H7D0W-1-AF J6F140275-2-SAMP 05/31/2006 11:00	0.833sa,g	507.87sa,g	50.75g,in	0.0832g	1.2		32B			
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
3 H7D00-1-AF J6F140275-3-SAMP 05/31/2006 11:20	0.833sa,g	502.02sa,g	50.33g,in	0.0835g	1.4		32C			
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
4 H7D02-1-AF J6F140275-4-SAMP 05/31/2006 11:45	0.833sa,g	501.25sa,g	50.61g,in	0.0841g	1.5		32D			
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
5 H7D03-1-AF J6F140275-5-SAMP 05/31/2006 12:10	0.833sa,g	500.30sa,g	50.09g,in	0.0834g	1.5		26A	1615	7/10/06	
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
6 H7D05-1-AF J6F140275-6-SAMP 05/31/2006 12:20	0.833sa,g	500.93sa,g	50.02g,in	0.0832g	1.4		26B			
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
7 H7D08-1-AF J6F140275-7-SAMP 05/31/2006 10:35	0.833sa,g	500.48sa,g	50.07g,in	0.0833g	1.0		26C			
		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: 7
Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Prep_SamplePrep v4.8.24

STL RICHLAND

6/23/2006 4:00:20 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: 07/11/2006

Sep1 DT/Tm Tech:

Batch: 6167156 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 H7D1A-1-AF J6F140275-8-SAMP 05/31/2006 10:40	0.833sa,g	502.47sa,g	50.64g,in	0.084g	Disc 1.5 2.0	150	26J	1615	7/10/06	
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
9 H7D1E-1-AF J6F140275-9-SAMP 05/31/2006 11:05	0.833sa,g	500.96sa,g	50.51g,in	0.084g	1.5		27A			
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
10 H7D1J-1-AF J6F140275-10-SAMP 05/31/2006 11:25	0.833sa,g	500.26sa,g	50.01g,in	0.0833g	1.5		27C			
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
11 H7D1K-1-AF J6F140275-11-SAMP 05/31/2006 11:50	0.833sa,g	502.94sa,g	50.37g,in	0.0834g	2.6		27D			
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
12 H7D1N-1-AF J6F140275-12-SAMP 05/31/2006 12:15	0.833sa,g	500.83sa,g	50.09g,in	0.0833g	1.9		28B			
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
13 H7D1R-1-AF J6F140275-13-SAMP 05/31/2006 12:25	0.833sa,g	500.27sa,g	50.01g,in	0.0833g	2.2		28C			
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
14 H7D1X-1-AF J6F140275-14-SAMP 05/31/2006 11:10	0.833sa,g	503.21sa,g	50.42g,in	0.0835g	1.0		28D			
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:

STL RICHLAND

6/23/2006 4:00:21 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: 07/11/2006

Batch: 6167156 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:
15H7JMN-1-AA-B J6F160000-156-BLK 05/31/2006 10:30	AmtRec:	#Containers: 1	1.00sa,in	1.00sa	Diw 1.5	PPT 0.1	150	31A	1615	7/10/Kay
								Scr:	Alpha:	Beta:
16H7JMN-1-AC-C J6F160000-156-LCS 05/31/2006 10:30	AmtRec:	#Containers: 1	1.00sa,in	1.00sa	BESB2833 06/15/06,pd 12/28/05,r	0.4		31B		
								Scr:	Alpha:	Beta:

Comments:

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

H7D0Q1AF-SAMP Constituent List:

BETA	RDL:5	pCi/sam	LCL:	UCL:	RPD:						
H7JMN1AA-BLK:											
BETA	RDL:5	pCi/sam	LCL:	UCL:	RPD:						
H7JMN1AC-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						

H7D0Q1AF-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H7JMN1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H7JMN1AC-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 #: **10-08303**
NCM Initiated By: Pam Anderson
Date Opened: 07/11/2006
Date Closed:

Classification: **Anomaly**
Status: **GLREVIEW**
Production Area: Environmental - Sep
Tests: Beta by GPC-Sr/Y
Lot #'s (Sample #'s): J6F140275 (1,4,5,6,7),
QC Batches: 6167156

Nonconformance: MDA not met
Subcategory: Data accepted

Problem Description / Root Cause

Name	Date	Description
Pam Anderson	07/11/2006	The samples listed do not meet CRDL but their results >MDA>CRDL: H7D0Q1AF H7D021AF H7D031AF H7D051AF H7D081AF.

Corrective Action

Name	Date	Corrective Action
Pam Anderson	07/11/2006	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: 7/11/2006

7/11/2006 3:17:10 PM

ICOC Fraction Transfer/Status Report

ByDate: 7/11/2005, 7/16/2006, Batch: '6167156', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6167156						
AC		InCnt1	HansenM	6/26/2006 2:46:25 PM		
SC			wagarr	IsBatched	6/16/2006 4:55:22 PM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	6/26/2006 2:46:25 PM	RICH-RC-5016 REVISION 5
SC			ScottM	InPrep2	7/10/2006 8:24:52 AM	RICH-RC-5014 REVISION 6
SC			BlackCL	InCnt1	7/10/2006 11:00:41 AM	RICH-RD-0003 REVISION 4
AC			ScottM	7/10/2006 8:24:52		
AC			BlackCL	7/10/2006 11:00:41		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 3

ICOCFractions v4.8.18

7/11/2006 3:17:10 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
31903	**9H7D0010**			**J6F1402753**	P-0655	FILTER	6/14/2006 10:00:00	5/31/2006 11:20:00 AM				
BETA	BDS8		0	7/10/2006 12:24:15 PM	**1.6755E+01**	1.683E+00	2.259E+00	5.174E+00	PCI/SA	1.0	1.0E+0	3.351E-2
RA-226	BXTE		0	7/6/2006 1:09:00 PM	**2.608E-01**	1.369E-01	1.396E-01	4.453E-01	PCI/SA	0.97	1.0E+0	2.49E-1
U-234	7YSR		0	7/7/2006 5:48:10 PM	**0.0E+00**	0.0E+00	1.278E-01	2.827E-01	PCI/SA	0.944	1.0E+0	3.224E-2
U-235	7YSR		0	7/7/2006 5:48:10 PM	**0.0E+00**	0.0E+00	1.278E-01	2.827E-01	PCI/SA	0.944	1.0E+0	3.224E-2
U-238	7YSR		0	7/7/2006 5:48:10 PM	**8.3448E-02**	1.064E-01	1.066E-01	4.997E-01	PCI/SA	0.944	1.0E+0	3.224E-2
31903	**9H7D0210**			**J6F1402754**	P-0656	FILTER	6/14/2006 10:00:00	5/31/2006 11:45:00 AM				
BETA	BDS8		0	7/10/2006 12:24:15 PM	**2.1206E+01**	1.893E+00	2.43E+00	5.728E+00	PCI/SA	1.0	1.0E+0	3.411E-2
RA-226	BXTE		0	7/6/2006 1:11:00 PM	**2.0153E-01**	1.482E-01	1.499E-01	5.146E-01	PCI/SA	0.98	1.0E+0	2.496E-1
U-234	7YSR		0	7/7/2006 5:48:31 PM	**-3.1913E-02**	1.596E-02	1.616E-02	5.324E-01	PCI/SA	0.966	1.0E+0	3.25E-2
U-235	7YSR		0	7/7/2006 5:48:31 PM	**-2.3934E-02**	1.382E-02	1.395E-02	4.972E-01	PCI/SA	0.966	1.0E+0	3.25E-2
U-238	7YSR		0	7/7/2006 5:48:31 PM	**-5.5847E-02**	2.111E-02	2.158E-02	6.17E-01	PCI/SA	0.966	1.0E+0	3.25E-2
31903	**9H7D0310**			**J6F1402755**	P-0657	FILTER	6/14/2006 10:00:00	5/31/2006 12:10:00 PM				
BETA	BDS8		0	7/10/2006 3:01:31 PM	**1.6988E+01**	1.74E+00	2.139E+00	5.509E+00	PCI/SA	1.0	1.0E+0	3.34E-2
RA-226	BXTE		0	7/6/2006 1:12:00 PM	**3.0457E-01**	1.243E-01	1.288E-01	3.629E-01	PCI/SA	0.921	1.0E+0	2.503E-1
U-234	7YSR		0	7/7/2006 5:48:48 PM	**6.5503E-02**	1.109E-01	1.11E-01	6.17E-01	PCI/SA	0.945	1.0E+0	3.277E-2
U-235	7YSR		0	7/7/2006 5:48:48 PM	**-1.747E-02**	1.235E-02	1.243E-02	4.989E-01	PCI/SA	0.945	1.0E+0	3.277E-2
U-238	7YSR		0	7/7/2006 5:48:48 PM	**7.4238E-02**	1.106E-01	1.107E-01	5.831E-01	PCI/SA	0.945	1.0E+0	3.277E-2
31903	**9H7D0510**			**J6F1402756**	P-0658	FILTER	6/14/2006 10:00:00	5/31/2006 12:20:00 PM				
BETA	BDS8		0	7/10/2006 3:01:31 PM	**1.3918E+01**	1.685E+00	1.95E+00	5.525E+00	PCI/SA	1.0	1.0E+0	3.318E-2
RA-226	BXTE		0	7/6/2006 1:11:00 PM	**1.2057E-01**	1.431E-01	1.436E-01	5.32E-01	PCI/SA	1.032	1.0E+0	2.495E-1
U-234	7YSR		0	7/7/2006 5:49:22 PM	**-1.6643E-02**	1.177E-02	1.185E-02	4.752E-01	PCI/SA	0.989	1.0E+0	3.281E-2
U-235	7YSR		0	7/7/2006 5:49:22 PM	**-1.6643E-02**	1.177E-02	1.185E-02	4.752E-01	PCI/SA	0.989	1.0E+0	3.281E-2
U-238	7YSR		0	7/7/2006 5:49:22 PM	**0.0E+00**	0.0E+00	1.273E-01	2.818E-01	PCI/SA	0.989	1.0E+0	3.281E-2
31903	**9H7D0810**			**J6F1402757**	P-0659	FILTER	6/14/2006 10:00:00	5/31/2006 10:35:00 AM				
BETA	BDS8		0	7/10/2006 3:01:31 PM	**1.6219E+01**	1.724E+00	2.059E+00	5.351E+00	PCI/SA	1.0	1.0E+0	3.334E-2
RA-226	BXTE		0	7/6/2006 2:50:00 PM	**3.3219E-01**	1.368E-01	1.41E-01	4.224E-01	PCI/SA	0.936	1.0E+0	2.499E-1
U-234	7YSR		0	7/7/2006 5:49:38 PM	**-5.9713E-02**	2.67E-02	2.718E-02	8.435E-01	PCI/SA	0.935	1.0E+0	3.245E-2
U-235	7YSR		0	7/7/2006 5:49:38 PM	**1.4926E-01**	1.493E-01	1.498E-01	4.045E-01	PCI/SA	0.935	1.0E+0	3.245E-2
U-238	7YSR		0	7/7/2006 5:49:38 PM	**0.0E+00**	0.0E+00	1.828E-01	4.045E-01	PCI/SA	0.935	1.0E+0	3.245E-2
31903	**9H7D0Q10**			**J6F1402751**	P-0653	FILTER	6/14/2006 10:00:00	5/31/2006 10:30:00 AM				
BETA	BDS8		0	7/10/2006 12:24:15 PM	**1.6548E+01**	1.734E+00	2.077E+00	5.42E+00	PCI/SA	1.0	1.0E+0	3.344E-2
RA-226	BXTE		0	7/6/2006 1:10:00 PM	**4.869E-01**	2.198E-01	2.255E-01	7.193E-01	PCI/SA	0.904	1.0E+0	2.499E-1
U-234	7YSR		0	7/7/2006 5:47:32 PM	**1.7713E-01**	1.405E-01	1.413E-01	4.713E-01	PCI/SA	0.992	1.0E+0	3.247E-2
U-235	7YSR		0	7/7/2006 5:47:32 PM	**0.0E+00**	0.0E+00	1.205E-01	2.667E-01	PCI/SA	0.992	1.0E+0	3.247E-2
U-238	7YSR		0	7/7/2006 5:47:32 PM	**7.8729E-02**	1.004E-01	1.006E-01	4.713E-01	PCI/SA	0.992	1.0E+0	3.247E-2
31903	**9H7D0W10**			**J6F1402752**	P-0654	FILTER	6/14/2006 10:00:00	5/31/2006 11:00:00 AM				
BETA	BDS8		0	7/10/2006 12:24:15 PM	**1.9342E+01**	1.729E+00	2.186E+00	5.05E+00	PCI/SA	1.0	1.0E+0	3.324E-2
RA-226	BXTE		0	7/6/2006 1:10:00 PM	**1.9402E-01**	1.595E-01	1.608E-01	5.631E-01	PCI/SA	0.847	1.0E+0	2.461E-1
U-234	7YSR		0	7/7/2006 5:47:54 PM	**1.7818E-01**	1.414E-01	1.421E-01	4.742E-01	PCI/SA	0.901	1.0E+0	3.161E-2
U-235	7YSR		0	7/7/2006 5:47:54 PM	**-1.9817E-02**	1.982E-02	1.988E-02	4.742E-01	PCI/SA	0.901	1.0E+0	3.161E-2
U-238	7YSR		0	7/7/2006 5:47:54 PM	**-3.9634E-02**	2.803E-02	2.821E-02	5.596E-01	PCI/SA	0.901	1.0E+0	3.161E-2
31903	**9H7D1A10**			**J6F1402758**	000480	FILTER	6/14/2006 10:00:00	5/31/2006 10:40:00 AM				
BETA	BDS8		0	7/10/2006 3:01:31 PM	**2.4512E+01**	1.876E+00	2.51E+00	5.162E+00	PCI/SA	1.0	1.0E+0	3.395E-2
RA-226	BXTE		0	7/6/2006 1:40:03 PM	**-9.2468E-02**	1.5E-01	1.503E-01	6.447E-01	PCI/SA	0.899	1.0E+0	2.497E-1
U-234	7YSR		0	7/7/2006 5:49:59 PM	**-4.5209E-02**	3.197E-02	3.218E-02	6.383E-01	PCI/SA	0.936	1.0E+0	3.243E-2
U-235	7YSR		0	7/7/2006 5:49:59 PM	**0.0E+00**	0.0E+00	1.383E-01	3.06E-01	PCI/SA	0.936	1.0E+0	3.243E-2
U-238	7YSR		0	7/7/2006 5:49:59 PM	**0.0E+00**	0.0E+00	1.383E-01	3.06E-01	PCI/SA	0.936	1.0E+0	3.243E-2
31903	**9H7D1E10**			**J6F1402759**	000481	FILTER	6/14/2006 10:00:00	5/31/2006 11:05:00 AM				
BETA	BDS8		0	7/10/2006 3:01:34 PM	**1.949E+01**	1.738E+00	2.191E+00	5.115E+00	PCI/SA	1.0	1.0E+0	3.399E-2
RA-226	BXTE		0	7/6/2006 1:42:03 PM	**1.541E-01**	1.473E-01	1.48E-01	5.254E-01	PCI/SA	0.914	1.0E+0	2.503E-1
U-234	7YSR		0	7/7/2006 9:44:00 PM	**-1.9532E-02**	1.953E-02	1.959E-02	4.676E-01	PCI/SA	1.055	1.0E+0	3.246E-2

6167156, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 14,
**Results Inserted | ReTestInserted | Updated | NotInserted => 16 | 0 | 0 | 0.
**Diff RptDb | Qtims => .

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	
U-235	7YSR	0		7/7/2006 9:44:00 PM	**0.0E+00**	0.0E+00	1.196E-01	2.646E-01	PCI/SA		1.055	1.0E+0	3.246E-2
U-238	7YSR	0		7/7/2006 9:44:00 PM	**-3.9064E-02**	2.762E-02	2.78E-02	5.517E-01	PCI/SA		1.055	1.0E+0	3.246E-2
31903	**9H7D1J10**			**J6F14027510**	000482	FILTER	6/14/2006 10:00:00	5/31/2006 11:25:00 AM					
BETA	BDS8	0		7/10/2006 3:01:34 PM	**2.1127E+01**	1.727E+00	2.253E+00	4.853E+00	PCI/SA		1.0	1.0E+0	3.327E-2
RA-226	BXTE	0		7/6/2006 1:41:00 PM	**2.3332E-01**	1.903E-01	1.917E-01	6.715E-01	PCI/SA		0.873	1.0E+0	2.506E-1
U-234	7YSR	0		7/7/2006 9:44:13 PM	**2.6329E-01**	1.52E-01	1.534E-01	2.378E-01	PCI/SA		1.004	1.0E+0	3.264E-2
U-235	7YSR	0		7/7/2006 9:44:13 PM	**-1.7562E-02**	1.756E-02	1.762E-02	4.204E-01	PCI/SA		1.004	1.0E+0	3.264E-2
U-238	7YSR	0		7/7/2006 9:44:13 PM	**-3.5124E-02**	2.484E-02	2.499E-02	4.96E-01	PCI/SA		1.004	1.0E+0	3.264E-2
31903	**9H7D1K10**			**J6F14027511**	000483	FILTER	6/14/2006 10:00:00	5/31/2006 11:50:00 AM					
BETA	BDS8	0		7/10/2006 3:01:34 PM	**2.4396E+01**	1.849E+00	2.51E+00	5.133E+00	PCI/SA		1.0	1.0E+0	3.343E-2
RA-226	BXTE	0		7/6/2006 1:40:01 PM	**4.3572E-02**	1.076E-01	1.077E-01	4.218E-01	PCI/SA		1.085	1.0E+0	2.488E-1
U-234	7YSR	0		7/7/2006 9:44:21 PM	**5.1122E-01**	2.286E-01	2.323E-01	2.771E-01	PCI/SA		0.964	1.0E+0	3.221E-2
U-235	7YSR	0		7/7/2006 9:44:21 PM	**1.0224E-01**	1.022E-01	1.026E-01	2.771E-01	PCI/SA		0.964	1.0E+0	3.221E-2
U-238	7YSR	0		7/7/2006 9:44:21 PM	**8.1799E-02**	1.043E-01	1.045E-01	4.897E-01	PCI/SA		0.964	1.0E+0	3.221E-2
31903	**9H7D1N10**			**J6F14027512**	000484	FILTER	6/14/2006 10:00:00	5/31/2006 12:15:00 PM					
BETA	BDS8	0		7/10/2006 3:01:28 PM	**2.0716E+01**	1.798E+00	2.303E+00	5.252E+00	PCI/SA		1.0	1.0E+0	3.331E-2
RA-226	BXTE	0		7/6/2006 1:42:01 PM	**2.5875E-01**	1.148E-01	1.18E-01	3.344E-01	PCI/SA		0.898	1.0E+0	2.499E-1
U-234	7YSR	0		7/7/2006 9:44:39 PM	**6.5185E-02**	9.709E-02	9.723E-02	5.12E-01	PCI/SA		1.001	1.0E+0	3.279E-2
U-235	7YSR	0		7/7/2006 9:44:39 PM	**-2.3012E-02**	1.329E-02	1.341E-02	4.782E-01	PCI/SA		1.001	1.0E+0	3.279E-2
U-238	7YSR	0		7/7/2006 9:44:39 PM	**-5.3694E-02**	2.029E-02	2.075E-02	5.934E-01	PCI/SA		1.001	1.0E+0	3.279E-2
31903	**9H7D1R10**			**J6F14027513**	000485	FILTER	6/14/2006 10:00:00	5/31/2006 12:25:00 PM					
BETA	BDS8	0		7/10/2006 3:01:28 PM	**2.0042E+01**	1.763E+00	2.399E+00	5.163E+00	PCI/SA		1.0	1.0E+0	3.327E-2
RA-226	BXTE	0		7/6/2006 1:41:01 PM	**1.5633E-01**	1.063E-01	1.075E-01	3.633E-01	PCI/SA		0.918	1.0E+0	2.498E-1
U-234	7YSR	0		7/7/2006 9:44:53 PM	**-4.467E-02**	1.998E-02	2.031E-02	6.31E-01	PCI/SA		0.928	1.0E+0	3.247E-2
U-235	7YSR	0		7/7/2006 9:44:53 PM	**-1.7868E-02**	1.263E-02	1.272E-02	5.103E-01	PCI/SA		0.928	1.0E+0	3.247E-2
U-238	7YSR	0		7/7/2006 9:44:53 PM	**-3.5736E-02**	1.787E-02	1.81E-02	5.963E-01	PCI/SA		0.928	1.0E+0	3.247E-2
31903	**9H7D1X10**			**J6F14027514**	000486	FILTER	6/14/2006 10:00:00	5/31/2006 11:10:00 AM					
BETA	BDS8	0		7/10/2006 3:01:28 PM	**3.2061E+00**	1.309E+00	1.336E+00	5.128E+00	PCI/SA		1.0	1.0E+0	3.346E-2
RA-226	BXTE	0		7/6/2006 1:41:01 PM	**7.0279E-01**	1.603E-01	1.755E-01	3.809E-01	PCI/SA		0.937	1.0E+0	2.489E-1
U-234	7YSR	0		7/7/2006 9:45:05 PM	**-2.495E-02**	1.44E-02	1.454E-02	5.185E-01	PCI/SA		1.076	1.0E+0	3.218E-2
U-235	7YSR	0		7/7/2006 9:45:05 PM	**8.7304E-02**	1.046E-01	1.048E-01	4.75E-01	PCI/SA		1.076	1.0E+0	3.218E-2
U-238	7YSR	0		7/7/2006 9:45:05 PM	**0.0E+00**	0.0E+00	1.273E-01	2.817E-01	PCI/SA		1.076	1.0E+0	3.218E-2
31903	**H7JMN1AB**			**J6F160000156**	INTRA-LAB BLANK	FILTER	6/14/2006 10:00:00	5/31/2006 10:30:00 AM					
BETA	BDS8	0	B	7/10/2006 3:01:28 PM	**1.4583E-01**	1.066E-01	1.07E-01	4.336E-01	PCI/SA		1.0	1.0E+0	1.0E+0
31903	**H7JMN1CS**			**J6F160000156**	INTRA-LAB CHECK	FILTER	6/14/2006 10:00:00	5/31/2006 10:30:00 AM					
BETA	BDS8	0	S	7/10/2006 3:01:28 PM	**3.9092E+00**	1.882E-01	3.722E-01	4.083E-01	PCI/SA	4.5942E+00	1.0	1.0E+0	1.0E+0

6167156, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 14,
**Results Inserted | ReTestInserted | Updated | NotInserted => 16 | 0 | 0 | 0.
**Diff RptDb | Qtims => .

Batch Nbr: 6167156

Alpha Beta, Beta by GPC-Sr/Y , Results

Summary Report

7/10/2006 7:35:02 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	**H7D0Q1AF**	BETA	**1.65E+01**	**(2.08E+00)**		PCI/SA	R	2.60E+00	5.42E+00		100%	
Calc	S8	FILTER	**H7D0W1AF**	BETA	**1.93E+01**	**(2.19E+00)**		PCI/SA	R	2.42E+00	5.05E+00		100%	
Calc	S8	FILTER	**H7D001AF**	BETA	**1.68E+01**	**(2.26E+00)**		PCI/SA	R	2.48E+00	5.17E+00		100%	
Calc	S8	FILTER	**H7D021AF**	BETA	**2.12E+01**	**(2.43E+00)**		PCI/SA	R	2.75E+00	5.73E+00		100%	
Calc	S8	FILTER	**H7D031AF**	BETA	**1.70E+01**	**(2.14E+00)**		PCI/SA	R	2.65E+00	5.51E+00		100%	
Calc	S8	FILTER	**H7D051AF**	BETA	**1.39E+01**	**(1.95E+00)**		PCI/SA	R	2.65E+00	5.53E+00		100%	
Calc	S8	FILTER	**H7D081AF**	BETA	**1.62E+01**	**(2.06E+00)**		PCI/SA	R	2.56E+00	5.35E+00		100%	
Calc	S8	FILTER	**H7D1A1AF**	BETA	**2.45E+01**	**(2.51E+00)**		PCI/SA	R	2.47E+00	5.16E+00		100%	
Calc	S8	FILTER	**H7D1E1AF**	BETA	**1.95E+01**	**(2.19E+00)**		PCI/SA	R	2.45E+00	5.11E+00		100%	
Calc	S8	FILTER	**H7D1J1AF**	BETA	**2.11E+01**	**(2.25E+00)**		PCI/SA	R	2.32E+00	4.85E+00		100%	
Calc	S8	FILTER	**H7D1K1AF**	BETA	**2.44E+01**	**(2.51E+00)**		PCI/SA	R	2.46E+00	5.13E+00		100%	
Calc	S8	FILTER	**H7D1N1AF**	BETA	**2.07E+01**	**(2.30E+00)**		PCI/SA	R	2.52E+00	5.25E+00		100%	
Calc	S8	FILTER	**H7D1R1AF**	BETA	**2.00E+01**	**(2.40E+00)**		PCI/SA	R	2.47E+00	5.16E+00		100%	
Calc	S8	FILTER	**H7D1X1AF**	BETA	**3.21E+00**	**(1.34E+00)**		PCI/SA	R	2.45E+00	5.13E+00		100%	
Calc	S8	FILTER	**H7JMN1AA**	BETA	**1.46E-01**	**(1.07E-01)**	**U4**	PCI/SA	R	2.08E-01	4.34E-01	**B**	100%	
Calc	S8	FILTER	**H7JMN1AC**	BETA	**3.91E+00**	**(3.72E-01)**		PCI/SA	R	1.95E-01	4.08E-01	**S**	100%	85%

PAnderson
7-11 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: 6167156

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

7/10/2006 7:35:02 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	S8	FILTER	*STLE	GabWoBS	**H7D0Q1AF**	**PCI/SA**		05/31/06 10:30	07/10/06 12:24			1	1.00 Sa	
536403,P-0653					,J6F140275-1 v4.8.24		FILTER			01.4				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	07/10/06 13:39	BETA	376	594	GPC32A	1.5	N	N	4.3018E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.035E-02)	(0.000E+00)		5%			(0.000E+00)	11.984195		

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
	07/10/06	BETA	R	**16.547879**		1.31867E+00	3.065398	3.065398	1.00 Sa	100%		5.419772		
				(2.077076)		(1.3816E-01)	(0.363415)	(0.363415)	(0.028284)			2.59807		

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	**H7D0W1AF**	**PCI/SA**		05/31/06 11:00	07/10/06 12:24			1	1.00 Sa	
536403,P-0654					,J6F140275-2 v4.8.24		FILTER			01.2				0.083239 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	07/10/06 13:39	BETA	396	534	GPC32B	1.5	N	N	4.3982E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.069E-02)	(0.000E+00)		5%			(0.000E+00)	12.013554		

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
	07/10/06	BETA	R	**19.3416**		1.57200E+00	3.574162	3.574162	1.00 Sa	100%		5.049906		
				(2.186281)		(1.4048E-01)	(0.37617)	(0.37617)	(0.028284)			2.415243		

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	**H7D001AF**	**PCI/SA**		05/31/06 11:20	07/10/06 12:24			1	1.00 Sa	
536403,P-0655					,J6F140275-3 v4.8.24		FILTER			01.4				0.083512 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	07/10/06 13:39	BETA	380	577	GPC32C	1.5	N	N	4.4404E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(2.770E-02)	(0.000E+00)		5%			(0.000E+00)	11.974271		

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
	07/10/06	BETA	R	**16.754947**		1.37933E+00	3.106328	3.106328	1.00 Sa	100%		5.173778		
				(2.259204)		(1.3855E-01)	(0.398789)	(0.398789)	(0.028284)			2.478632		

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	**H7D021AF**	**PCI/SA**		05/31/06 11:45	07/10/06 12:24			1	1.00 Sa	
536403,P-0656					,J6F140275-4 v4.8.24		FILTER			01.5				0.084106 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	07/10/06 13:39	BETA	458	676	GPC32D	1.5	N	N	4.2968E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.331E-02)	(0.000E+00)		5%			(0.000E+00)	11.889759		

() - (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: 6167156

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

7/10/2006 7:35:02 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
	07/10/06	BETA	R	**21.206312**		1.70133E+00	3.959547	3.959547	1.00 Sa	100%		5.727836		
				(2.429555)		(1.5185E-01)	(0.423241)	(0.423241)	(0.028284)			2.752957		

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	**H7D031AF**	**PCI/SA**		05/31/06 12:10	07/10/06 15:01			1	1.00 Sa	
536403,P-0657					,J6F140275-5 v4.8.24		FILTER			01.5				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
1	07/10/06 16:16	BETA	423	693	GPC26A	1.5	N	N	4.5593E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.556E-02)	(0.000E+00)		5%			(0.000E+00)	11.990422		

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
	07/10/06	BETA	R	**16.98758**		1.43400E+00	3.145216	3.145216	1.00 Sa	100%		5.509088		
				(2.139036)		(1.4687E-01)	(0.374205)	(0.374205)	(0.028284)			2.649106		

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	**H7D051AF**	**PCI/SA**		05/31/06 12:20	07/10/06 15:01			1	1.00 Sa	
536403,P-0658					,J6F140275-6 v4.8.24		FILTER			01.4				0.083179 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	07/10/06 16:16	BETA	359	635	GPC26B	1.5	N	N	4.3708E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.221E-02)	(0.000E+00)		5%			(0.000E+00)	12.022322		

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
	07/10/06	BETA	R	**13.918324**		1.12333E+00	2.570112	2.570112	1.00 Sa	100%		5.525212		
				(1.950416)		(1.3600E-01)	(0.344215)	(0.344215)	(0.028284)			2.652256		

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	**H7D081AF**	**PCI/SA**		05/31/06 10:35	07/10/06 15:01			1	1.00 Sa	
536403,P-0659					,J6F140275-7 v4.8.24		FILTER			01.0				0.083337 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	07/10/06 16:16	BETA	351	543	GPC26C	1.5	N	N	4.1791E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.032E-02)	(0.000E+00)		5%			(0.000E+00)	11.999527		

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
	07/10/06	BETA	R	**16.219057**		1.25400E+00	3.000647	3.000647	1.00 Sa	100%		5.351083		
				(2.058717)		(1.3331E-01)	(0.360224)	(0.360224)	(0.028284)			2.560226		

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	**H7D1A1AF**	**PCI/SA**		05/31/06 10:40	07/10/06 15:01			1	1.00 Sa	
536403,000480					,J6F140275-8 v4.8.24		FILTER			02.0				0.083952 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: 6167156

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

7/10/2006 7:35:03 PM

1	07/10/06 16:16	BETA	452	533	GPC26D	1.5	N	N	4.2626E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00
			150	500			Y		(8.755E-03)	(0.000E+00)		5%			(0.000E+00)	11.911637	

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
	07/10/06	BETA	R	**24.512138**		1.94733E+00	4.56839	4.56839	1.00 Sa	100%		5.161729		
				(2.509553)		(1.4907E-01)	(0.428106)	(0.428106)	(0.028284)			2.468623		

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	**H7D1E1AF**	**PCI/SA**		05/31/06 11:05	07/10/06 15:01			1	1.00 Sa	
536403,000481					,J6F140275-9 v4.8.24		FILTER			01.5				0.083988 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	07/10/06 16:16	BETA	409	562	GPC27A	1.5	N	N	4.4103E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(9.720E-03)	(0.000E+00)		5%			(0.000E+00)	11.906406		

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
	07/10/06	BETA	R	**19.489641**		1.60267E+00	3.63393	3.63393	1.00 Sa	100%		5.114686		
				(2.191008)		(1.4292E-01)	(0.380055)	(0.380055)	(0.028284)			2.448945		

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	**H7D1J1AF**	**PCI/SA**		05/31/06 11:25	07/10/06 15:01			1	1.00 Sa	
536403,000482					,J6F140275-10 v4.8.24		FILTER			01.5				0.083273 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	07/10/06 16:16	BETA	419	517	GPC27C	1.5	N	N	4.5045E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(9.964E-03)	(0.000E+00)		5%			(0.000E+00)	12.008643		

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
	07/10/06	BETA	R	**21.127155**		1.75933E+00	3.905715	3.905715	1.00 Sa	100%		4.853138		
				(2.253169)		(1.4384E-01)	(0.384148)	(0.384148)	(0.028284)			2.319468		

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	**H7D1K1AF**	**PCI/SA**		05/31/06 11:50	07/10/06 15:01			1	1.00 Sa	
536403,000483					,J6F140275-11 v4.8.24		FILTER			02.6				0.083426 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	07/10/06 16:16	BETA	474	572	GPC27D	1.5	N	N	4.4618E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.129E-02)	(0.000E+00)		5%			(0.000E+00)	11.986689		

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
	07/10/06	BETA	R	**24.396459**		2.01600E+00	4.518362	4.518362	1.00 Sa	100%		5.132875		
				(2.510163)		(1.5282E-01)	(0.425937)	(0.425937)	(0.028284)			2.458581		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
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RecCnt:12

RADCALC v4.8.24
STL Richland

Batch Nbr: 6167156

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

7/10/2006 7:35:03 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	**H7D1N1AF**	**PCI/SA**		05/31/06 12:15	07/10/06 15:01			1	1.00 Sa	
536403,000484					,J6F140275-12 v4.8.24		FILTER			01.9				0.083312 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	07/10/06 16:16	BETA	421	569	GPC28B	1.5	N	N	4.3553E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.084E-02)	(0.000E+00)		5%			(0.000E+00)	12.003124		

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
	07/10/06	BETA	R	**20.715517**		1.66867E+00	3.831377	3.831377	1.00 Sa	100%		5.252395		
				(2.302758)		(1.4487E-01)	(0.395519)	(0.395519)	(0.028284)			2.515548		

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	**H7D1R1AF**	**PCI/SA**		05/31/06 12:25	07/10/06 15:01			1	1.00 Sa	
536403,000485					,J6F140275-13 v4.8.24		FILTER			02.2				0.083272 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	07/10/06 16:16	BETA	414	563	GPC28C	1.5	N	N	4.4102E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(2.157E-02)	(0.000E+00)		5%			(0.000E+00)	12.008883		

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
	07/10/06	BETA	R	**20.042223**		1.63400E+00	3.705072	3.705072	1.00 Sa	100%		5.163233		
				(2.399057)		(1.4371E-01)	(0.416357)	(0.416357)	(0.028284)			2.472284		

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	**H7D1X1AF**	**PCI/SA**		05/31/06 11:10	07/10/06 15:01			1	1.00 Sa	
536403,000486					,J6F140275-14 v4.8.24		FILTER			01.0				0.083464 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	07/10/06 16:16	BETA	193	517	GPC28D	1.5	N	N	4.2533E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(2.223E-02)	(0.000E+00)		5%			(0.000E+00)	11.98123		

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
	07/10/06	BETA	R	**3.206074**		2.52667E-01	0.594053	0.594053	1.00 Sa	100%		5.128086		
				(1.336156)		(1.0318E-01)	(0.246362)	(0.246362)	(0.028284)			2.450875		

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	**H7JMN1AA**	**PCI/SA**	**B**	05/31/06 10:30	07/10/06 15:01			1	1.00 Sa	
0,INTRA-LAB BLANK					,J6F160000-156		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	07/10/06 16:16	BETA	193	572	GPC31A	1.5	N	N	4.4068E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.296E-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: 6167156

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

7/10/2006 7:35:03 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
	07/10/06	BETA	R	**0.145831**	**U4**	1.42667E-01	0.323746	0.323746	1.00 Sa	100%		0.433563		
				(0.107006)		(1.0424E-01)	(0.237288)	(0.237288)	(0.017321)			0.207671		

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	**H7JMN1AC**	**PCI/SA**	**S**	05/31/06 10:30	07/10/06 15:01		BESB2833	1	1.00 Sa	
0,INTRA-LAB CHECK					,J6F160000-156		FILTER			00.4		BESB2833 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	07/10/06 16:16	BETA	738	520	GPC31B	1.5	N	N	4.4708E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(2.468E-02)	(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
	07/10/06	BETA	R	**3.909236**		3.88000E+00	8.678513	8.678513	1.00 Sa	100%	85%	0.40831		
				(0.372201)		(1.8676E-01)	(0.769656)	(0.769656)	(0.017321)			0.19517		

() - (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
10-JUL-2006 13:39:15.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H7D0Q1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
10-JUL-2006 13:39:15.00	376	150.00	594	500.00	32A

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
4	14	4674	1492

Bkg Count Date/Time
09-JUL-2006 22:11:29.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
10-JUL-2006 13:39:15.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H7D0W1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
10-JUL-2006 13:39:15.00	396	150.00	534	500.00	32B

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
7	21	4674	1492

Bkg Count Date/Time
09-JUL-2006 22:11:29.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
10-JUL-2006 13:39:15.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H7D001AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
10-JUL-2006 13:39:15.00	380	150.00	577	500.00	32C

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
5	25	4674	1492

Bkg Count Date/Time
09-JUL-2006 22:11:29.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
10-JUL-2006 13:39:15.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H7D021AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
10-JUL-2006 13:39:15.00	458	150.00	676	500.00	32D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
8	14	4674	1492

Bkg Count Date/Time
09-JUL-2006 22:11:29.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
10-JUL-2006 16:16:31.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H7D031AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
10-JUL-2006 16:16:31.00	423	150.00	693	500.00	26A

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
11	30	4896	1500

Bkg Count Date/Time
10-JUL-2006 00:05:49.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
10-JUL-2006 16:16:31.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H7D051AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
10-JUL-2006 16:16:31.00	359	150.00	635	500.00	26B

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
8	30	4896	1500

Bkg Count Date/Time
10-JUL-2006 00:05:49.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
10-JUL-2006 16:16:31.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H7D081AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
10-JUL-2006 16:16:31.00	351	150.00	543	500.00	26C

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
5	16	4896	1500

Bkg Count Date/Time
10-JUL-2006 00:05:49.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
10-JUL-2006 16:16:31.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H7D1A1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
10-JUL-2006 16:16:31.00	452	150.00	533	500.00	26D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
5	21	4896	1500

Bkg Count Date/Time
10-JUL-2006 00:05:49.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
10-JUL-2006 16:16:34.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H7D1E1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
10-JUL-2006 16:16:34.00	409	150.00	562	500.00	27A

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
8	16	4880	1500

Bkg Count Date/Time
10-JUL-2006 00:05:53.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
10-JUL-2006 16:16:34.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H7D1J1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
10-JUL-2006 16:16:34.00	419	150.00	517	500.00	27C

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
2	13	4880	1500

Bkg Count Date/Time
10-JUL-2006 00:05:53.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
10-JUL-2006 16:16:34.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H7D1K1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
10-JUL-2006 16:16:34.00	474	150.00	572	500.00	27D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
7	9	4880	1500

Bkg Count Date/Time
10-JUL-2006 00:05:53.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
10-JUL-2006 16:16:28.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H7D1N1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
10-JUL-2006 16:16:28.00	421	150.00	569	500.00	28B

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
7	27	4672	1500

Bkg Count Date/Time
10-JUL-2006 00:05:53.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
10-JUL-2006 16:16:28.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H7D1R1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
10-JUL-2006 16:16:28.00	414	150.00	563	500.00	28C

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
2	27	4672	1500

Bkg Count Date/Time
10-JUL-2006 00:05:53.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
10-JUL-2006 16:16:28.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H7D1X1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
10-JUL-2006 16:16:28.00	193	150.00	517	500.00	28D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
3	23	4672	1500

Bkg Count Date/Time
10-JUL-2006 00:05:53.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
10-JUL-2006 16:16:28.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H7JMN1AA	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
10-JUL-2006 16:16:28.00	193	150.00	572	500.00	31A

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
2	9	234	1492

Bkg Count Date/Time
09-JUL-2006 22:10:38.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
10-JUL-2006 16:16:28.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H7JMN1AC	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
10-JUL-2006 16:16:28.00	738	150.00	520	500.00	31B

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
3	21	234	1492

Bkg Count Date/Time
09-JUL-2006 22:10:38.00

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

7/11/2006 4:04:39 PM

Lot No., Due Date: J6F140275; 07/12/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6167167; RRA228 Ra-228 by GPC

SDG, Matrix: 31903; 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** 7-11-06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6167167

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: 7-13-06

6/26/2006 11:21:16 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

Balance Id:1120373922,1120373922,1120

Pipet #: _____

AnalyDueDate: 07/11/2006

Sep1 DT/Tm Tech: 6/27/06 17:00 SE

Batch: 6167167 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: 6167160, BXTE

Sep2 DT/Tm Tech: 7-10-6 M 12:15

Prep Tech: HansenM,LongA

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 H7D0Q-1-AD J6F140275-1-SAMP	0.833sa	500.14sa	150.07g,in	0.2499g	RATA22861 06/26/06,pd 10/04/04,r	in	30.5	3x50	7A 1822 7/10/06 OAP	
			0.9039						7A 0707 7/11/06	
05/31/2006 10:30		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
2 H7D0W-1-AD J6F140275-2-SAMP	0.833sa,g	507.87sa,g	150.04g,in	0.2461g	RATA22862 06/26/06,pd 10/04/04,r		31.2		7B 1822 7/10/06 OAP	
			0.8466						7B 0707 7/11/06	
05/31/2006 11:00		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
3 H7D00-1-AD J6F140275-3-SAMP	0.833sa,g	502.02sa,g	150.05g,in	0.249g	RATA22863 06/26/06,pd 10/04/04,r		31.6		7C 1822 7/10/06 OAP	
			0.9696						7C 0707 7/11/06	
05/31/2006 11:20		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
4 H7D02-1-AD J6F140275-4-SAMP	0.833sa,g	501.25sa,g	150.19g,in	0.2496g	RATA22864 06/26/06,pd 10/04/04,r		30.9		1A 1820 7/10/06 OAP	
			0.9803						1A 0707 7/11/06	
05/31/2006 11:45		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

STL RICHLAND

426

6/26/2006 11:21:17 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

Balance Id:1120373922,1120373922,1120

Pipet #: _____

AnalyDueDate: 07/11/2006

Sep1 DT/Tm Tech:

Batch: 6167167 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: 6167160, BXTE

Sep2 DT/Tm Tech:

Prep Tech: HansenM,LongA

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 H7D03-1-AD J6F140275-5-SAMP	0.833sa,g	500.30sa,g	150.36g,in	0.2503g	RATA22865 06/26/06,pd 10/04/04,r	In	31.6	3x50 1C	1820	7/10/06 [illegible]
				0.9211				1C	0707	7/11/06
05/31/2006 12:10		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
6 H7D05-1-AD J6F140275-6-SAMP	0.833sa,g	500.93sa,g	150.04g,in	0.2495g	RATA22866 06/26/06,pd 10/04/04,r		31.4	1D	1820	7/10/06 [illegible]
				1.0318				1D	0707	7/11/06
05/31/2006 12:20		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
7 H7D08-1-AD J6F140275-7-SAMP	0.833sa,g	500.48sa,g	150.14g,in	0.2499g	RATA22867 06/26/06,pd 10/04/04,r		31.1	2B	1822	7/10/06 [illegible]
				0.9364				2A	0707	7/11/06
05/31/2006 10:35		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
8 H7D1A-1-AD J6F140275-8-SAMP	0.833sa,g	502.47sa,g	150.63g,in	0.2497g	RATA22868 06/26/06,pd 10/04/04,r		31.7	2C	1822	7/10/06 [illegible]
				0.8993				2B	0707	7/11/06
05/31/2006 10:40		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:

STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2 ISV - Insufficient Volume for Analysis WO Cnt: 8
Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Prep_SamplePrep v4.8.24

STL RICHLAND

6/26/2006 11:21:17 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

Balance Id:1120373922,1120373922,1120

Pipet #:

AnalyDueDate: 07/11/2006

Batch: 6167167 FILTER pCi/sampl PM, Quote: SA , 63174
SEQ Batch, Test: 6167160, BXTE

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: HansenM,LongA

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 H7D1E-1-AD J6F140275-9-SAMP	0.833sa,g	500.96sa,g	150.55g,in	0.2503g 0.9137	RATA22869 06/26/06,pd 10/04/04,r	In	30.8	3x50	3A 1821 7/10/06 OP 3A 0707 7/11/06	
05/31/2006 11:05		AmtRec: FILTER		#Containers: 1		Scr:		Alpha:		Beta:
10H7D1J-1-AD J6F140275-10-SAMP	0.833sa,g	500.26sa,g	150.48g,in	0.2506g 0.8726	RATA22870 06/26/06,pd 10/04/04,r		29.9		3B 1821 7/10/06 OP 3B 0707 7/11/06	
05/31/2006 11:25		AmtRec: FILTER		#Containers: 1		Scr:		Alpha:		Beta:
11H7D1K-1-AD J6F140275-11-SAMP	0.833sa,g	502.94sa,g	150.21g,in	0.2488g 1.0853	RATA22871 06/26/06,pd 10/04/04,r		30.6		3C 1821 7/10/06 OP 3C 0707 7/11/06	
05/31/2006 11:50		AmtRec: FILTER		#Containers: 1		Scr:		Alpha:		Beta:
12H7D1N-1-AD J6F140275-12-SAMP	0.833sa,g	500.83sa,g	150.25g,in	0.2499g 0.8982	RATA22872 06/26/06,pd 10/04/04,r		30.9		3D 1821 7/10/06 OP 3D 0707 7/11/06	
05/31/2006 12:15		AmtRec: FILTER		#Containers: 1		Scr:		Alpha:		Beta:

6/26/2006 11:21:17 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

Balance Id:1120373922,1120373922,1120

Pipet #: _____

AnalyDueDate: 07/11/2006

Sep1 DT/Tm Tech:

Batch: 6167167 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: 6167160, BXTE

Sep2 DT/Tm Tech:

Prep Tech: HansenM,LongA

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:
13H7D1R-1-AD J6F140275-13-SAMP	0.833sa,g	500.27sa,g	150.03g,in	0.2498g	RATA22873 06/26/06,pd 10/04/04,r	lin	30.0	3x50 4A	1821	7/10/06 GP
			0.9179					4A	0707	7/11/06
05/31/2006 12:25		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
14H7D1X-1-AD J6F140275-14-SAMP	0.833sa,g	503.21sa,g	150.35g,in	0.2489g	RATA22874 06/26/06,pd 10/04/04,r	31.0		4B	1821	7/10/06 GP
			0.9372					4B	0707	7/11/06
05/31/2006 11:10		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
15H7JM2-1-AA-B J6F160000-167-BLK			1.00sa,in	1.00sa	RATA22875 06/26/06,pd 10/04/04,r	31.1		4C	1821	7/10/06 GP
			0.9133					4C	0707	7/11/06
05/31/2006 10:30		AmtRec:		#Containers: 1			Scr:	Alpha:		Beta:
16H7JM2-1-AC-C J6F160000-167-LCS			1.00sa,in	1.00sa	RASC4133 06/09/06	31.6		4D	1821	7/10/06 GP
			0.9671					4D	0707	7/11/06
05/31/2006 10:30		AmtRec:		#Containers: 1			Scr:	Alpha:		Beta:

7/11/2006 3:36:20 PM

ICOC Fraction Transfer/Status Report

ByDate: 7/11/2005, 7/16/2006, Batch: '6167167', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6167167						
AC		CalcC	TamosaitisM	7/10/2006 2:19:13 PM		
SC			wagarr	IsBatched	6/16/2006 4:55:22 PM	ICOC_RADCALC v4.8.24
SC			TamosaitisM	Sep2C	7/10/2006 2:19:13 PM	RICH-RC-5005 REVISION 4
SC			DAWKINSO	InCnt1	7/10/2006 3:34:55 PM	RICH-RD-0003 REVISION 4
SC			BlackCL	CalcC	7/11/2006 7:57:57 AM	RICH-RD-0003 REVISION 4
AC			DAWKINSO	7/10/2006 3:34:55 PM		
AC			BlackCL	7/11/2006 7:57:57		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 3

ICOCFractions v4.8.18

7/11/2006 3:36:19 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
31903	**9H7D0010**			**J6F1402753**	P-0655	FILTER	6/14/2006 10:00:00		5/31/2006 11:20:00 AM			
BETA	BDS8		0	7/10/2006 12:24:15 PM	**1.6755E+01**	1.683E+00	2.259E+00	5.174E+00	PCI/SA	1.0	1.0E+0	3.351E-2
RA-226	BXTE		0	7/6/2006 1:09:00 PM	**2.608E-01**	1.369E-01	1.396E-01	4.453E-01	PCI/SA	0.97	1.0E+0	2.49E-1
RA-228	BXTF		0	7/11/2006 7:12:14 AM	**6.1877E-01**	5.395E-01	5.695E-01	2.587E+00	PCI/SA	0.891	1.0E+0	2.49E-1
U-234	7YSR		0	7/7/2006 5:48:10 PM	**0.0E+00**	0.0E+00	1.278E-01	2.827E-01	PCI/SA	0.944	1.0E+0	3.224E-2
U-235	7YSR		0	7/7/2006 5:48:10 PM	**0.0E+00**	0.0E+00	1.278E-01	2.827E-01	PCI/SA	0.944	1.0E+0	3.224E-2
U-238	7YSR		0	7/7/2006 5:48:10 PM	**8.3448E-02**	1.064E-01	1.066E-01	4.997E-01	PCI/SA	0.944	1.0E+0	3.224E-2
31903	**9H7D0210**			**J6F1402754**	P-0656	FILTER	6/14/2006 10:00:00		5/31/2006 11:45:00 AM			
BETA	BDS8		0	7/10/2006 12:24:15 PM	**2.1206E+01**	1.893E+00	2.43E+00	5.728E+00	PCI/SA	1.0	1.0E+0	3.411E-2
RA-226	BXTE		0	7/6/2006 1:11:00 PM	**2.0153E-01**	1.482E-01	1.499E-01	5.146E-01	PCI/SA	0.98	1.0E+0	2.496E-1
RA-228	BXTF		0	7/11/2006 7:12:23 AM	**1.2078E+00**	5.041E-01	5.041E-01	2.122E+00	PCI/SA	0.881	1.0E+0	2.496E-1
U-234	7YSR		0	7/7/2006 5:48:31 PM	**-3.1913E-02**	1.596E-02	1.616E-02	5.324E-01	PCI/SA	0.966	1.0E+0	3.25E-2
U-235	7YSR		0	7/7/2006 5:48:31 PM	**-2.3934E-02**	1.382E-02	1.395E-02	4.972E-01	PCI/SA	0.966	1.0E+0	3.25E-2
U-238	7YSR		0	7/7/2006 5:48:31 PM	**-5.5847E-02**	2.111E-02	2.158E-02	6.17E-01	PCI/SA	0.966	1.0E+0	3.25E-2
31903	**9H7D0310**			**J6F1402755**	P-0657	FILTER	6/14/2006 10:00:00		5/31/2006 12:10:00 PM			
BETA	BDS8		0	7/10/2006 3:01:31 PM	**1.6988E+01**	1.74E+00	2.139E+00	5.509E+00	PCI/SA	1.0	1.0E+0	3.34E-2
RA-226	BXTE		0	7/6/2006 1:12:00 PM	**3.0457E-01**	1.243E-01	1.288E-01	3.629E-01	PCI/SA	0.921	1.0E+0	2.503E-1
RA-228	BXTF		0	7/11/2006 7:12:23 AM	**1.7255E-02**	4.551E-01	4.703E-01	2.273E+00	PCI/SA	0.846	1.0E+0	2.503E-1
U-234	7YSR		0	7/7/2006 5:48:48 PM	**6.5503E-02**	1.109E-01	1.11E-01	6.17E-01	PCI/SA	0.945	1.0E+0	3.277E-2
U-235	7YSR		0	7/7/2006 5:48:48 PM	**-1.747E-02**	1.235E-02	1.243E-02	4.989E-01	PCI/SA	0.945	1.0E+0	3.277E-2
U-238	7YSR		0	7/7/2006 5:48:48 PM	**7.4238E-02**	1.106E-01	1.107E-01	5.831E-01	PCI/SA	0.945	1.0E+0	3.277E-2
31903	**9H7D0510**			**J6F1402756**	P-0658	FILTER	6/14/2006 10:00:00		5/31/2006 12:20:00 PM			
BETA	BDS8		0	7/10/2006 3:01:31 PM	**1.3918E+01**	1.685E+00	1.95E+00	5.525E+00	PCI/SA	1.0	1.0E+0	3.318E-2
RA-226	BXTE		0	7/6/2006 1:11:00 PM	**1.2057E-01**	1.431E-01	1.436E-01	5.32E-01	PCI/SA	1.032	1.0E+0	2.495E-1
RA-228	BXTF		0	7/11/2006 7:12:23 AM	**4.9795E-01**	4.217E-01	4.439E-01	2.028E+00	PCI/SA	0.942	1.0E+0	2.495E-1
U-234	7YSR		0	7/7/2006 5:49:22 PM	**-1.6643E-02**	1.177E-02	1.185E-02	4.752E-01	PCI/SA	0.989	1.0E+0	3.281E-2
U-235	7YSR		0	7/7/2006 5:49:22 PM	**-1.6643E-02**	1.177E-02	1.185E-02	4.752E-01	PCI/SA	0.989	1.0E+0	3.281E-2
U-238	7YSR		0	7/7/2006 5:49:22 PM	**0.0E+00**	0.0E+00	1.273E-01	2.818E-01	PCI/SA	0.989	1.0E+0	3.281E-2
31903	**9H7D0810**			**J6F1402757**	P-0659	FILTER	6/14/2006 10:00:00		5/31/2006 10:35:00 AM			
BETA	BDS8		0	7/10/2006 3:01:31 PM	**1.6219E+01**	1.724E+00	2.059E+00	5.351E+00	PCI/SA	1.0	1.0E+0	3.334E-2
RA-226	BXTE		0	7/6/2006 2:50:00 PM	**3.3219E-01**	1.368E-01	1.41E-01	4.224E-01	PCI/SA	0.936	1.0E+0	2.499E-1
RA-228	BXTF		0	7/11/2006 7:12:30 AM	**7.318E-01**	4.528E-01	4.528E-01	2.002E+00	PCI/SA	0.847	1.0E+0	2.499E-1
U-234	7YSR		0	7/7/2006 5:49:38 PM	**-5.9713E-02**	2.67E-02	2.718E-02	8.435E-01	PCI/SA	0.935	1.0E+0	3.245E-2
U-235	7YSR		0	7/7/2006 5:49:38 PM	**1.4926E-01**	1.493E-01	1.498E-01	4.045E-01	PCI/SA	0.935	1.0E+0	3.245E-2
U-238	7YSR		0	7/7/2006 5:49:38 PM	**0.0E+00**	0.0E+00	1.828E-01	4.045E-01	PCI/SA	0.935	1.0E+0	3.245E-2
31903	**9H7D0Q10**			**J6F1402751**	P-0653	FILTER	6/14/2006 10:00:00		5/31/2006 10:30:00 AM			
BETA	BDS8		0	7/10/2006 12:24:15 PM	**1.6548E+01**	1.734E+00	2.077E+00	5.42E+00	PCI/SA	1.0	1.0E+0	3.344E-2
RA-226	BXTE		0	7/6/2006 1:10:00 PM	**4.869E-01**	2.198E-01	2.255E-01	7.193E-01	PCI/SA	0.904	1.0E+0	2.499E-1
RA-228	BXTF		0	7/11/2006 7:12:14 AM	**1.751E+00**	6.392E-01	6.511E-01	2.726E+00	PCI/SA	0.801	1.0E+0	2.499E-1
U-234	7YSR		0	7/7/2006 5:47:32 PM	**1.7713E-01**	1.405E-01	1.413E-01	4.713E-01	PCI/SA	0.992	1.0E+0	3.247E-2
U-235	7YSR		0	7/7/2006 5:47:32 PM	**0.0E+00**	0.0E+00	1.205E-01	2.667E-01	PCI/SA	0.992	1.0E+0	3.247E-2
U-238	7YSR		0	7/7/2006 5:47:32 PM	**7.8729E-02**	1.004E-01	1.006E-01	4.713E-01	PCI/SA	0.992	1.0E+0	3.247E-2
31903	**9H7D0W10**			**J6F1402752**	P-0654	FILTER	6/14/2006 10:00:00		5/31/2006 11:00:00 AM			
BETA	BDS8		0	7/10/2006 12:24:15 PM	**1.9342E+01**	1.729E+00	2.186E+00	5.05E+00	PCI/SA	1.0	1.0E+0	3.324E-2
RA-226	BXTE		0	7/6/2006 1:10:00 PM	**1.9402E-01**	1.595E-01	1.608E-01	5.631E-01	PCI/SA	0.847	1.0E+0	2.461E-1
RA-228	BXTF		0	7/11/2006 7:12:14 AM	**1.9622E+00**	6.622E-01	6.69E-01	2.745E+00	PCI/SA	0.768	1.0E+0	2.461E-1
U-234	7YSR		0	7/7/2006 5:47:54 PM	**1.7818E-01**	1.414E-01	1.421E-01	4.742E-01	PCI/SA	0.901	1.0E+0	3.161E-2
U-235	7YSR		0	7/7/2006 5:47:54 PM	**-1.9817E-02**	1.982E-02	1.988E-02	4.742E-01	PCI/SA	0.901	1.0E+0	3.161E-2
U-238	7YSR		0	7/7/2006 5:47:54 PM	**-3.9634E-02**	2.803E-02	2.821E-02	5.596E-01	PCI/SA	0.901	1.0E+0	3.161E-2
31903	**9H7D1A10**			**J6F1402758**	000480	FILTER	6/14/2006 10:00:00		5/31/2006 10:40:00 AM			
BETA	BDS8		0	7/10/2006 3:01:31 PM	**2.4512E+01**	1.876E+00	2.51E+00	5.162E+00	PCI/SA	1.0	1.0E+0	3.395E-2
RA-226	BXTE		0	7/6/2006 1:40:03 PM	**-9.2468E-02**	1.5E-01	1.503E-01	6.447E-01	PCI/SA	0.899	1.0E+0	2.497E-1

6167167, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 14,
**Results Inserted | ReTestInserted | Updated | NotInserted => 16 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H7JM21AA=> , mat:FILTER | Air *wo:H7JM21AC=> , 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-228	BXTF	0		7/11/2006 7:12:30 AM	**1.3786E-01**	3.634E-01	4.258E-01	2.1E+00	PCI/SA	0.829	1.0E+0	2.497E-1
U-234	7YSR	0		7/7/2006 5:49:59 PM	**-4.5209E-02**	3.197E-02	3.218E-02	6.383E-01	PCI/SA	0.936	1.0E+0	3.243E-2
U-235	7YSR	0		7/7/2006 5:49:59 PM	**0.0E+00**	0.0E+00	1.383E-01	3.06E-01	PCI/SA	0.936	1.0E+0	3.243E-2
U-238	7YSR	0		7/7/2006 5:49:59 PM	**0.0E+00**	0.0E+00	1.383E-01	3.06E-01	PCI/SA	0.936	1.0E+0	3.243E-2
31903	**9H7D1E10**			**J6F1402759** 000481	FILTER	6/14/2006 10:00:00	5/31/2006 11:05:00 AM					
BETA	BDS8	0		7/10/2006 3:01:34 PM	**1.949E+01**	1.738E+00	2.191E+00	5.115E+00	PCI/SA	1.0	1.0E+0	3.399E-2
RA-226	BXTE	0		7/6/2006 1:42:03 PM	**1.541E-01**	1.473E-01	1.48E-01	5.254E-01	PCI/SA	0.914	1.0E+0	2.503E-1
RA-228	BXTF	0		7/11/2006 7:12:42 AM	**6.097E-01**	3.845E-01	3.931E-01	1.771E+00	PCI/SA	0.818	1.0E+0	2.503E-1
U-234	7YSR	0		7/7/2006 9:44:00 PM	**-1.9532E-02**	1.953E-02	1.959E-02	4.676E-01	PCI/SA	1.055	1.0E+0	3.246E-2
U-235	7YSR	0		7/7/2006 9:44:00 PM	**0.0E+00**	0.0E+00	1.196E-01	2.646E-01	PCI/SA	1.055	1.0E+0	3.246E-2
U-238	7YSR	0		7/7/2006 9:44:00 PM	**-3.9064E-02**	2.762E-02	2.78E-02	5.517E-01	PCI/SA	1.055	1.0E+0	3.246E-2
31903	**9H7D1J10**			**J6F14027510** 000482	FILTER	6/14/2006 10:00:00	5/31/2006 11:25:00 AM					
BETA	BDS8	0		7/10/2006 3:01:34 PM	**2.1127E+01**	1.727E+00	2.253E+00	4.853E+00	PCI/SA	1.0	1.0E+0	3.327E-2
RA-226	BXTE	0		7/6/2006 1:41:00 PM	**2.3332E-01**	1.903E-01	1.917E-01	6.715E-01	PCI/SA	0.873	1.0E+0	2.506E-1
RA-228	BXTF	0		7/11/2006 7:12:42 AM	**4.2228E-01**	4.01E-01	4.227E-01	1.985E+00	PCI/SA	0.758	1.0E+0	2.506E-1
U-234	7YSR	0		7/7/2006 9:44:13 PM	**2.6329E-01**	1.52E-01	1.534E-01	2.378E-01	PCI/SA	1.004	1.0E+0	3.264E-2
U-235	7YSR	0		7/7/2006 9:44:13 PM	**-1.7562E-02**	1.756E-02	1.762E-02	4.204E-01	PCI/SA	1.004	1.0E+0	3.264E-2
U-238	7YSR	0		7/7/2006 9:44:13 PM	**-3.5124E-02**	2.484E-02	2.499E-02	4.96E-01	PCI/SA	1.004	1.0E+0	3.264E-2
31903	**9H7D1K10**			**J6F14027511** 000483	FILTER	6/14/2006 10:00:00	5/31/2006 11:50:00 AM					
BETA	BDS8	0		7/10/2006 3:01:34 PM	**2.4396E+01**	1.849E+00	2.51E+00	5.133E+00	PCI/SA	1.0	1.0E+0	3.343E-2
RA-226	BXTE	0		7/6/2006 1:40:01 PM	**4.3572E-02**	1.076E-01	1.077E-01	4.218E-01	PCI/SA	1.085	1.0E+0	2.488E-1
RA-228	BXTF	0		7/11/2006 7:12:42 AM	**2.6924E-01**	3.657E-01	3.657E-01	1.73E+00	PCI/SA	0.965	1.0E+0	2.488E-1
U-234	7YSR	0		7/7/2006 9:44:21 PM	**5.1122E-01**	2.286E-01	2.323E-01	2.771E-01	PCI/SA	0.964	1.0E+0	3.221E-2
U-235	7YSR	0		7/7/2006 9:44:21 PM	**1.0224E-01**	1.022E-01	1.026E-01	2.771E-01	PCI/SA	0.964	1.0E+0	3.221E-2
U-238	7YSR	0		7/7/2006 9:44:21 PM	**8.1799E-02**	1.043E-01	1.045E-01	4.897E-01	PCI/SA	0.964	1.0E+0	3.221E-2
31903	**9H7D1N10**			**J6F14027512** 000484	FILTER	6/14/2006 10:00:00	5/31/2006 12:15:00 PM					
BETA	BDS8	0		7/10/2006 3:01:28 PM	**2.0716E+01**	1.798E+00	2.303E+00	5.252E+00	PCI/SA	1.0	1.0E+0	3.331E-2
RA-226	BXTE	0		7/6/2006 1:42:01 PM	**2.5875E-01**	1.148E-01	1.18E-01	3.344E-01	PCI/SA	0.898	1.0E+0	2.499E-1
RA-228	BXTF	0		7/11/2006 7:12:42 AM	**6.2279E-01**	3.551E-01	3.559E-01	1.572E+00	PCI/SA	0.807	1.0E+0	2.499E-1
U-234	7YSR	0		7/7/2006 9:44:39 PM	**6.5185E-02**	9.709E-02	9.723E-02	5.12E-01	PCI/SA	1.001	1.0E+0	3.279E-2
U-235	7YSR	0		7/7/2006 9:44:39 PM	**-2.3012E-02**	1.329E-02	1.341E-02	4.782E-01	PCI/SA	1.001	1.0E+0	3.279E-2
U-238	7YSR	0		7/7/2006 9:44:39 PM	**-5.3694E-02**	2.029E-02	2.075E-02	5.934E-01	PCI/SA	1.001	1.0E+0	3.279E-2
31903	**9H7D1R10**			**J6F14027513** 000485	FILTER	6/14/2006 10:00:00	5/31/2006 12:25:00 PM					
BETA	BDS8	0		7/10/2006 3:01:28 PM	**2.0042E+01**	1.763E+00	2.399E+00	5.163E+00	PCI/SA	1.0	1.0E+0	3.327E-2
RA-226	BXTE	0		7/6/2006 1:41:01 PM	**1.5633E-01**	1.063E-01	1.075E-01	3.633E-01	PCI/SA	0.918	1.0E+0	2.498E-1
RA-228	BXTF	0		7/11/2006 7:12:53 AM	**1.2625E+00**	5.361E-01	5.556E-01	2.372E+00	PCI/SA	0.8	1.0E+0	2.498E-1
U-234	7YSR	0		7/7/2006 9:44:53 PM	**-4.467E-02**	1.998E-02	2.031E-02	6.31E-01	PCI/SA	0.928	1.0E+0	3.247E-2
U-235	7YSR	0		7/7/2006 9:44:53 PM	**-1.7868E-02**	1.263E-02	1.272E-02	5.103E-01	PCI/SA	0.928	1.0E+0	3.247E-2
U-238	7YSR	0		7/7/2006 9:44:53 PM	**-3.5736E-02**	1.787E-02	1.81E-02	5.963E-01	PCI/SA	0.928	1.0E+0	3.247E-2
31903	**9H7D1X10**			**J6F14027514** 000486	FILTER	6/14/2006 10:00:00	5/31/2006 11:10:00 AM					
BETA	BDS8	0		7/10/2006 3:01:28 PM	**3.2061E+00**	1.309E+00	1.336E+00	5.128E+00	PCI/SA	1.0	1.0E+0	3.346E-2
RA-226	BXTE	0		7/6/2006 1:41:01 PM	**7.0279E-01**	1.603E-01	1.755E-01	3.809E-01	PCI/SA	0.937	1.0E+0	2.489E-1
RA-228	BXTF	0		7/11/2006 7:12:53 AM	**2.4454E+00**	5.04E-01	5.289E-01	1.818E+00	PCI/SA	0.845	1.0E+0	2.489E-1
U-234	7YSR	0		7/7/2006 9:45:05 PM	**-2.495E-02**	1.44E-02	1.454E-02	5.185E-01	PCI/SA	1.076	1.0E+0	3.218E-2
U-235	7YSR	0		7/7/2006 9:45:05 PM	**8.7304E-02**	1.046E-01	1.048E-01	4.75E-01	PCI/SA	1.076	1.0E+0	3.218E-2
U-238	7YSR	0		7/7/2006 9:45:05 PM	**0.0E+00**	0.0E+00	1.273E-01	2.817E-01	PCI/SA	1.076	1.0E+0	3.218E-2
31903	**H7JM21AB**			**J6F160000167** INTRA-LAB BLANK	FILTER	6/14/2006 10:00:00	5/31/2006 10:30:00 AM					
RA-228	BXTF	0	B	7/11/2006 7:12:53 AM	**1.2227E-01**	9.402E-02	9.642E-02	4.448E-01	PCI/SA	0.826	1.0E+0	1.0E+0
31903	**H7JM21CS**			**J6F160000167** INTRA-LAB CHECK	FILTER	6/14/2006 10:00:00	5/31/2006 10:30:00 AM					
RA-228	BXTF	0	S	7/11/2006 7:12:53 AM	**3.8452E+00**	2.392E-01	3.248E-01	4.541E-01	PCI/SA	5.0457E+00 0.888	1.0E+0	1.0E+0

6167167, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 14,
**Results Inserted | ReTestInserted | Updated | NotInserted => 16 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H7JM21AA=> , mat:FILTER | Air *wo:H7JM21AC=> , mat:FILTER | Air.

Batch Nbr: 6167167

Alpha Beta, Ra-228 by GPC , Results

7/11/2006 7:47:43 AM

Summary Report

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	H7D0Q1AD	RA-228	1.76E+00	(1.02E+00)		PCI/SA	R	1.94E+00	4.24E+00		80%	
Calc	TF	FILTER	H7D0Q1AD	RA-228	1.50E+00	(1.10E+00)	U4	PCI/SA	R	2.15E+00	4.70E+00		80%	
Calc	TF	FILTER	H7D0Q1AD	RA-228	2.00E+00	(1.25E+00)	U4	PCI/SA	R	2.39E+00	5.22E+00		80%	
Calc	TF	FILTER	H7D0Q1AD	RA-228	1.75E+00	(6.51E-01)		PCI/SA	A	1.25E+00	2.73E+00		80%	
Calc	TF	FILTER	H7D0Q1AD	RA-228	8.76E+00	(5.31E+00)		PCI/SA	R	1.01E+01	2.21E+01		80%	
Calc	TF	FILTER	H7D0W1AD	RA-228	1.02E+00	(9.70E-01)	U4	PCI/SA	R	1.94E+00	4.27E+00		77%	
Calc	TF	FILTER	H7D0W1AD	RA-228	2.72E+00	(1.21E+00)		PCI/SA	R	2.15E+00	4.74E+00		77%	
Calc	TF	FILTER	H7D0W1AD	RA-228	2.14E+00	(1.27E+00)		PCI/SA	R	2.39E+00	5.26E+00		77%	
Calc	TF	FILTER	H7D0W1AD	RA-228	1.96E+00	(6.69E-01)		PCI/SA	A	1.25E+00	2.74E+00		77%	
Calc	TF	FILTER	H7D0W1AD	RA-228	-6.48E+00	(4.48E+00)	U4	PCI/SA	R	1.09E+01	2.37E+01		77%	
Calc	TF	FILTER	H7D001AD	RA-228	1.38E+00	(9.48E-01)	U4	PCI/SA	R	1.84E+00	4.02E+00		89%	
Calc	TF	FILTER	H7D001AD	RA-228	-1.39E-01	(9.22E-01)	U4	PCI/SA	R	2.05E+00	4.47E+00		89%	
Calc	TF	FILTER	H7D001AD	RA-228	6.17E-01	(1.08E+00)	U4	PCI/SA	R	2.27E+00	4.95E+00		89%	
Calc	TF	FILTER	H7D001AD	RA-228	6.19E-01	(5.69E-01)	U4	PCI/SA	A	1.19E+00	2.59E+00		89%	
Calc	TF	FILTER	H7D001AD	RA-228	-2.13E+00	(4.32E+00)	U4	PCI/SA	R	9.80E+00	2.14E+01		89%	
Calc	TF	FILTER	H7D021AD	RA-228	4.83E-01	(7.22E-01)	U4	PCI/SA	R	1.49E+00	3.30E+00		88%	
Calc	TF	FILTER	H7D021AD	RA-228	1.21E+00	(8.62E-01)	U4	PCI/SA	R	1.65E+00	3.66E+00		88%	
Calc	TF	FILTER	H7D021AD	RA-228	1.93E+00	(1.01E+00)		PCI/SA	R	1.83E+00	4.06E+00		88%	
Calc	TF	FILTER	H7D021AD	RA-228	1.21E+00	(5.04E-01)		PCI/SA	A	9.56E-01	2.12E+00		88%	
Calc	TF	FILTER	H7D021AD	RA-228	-2.45E+00	(3.52E+00)	U4	PCI/SA	R	8.18E+00	1.81E+01		88%	
Calc	TF	FILTER	H7D031AD	RA-228	-1.12E-01	(7.18E-01)	U4	PCI/SA	R	1.60E+00	3.54E+00		85%	
Calc	TF	FILTER	H7D031AD	RA-228	3.01E-01	(8.34E-01)	U4	PCI/SA	R	1.77E+00	3.92E+00		85%	
Calc	TF	FILTER	H7D031AD	RA-228	-1.37E-01	(8.83E-01)	U4	PCI/SA	R	1.96E+00	4.35E+00		85%	
Calc	TF	FILTER	H7D031AD	RA-228	1.73E-02	(4.70E-01)	U4	PCI/SA	A	1.03E+00	2.27E+00		85%	
Calc	TF	FILTER	H7D031AD	RA-228	7.68E+00	(4.36E+00)		PCI/SA	R	8.00E+00	1.78E+01		85%	
Calc	TF	FILTER	H7D051AD	RA-228	9.59E-01	(7.35E-01)	U4	PCI/SA	R	1.43E+00	3.16E+00		94%	
Calc	TF	FILTER	H7D051AD	RA-228	1.88E-01	(7.37E-01)	U4	PCI/SA	R	1.58E+00	3.50E+00		94%	
Calc	TF	FILTER	H7D051AD	RA-228	3.47E-01	(8.30E-01)	U4	PCI/SA	R	1.75E+00	3.88E+00		94%	
Calc	TF	FILTER	H7D051AD	RA-228	4.98E-01	(4.44E-01)	U4	PCI/SA	A	9.16E-01	2.03E+00		94%	
Calc	TF	FILTER	H7D051AD	RA-228	5.90E-01	(3.65E+00)	U4	PCI/SA	R	7.89E+00	1.74E+01		94%	
Calc	TF	FILTER	H7D081AD	RA-228	5.80E-01	(6.87E-01)	U4	PCI/SA	R	1.36E+00	3.11E+00		85%	
Calc	TF	FILTER	H7D081AD	RA-228	-2.08E-02	(6.83E-01)	U4	PCI/SA	R	1.50E+00	3.45E+00		85%	
Calc	TF	FILTER	H7D081AD	RA-228	1.64E+00	(9.52E-01)		PCI/SA	R	1.67E+00	3.83E+00		85%	
Calc	TF	FILTER	H7D081AD	RA-228	7.32E-01	(4.53E-01)	U4	PCI/SA	A	8.71E-01	2.00E+00		85%	
Calc	TF	FILTER	H7D081AD	RA-228	1.83E+00	(2.84E+00)	U4	PCI/SA	R	5.61E+00	1.34E+01		85%	
Calc	TF	FILTER	H7D1A1AD	RA-228	5.16E-01	(7.09E-01)	U4	PCI/SA	R	1.42E+00	3.27E+00		83%	
Calc	TF	FILTER	H7D1A1AD	RA-228	4.40E-02	(7.23E-01)	U4	PCI/SA	R	1.57E+00	3.62E+00		83%	
Calc	TF	FILTER	H7D1A1AD	RA-228	-1.47E-01	(7.78E-01)	U4	PCI/SA	R	1.75E+00	4.02E+00		83%	

() - (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:39
RADCALC v4.8.24
STL Richland

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Calc	TF	FILTER	H7D1A1AD	RA-228	1.38E-01	(4.26E-01)	U4	PCI/SA	A	9.12E-01	2.10E+00		83%	
Calc	TF	FILTER	H7D1A1AD	RA-228	1.40E+00	(3.28E+00)	U4	PCI/SA	R	6.80E+00	1.58E+01		83%	
Calc	TF	FILTER	H7D1E1AD	RA-228	7.54E-01	(6.37E-01)	U4	PCI/SA	R	1.18E+00	2.75E+00		82%	
Calc	TF	FILTER	H7D1E1AD	RA-228	5.10E-01	(6.64E-01)	U4	PCI/SA	R	1.31E+00	3.06E+00		82%	
Calc	TF	FILTER	H7D1E1AD	RA-228	5.66E-01	(7.37E-01)	U4	PCI/SA	R	1.45E+00	3.39E+00		82%	
Calc	TF	FILTER	H7D1E1AD	RA-228	6.10E-01	(3.93E-01)	U4	PCI/SA	A	7.58E-01	1.77E+00		82%	
Calc	TF	FILTER	H7D1E1AD	RA-228	2.60E+00	(3.24E+00)	U4	PCI/SA	R	6.36E+00	1.48E+01		82%	
Calc	TF	FILTER	H7D1J1AD	RA-228	9.67E-01	(7.28E-01)	U4	PCI/SA	R	1.33E+00	3.09E+00		76%	
Calc	TF	FILTER	H7D1J1AD	RA-228	-1.29E-01	(6.59E-01)	U4	PCI/SA	R	1.48E+00	3.43E+00		76%	
Calc	TF	FILTER	H7D1J1AD	RA-228	4.28E-01	(8.03E-01)	U4	PCI/SA	R	1.64E+00	3.80E+00		76%	
Calc	TF	FILTER	H7D1J1AD	RA-228	4.22E-01	(4.23E-01)	U4	PCI/SA	A	8.58E-01	1.98E+00		76%	
Calc	TF	FILTER	H7D1J1AD	RA-228	2.43E+00	(3.30E+00)	U4	PCI/SA	R	6.52E+00	1.52E+01		76%	
Calc	TF	FILTER	H7D1K1AD	RA-228	1.87E-01	(5.58E-01)	U4	PCI/SA	R	1.18E+00	2.69E+00		97%	
Calc	TF	FILTER	H7D1K1AD	RA-228	-6.91E-02	(5.87E-01)	U4	PCI/SA	R	1.31E+00	2.99E+00		97%	
Calc	TF	FILTER	H7D1K1AD	RA-228	6.90E-01	(7.40E-01)	U4	PCI/SA	R	1.45E+00	3.31E+00		97%	
Calc	TF	FILTER	H7D1K1AD	RA-228	2.69E-01	(3.66E-01)	U4	PCI/SA	A	7.57E-01	1.73E+00		97%	
Calc	TF	FILTER	H7D1K1AD	RA-228	1.55E+00	(2.75E+00)	U4	PCI/SA	R	5.60E+00	1.29E+01		97%	
Calc	TF	FILTER	H7D1N1AD	RA-228	5.04E-01	(5.43E-01)	U4	PCI/SA	R	1.02E+00	2.45E+00		81%	
Calc	TF	FILTER	H7D1N1AD	RA-228	5.59E-01	(6.02E-01)	U4	PCI/SA	R	1.13E+00	2.71E+00		81%	
Calc	TF	FILTER	H7D1N1AD	RA-228	8.05E-01	(6.95E-01)	U4	PCI/SA	R	1.26E+00	3.01E+00		81%	
Calc	TF	FILTER	H7D1N1AD	RA-228	6.23E-01	(3.56E-01)		PCI/SA	A	6.56E-01	1.57E+00		81%	
Calc	TF	FILTER	H7D1N1AD	RA-228	9.77E-02	(2.62E+00)	U4	PCI/SA	R	5.71E+00	1.35E+01		81%	
Calc	TF	FILTER	H7D1R1AD	RA-228	1.26E+00	(8.75E-01)	U4	PCI/SA	R	1.65E+00	3.69E+00		80%	
Calc	TF	FILTER	H7D1R1AD	RA-228	2.05E+00	(1.03E+00)		PCI/SA	R	1.83E+00	4.09E+00		80%	
Calc	TF	FILTER	H7D1R1AD	RA-228	4.73E-01	(9.71E-01)	U4	PCI/SA	R	2.03E+00	4.54E+00		80%	
Calc	TF	FILTER	H7D1R1AD	RA-228	1.26E+00	(5.56E-01)		PCI/SA	A	1.06E+00	2.37E+00		80%	
Calc	TF	FILTER	H7D1R1AD	RA-228	3.16E+00	(4.27E+00)	U4	PCI/SA	R	8.70E+00	1.95E+01		80%	
Calc	TF	FILTER	H7D1X1AD	RA-228	2.61E+00	(8.71E-01)		PCI/SA	R	1.22E+00	2.83E+00		84%	
Calc	TF	FILTER	H7D1X1AD	RA-228	2.58E+00	(9.29E-01)		PCI/SA	R	1.35E+00	3.14E+00		84%	
Calc	TF	FILTER	H7D1X1AD	RA-228	2.14E+00	(9.47E-01)		PCI/SA	R	1.50E+00	3.48E+00		84%	
Calc	TF	FILTER	H7D1X1AD	RA-228	2.45E+00	(5.29E-01)		PCI/SA	A	7.83E-01	1.82E+00		84%	
Calc	TF	FILTER	H7D1X1AD	RA-228	1.80E+00	(3.10E+00)	U4	PCI/SA	R	6.28E+00	1.46E+01		84%	
Calc	TF	FILTER	H7JM21AA	RA-228	1.37E-01	(1.53E-01)	U4	PCI/SA	R	2.97E-01	6.92E-01	B	83%	
Calc	TF	FILTER	H7JM21AA	RA-228	1.52E-01	(1.70E-01)	U4	PCI/SA	R	3.29E-01	7.68E-01	B	83%	
Calc	TF	FILTER	H7JM21AA	RA-228	7.85E-02	(1.77E-01)	U4	PCI/SA	R	3.65E-01	8.52E-01	B	83%	
Calc	TF	FILTER	H7JM21AA	RA-228	1.22E-01	(9.64E-02)	U4	PCI/SA	A	1.91E-01	4.45E-01	B	83%	
Calc	TF	FILTER	H7JM21AA	RA-228	6.67E-01	(8.51E-01)	U4	PCI/SA	R	1.69E+00	3.89E+00	B	83%	
Calc	TF	FILTER	H7JM21AC	RA-228	3.99E+00	(5.58E-01)		PCI/SA	R	3.06E-01	7.06E-01	S	89%	79%
Calc	TF	FILTER	H7JM21AC	RA-228	4.11E+00	(5.88E-01)		PCI/SA	R	3.39E-01	7.84E-01	S	89%	81%

() - (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:78
RADCALC v4.8.24
STL Richland

Batch Nbr: 6167167

Alpha Beta, Ra-228 by GPC , Results

7/11/2006 7:47:44 AM

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Calc	TF	FILTER	**H7JM21AC**	RA-228	**3.44E+00**	**(5.40E-01)**		PCI/SA	R	3.77E-01	8.69E-01	**S**	89%	68%
Calc	TF	FILTER	**H7JM21AC**	RA-228	**3.85E+00**	**(3.25E-01)**		PCI/SA	A	1.97E-01	4.54E-01	**S**	89%	76%
Calc	TF	FILTER	**H7JM21AC**	RA-228	**5.88E+00**	**(1.39E+00)**		PCI/SA	R	1.59E+00	3.66E+00	**S**	89%	117%

PAnderson
7-11-06

() - (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

UST Number: H7D0Q1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 7-A File: [quad7.sample.A]H7D0Q1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.A_1;2944

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00051	0050	01152	1700	10-JUL-2006 16:30:54.69
2	00000	00048	0050	01168	1700	10-JUL-2006 17:26:10.40
3	00000	00050	0050	01157	1700	10-JUL-2006 18:21:26.29

Bkg File: [quad7.bkgrnd]2006-07-09_2132.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00304	0400	0.76	09258	1700	9-JUL-2006 21:32:06.63

UST Number: H7D0Q1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 7-A File: [quad7.sample.A]H7D0Q1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.A_1;2945

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00050	0050	01132	1700	11-JUL-2006 07:12:14.78

Bkg File: [quad7.bkgrnd]2006-07-11_0236.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00301	0400	0.75	09210	1700	11-JUL-2006 02:36:18.73

UST Number: H7D0W1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 7-B File: [quad7.sample.B]H7D0W1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.B_1;2931

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00041	0050	01152	1700	10-JUL-2006 16:30:54.69
2	00000	00051	0050	01168	1700	10-JUL-2006 17:26:10.40
3	00000	00046	0050	01157	1700	10-JUL-2006 18:21:26.29

Bkg File: [quad7.bkgrnd]2006-07-09_2132.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00271	0400	0.68	09258	1700	9-JUL-2006 21:32:06.63

UST Number: H7D0W1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 7-B File: [quad7.sample.B]H7D0W1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.B_1;2932

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00030	0050	01132	1700	11-JUL-2006 07:12:14.78

Bkg File: [quad7.bkgrnd]2006-07-11_0236.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00309	0400	0.77	09210	1700	11-JUL-2006 02:36:18.73

UST Number: H7D001AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 7-C File: [quad7.sample.C]H7D001AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.C_1;2936

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00051	0050	01152	1700	10-JUL-2006 16:30:54.69
2	00000	00039	0050	01168	1700	10-JUL-2006 17:26:10.40
3	00000	00044	0050	01157	1700	10-JUL-2006 18:21:26.29

Bkg File: [quad7.bkgrnd]2006-07-09_2132.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00320	0400	0.80	09258	1700	9-JUL-2006 21:32:06.63

UST Number: H7D001AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 7-C File: [quad7.sample.C]H7D001AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.C_1;2937

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00038	0050	01132	1700	11-JUL-2006 07:12:14.78

Bkg File: [quad7.bkgrnd]2006-07-11_0236.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00330	0400	0.83	09210	1700	11-JUL-2006 02:36:18.73

UST Number: H7D021AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-A File: [quad1.sample.A]H7D021AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.A_1;2992

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00032	0050	01161	1650	10-JUL-2006 16:31:17.78
2	00000	00037	0050	01186	1650	10-JUL-2006 17:26:33.45
3	00000	00041	0050	01167	1650	10-JUL-2006 18:21:49.09

Bkg File: [quad1.bkgrnd]2006-07-09_2131.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00224	0400	0.56	09297	1650	9-JUL-2006 21:31:28.89

UST Number: H7D021AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-A File: [quad1.sample.A]H7D021AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.A_1;2993

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00027	0050	01144	1650	11-JUL-2006 07:12:23.76

Bkg File: [quad1.bkgrnd]2006-07-11_0240.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00247	0400	0.62	09255	1650	11-JUL-2006 02:40:44.26

UST Number: H7D031AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-C File: [quad1.sample.C]H7D031AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.C_1;2988

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00028	0050	01161	1650	10-JUL-2006 16:31:17.78
2	00000	00031	0050	01186	1650	10-JUL-2006 17:26:33.45
3	00000	00028	0050	01167	1650	10-JUL-2006 18:21:49.09

Bkg File: [quad1.bkgrnd]2006-07-09_2131.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00231	0400	0.58	09297	1650	9-JUL-2006 21:31:28.89

UST Number: H7D031AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-C File: [quad1.sample.C]H7D031AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.C_1;2989

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00038	0050	01144	1650	11-JUL-2006 07:12:23.76

Bkg File: [quad1.bkgrnd]2006-07-11_0240.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00212	0400	0.53	09255	1650	11-JUL-2006 02:40:44.26

UST Number: H7D051AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-D File: [quad1.sample.D]H7D051AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.D_1;2991

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00038	0050	01161	1650	10-JUL-2006 16:31:17.78
2	00000	00031	0050	01186	1650	10-JUL-2006 17:26:33.45
3	00000	00032	0050	01167	1650	10-JUL-2006 18:21:49.09

Bkg File: [quad1.bkgrnd]2006-07-09_2131.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00236	0400	0.59	09297	1650	9-JUL-2006 21:31:28.89

UST Number: H7D051AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-D File: [quad1.sample.D]H7D051AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.D_1;2992

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00034	0050	01144	1650	11-JUL-2006 07:12:23.76

Bkg File: [quad1.bkgrnd]2006-07-11_0240.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00264	0400	0.66	09255	1650	11-JUL-2006 02:40:44.26

UST Number: H7D081AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 2-B File: [quad2.sample.B]H7D081AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.B_1;3531

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00019	0050	01180	1810	10-JUL-2006 16:31:32.60
2	00000	00015	0050	01183	1810	10-JUL-2006 17:26:48.38
3	00000	00024	0050	01179	1810	10-JUL-2006 18:22:03.99

Bkg File: [quad2.bkgrnd]2006-07-09_2131.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00121	0400	0.30	09415	1810	9-JUL-2006 21:31:33.66

UST Number: H7D081AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-A File: [quad2.sample.A]H7D081AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.A_1;3535

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00011	0050	01163	1810	11-JUL-2006 07:12:30.41

Bkg File: [quad2.bkgrnd]2006-07-11_0240.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00070	0400	0.18	09331	1810	11-JUL-2006 02:40:49.36

UST Number: H7D1A1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 2-C File: [quad2.sample.C]H7D1A1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.C_1;3532

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00018	0050	01180	1810	10-JUL-2006 16:31:32.60
2	00000	00015	0050	01183	1810	10-JUL-2006 17:26:48.38
3	00000	00014	0050	01179	1810	10-JUL-2006 18:22:03.99

Bkg File: [quad2.bkgrnd]2006-07-09_2131.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00118	0400	0.30	09415	1810	9-JUL-2006 21:31:33.66

UST Number: H7D1A1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-B File: [quad2.sample.B]H7D1A1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.B_1;3532

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00015	0050	01163	1810	11-JUL-2006 07:12:30.41

Bkg File: [quad2.bkgrnd]2006-07-11_0240.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00106	0400	0.27	09331	1810	11-JUL-2006 02:40:49.36

UST Number: H7D1E1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-A File: [quad3.sample.A]H7D1E1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.A_1;5447

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00017	0050	01291	1920	10-JUL-2006 16:31:57.57
2	00000	00015	0050	01304	1920	10-JUL-2006 17:27:13.20
3	00000	00015	0050	01285	1920	10-JUL-2006 18:22:29.01

Bkg File: [quad3.bkgrnd]2006-07-09_2131.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00095	0400	0.24	10313	1920	9-JUL-2006 21:31:38.38

UST Number: H7D1E1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-A File: [quad3.sample.A]H7D1E1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.A_1;5448

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00016	0050	01264	1920	11-JUL-2006 07:12:42.90

Bkg File: [quad3.bkgrnd]2006-07-11_0240.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00101	0400	0.25	10204	1920	11-JUL-2006 02:40:54.40

UST Number: H7D1J1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-B File: [quad3.sample.B]H7D1J1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.B_1;5456

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00020	0050	01291	1920	10-JUL-2006 16:31:57.57
2	00000	00013	0050	01304	1920	10-JUL-2006 17:27:13.20
3	00000	00016	0050	01285	1920	10-JUL-2006 18:22:29.01

Bkg File: [quad3.bkgrnd]2006-07-09_2131.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00110	0400	0.28	10313	1920	9-JUL-2006 21:31:38.38

UST Number: H7D1J1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-B File: [quad3.sample.B]H7D1J1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.B_1;5457

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00015	0050	01264	1920	11-JUL-2006 07:12:42.90

Bkg File: [quad3.bkgrnd]2006-07-11_0240.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00096	0400	0.24	10204	1920	11-JUL-2006 02:40:54.40

UST Number: H7D1K1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-C File: [quad3.sample.C]H7D1K1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.C_1;5461

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00018	0050	01291	1920	10-JUL-2006 16:31:57.57
2	00000	00016	0050	01304	1920	10-JUL-2006 17:27:13.20
3	00000	00021	0050	01285	1920	10-JUL-2006 18:22:29.01

Bkg File: [quad3.bkgrnd]2006-07-09_2131.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00132	0400	0.33	10313	1920	9-JUL-2006 21:31:38.38

UST Number: H7D1K1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-C File: [quad3.sample.C]H7D1K1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.C_1;5462

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00016	0050	01264	1920	11-JUL-2006 07:12:42.90

Bkg File: [quad3.bkgrnd]2006-07-11_0240.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00109	0400	0.27	10204	1920	11-JUL-2006 02:40:54.40

UST Number: H7D1N1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-D File: [quad3.sample.D]H7D1N1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.D_1;5441

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00012	0050	01291	1920	10-JUL-2006 16:31:57.57
2	00000	00012	0050	01304	1920	10-JUL-2006 17:27:13.20
3	00000	00013	0050	01285	1920	10-JUL-2006 18:22:29.01

Bkg File: [quad3.bkgrnd]2006-07-09_2131.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00069	0400	0.17	10313	1920	9-JUL-2006 21:31:38.38

UST Number: H7D1N1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-D File: [quad3.sample.D]H7D1N1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.D_1;5442

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00010	0050	01264	1920	11-JUL-2006 07:12:42.90

Bkg File: [quad3.bkgrnd]2006-07-11_0240.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00079	0400	0.20	10204	1920	11-JUL-2006 02:40:54.40

UST Number: H7D1R1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-A File: [quad4.sample.A]H7D1R1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.A_1;5466

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00032	0050	01214	1850	10-JUL-2006 16:32:21.24
2	00000	00036	0050	01218	1850	10-JUL-2006 17:27:37.02
3	00000	00026	0050	01213	1850	10-JUL-2006 18:22:52.73

Bkg File: [quad4.bkgrnd]2006-07-09_2131.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00187	0400	0.47	09716	1850	9-JUL-2006 21:31:48.24

UST Number: H7D1R1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-A File: [quad4.sample.A]H7D1R1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.A_1;5467

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00028	0050	01193	1850	11-JUL-2006 07:12:53.52

Bkg File: [quad4.bkgrnd]2006-07-11_0241.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00191	0400	0.48	09668	1850	11-JUL-2006 02:41:12.83

UST Number: H7D1X1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-B File: [quad4.sample.B]H7D1X1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.B_1;5465

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00031	0050	01214	1850	10-JUL-2006 16:32:21.24
2	00000	00029	0050	01218	1850	10-JUL-2006 17:27:37.02
3	00000	00025	0050	01213	1850	10-JUL-2006 18:22:52.73

Bkg File: [quad4.bkgrnd]2006-07-09_2131.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00104	0400	0.26	09716	1850	9-JUL-2006 21:31:48.24

UST Number: H7D1X1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-B File: [quad4.sample.B]H7D1X1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.B_1;5466

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00015	0050	01193	1850	11-JUL-2006 07:12:53.52

Bkg File: [quad4.bkgrnd]2006-07-11_0241.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00101	0400	0.25	09668	1850	11-JUL-2006 02:41:12.83

UST Number: H7JM21AA Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-C File: [quad4.sample.C]H7JM21AA.180
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.C_1;5468

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00016	0050	01214	1850	10-JUL-2006 16:32:21.24
2	00000	00016	0050	01218	1850	10-JUL-2006 17:27:37.02
3	00000	00014	0050	01213	1850	10-JUL-2006 18:22:52.73

Bkg File: [quad4.bkgrnd]2006-07-09_2131.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00098	0400	0.25	09716	1850	9-JUL-2006 21:31:48.24

UST Number: H7JM21AA Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-C File: [quad4.sample.C]H7JM21AA.430
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.C_1;5469

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00018	0050	01193	1850	11-JUL-2006 07:12:53.52

Bkg File: [quad4.bkgrnd]2006-07-11_0241.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00116	0400	0.29	09668	1850	11-JUL-2006 02:41:12.83

UST Number: H7JM21AC Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-D File: [quad4.sample.D]H7JM21AC.180
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.D_1;5482

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00128	0050	01214	1850	10-JUL-2006 16:32:21.24
2	00000	00120	0050	01218	1850	10-JUL-2006 17:27:37.02
3	00000	00094	0050	01213	1850	10-JUL-2006 18:22:52.73

Bkg File: [quad4.bkgrnd]2006-07-09_2131.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00113	0400	0.28	09716	1850	9-JUL-2006 21:31:48.24

UST Number: H7JM21AC Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-D File: [quad4.sample.D]H7JM21AC.430
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.D_1;5483

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00046	0050	01193	1850	11-JUL-2006 07:12:53.52

Bkg File: [quad4.bkgrnd]2006-07-11_0241.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00111	0400	0.28	09668	1850	11-JUL-2006 02:41:12.83

Batch Nbr: 6167167

Alpha Beta, Ra-228 by GPC , Calculated Results

7/11/2006 7:47:44 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	TF	FILTER	*STLE	Ra228WoBS	**H7D0Q1AD**	**PCI/SA**		05/31/06 10:30	07/11/06 07:12	06/27/06 17:00	RATA22861	1	1.00 SA	
536403,P-0653					,J6F140275-1 v4.8.24		FILTER			30.5	07/10/06 12:15	RATA22861 Alq	90%	0.249947 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	07/10/06 16:30	RA-228	51	304	GPC7A	1	N	N	5.1956E-01	1.0000E+00	N	80%	N		1.5475E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.201E-02)	(0.000E+00)		6%			(0.000E+00)	4.000854		
1	07/10/06 17:26	RA-228	48	304	GPC7A	1	N	N	5.1956E-01	1.0000E+00	N	80%	N		1.7168E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.201E-02)	(0.000E+00)		6%			(0.000E+00)	4.000854		
2	07/10/06 18:21	RA-228	50	304	GPC7A	1	N	N	5.1956E-01	1.0000E+00	N	80%	N		1.9046E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.201E-02)	(0.000E+00)		6%			(0.000E+00)	4.000854		
3	07/11/06 07:12	RA-228	50	301	GPC7A	1	N	N	5.1956E-01	1.0000E+00	N	80%	N		8.1024E+00	4.5045E-01	1.0090E+00	
			50	400			N		(1.201E-02)	(0.000E+00)		6%			(0.000E+00)	4.000854		

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
	07/11/06	RA-228	R	**1.75712**		2.60000E-01	0.966273	0.966273	1.00 SA	80%		4.240677		
				(1.024742)		(1.4933E-01)	(0.560785)	(0.560785)	(0.028284)			1.938343		
	07/11/06	RA-228	R	**1.499493**	U4	2.00000E-01	0.8246	0.8246	1.00 SA	80%		4.704589		
				(1.099584)		(1.4526E-01)	(0.602824)	(0.602824)	(0.028284)			2.15039		
	07/11/06	RA-228	R	**1.996238**	U4	2.40000E-01	1.097769	1.097769	1.00 SA	80%		5.219252		
				(1.247357)		(1.4799E-01)	(0.68304)	(0.68304)	(0.028284)			2.385634		
	07/11/06	RA-228	A	**1.75095**		2.33333E-01	0.962881	0.962881	1.00 SA	80%		2.725963		
				(0.651074)		(8.5180E-02)	(0.356592)	(0.356592)	(0.01633)			1.245993		
	07/11/06	RA-228	R	**8.757789**		2.47500E-01	4.816074	4.816074	1.00 SA	80%		22.103413		
				(5.308712)		(1.4792E-01)	(2.906222)	(2.906222)	(0.028284)			10.098769		

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	**H7D0W1AD**	**PCI/SA**		05/31/06 11:00	07/11/06 07:12	06/27/06 17:00	RATA22862	1	1.00 SA	
536403,P-0654					,J6F140275-2 v4.8.24		FILTER			31.2	07/10/06 12:15	RATA22862 Alq	85%	0.246093 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	07/10/06 16:30	RA-228	41	271	GPC7B	1	N	N	5.1908E-01	1.0000E+00	N	77%	N		1.5475E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.256E-02)	(0.000E+00)		6%			(0.000E+00)	4.063502		
1	07/10/06 17:26	RA-228	51	271	GPC7B	1	N	N	5.1908E-01	1.0000E+00	N	77%	N		1.7168E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.256E-02)	(0.000E+00)		6%			(0.000E+00)	4.063502		
2	07/10/06 18:21	RA-228	46	271	GPC7B	1	N	N	5.1908E-01	1.0000E+00	N	77%	N		1.9046E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.256E-02)	(0.000E+00)		6%			(0.000E+00)	4.063502		

() - (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: 6167167

Alpha Beta, Ra-228 by GPC , Calculated Results

7/11/2006 7:47:44 AM

3	07/11/06 07:12	RA-228	30	309	GPC7B	1	N	N	5.1908E-01	1.0000E+00	N	77%	N	8.1024E+00	4.5045E-01	1.0090E+00	
			50	400			N		(1.256E-02)	(0.000E+00)		6%		(0.000E+00)	4.063502		

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
	07/11/06	RA-228	R	**1.021829**	U4	1.42500E-01	0.553263	0.553263	1.00 SA	77%		4.27003		
				(0.970107)		(1.3451E-01)	(0.524297)	(0.524297)	(0.028284)			1.941841		
	07/11/06	RA-228	R	**2.724647**		3.42500E-01	1.475245	1.475245	1.00 SA	77%		4.737153		
				(1.214313)		(1.4864E-01)	(0.651998)	(0.651998)	(0.028284)			2.154271		
	07/11/06	RA-228	R	**2.140168**		2.42500E-01	1.158782	1.158782	1.00 SA	77%		5.255378		
				(1.269717)		(1.4175E-01)	(0.684251)	(0.684251)	(0.028284)			2.389939		
	07/11/06	RA-228	A	**1.962215**		2.42500E-01	1.06243	1.06243	1.00 SA	77%		2.744831		
				(0.668983)		(8.1841E-02)	(0.360276)	(0.360276)	(0.01633)			1.248241		
	07/11/06	RA-228	R	**-6.476547**	U4	-1.72500E-01	-3.50669	-3.50669	1.00 SA	77%		23.735544		
				(4.479901)		(1.1803E-01)	(2.417238)	(2.417238)	(0.028284)			10.856743		

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	**H7D001AD**	**PCI/SA**		05/31/06 11:20	07/11/06 07:12	06/27/06 17:00	RATA22863	1	1.00 SA	
536403,P-0655					,J6F140275-3 v4.8.24		FILTER			31.6	07/10/06 12:15	RATA22863 Alq	97%	0.248977 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	07/10/06 16:30	RA-228	51	320	GPC7C	1	N	N	5.0621E-01	1.0000E+00	N	89%	N		1.5475E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.089E-02)	(0.000E+00)		7%			(0.000E+00)	4.016428		
1	07/10/06 17:26	RA-228	39	320	GPC7C	1	N	N	5.0621E-01	1.0000E+00	N	89%	N		1.7168E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.089E-02)	(0.000E+00)		7%			(0.000E+00)	4.016428		
2	07/10/06 18:21	RA-228	44	320	GPC7C	1	N	N	5.0621E-01	1.0000E+00	N	89%	N		1.9046E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.089E-02)	(0.000E+00)		7%			(0.000E+00)	4.016428		
3	07/11/06 07:12	RA-228	38	330	GPC7C	1	N	N	5.0621E-01	1.0000E+00	N	89%	N		8.1024E+00	4.5045E-01	1.0090E+00	
			50	400			N		(1.089E-02)	(0.000E+00)		7%			(0.000E+00)	4.016428		

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
	07/11/06	RA-228	R	**1.378411**	U4	2.20000E-01	0.755083	0.755083	1.00 SA	89%		4.024857		
				(0.947975)		(1.4967E-01)	(0.517479)	(0.517479)	(0.028284)			1.843728		
	07/11/06	RA-228	R	**-0.139018**	U4	-2.00000E-02	-0.076153	-0.076153	1.00 SA	89%		4.465159		
				(0.922251)		(1.3266E-01)	(0.505183)	(0.505183)	(0.028284)			2.045424		
	07/11/06	RA-228	R	**0.616906**	U4	8.00000E-02	0.337937	0.337937	1.00 SA	89%		4.953629		
				(1.081375)		(1.4000E-01)	(0.592051)	(0.592051)	(0.028284)			2.269185		
	07/11/06	RA-228	A	**0.618766**	U4	9.33333E-02	0.338956	0.338956	1.00 SA	89%		2.587231		
				(0.569461)		(8.1377E-02)	(0.311541)	(0.311541)	(0.01633)			1.185173		
	07/11/06	RA-228	R	**-2.13236**	U4	-6.50000E-02	-1.168092	-1.168092	1.00 SA	89%		21.37292		
				(4.315574)		(1.3139E-01)	(2.363087)	(2.363087)	(0.028284)			9.80325		

() - (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: 6167167

Alpha Beta, Ra-228 by GPC , Calculated Results

7/11/2006 7:47:44 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	**H7D021AD**	**PCI/SA**		05/31/06 11:45	07/11/06 07:12	06/27/06 17:00	RATA22864	1	1.00 SA	
536403,P-0656					,J6F140275-4 v4.8.24		FILTER			30.9	07/10/06 12:15	RATA22864 Alq	98%	0.249593 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	07/10/06 16:31	RA-228	32	224	GPC1A	1	N	N	5.3004E-01	1.0000E+00	N	88%	N		1.5486E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.446E-02)	(0.000E+00)		7%			(0.000E+00)	4.00653		
1	07/10/06 17:26	RA-228	37	224	GPC1A	1	N	N	5.3004E-01	1.0000E+00	N	88%	N		1.7180E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.446E-02)	(0.000E+00)		7%			(0.000E+00)	4.00653		
2	07/10/06 18:21	RA-228	41	224	GPC1A	1	N	N	5.3004E-01	1.0000E+00	N	88%	N		1.9059E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.446E-02)	(0.000E+00)		7%			(0.000E+00)	4.00653		
3	07/11/06 07:12	RA-228	27	247	GPC1A	1	N	N	5.3004E-01	1.0000E+00	N	88%	N		8.1047E+00	4.5045E-01	1.0090E+00	
			50	400			N		(1.446E-02)	(0.000E+00)		7%			(0.000E+00)	4.00653		

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
	07/11/06	RA-228	R	**0.483353**	U4	8.00000E-02	0.265433	0.265433	1.00 SA	88%		3.300754		
				(0.721669)		(1.1916E-01)	(0.396011)	(0.396011)	(0.028284)			1.487524		
	07/11/06	RA-228	R	**1.206516**	U4	1.80000E-01	0.662558	0.662558	1.00 SA	88%		3.661842		
				(0.862001)		(1.2728E-01)	(0.471834)	(0.471834)	(0.028284)			1.650253		
	07/11/06	RA-228	R	**1.933395**		2.60000E-01	1.061722	1.061722	1.00 SA	88%		4.062432		
				(1.011589)		(1.3342E-01)	(0.552155)	(0.552155)	(0.028284)			1.830784		
	07/11/06	RA-228	A	**1.207755**		1.73333E-01	0.663238	0.663238	1.00 SA	88%		2.121768		
				(0.504112)		(7.3182E-02)	(0.275747)	(0.275747)	(0.01633)			0.9562		
	07/11/06	RA-228	R	**-2.450624**	U4	-7.75000E-02	-1.345759	-1.345759	1.00 SA	88%		18.054211		
				(3.522082)		(1.1110E-01)	(1.932603)	(1.932603)	(0.028284)			8.175031		

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	**H7D031AD**	**PCI/SA**		05/31/06 12:10	07/11/06 07:12	06/27/06 17:00	RATA22865	1	1.00 SA	
536403,P-0657					,J6F140275-5 v4.8.24		FILTER			31.6	07/10/06 12:15	RATA22865 Alq	92%	0.25035 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	07/10/06 16:31	RA-228	28	231	GPC1C	1	N	N	5.2063E-01	1.0000E+00	N	85%	N		1.5486E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.165E-02)	(0.000E+00)		7%			(0.000E+00)	3.994415		
1	07/10/06 17:26	RA-228	31	231	GPC1C	1	N	N	5.2063E-01	1.0000E+00	N	85%	N		1.7180E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.165E-02)	(0.000E+00)		7%			(0.000E+00)	3.994415		
2	07/10/06 18:21	RA-228	28	231	GPC1C	1	N	N	5.2063E-01	1.0000E+00	N	85%	N		1.9059E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.165E-02)	(0.000E+00)		7%			(0.000E+00)	3.994415		
3	07/11/06 07:12	RA-228	38	212	GPC1C	1	N	N	5.2063E-01	1.0000E+00	N	85%	N		8.1047E+00	4.5045E-01	1.0090E+00	
			50	400			N		(1.165E-02)	(0.000E+00)		7%			(0.000E+00)	3.994415		

() - (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: 6167167

Alpha Beta, Ra-228 by GPC , Calculated Results

7/11/2006 7:47:45 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
	07/11/06	RA-228	R	**-0.111687**	U4	-1.75000E-02	-0.061519	-0.061519	1.00 SA	85%		3.535312		
				(0.717723)		(1.1244E-01)	(0.395319)	(0.395319)	(0.028284)			1.595648		
	07/11/06	RA-228	R	**0.300913**	U4	4.25000E-02	0.165748	0.165748	1.00 SA	85%		3.922061		
				(0.833619)		(1.1766E-01)	(0.459073)	(0.459073)	(0.028284)			1.770205		
	07/11/06	RA-228	R	**-0.13746**	U4	-1.75000E-02	-0.075715	-0.075715	1.00 SA	85%		4.351118		
				(0.883344)		(1.1244E-01)	(0.486542)	(0.486542)	(0.028284)			1.963858		
	07/11/06	RA-228	A	**0.017255**	U4	2.50000E-03	0.009504	0.009504	1.00 SA	85%		2.272545		
				(0.470265)		(6.5939E-02)	(0.259004)	(0.259004)	(0.01633)			1.025703		
	07/11/06	RA-228	R	**7.682348**		2.30000E-01	4.231575	4.231575	1.00 SA	85%		17.801229		
				(4.363294)		(1.2855E-01)	(2.391056)	(2.391056)	(0.028284)			8.000184		

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	**H7D051AD**	**PCI/SA**		05/31/06 12:20	07/11/06 07:12	06/27/06 17:00	RATA22866	1	1.00 SA	
536403,P-0658					,J6F140275-6 v4.8.24		FILTER			31.4	07/10/06 12:15	RATA22866 Alq	103%	0.249503 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	07/10/06 16:31	RA-228	38	236	GPC1D	1	N	N	5.3097E-01	1.0000E+00	N	94%	N		1.5486E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.366E-02)	(0.000E+00)		8%			(0.000E+00)	4.007975		
1	07/10/06 17:26	RA-228	31	236	GPC1D	1	N	N	5.3097E-01	1.0000E+00	N	94%	N		1.7180E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.366E-02)	(0.000E+00)		8%			(0.000E+00)	4.007975		
2	07/10/06 18:21	RA-228	32	236	GPC1D	1	N	N	5.3097E-01	1.0000E+00	N	94%	N		1.9059E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.366E-02)	(0.000E+00)		8%			(0.000E+00)	4.007975		
3	07/11/06 07:12	RA-228	34	264	GPC1D	1	N	N	5.3097E-01	1.0000E+00	N	94%	N		8.1047E+00	4.5045E-01	1.0090E+00	
			50	400			N		(1.366E-02)	(0.000E+00)		8%			(0.000E+00)	4.007975		

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
	07/11/06	RA-228	R	**0.958976**	U4	1.70000E-01	0.526435	0.526435	1.00 SA	94%		3.155139		
				(0.734948)		(1.2913E-01)	(0.402319)	(0.402319)	(0.028284)			1.425544		
	07/11/06	RA-228	R	**0.187744**	U4	3.00000E-02	0.103063	0.103063	1.00 SA	94%		3.500297		
				(0.737408)		(1.1779E-01)	(0.404761)	(0.404761)	(0.028284)			1.581492		
	07/11/06	RA-228	R	**0.347138**	U4	5.00000E-02	0.190563	0.190563	1.00 SA	94%		3.883215		
				(0.830259)		(1.1948E-01)	(0.455644)	(0.455644)	(0.028284)			1.754501		
	07/11/06	RA-228	A	**0.497952**	U4	8.33333E-02	0.273354	0.273354	1.00 SA	94%		2.028164		
				(0.443878)		(7.0573E-02)	(0.243425)	(0.243425)	(0.01633)			0.916358		
	07/11/06	RA-228	R	**0.590459**	U4	2.00000E-02	0.324136	0.324136	1.00 SA	94%		17.372604		
				(3.646309)		(1.2349E-01)	(2.001575)	(2.001575)	(0.028284)			7.890916		

() - (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 v4.8.24

STL Richland

Batch Nbr: 6167167

Alpha Beta, Ra-228 by GPC , Calculated Results

7/11/2006 7:47:45 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	**H7D081AD**	**PCI/SA**		05/31/06 10:35	07/11/06 07:12	06/27/06 17:00	RATA22867	1	1.00 SA	
536403,P-0659					,J6F140275-7 v4.8.24		FILTER			31.1	07/10/06 12:15	RATA22867 Alq	94%	0.249893 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	07/10/06 16:31	RA-228	19	121	GPC2B	1	N	N	4.4452E-01	1.0000E+00	N	85%	N		1.5493E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.049E-02)	(0.000E+00)		7%			(0.000E+00)	4.001707		
1	07/10/06 17:26	RA-228	15	121	GPC2B	1	N	N	4.4452E-01	1.0000E+00	N	85%	N		1.7188E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.049E-02)	(0.000E+00)		7%			(0.000E+00)	4.001707		
2	07/10/06 18:22	RA-228	24	121	GPC2B	1	N	N	4.4452E-01	1.0000E+00	N	85%	N		1.9068E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.049E-02)	(0.000E+00)		7%			(0.000E+00)	4.001707		
3	07/11/06 07:12	RA-228	11	70	GPC2A	1	N	N	4.2730E-01	1.0000E+00	N	85%	N		8.1065E+00	4.5045E-01	1.0090E+00	
			50	400			N		(1.183E-02)	(0.000E+00)		7%			(0.000E+00)	4.001707		

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
	07/11/06	RA-228	R	**0.58034**	**U4**	7.75000E-02	0.319072	0.319072	1.00 SA	85%		3.114255		
				(0.687039)		(9.1413E-02)	(0.377291)	(0.377291)	(0.028284)			1.355		
	07/11/06	RA-228	R	**-0.020769**	**U4**	-2.50000E-03	-0.011419	-0.011419	1.00 SA	85%		3.454942		
				(0.682845)		(8.2196E-02)	(0.375429)	(0.375429)	(0.028284)			1.503232		
	07/11/06	RA-228	R	**1.635832**		1.77500E-01	0.899384	0.899384	1.00 SA	85%		3.832778		
				(0.952387)		(1.0177E-01)	(0.52107)	(0.52107)	(0.028284)			1.667627		
	07/11/06	RA-228	A	**0.731801**	**U4**	8.41667E-02	0.402346	0.402346	1.00 SA	85%		2.001861		
				(0.452811)		(5.3196E-02)	(0.248285)	(0.248285)	(0.01633)			0.871002		
	07/11/06	RA-228	R	**1.83419**	**U4**	4.50000E-02	1.008442	1.008442	1.00 SA	85%		13.422101		
				(2.841133)		(6.9552E-02)	(1.560987)	(1.560987)	(0.028284)			5.609791		

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	**H7D1A1AD**	**PCI/SA**		05/31/06 10:40	07/11/06 07:12	06/27/06 17:00	RATA22868	1	1.00 SA	
536403,000480					,J6F140275-8 v4.8.24		FILTER			31.7	07/10/06 12:15	RATA22868 Alq	90%	0.249716 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	07/10/06 16:31	RA-228	18	118	GPC2C	1	N	N	4.2853E-01	1.0000E+00	N	83%	N		1.5493E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(9.321E-03)	(0.000E+00)		7%			(0.000E+00)	4.004549		
1	07/10/06 17:26	RA-228	15	118	GPC2C	1	N	N	4.2853E-01	1.0000E+00	N	83%	N		1.7188E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(9.321E-03)	(0.000E+00)		7%			(0.000E+00)	4.004549		
2	07/10/06 18:22	RA-228	14	118	GPC2C	1	N	N	4.2853E-01	1.0000E+00	N	83%	N		1.9068E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(9.321E-03)	(0.000E+00)		7%			(0.000E+00)	4.004549		
3	07/11/06 07:12	RA-228	15	106	GPC2B	1	N	N	4.4363E-01	1.0000E+00	N	83%	N		8.1065E+00	4.5045E-01	1.0090E+00	
			50	400			N		(1.047E-02)	(0.000E+00)		7%			(0.000E+00)	4.004549		

() - (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: 6167167

Alpha Beta, Ra-228 by GPC , Calculated Results

7/11/2006 7:47:45 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
	07/11/06	RA-228	R	**0.516137**	U4	6.50000E-02	0.283572	0.283572	1.00 SA	83%		3.266538		
				(0.709359)		(8.9093E-02)	(0.38939)	(0.38939)	(0.028284)			1.418922		
	07/11/06	RA-228	R	**0.044046**	U4	5.00000E-03	0.0242	0.0242	1.00 SA	83%		3.623883		
				(0.723096)		(8.2082E-02)	(0.397275)	(0.397275)	(0.028284)			1.574146		
	07/11/06	RA-228	R	**-0.146589**	U4	-1.50000E-02	-0.080538	-0.080538	1.00 SA	83%		4.020195		
				(0.778123)		(7.9608E-02)	(0.427486)	(0.427486)	(0.028284)			1.746296		
	07/11/06	RA-228	A	**0.137865**	U4	1.83333E-02	0.075745	0.075745	1.00 SA	83%		2.099749		
				(0.425772)		(4.8319E-02)	(0.233856)	(0.233856)	(0.01633)			0.912091		
	07/11/06	RA-228	R	**1.40468**	U4	3.50000E-02	0.771749	0.771749	1.00 SA	83%		15.761519		
				(3.278968)		(8.1624E-02)	(1.800961)	(1.800961)	(0.028284)			6.797172		

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	**H7D1E1AD**	**PCI/SA**		05/31/06 11:05	07/11/06 07:12	06/27/06 17:00	RATA22869	1	1.00 SA	
536403,000481					,J6F140275-9 v4.8.24		FILTER			30.8	07/10/06 12:15	RATA22869 Alq	91%	0.250336 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	07/10/06 16:31	RA-228	17	95	GPC3A	1	N	N	4.6800E-01	1.0000E+00	N	82%	N		1.5505E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.324E-02)	(0.000E+00)		7%			(0.000E+00)	3.994637		
1	07/10/06 17:27	RA-228	15	95	GPC3A	1	N	N	4.6800E-01	1.0000E+00	N	82%	N		1.7201E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.324E-02)	(0.000E+00)		7%			(0.000E+00)	3.994637		
2	07/10/06 18:22	RA-228	15	95	GPC3A	1	N	N	4.6800E-01	1.0000E+00	N	82%	N		1.9083E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.324E-02)	(0.000E+00)		7%			(0.000E+00)	3.994637		
3	07/11/06 07:12	RA-228	16	101	GPC3A	1	N	N	4.6800E-01	1.0000E+00	N	82%	N		8.1095E+00	4.5045E-01	1.0090E+00	
			50	400			N		(1.324E-02)	(0.000E+00)		7%			(0.000E+00)	3.994637		

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
	07/11/06	RA-228	R	**0.753675**	U4	1.02500E-01	0.415109	0.415109	1.00 SA	82%		2.754989		
				(0.636955)		(8.5987E-02)	(0.35001)	(0.35001)	(0.028284)			1.17893		
	07/11/06	RA-228	R	**0.509832**	U4	6.25000E-02	0.280805	0.280805	1.00 SA	82%		3.056374		
				(0.664446)		(8.1202E-02)	(0.365607)	(0.365607)	(0.028284)			1.3079		
	07/11/06	RA-228	R	**0.565605**	U4	6.25000E-02	0.311524	0.311524	1.00 SA	82%		3.390728		
				(0.737134)		(8.1202E-02)	(0.405603)	(0.405603)	(0.028284)			1.450979		
	07/11/06	RA-228	A	**0.609704**	U4	7.58333E-02	0.335812	0.335812	1.00 SA	82%		1.770943		
				(0.393074)		(4.7821E-02)	(0.216202)	(0.216202)	(0.01633)			0.757832		
	07/11/06	RA-228	R	**2.59585**	U4	6.75000E-02	1.42974	1.42974	1.00 SA	82%		14.792291		
				(3.235673)		(8.3853E-02)	(1.780248)	(1.780248)	(0.028284)			6.357735		

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

RecCnt:10

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

Batch Nbr: 6167167

Alpha Beta, Ra-228 by GPC , Calculated Results

7/11/2006 7:47:45 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	**H7D1J1AD**	**PCI/SA**		05/31/06 11:25	07/11/06 07:12	06/27/06 17:00	RATA22870	1	1.00 SA	
536403,000482					,J6F140275-10 v4.8.24		FILTER			29.9	07/10/06 12:15	RATA22870 Alq	87%	0.250569 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	07/10/06 16:31	RA-228	20	110	GPC3B	1	N	N	4.7930E-01	1.0000E+00	N	76%	N		1.5505E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.181E-02)	(0.000E+00)		6%			(0.000E+00)	3.990911		
1	07/10/06 17:27	RA-228	13	110	GPC3B	1	N	N	4.7930E-01	1.0000E+00	N	76%	N		1.7201E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.181E-02)	(0.000E+00)		6%			(0.000E+00)	3.990911		
2	07/10/06 18:22	RA-228	16	110	GPC3B	1	N	N	4.7930E-01	1.0000E+00	N	76%	N		1.9083E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.181E-02)	(0.000E+00)		6%			(0.000E+00)	3.990911		
3	07/11/06 07:12	RA-228	15	96	GPC3B	1	N	N	4.7930E-01	1.0000E+00	N	76%	N		8.1095E+00	4.5045E-01	1.0090E+00	
			50	400			N		(1.181E-02)	(0.000E+00)		6%			(0.000E+00)	3.990911		

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
	07/11/06	RA-228	R	**0.967096**	U4	1.25000E-01	0.533156	0.533156	1.00 SA	76%		3.087382		
				(0.727772)		(9.3207E-02)	(0.400047)	(0.400047)	(0.028284)			1.334817		
	07/11/06	RA-228	R	**-0.128747**	U4	-1.50000E-02	-0.070978	-0.070978	1.00 SA	76%		3.425129		
				(0.658714)		(7.6730E-02)	(0.363124)	(0.363124)	(0.028284)			1.480841		
	07/11/06	RA-228	R	**0.428494**	U4	4.50000E-02	0.236227	0.236227	1.00 SA	76%		3.799823		
				(0.802819)		(8.4187E-02)	(0.442383)	(0.442383)	(0.028284)			1.642838		
	07/11/06	RA-228	A	**0.422281**	U4	5.16667E-02	0.232802	0.232802	1.00 SA	76%		1.98461		
				(0.4227)		(4.9061E-02)	(0.232761)	(0.232761)	(0.01633)			0.858038		
	07/11/06	RA-228	R	**2.427874**	U4	6.00000E-02	1.338477	1.338477	1.00 SA	76%		15.229303		
				(3.296584)		(8.1240E-02)	(1.815766)	(1.815766)	(0.028284)			6.521934		

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	**H7D1K1AD**	**PCI/SA**		05/31/06 11:50	07/11/06 07:12	06/27/06 17:00	RATA22871	1	1.00 SA	
536403,000483					,J6F140275-11 v4.8.24		FILTER			30.6	07/10/06 12:15	RATA22871 Alq	109%	0.248787 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	07/10/06 16:31	RA-228	18	132	GPC3C	1	N	N	4.7106E-01	1.0000E+00	N	97%	N		1.5505E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.100E-02)	(0.000E+00)		8%			(0.000E+00)	4.019503		
1	07/10/06 17:27	RA-228	16	132	GPC3C	1	N	N	4.7106E-01	1.0000E+00	N	97%	N		1.7201E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.100E-02)	(0.000E+00)		8%			(0.000E+00)	4.019503		
2	07/10/06 18:22	RA-228	21	132	GPC3C	1	N	N	4.7106E-01	1.0000E+00	N	97%	N		1.9083E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.100E-02)	(0.000E+00)		8%			(0.000E+00)	4.019503		
3	07/11/06 07:12	RA-228	16	109	GPC3C	1	N	N	4.7106E-01	1.0000E+00	N	97%	N		8.1095E+00	4.5045E-01	1.0090E+00	
			50	400			N		(1.100E-02)	(0.000E+00)		8%			(0.000E+00)	4.019503		

() - (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: 6167167

Alpha Beta, Ra-228 by GPC , Calculated Results

7/11/2006 7:47:45 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
	07/11/06	RA-228	R	**0.186865**	U4	3.00000E-02	0.102286	0.102286	1.00 SA	97%		2.690658		
				(0.558315)		(8.9582E-02)	(0.305552)	(0.305552)	(0.028284)			1.177226		
	07/11/06	RA-228	R	**-0.069102**	U4	-1.00000E-02	-0.037825	-0.037825	1.00 SA	97%		2.985004		
				(0.587413)		(8.5000E-02)	(0.321529)	(0.321529)	(0.028284)			1.30601		
	07/11/06	RA-228	R	**0.689958**	U4	9.00000E-02	0.377667	0.377667	1.00 SA	97%		3.311551		
				(0.739619)		(9.6047E-02)	(0.404269)	(0.404269)	(0.028284)			1.448882		
	07/11/06	RA-228	A	**0.26924**	U4	3.66667E-02	0.147376	0.147376	1.00 SA	97%		1.72959		
				(0.365727)		(5.2148E-02)	(0.200049)	(0.200049)	(0.01633)			0.756736		
	07/11/06	RA-228	R	**1.547448**	U4	4.75000E-02	0.847038	0.847038	1.00 SA	97%		12.949114		
				(2.745903)		(8.4150E-02)	(1.502258)	(1.502258)	(0.028284)			5.595019		

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	**H7D1N1AD**	**PCI/SA**		05/31/06 12:15	07/11/06 07:12	06/27/06 17:00	RATA22872	1	1.00 SA	
536403,000484					,J6F140275-12 v4.8.24		FILTER			30.9	07/10/06 12:15	RATA22872 Alq	90%	0.249902 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	07/10/06 16:31	RA-228	12	69	GPC3D	1	N	N	4.6782E-01	1.0000E+00	N	81%	N		1.5505E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.145E-02)	(0.000E+00)		6%			(0.000E+00)	4.001574		
1	07/10/06 17:27	RA-228	12	69	GPC3D	1	N	N	4.6782E-01	1.0000E+00	N	81%	N		1.7201E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.145E-02)	(0.000E+00)		6%			(0.000E+00)	4.001574		
2	07/10/06 18:22	RA-228	13	69	GPC3D	1	N	N	4.6782E-01	1.0000E+00	N	81%	N		1.9083E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.145E-02)	(0.000E+00)		6%			(0.000E+00)	4.001574		
3	07/11/06 07:12	RA-228	10	79	GPC3D	1	N	N	4.6782E-01	1.0000E+00	N	81%	N		8.1095E+00	4.5045E-01	1.0090E+00	
			50	400			N		(1.145E-02)	(0.000E+00)		6%			(0.000E+00)	4.001574		

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
	07/11/06	RA-228	R	**0.50431**	U4	6.75000E-02	0.277286	0.277286	1.00 SA	81%		2.445533		
				(0.542794)		(7.2327E-02)	(0.298021)	(0.298021)	(0.028284)			1.020902		
	07/11/06	RA-228	R	**0.559479**	U4	6.75000E-02	0.30762	0.30762	1.00 SA	81%		2.713064		
				(0.602174)		(7.2327E-02)	(0.330623)	(0.330623)	(0.028284)			1.132584		
	07/11/06	RA-228	R	**0.80459**	U4	8.75000E-02	0.44239	0.44239	1.00 SA	81%		3.009862		
				(0.694846)		(7.5042E-02)	(0.381203)	(0.381203)	(0.028284)			1.256484		
	07/11/06	RA-228	A	**0.622793**		7.41667E-02	0.342432	0.342432	1.00 SA	81%		1.572021		
				(0.35591)		(4.2287E-02)	(0.195347)	(0.195347)	(0.01633)			0.656249		
	07/11/06	RA-228	R	**0.09769**	U4	2.50000E-03	0.053713	0.053713	1.00 SA	81%		13.537763		
				(2.619488)		(6.7035E-02)	(1.440278)	(1.440278)	(0.028284)			5.713317		

() - (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: 6167167

Alpha Beta, Ra-228 by GPC , Calculated Results

7/11/2006 7:47:45 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	**H7D1R1AD**	**PCI/SA**		05/31/06 12:25	07/11/06 07:12	06/27/06 17:00	RATA22873	1	1.00 SA	
536403,000485					,J6F140275-13 v4.8.24		FILTER			30.0	07/10/06 12:15	RATA22873 Alq	92%	0.249815 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	07/10/06 16:32	RA-228	32	187	GPC4A	1	N	N	4.8160E-01	1.0000E+00	N	80%	N		1.5517E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.103E-02)	(0.000E+00)		6%			(0.000E+00)	4.002961		
1	07/10/06 17:27	RA-228	36	187	GPC4A	1	N	N	4.8160E-01	1.0000E+00	N	80%	N		1.7214E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.103E-02)	(0.000E+00)		6%			(0.000E+00)	4.002961		
2	07/10/06 18:22	RA-228	26	187	GPC4A	1	N	N	4.8160E-01	1.0000E+00	N	80%	N		1.9097E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.103E-02)	(0.000E+00)		6%			(0.000E+00)	4.002961		
3	07/11/06 07:12	RA-228	28	191	GPC4A	1	N	N	4.8160E-01	1.0000E+00	N	80%	N		8.1123E+00	4.5045E-01	1.0090E+00	
			50	400			N		(1.103E-02)	(0.000E+00)		6%			(0.000E+00)	4.002961		

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
	07/11/06	RA-228	R	**1.263191**	**U4**	1.72500E-01	0.694305	0.694305	1.00 SA	80%		3.689496		
				(0.874858)		(1.1819E-01)	(0.479203)	(0.479203)	(0.028284)			1.647277		
	07/11/06	RA-228	R	**2.051294**		2.52500E-01	1.127481	1.127481	1.00 SA	80%		4.093112		
				(1.034666)		(1.2477E-01)	(0.564998)	(0.564998)	(0.028284)			1.827482		
	07/11/06	RA-228	R	**0.47315**	**U4**	5.25000E-02	0.260064	0.260064	1.00 SA	80%		4.540739		
				(0.970534)		(1.0756E-01)	(0.533239)	(0.533239)	(0.028284)			2.027338		
	07/11/06	RA-228	A	**1.262545**		1.59167E-01	0.69395	0.69395	1.00 SA	80%		2.371629		
				(0.555562)		(6.7582E-02)	(0.304266)	(0.304266)	(0.01633)			1.058879		
	07/11/06	RA-228	R	**3.158439**	**U4**	8.25000E-02	1.736017	1.736017	1.00 SA	80%		19.471952		
				(4.274012)		(1.1133E-01)	(2.347067)	(2.347067)	(0.028284)			8.703645		

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	**H7D1X1AD**	**PCI/SA**		05/31/06 11:10	07/11/06 07:12	06/27/06 17:00	RATA22874	1	1.00 SA	
536403,000486					,J6F140275-14 v4.8.24		FILTER			31.0	07/10/06 12:15	RATA22874 Alq	94%	0.248885 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	07/10/06 16:32	RA-228	31	104	GPC4B	1	N	N	4.6209E-01	1.0000E+00	N	84%	N		1.5517E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.048E-02)	(0.000E+00)		7%			(0.000E+00)	4.017916		
1	07/10/06 17:27	RA-228	29	104	GPC4B	1	N	N	4.6209E-01	1.0000E+00	N	84%	N		1.7214E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.048E-02)	(0.000E+00)		7%			(0.000E+00)	4.017916		
2	07/10/06 18:22	RA-228	25	104	GPC4B	1	N	N	4.6209E-01	1.0000E+00	N	84%	N		1.9097E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.048E-02)	(0.000E+00)		7%			(0.000E+00)	4.017916		
3	07/11/06 07:12	RA-228	15	101	GPC4B	1	N	N	4.6209E-01	1.0000E+00	N	84%	N		8.1123E+00	4.5045E-01	1.0090E+00	
			50	400			N		(1.048E-02)	(0.000E+00)		7%			(0.000E+00)	4.017916		

() - (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 v4.8.24

STL Richland

Batch Nbr: 6167167

Alpha Beta, Ra-228 by GPC , Calculated Results

7/11/2006 7:47:45 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
	07/11/06	RA-228	R	**2.613902**		3.60000E-01	1.431343	1.431343	1.00 SA	84%		2.828215		
				(0.870506)		(1.1424E-01)	(0.469534)	(0.469534)	(0.028284)			1.218062		
	07/11/06	RA-228	R	**2.577646**		3.20000E-01	1.41149	1.41149	1.00 SA	84%		3.13761		
				(0.928822)		(1.1068E-01)	(0.502107)	(0.502107)	(0.028284)			1.351313		
	07/11/06	RA-228	R	**2.144655**		2.40000E-01	1.174389	1.174389	1.00 SA	84%		3.480742		
				(0.947321)		(1.0320E-01)	(0.514337)	(0.514337)	(0.028284)			1.499094		
	07/11/06	RA-228	A	**2.445401**		3.06667E-01	1.339074	1.339074	1.00 SA	84%		1.817993		
				(0.52893)		(6.3202E-02)	(0.286185)	(0.286185)	(0.01633)			0.782977		
	07/11/06	RA-228	R	**1.803097**	U4	4.75000E-02	0.987355	0.987355	1.00 SA	84%		14.601084		
				(3.096539)		(8.1432E-02)	(1.694681)	(1.694681)	(0.028284)			6.275554		

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	**H7JM21AA**	**PCI/SA**	**B**	05/31/06 10:30	07/11/06 07:12	06/27/06 17:00	RATA22875	1	1.00 SA	
0,INTRA-LAB BLANK					,J6F160000-167		FILTER			31.1	07/10/06 12:15	RATA22875 Alq	91%	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	07/10/06 16:32	RA-228	16	98	GPC4C	1	N	N	4.6870E-01	1.0000E+00	N	83%	N		1.5517E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.147E-02)	(0.000E+00)		7%			(0.000E+00)	1.00		
1	07/10/06 17:27	RA-228	16	98	GPC4C	1	N	N	4.6870E-01	1.0000E+00	N	83%	N		1.7214E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.147E-02)	(0.000E+00)		7%			(0.000E+00)	1.00		
2	07/10/06 18:22	RA-228	14	98	GPC4C	1	N	N	4.6870E-01	1.0000E+00	N	83%	N		1.9097E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(1.147E-02)	(0.000E+00)		7%			(0.000E+00)	1.00		
3	07/11/06 07:12	RA-228	18	116	GPC4C	1	N	N	4.6870E-01	1.0000E+00	N	83%	N		8.1123E+00	4.5045E-01	1.0090E+00	
			50	400			N		(1.147E-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
	07/11/06	RA-228	R	**0.13668**	U4	7.50000E-02	0.300716	0.300716	1.00 SA	83%		0.691966		
				(0.153208)		(8.3741E-02)	(0.336704)	(0.336704)	(0.017321)			0.296772		
	07/11/06	RA-228	R	**0.151632**	U4	7.50000E-02	0.333613	0.333613	1.00 SA	83%		0.767664		
				(0.169968)		(8.3741E-02)	(0.373538)	(0.373538)	(0.017321)			0.329238		
	07/11/06	RA-228	R	**0.0785**	U4	3.50000E-02	0.172712	0.172712	1.00 SA	83%		0.851617		
				(0.176952)		(7.8819E-02)	(0.389213)	(0.389213)	(0.017321)			0.365244		
	07/11/06	RA-228	A	**0.122271**	U4	6.16667E-02	0.269014	0.269014	1.00 SA	83%		0.4448		
				(0.096421)		(4.7420E-02)	(0.211971)	(0.211971)	(0.01)			0.190767		
	07/11/06	RA-228	R	**0.666931**	U4	7.00000E-02	1.467345	1.467345	1.00 SA	83%		3.890433		
				(0.850735)		(8.9022E-02)	(1.870129)	(1.870129)	(0.017321)			1.688021		

() - (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: 6167167

Alpha Beta, Ra-228 by GPC , Calculated Results

7/11/2006 7:47:45 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	**H7JM21AC**	**PCI/SA**	**S**	05/31/06 10:30	07/11/06 07:12	06/27/06 17:00	RASC4133	1	1.00 SA	
0,INTRA-LAB CHECK					,J6F160000-167		FILTER			31.6	07/10/06 12:15	RASC4133 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
0	07/10/06 16:32	RA-228	128	113	GPC4D	1	N	N	4.5371E-01	1.0000E+00	N	89%	N		1.5517E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(9.342E-03)	(0.000E+00)		7%			(0.000E+00)	1.00		
1	07/10/06 17:27	RA-228	120	113	GPC4D	1	N	N	4.5371E-01	1.0000E+00	N	89%	N		1.7214E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(9.342E-03)	(0.000E+00)		7%			(0.000E+00)	1.00		
2	07/10/06 18:22	RA-228	94	113	GPC4D	1	N	N	4.5371E-01	1.0000E+00	N	89%	N		1.9097E+00	4.5045E-01	1.0090E+00	
			50	400			Y		(9.342E-03)	(0.000E+00)		7%			(0.000E+00)	1.00		
3	07/11/06 07:12	RA-228	46	111	GPC4D	1	N	N	4.5371E-01	1.0000E+00	N	89%	N		8.1123E+00	4.5045E-01	1.0090E+00	
			50	400			N		(9.342E-03)	(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
	07/11/06	RA-228	R	**3.985065**		2.27750E+00	8.767722	8.767722	1.00 SA	89%	79%	0.706418		
				(0.558349)		(2.2783E-01)	(1.137472)	(1.137472)	(0.017321)			0.305972		
	07/11/06	RA-228	R	**4.110427**		2.11750E+00	9.043537	9.043537	1.00 SA	89%	81%	0.783697		
				(0.588332)		(2.2069E-01)	(1.20271)	(1.20271)	(0.017321)			0.339444		
	07/11/06	RA-228	R	**3.44015**		1.59750E+00	7.568829	7.568829	1.00 SA	89%	68%	0.869403		
				(0.539941)		(1.9572E-01)	(1.1184)	(1.1184)	(0.017321)			0.376566		
	07/11/06	RA-228	A	**3.845214**		1.99750E+00	8.460029	8.460029	1.00 SA	89%	76%	0.45409		
				(0.324795)		(1.2424E-01)	(0.665931)	(0.665931)	(0.01)			0.196681		
	07/11/06	RA-228	R	**5.877448**		6.42500E-01	12.931238	12.931238	1.00 SA	89%	117%	3.664757		
				(1.389336)		(1.3818E-01)	(2.97917)	(2.97917)	(0.017321)			1.585415		

() - (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

Sample Preparation/Analysis

BX Ra-226/228 PrpRC5016, SepRC5005
TF Radium-228 by GPC
01 STANDARD TEST SET

Balance Id:1120373922,1120373922,1120

Pipet #: _____

AnalyDueDate: 07/11/2006

Sep1 DT/Tm Tech:

Batch: 6167167 pCi/sampl
SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,LongA

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

H7D0Q1AD-SAMP Constituent List:

Ba-133	RDL:	pCi/sam	LCL:70	UCL:130	RPD:20	RA-228	RDL:3.10E+00	pCi/sam	LCL:	UCL:	RPD:
RA-228DA	RDL:3.10E+00	pCi/sam	LCL:	UCL:	RPD:						

H7JM21AA-BLK:

Ba-133	RDL:	pCi/sam	LCL:70	UCL:130	RPD:20	RA-228	RDL:3.10E+00	pCi/sam	LCL:	UCL:	RPD:
RA-228DA	RDL:3.10E+00	pCi/sam	LCL:	UCL:	RPD:						

H7JM21AC-LCS:

Ba-133	RDL:	pCi/sam	LCL:70	UCL:130	RPD:20	Ra-226	RDL:	pCi/sam	LCL:70	UCL:130	RPD:20
RA-228	RDL:1	pCi/sam	LCL:70	UCL:130	RPD:20	RA-228DA	RDL:1	pCi/sam	LCL:70	UCL:130	RPD:20

H7D0Q1AD-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

H7JM21AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

H7JM21AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

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STL RICHLAND

RADIUM 226

SAMPLE AND QC DATA

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

7/7/2006 2:57:56 PM

Lot No., Due Date: J6F140275; 07/12/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6167160; RRA2267 Ra-226 by ASC-7

SDG, Matrix: 31903; 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** 7-7-06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6167160

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: 7-10-06

STL RICHLAND

6/26/2006 11:21:14 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:1120373922,1120403183

Pipet #:

AnalyDueDate: 07/11/2006

Sep1 DT/Tm Tech: 6/27/06 17:00 SB

Batch: 6167160 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: 6167167, BXTF

Sep2 DT/Tm Tech:

Prep Tech: HansenM,LongA

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 H7D0Q-1-AC J6F140275-1-SAMP	0.833sa	500.14sa	150.07g,in	0.2499g 7.5289 6.805 = 1.1064	RATA22861 06/26/06,pd 10/04/04,r		613	0705	6/30/06 1312 R 1HB 7/4/06 1010 R	
05/31/2006 10:30		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
2 H7D0W-1-AC J6F140275-2-SAMP	0.833sa,g	507.87sa,g	150.04g,in	0.2461g 7.5191 6.366 = 1.1811	RATA22862 06/26/06,pd 10/04/04,r		611	0709	6/30/06 1312 R 2RC 7/6/06 1010 R	
05/31/2006 11:00		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
3 H7D00-1-AC J6F140275-3-SAMP	0.833sa,g	502.02sa,g	150.05g,in	0.249g 7.4795 7.252 = 1.0314	RATA22863 06/26/06,pd 10/04/04,r		612	0708	6/30/06 1312 R 3RC 7/6/06 1009 R	
05/31/2006 11:20		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
4 H7D02-1-AC J6F140275-4-SAMP	0.833sa,g	501.25sa,g	150.19g,in	0.2496g 7.5487 7.40 = 1.0201	RATA22864 06/26/06,pd 10/04/04,r		9	0745	6/30/06 1312 R 4UA 7/6/06 1011 R	
05/31/2006 11:45		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:

6/26/2006 11:21:15 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: 07/11/2006

Sep1 DT/Tm Tech:

Batch: 6167160 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: 6167167, BXTF

Sep2 DT/Tm Tech:

Prep Tech: HansenM,LongA

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 H7D03-1-AC J6F140275-5-SAMP	0.833sa,g	500.30sa,g	150.36g,in	0.2503g	RATA22865 06/26/06,pd 10/04/04,r		05	0746	6/30/06 1312 R	
			7.5388 / 6.944 = 1.0856					7UA	7/6/06 1012 R	
05/31/2006 12:10		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:	
6 H7D05-1-AC J6F140275-6-SAMP	0.833sa,g	500.93sa,g	150.04g,in	0.2495g	RATA22866 06/26/06,pd 10/04/04,r		07	0747	6/30/06 1312 R	
			7.5487 / 7.789 = 0.9691					8RD	7/6/06 1011 R	
05/31/2006 12:20		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:	
7 H7D08-1-AC J6F140275-7-SAMP	0.833sa,g	500.48sa,g	150.14g,in	0.2499g	RATA22867 06/26/06,pd 10/04/04,r		010	0747	6/30/06 1312 R	
			7.4400 / 6.967 = 1.0679					MMA ~~TRA~~ RS 7/6/06	7/6/06 1042 R	
05/31/2006 10:35		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:	
8 H7D1A-1-AC J6F140275-8-SAMP	0.833sa,g	502.47sa,g	150.63g,in	0.2497g	RATA22868 06/26/06,pd 10/04/04,r		06	0747	6/30/06 1312 R	
			7.4993 / 6.744 = 1.1120					DSA	7/6/06 1040 R	
05/31/2006 10:40		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:	

STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2 ISV - Insufficient Volume for Analysis WO Cnt: 8
Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Prep_SamplePrep v4.8.24

STL RICHLAND

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6/26/2006 11:21:15 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: 07/11/2006

Sep1 DT/Tm Tech:

Batch: 6167160 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: 6167167, BXTF

Sep2 DT/Tm Tech:

Prep Tech: HansenM,LongA

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 H7D1E-1-AC J6F140275-9-SAMP	0.833sa,g	500.96sa,g	150.55g,in	0.2503g	RATA22869 06/26/06,pd 10/04/04,r		G8	0748	6/28/06	
			7.4894 / 6.843 = 1.0945						6/30/06 1334 R	
								EHB	7/6/06 1042 R	
05/31/2006 11:05		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:	Beta:	
10H7D1J-1-AC J6F140275-10-SAMP	0.833sa,g	500.26sa,g	150.48g,in	0.2506g	RATA22870 06/26/06,pd 10/04/04,r		G13	0748	6/28/06	
			7.4993 / 6.544 = 1.1460						6/30/06 1334 R	
								FSA	7/6/06 1041 R	
05/31/2006 11:25		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:	Beta:	
11H7D1K-1-AC J6F140275-11-SAMP	0.833sa,g	502.94sa,g	150.21g,in	0.2488g	RATA22871 06/26/06,pd 10/04/04,r		G11	0748	6/28/06	
			7.4894 / 8.128 = 0.9214						6/30/06 1334 R	
								GSA	7/6/06 1040 R	
05/31/2006 11:50		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:	Beta:	
12H7D1N-1-AC J6F140275-12-SAMP	0.833sa,g	500.83sa,g	150.25g,in	0.2499g	RATA22872 06/26/06,pd 10/04/04,r		G12	0748	6/28/06	
			7.5092 / 6.745 = 1.1133						6/30/06 1334 R	
								JSB	7/6/06 1042 R	
05/31/2006 12:15		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:	Beta:	

STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 3 ISV - Insufficient Volume for Analysis WO Cnt: 12
Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Prep_SamplePrep v4.8.24

STL RICHLAND

485

STL RICHLAND

6/26/2006 11:21:15 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: 07/11/2006

Batch: 6167160 FILTER pCi/sampl PM, Quote: SA , 63174
SEQ Batch, Test: 6167167, BXTF

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: HansenM,LongA

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:
13H7D1R-1-AC J6F140275-13-SAMP	0.833sa,g	500.27sa,g	150.03g,in	0.2498g	RATA22873 06/26/06,pd 10/04/04,r		9"	0825	6/30/06 6/30/06 1334 R QMB 7/6/06 1041 R	
05/31/2006 12:25		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:	
14H7D1X-1-AC J6F140275-14-SAMP	0.833sa,g	503.21sa,g	150.35g,in	0.2489g	RATA22874 06/26/06,pd 10/04/04,r		65	0825	6/30/06 6/30/06 1334 R NMA 7/6/06 1041 R	
05/31/2006 11:10		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:	
15H7JMQ-1-AA-B J6F160000-160-BLK			1.00sa,in	1.00sa	RATA22875 06/26/06,pd 10/04/04,r		67	0826	6/30/06 6/30/06 1334 R LMC 7/6/06 1007	
05/31/2006 10:30		AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:	
16H7JMQ-1-AC-C J6F160000-160-LCS			1.00sa,in	1.00sa	RASC4133 06/09/06		610	0826	6/30/06 6/30/06 1334 R PMB 7/6/06 1013 R	
05/31/2006 10:30		AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:	

7.5388 / 6.92 = 1.0894

7.5190 / 7.047 = 1.0670

7.4795 / 6.831 = 1.0949

7.5123 / 7.265 = 1.0340

7/7/2006 2:30:58 PM

ICOC Fraction Transfer/Status Report

ByDate: 7/7/2005, 7/12/2006, Batch: '6167160', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6167160						
AC		**CalcC**	**LongA**	6/26/2006 10:58:46		
SC			wagarr	IsBatched	6/16/2006 4:55:22 PM	ICOC_RADCALC v4.8.24
SC			LongA	InPrep	6/26/2006 10:58:46 AM	RICH-RC-5005 Revision 5
SC			DAWKINSO	InCnt1	6/27/2006 9:56:10 PM	RICH-RD-0007 REVISION 5
SC			BlackCL	Cnt1C	6/28/2006 8:30:16 AM	RICH-RD-0007 REVISION 5
SC			StringerR	InSep2	6/30/2006 12:59:10 PM	RICH-RC-5005 REVISION 5
SC			StringerR	CalcC	7/6/2006 3:53:40 PM	RICH-RC-5005 REVISION 5
AC			**DAWKINSO**	6/27/2006 9:56:10 PM		
AC			**BlackCL**	6/28/2006 8:30:16		
AC			**StringerR**	6/30/2006 12:59:10		
AC			**StringerR**	7/6/2006 3:53:40 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 5

ICOCFractions v4.8.18

7/7/2006 2:30:57 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	
31903	**9H7D0010**			**J6F1402753**	P-0655	FILTER	6/14/2006 10:00:00	5/31/2006 11:20:00 AM					
RA-226	BXTE	0		7/6/2006 1:09:00 PM	**2.608E-01**	1.369E-01	1.396E-01	4.453E-01	PCI/SA		0.97	1.0E+0	2.49E-1
31903	**9H7D0210**			**J6F1402754**	P-0656	FILTER	6/14/2006 10:00:00	5/31/2006 11:45:00 AM					
RA-226	BXTE	0		7/6/2006 1:11:00 PM	**2.0153E-01**	1.482E-01	1.499E-01	5.146E-01	PCI/SA		0.98	1.0E+0	2.496E-1
31903	**9H7D0310**			**J6F1402755**	P-0657	FILTER	6/14/2006 10:00:00	5/31/2006 12:10:00 PM					
RA-226	BXTE	0		7/6/2006 1:12:00 PM	**3.0457E-01**	1.243E-01	1.288E-01	3.629E-01	PCI/SA		0.921	1.0E+0	2.503E-1
31903	**9H7D0510**			**J6F1402756**	P-0658	FILTER	6/14/2006 10:00:00	5/31/2006 12:20:00 PM					
RA-226	BXTE	0		7/6/2006 1:11:00 PM	**1.2057E-01**	1.431E-01	1.436E-01	5.32E-01	PCI/SA		1.032	1.0E+0	2.495E-1
31903	**9H7D0810**			**J6F1402757**	P-0659	FILTER	6/14/2006 10:00:00	5/31/2006 10:35:00 AM					
RA-226	BXTE	0		7/6/2006 2:50:00 PM	**3.3219E-01**	1.368E-01	1.41E-01	4.224E-01	PCI/SA		0.936	1.0E+0	2.499E-1
31903	**9H7D0Q10**			**J6F1402751**	P-0653	FILTER	6/14/2006 10:00:00	5/31/2006 10:30:00 AM					
RA-226	BXTE	0		7/6/2006 1:10:00 PM	**4.869E-01**	2.198E-01	2.255E-01	7.193E-01	PCI/SA		0.904	1.0E+0	2.499E-1
31903	**9H7D0W10**			**J6F1402752**	P-0654	FILTER	6/14/2006 10:00:00	5/31/2006 11:00:00 AM					
RA-226	BXTE	0		7/6/2006 1:10:00 PM	**1.9402E-01**	1.595E-01	1.608E-01	5.631E-01	PCI/SA		0.847	1.0E+0	2.461E-1
31903	**9H7D1A10**			**J6F1402758**	000480	FILTER	6/14/2006 10:00:00	5/31/2006 10:40:00 AM					
RA-226	BXTE	0		7/6/2006 1:40:03 PM	**-9.2468E-02**	1.5E-01	1.503E-01	6.447E-01	PCI/SA		0.899	1.0E+0	2.497E-1
31903	**9H7D1E10**			**J6F1402759**	000481	FILTER	6/14/2006 10:00:00	5/31/2006 11:05:00 AM					
RA-226	BXTE	0		7/6/2006 1:42:03 PM	**1.541E-01**	1.473E-01	1.48E-01	5.254E-01	PCI/SA		0.914	1.0E+0	2.503E-1
31903	**9H7D1J10**			**J6F14027510**	000482	FILTER	6/14/2006 10:00:00	5/31/2006 11:25:00 AM					
RA-226	BXTE	0		7/6/2006 1:41:00 PM	**2.3332E-01**	1.903E-01	1.917E-01	6.715E-01	PCI/SA		0.873	1.0E+0	2.506E-1
31903	**9H7D1K10**			**J6F14027511**	000483	FILTER	6/14/2006 10:00:00	5/31/2006 11:50:00 AM					
RA-226	BXTE	0		7/6/2006 1:40:01 PM	**4.3572E-02**	1.076E-01	1.077E-01	4.218E-01	PCI/SA		1.085	1.0E+0	2.488E-1
31903	**9H7D1N10**			**J6F14027512**	000484	FILTER	6/14/2006 10:00:00	5/31/2006 12:15:00 PM					
RA-226	BXTE	0		7/6/2006 1:42:01 PM	**2.5875E-01**	1.148E-01	1.18E-01	3.344E-01	PCI/SA		0.898	1.0E+0	2.499E-1
31903	**9H7D1R10**			**J6F14027513**	000485	FILTER	6/14/2006 10:00:00	5/31/2006 12:25:00 PM					
RA-226	BXTE	0		7/6/2006 1:41:01 PM	**1.5633E-01**	1.063E-01	1.075E-01	3.633E-01	PCI/SA		0.918	1.0E+0	2.498E-1
31903	**9H7D1X10**			**J6F14027514**	000486	FILTER	6/14/2006 10:00:00	5/31/2006 11:10:00 AM					
RA-226	BXTE	0		7/6/2006 1:41:01 PM	**7.0279E-01**	1.603E-01	1.755E-01	3.809E-01	PCI/SA		0.937	1.0E+0	2.489E-1
31903	**H7JMQ1AB**			**J6F160000160**	INTRA-LAB BLANK	FILTER	6/14/2006 10:00:00	5/31/2006 10:30:00 AM					
RA-226	BXTE	0	B	7/6/2006 1:07:00 PM	**6.25E-02**	3.28E-02	3.349E-02	1.067E-01	PCI/SA		0.913	1.0E+0	1.0E+0
31903	**H7JMQ1CS**			**J6F160000160**	INTRA-LAB CHECK	FILTER	6/14/2006 10:00:00	5/31/2006 10:30:00 AM					
RA-226	BXTE	0	S	7/6/2006 1:13:00 PM	**1.2919E+00**	8.903E-02	1.599E-01	8.927E-02	PCI/SA	1.4059E+00	0.967	1.0E+0	1.0E+0

6167160, **Samples Inserted | Updated | NotUpdated => 16 | 0 | 0,
**Results Inserted | ReTestInserted | Updated | NotInserted => 16 | 0 | 0 | 0.
**Diff RptDb | Qtims => .

Batch Nbr: 6167160

Alpha Beta, Ra-226 by ASC-7 , Results

7/7/2006 2:20:17 PM

Summary Report

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	**H7D0Q1AC**	RA-226	**4.87E-01**	**(2.26E-01)**		PCI/SA	R	3.25E-01	7.19E-01		90%	
Calc	TE	FILTER	**H7D0W1AC**	RA-226	**1.94E-01**	**(1.61E-01)**	**U4**	PCI/SA	R	2.38E-01	5.63E-01		85%	
Calc	TE	FILTER	**H7D001AC**	RA-226	**2.61E-01**	**(1.40E-01)**		PCI/SA	R	1.87E-01	4.45E-01		97%	
Calc	TE	FILTER	**H7D021AC**	RA-226	**2.02E-01**	**(1.50E-01)**	**U4**	PCI/SA	R	2.21E-01	5.15E-01		98%	
Calc	TE	FILTER	**H7D031AC**	RA-226	**3.05E-01**	**(1.29E-01)**		PCI/SA	R	1.44E-01	3.63E-01		92%	
Calc	TE	FILTER	**H7D051AC**	RA-226	**1.21E-01**	**(1.44E-01)**	**U4**	PCI/SA	R	2.19E-01	5.32E-01		103%	
Calc	TE	FILTER	**H7D081AC**	RA-226	**3.32E-01**	**(1.41E-01)**		PCI/SA	R	1.80E-01	4.22E-01		94%	
Calc	TE	FILTER	**H7D1A1AC**	RA-226	**-9.25E-02**	**(1.50E-01)**	**U4**	PCI/SA	R	2.76E-01	6.45E-01		90%	
Calc	TE	FILTER	**H7D1E1AC**	RA-226	**1.54E-01**	**(1.48E-01)**	**U4**	PCI/SA	R	2.31E-01	5.25E-01		91%	
Calc	TE	FILTER	**H7D1J1AC**	RA-226	**2.33E-01**	**(1.92E-01)**	**U4**	PCI/SA	R	2.82E-01	6.72E-01		87%	
Calc	TE	FILTER	**H7D1K1AC**	RA-226	**4.36E-02**	**(1.08E-01)**	**U4**	PCI/SA	R	1.76E-01	4.22E-01		109%	
Calc	TE	FILTER	**H7D1N1AC**	RA-226	**2.59E-01**	**(1.18E-01)**		PCI/SA	R	1.27E-01	3.34E-01		90%	
Calc	TE	FILTER	**H7D1R1AC**	RA-226	**1.56E-01**	**(1.08E-01)**	**U4**	PCI/SA	R	1.48E-01	3.63E-01		92%	
Calc	TE	FILTER	**H7D1X1AC**	RA-226	**7.03E-01**	**(1.76E-01)**		PCI/SA	R	1.57E-01	3.81E-01		94%	
Calc	TE	FILTER	**H7JMQ1AA**	RA-226	**6.25E-02**	**(3.35E-02)**		PCI/SA	R	4.48E-02	1.07E-01	**B**	91%	
Calc	TE	FILTER	**H7JMQ1AC**	RA-226	**1.29E+00**	**(1.60E-01)**		PCI/SA	R	3.68E-02	8.93E-02	**S**	97%	92%

RDL not

P Anderson
7-7-06

() - (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: 6167160

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

Detailed Report

7/7/2006 2:20:18 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	TE	FILTER	*STLE	Ra226WoBS	**H7D0Q1AC**	**PCI/SA**		05/31/06 10:30	07/06/06 13:10	06/30/06 13:12	RATA22861	1	1.00 Sa	
CID:P-0653LOT:J6F1402751 v4.8.24							FILTER				07/06/06 10:10	RATA22861 Alq	90%	0.249947 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	07/06/06 13:10	RA-226	48	35	ASC1HB	ASC		N	2.4125E+00	1.0000E+00	N	90%	N		1.5640E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(7.648E-02)	(0.000E+00)		7%			(0.000E+00)	4.000854		

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
	07/07/06	RA-226	R	**0.486901**		3.76667E-01	0.270163	0.270163	1.00 Sa	90%		0.71931		
				(0.225535)		(1.7007E-01)	(0.124175)	(0.124175)	(0.028284)			0.324817		

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	**H7D0W1AC**	**PCI/SA**		05/31/06 11:00	07/06/06 13:10	06/30/06 13:12	RATA22862	1	1.00 Sa	
CID:P-0654LOT:J6F1402752 v4.8.24							FILTER				07/06/06 10:10	RATA22862 Alq	85%	0.246093 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	07/06/06 13:10	RA-226	16	12	ASC2RC	ASC		N	2.0913E+00	1.0000E+00	N	85%	N		1.5640E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(6.818E-02)	(0.000E+00)		7%			(0.000E+00)	4.063502		

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
	07/07/06	RA-226	R	**0.194019**	**U4**	1.20000E-01	0.105994	0.105994	1.00 Sa	85%		0.563128		
				(0.160777)		(9.8658E-02)	(0.087623)	(0.087623)	(0.028284)			0.237889		

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	**H7D001AC**	**PCI/SA**		05/31/06 11:20	07/06/06 13:09	06/30/06 13:12	RATA22863	1	1.00 Sa	
CID:P-0655LOT:J6F1402753 v4.8.24							FILTER				07/06/06 10:09	RATA22863 Alq	97%	0.248977 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	07/06/06 13:09	RA-226	19	11	ASC3RC	ASC		N	2.2010E+00	1.0000E+00	N	97%	N		1.5641E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(8.122E-02)	(0.000E+00)		8%			(0.000E+00)	4.016428		

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
	07/07/06	RA-226	R	**0.260797**		1.96667E-01	0.144145	0.144145	1.00 Sa	97%		0.445261		
				(0.139607)		(1.0323E-01)	(0.076717)	(0.076717)	(0.028284)			0.186805		

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	**H7D021AC**	**PCI/SA**		05/31/06 11:45	07/06/06 13:11	06/30/06 13:12	RATA22864	1	1.00 Sa	
CID:P-0656LOT:J6F1402754 v4.8.24							FILTER				07/06/06 10:11	RATA22864 Alq	98%	0.249593 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	07/06/06 13:11	RA-226	20	15	ASC4UA	ASC		N	2.1431E+00	1.0000E+00	N	98%	N		1.5639E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(1.080E-01)	(0.000E+00)		8%			(0.000E+00)	4.00653		

() - (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: 6167160

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

7/7/2006 2:20:18 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
	07/07/06	RA-226	R	**0.201526**	**U4**	1.50000E-01	0.111661	0.111661	1.00 Sa	98%		0.51457		
				(0.14986)		(1.1030E-01)	(0.082786)	(0.082786)	(0.028284)			0.221007		

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	**H7D031AC**	**PCI/SA**		05/31/06 12:10	07/06/06 13:12	06/30/06 13:12	RATA22865	1	1.00 Sa	
CID:P-0657LOT:J6F1402755 v4.8.24							FILTER				07/06/06 10:12	RATA22865 Alq	92%	0.25035 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	07/06/06 13:12	RA-226	16	6	ASC7UA	ASC		N	2.2064E+00	1.0000E+00	N	92%	N		1.5638E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(1.072E-01)	(0.000E+00)		7%			(0.000E+00)	3.994415		

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
	07/07/06	RA-226	R	**0.304573**		2.20000E-01	0.169269	0.169269	1.00 Sa	92%		0.362933		
				(0.128762)		(8.9815E-02)	(0.070897)	(0.070897)	(0.028284)			0.144034		

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	**H7D051AC**	**PCI/SA**		05/31/06 12:20	07/06/06 13:11	06/30/06 13:12	RATA22866	1	1.00 Sa	
CID:P-0658LOT:J6F1402756 v4.8.24							FILTER				07/06/06 10:11	RATA22866 Alq	103%	0.249503 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	07/06/06 13:11	RA-226	11	9	ASC8RD	ASC		N	1.6393E+00	1.0000E+00	N	103%	N		1.5639E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(4.623E-02)	(0.000E+00)		8%			(0.000E+00)	4.007975		

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
	07/07/06	RA-226	R	**0.120568**	**U4**	7.00000E-02	0.06678	0.06678	1.00 Sa	103%		0.532035		
				(0.143606)		(8.3066E-02)	(0.079447)	(0.079447)	(0.028284)			0.219471		

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	**H7D081AC**	**PCI/SA**		05/31/06 10:35	07/06/06 14:50	06/30/06 13:12	RATA22867	1	1.00 Sa	
CID:P-0659LOT:J6F1402757 v4.8.24							FILTER				07/06/06 11:50	RATA22867 Alq	94%	0.249893 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	07/06/06 14:50	RA-226	25	13	ASCMMA	ASC		N	2.5511E+00	1.0000E+00	N	94%	N		1.5538E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(7.398E-02)	(0.000E+00)		7%			(0.000E+00)	4.001707		

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
	07/07/06	RA-226	R	**0.332195**		2.83333E-01	0.184283	0.184283	1.00 Sa	94%		0.422435		
				(0.140974)		(1.1667E-01)	(0.077485)	(0.077485)	(0.028284)			0.179551		

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	**H7D1A1AC**	**PCI/SA**		05/31/06 10:40	07/06/06 13:40	06/30/06 13:12	RATA22868	1	1.00 Sa	
CID:000480LOT:J6F1402758 v4.8.24							FILTER				07/06/06 10:40	RATA22868 Alq	90%	0.249716 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: 6167160

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

7/7/2006 2:20:18 PM

1	07/06/06 13:40	RA-226	9	14	ASCDSA	ASC		N	1.8059E+00	1.0000E+00	N	90%	N		1.5609E+00	4.5045E-01	1.0000E+00	
			50	60				Y	(3.449E-02)	(0.000E+00)		7%			(0.000E+00)	4.004549		

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
	07/07/06	RA-226	R	**-0.092468**	**U4**	-5.33333E-02	-0.05126	-0.05126	1.00 Sa	90%		0.644713		
				(0.150324)		(8.6538E-02)	(0.08328)	(0.08328)	(0.028284)			0.275535		

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	**H7D1E1AC**	**PCI/SA**		05/31/06 11:05	07/06/06 13:42	06/30/06 13:34	RATA22869	1	1.00 Sa	
CID:000481LOT:J6F1402759 v4.8.24							FILTER				07/06/06 10:42	RATA22869 Alq	91%	0.250336 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	07/06/06 13:42	RA-226	24	21	ASCEHB	ASC		N	2.5969E+00	1.0000E+00	N	91%	N		1.5630E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(2.438E-02)	(0.000E+00)		7%			(0.000E+00)	3.994637		

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
	07/07/06	RA-226	R	**0.154098**	**U4**	1.30000E-01	0.085636	0.085636	1.00 Sa	91%		0.525411		
				(0.148046)		(1.2423E-01)	(0.082126)	(0.082126)	(0.028284)			0.230719		

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	**H7D1J1AC**	**PCI/SA**		05/31/06 11:25	07/06/06 13:41	06/30/06 13:34	RATA22870	1	1.00 Sa	
CID:000482LOT:J6F14027510 v4.8.24							FILTER				07/06/06 10:41	RATA22870 Alq	87%	0.250569 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	07/06/06 13:41	RA-226	15	11	ASCFSA	ASC		N	1.6102E+00	1.0000E+00	N	87%	N		1.5631E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(2.979E-02)	(0.000E+00)		7%			(0.000E+00)	3.990911		

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
	07/07/06	RA-226	R	**0.23332**	**U4**	1.16667E-01	0.129783	0.129783	1.00 Sa	87%		0.671504		
				(0.191741)		(9.5161E-02)	(0.106394)	(0.106394)	(0.028284)			0.281723		

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	**H7D1K1AC**	**PCI/SA**		05/31/06 11:50	07/06/06 13:40	06/30/06 13:34	RATA22871	1	1.00 Sa	
CID:000483LOT:J6F14027511 v4.8.24							FILTER				07/06/06 10:40	RATA22871 Alq	109%	0.248787 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	07/06/06 13:40	RA-226	10	10	ASCGSA	ASC		N	2.1653E+00	1.0000E+00	N	109%	N		1.5632E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(7.622E-02)	(0.000E+00)		9%			(0.000E+00)	4.019503		

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
	07/07/06	RA-226	R	**0.043572**	**U4**	3.33333E-02	0.024064	0.024064	1.00 Sa	109%		0.421778		
				(0.107711)		(8.2327E-02)	(0.059472)	(0.059472)	(0.028284)			0.175569		

() - (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: 6167160

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

7/7/2006 2:20:18 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	TE	FILTER	*STLE	Ra226WoBS	**H7D1N1AC**	**PCI/SA**		05/31/06 12:15	07/06/06 13:42	06/30/06 13:34	RATA22872	1	1.00 Sa	
CID:000484LOT:J6F14027512 v4.8.24							FILTER				07/06/06 10:42	RATA22872 Alq	90%	0.249902 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	07/06/06 13:42	RA-226	12	4	ASCJSB	ASC		N	2.1011E+00	1.0000E+00	N	90%	N		1.5630E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(7.837E-02)	(0.000E+00)		7%			(0.000E+00)	4.001574		

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
	07/07/06	RA-226	R	**0.258747**		1.73333E-01	0.143543	0.143543	1.00 Sa	90%		0.334372		
				(0.117961)		(7.6884E-02)	(0.064918)	(0.064918)	(0.028284)			0.126807		

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	**H7D1R1AC**	**PCI/SA**		05/31/06 12:25	07/06/06 13:41	06/30/06 13:34	RATA22873	1	1.00 Sa	
CID:000485LOT:J6F14027513 v4.8.24							FILTER				07/06/06 10:41	RATA22873 Alq	92%	0.249815 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	07/06/06 13:41	RA-226	13	8	ASCQMB	ASC		N	2.4878E+00	1.0000E+00	N	92%	N		1.5631E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(6.220E-02)	(0.000E+00)		7%			(0.000E+00)	4.002961		

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
	07/07/06	RA-226	R	**0.156333**	**U4**	1.26667E-01	0.086697	0.086697	1.00 Sa	92%		0.363258		
				(0.10751)		(8.6152E-02)	(0.059413)	(0.059413)	(0.028284)			0.14827		

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	**H7D1X1AC**	**PCI/SA**		05/31/06 11:10	07/06/06 13:41	06/30/06 13:34	RATA22874	1	1.00 Sa	
CID:000486LOT:J6F14027514 v4.8.24							FILTER				07/06/06 10:41	RATA22874 Alq	94%	0.248885 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	07/06/06 13:41	RA-226	36	9	ASCNMA	ASC		N	2.4482E+00	1.0000E+00	N	94%	N		1.5631E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(6.292E-02)	(0.000E+00)		7%			(0.000E+00)	4.017916		

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
	07/07/06	RA-226	R	**0.70279**		5.70000E-01	0.388296	0.388296	1.00 Sa	94%		0.380852		
				(0.175524)		(1.3000E-01)	(0.094378)	(0.094378)	(0.028284)			0.157106		

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	**H7JMQ1AA**	**PCI/SA**	**B**	05/31/06 10:30	07/06/06 13:07	06/30/06 13:34	RATA22875	1	1.00 Sa	
CID:INTRA-LAB BLANKLOT:J6F160000160 v4.8.24							FILTER				07/06/06 10:07	RATA22875 Alq	91%	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	07/06/06 13:07	RA-226	19	11	ASCLMC	ASC		N	2.4313E+00	1.0000E+00	N	91%	N		1.5666E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(1.218E-01)	(0.000E+00)		7%			(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: 6167160

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

7/7/2006 2:20:18 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
	07/06/06	RA-226	R	**0.0625**		1.96667E-01	0.138745	0.138745	1.00 Sa	91%		0.106707		
				(0.033495)		(1.0323E-01)	(0.073992)	(0.073992)	(0.017321)			0.044768		

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	**H7JMQ1AC**	**PCI/SA**	**S**	05/31/06 10:30	07/06/06 13:13	06/30/06 13:34	RASC4133	1	1.00 Sa	
CID:INTRA-LAB CHECKLOT:J6F160000160 v4.8.24							FILTER				07/06/06 10:13	RASC4133 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	07/06/06 13:13	RA-226	231	9	ASCPMB	ASC		N	2.5237E+00	1.0000E+00	N	97%	N		1.5660E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(9.363E-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
	07/06/06	RA-226	R	**1.291899**		4.47000E+00	2.867916	2.867916	1.00 Sa	97%	92%	0.089274		
				(0.159935)		(3.0806E-01)	(0.320975)	(0.320975)	(0.017321)			0.036827		

() - (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: H7D0Q1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6167160 Activity Unit: PCI/SA Multiplier: 1.1064
Technician: RS

Analysis Size: 0.2499 Analysis Unit: SA

Report Date: 6-JUL-2006 14:00:00.77
First Separation Date: 30-JUN-2006 13:12:00.00
Second Separation Date: 6-JUL-2006 10:10:00.00

Detector ID: 1 Cell ID: 1HB

Bkg Date: 6-JUL-2006 08:04:41.15
Bkg Counts: 000035 Bkg Duration: 000060.0

Count Date: 6-JUL-2006 13:10:00.35
Counts: 000048 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H7D0W1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6167160 Activity Unit: PCI/SA Multiplier: 1.1811
Technician: RS

Analysis Size: 0.2461 Analysis Unit: SA

Report Date: 6-JUL-2006 14:00:00.87
First Separation Date: 30-JUN-2006 13:12:00.00
Second Separation Date: 6-JUL-2006 10:10:00.00

Detector ID: 2 Cell ID: 2RC

Bkg Date: 6-JUL-2006 08:04:48.11
Bkg Counts: 000012 Bkg Duration: 000060.0

Count Date: 6-JUL-2006 13:10:00.42
Counts: 000016 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H7D001AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6167160 Activity Unit: PCI/SA Multiplier: 1.0314
Technician: RS

Analysis Size: 0.249 Analysis Unit: SA

Report Date: 6-JUL-2006 13:59:00.57
First Separation Date: 30-JUN-2006 13:12:00.00
Second Separation Date: 6-JUL-2006 10:09:00.00

Detector ID: 3 Cell ID: 3RC

Bkg Date: 6-JUL-2006 08:04:56.26
Bkg Counts: 000011 Bkg Duration: 000060.0

Count Date: 6-JUL-2006 13:09:00.24
Counts: 000019 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H7D021AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6167160 Activity Unit: PCI/SA Multiplier: 1.0201
Technician: RS

Analysis Size: 0.2496 Analysis Unit: SA

Report Date: 6-JUL-2006 14:01:00.82
First Separation Date: 30-JUN-2006 13:12:00.00
Second Separation Date: 6-JUL-2006 10:11:00.00

Detector ID: 4 Cell ID: 4UA

Bkg Date: 6-JUL-2006 08:05:07.86
Bkg Counts: 000015 Bkg Duration: 000060.0

Count Date: 6-JUL-2006 13:11:00.38
Counts: 000020 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H7D031AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6167160 Activity Unit: PCI/SA Multiplier: 1.0856
Technician: RS

Analysis Size: 0.2503 Analysis Unit: SA

Report Date: 6-JUL-2006 14:02:00.79
First Separation Date: 30-JUN-2006 13:12:00.00
Second Separation Date: 6-JUL-2006 10:12:00.00

Detector ID: 7 Cell ID: 7UA

Bkg Date: 6-JUL-2006 08:05:15.78
Bkg Counts: 000006 Bkg Duration: 000060.0

Count Date: 6-JUL-2006 13:12:00.42
Counts: 000016 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H7D051AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6167160 Activity Unit: PCI/SA Multiplier: 0.9691
Technician: RS

Analysis Size: 0.2495 Analysis Unit: SA

Report Date: 6-JUL-2006 14:01:00.91
First Separation Date: 30-JUN-2006 13:12:00.00
Second Separation Date: 6-JUL-2006 10:11:00.00

Detector ID: 8 Cell ID: 8RD

Bkg Date: 6-JUL-2006 08:05:31.01
Bkg Counts: 000009 Bkg Duration: 000060.0

Count Date: 6-JUL-2006 13:11:00.42
Counts: 000011 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H7D081AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6167160 Activity Unit: PCI/SA Multiplier: 1.0679
Technician: RS

Analysis Size: 0.2499 Analysis Unit: SA

Report Date: 6-JUL-2006 15:40:00.77
First Separation Date: 30-JUN-2006 13:12:00.00
Second Separation Date: 6-JUL-2006 11:50:00.00

Detector ID: 21 Cell ID: MMA

Bkg Date: 6-JUL-2006 08:35:54.59
Bkg Counts: 000013 Bkg Duration: 000060.0

Count Date: 6-JUL-2006 14:50:00.36
Counts: 000025 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H7D1A1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6167160 Activity Unit: PCI/SA Multiplier: 1.112
Technician: RS

Analysis Size: 0.2497 Analysis Unit: SA

Report Date: 6-JUL-2006 14:30:02.88
First Separation Date: 30-JUN-2006 13:12:00.00
Second Separation Date: 6-JUL-2006 10:40:00.00

Detector ID: 13 Cell ID: DSA

Bkg Date: 6-JUL-2006 08:05:42.64
Bkg Counts: 000014 Bkg Duration: 000060.0

Count Date: 6-JUL-2006 13:40:02.54
Counts: 000009 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H7D1E1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6167160 Activity Unit: PCI/SA Multiplier: 1.0945
Technician: RS

Analysis Size: 0.2503 Analysis Unit: SA

Report Date: 6-JUL-2006 14:32:03.02
First Separation Date: 30-JUN-2006 13:34:00.00
Second Separation Date: 6-JUL-2006 10:42:00.00

Detector ID: 14 Cell ID: EHB

Bkg Date: 6-JUL-2006 08:11:49.62
Bkg Counts: 000021 Bkg Duration: 000060.0

Count Date: 6-JUL-2006 13:42:02.52
Counts: 000024 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H7D1J1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6167160 Activity Unit: PCI/SA Multiplier: 1.146
Technician: RS

Analysis Size: 0.2506 Analysis Unit: SA

Report Date: 6-JUL-2006 14:31:00.89
First Separation Date: 30-JUN-2006 13:34:00.00
Second Separation Date: 6-JUL-2006 10:41:00.00

Detector ID: 15 Cell ID: FSA

Bkg Date: 6-JUL-2006 08:24:31.82
Bkg Counts: 000011 Bkg Duration: 000060.0

Count Date: 6-JUL-2006 13:41:00.47
Counts: 000015 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H7D1K1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6167160 Activity Unit: PCI/SA Multiplier: 0.9214
Technician: RS

Analysis Size: 0.2488 Analysis Unit: SA

Report Date: 6-JUL-2006 14:30:00.90
First Separation Date: 30-JUN-2006 13:34:00.00
Second Separation Date: 6-JUL-2006 10:40:00.00

Detector ID: 16 Cell ID: GSA

Bkg Date: 6-JUL-2006 08:05:52.29
Bkg Counts: 000010 Bkg Duration: 000060.0

Count Date: 6-JUL-2006 13:40:00.51
Counts: 000010 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H7D1N1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6167160 Activity Unit: PCI/SA Multiplier: 1.1133
Technician: RS

Analysis Size: 0.2499 Analysis Unit: SA

Report Date: 6-JUL-2006 14:32:01.14
First Separation Date: 30-JUN-2006 13:34:00.00
Second Separation Date: 6-JUL-2006 10:42:00.00

Detector ID: 18 Cell ID: JSB

Bkg Date: 6-JUL-2006 08:13:07.16
Bkg Counts: 000004 Bkg Duration: 000060.0

Count Date: 6-JUL-2006 13:42:00.55
Counts: 000012 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H7D1R1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6167160 Activity Unit: PCI/SA Multiplier: 1.0894
Technician: RS

Analysis Size: 0.2498 Analysis Unit: SA

Report Date: 6-JUL-2006 14:31:01.39
First Separation Date: 30-JUN-2006 13:34:00.00
Second Separation Date: 6-JUL-2006 10:41:00.00

Detector ID: 24 Cell ID: QMB

Bkg Date: 6-JUL-2006 08:06:11.86
Bkg Counts: 000008 Bkg Duration: 000060.0

Count Date: 6-JUL-2006 13:41:00.58
Counts: 000013 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H7D1X1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6167160 Activity Unit: PCI/SA Multiplier: 1.067
Technician: RS

Analysis Size: 0.2489 Analysis Unit: SA

Report Date: 6-JUL-2006 14:31:01.41
First Separation Date: 30-JUN-2006 13:34:00.00
Second Separation Date: 6-JUL-2006 10:41:00.00

Detector ID: 22 Cell ID: NMA

Bkg Date: 6-JUL-2006 08:45:51.35
Bkg Counts: 000009 Bkg Duration: 000060.0

Count Date: 6-JUL-2006 13:41:00.56
Counts: 000036 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H7JMQ1AA Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6167160 Activity Unit: PCI/SA Multiplier: 1.0949
Technician: RS

Analysis Size: 1.0 Analysis Unit: SA

Report Date: 6-JUL-2006 13:57:00.92
First Separation Date: 30-JUN-2006 13:34:00.00
Second Separation Date: 6-JUL-2006 10:07:00.00

Detector ID: 20 Cell ID: LMC

Bkg Date: 6-JUL-2006 08:23:44.02
Bkg Counts: 000011 Bkg Duration: 000060.0

Count Date: 6-JUL-2006 13:07:00.43
Counts: 000019 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H7JMQ1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6167160 Activity Unit: PCI/SA Multiplier: 1.034
Technician: RS

Analysis Size: 1.0 Analysis Unit: SA

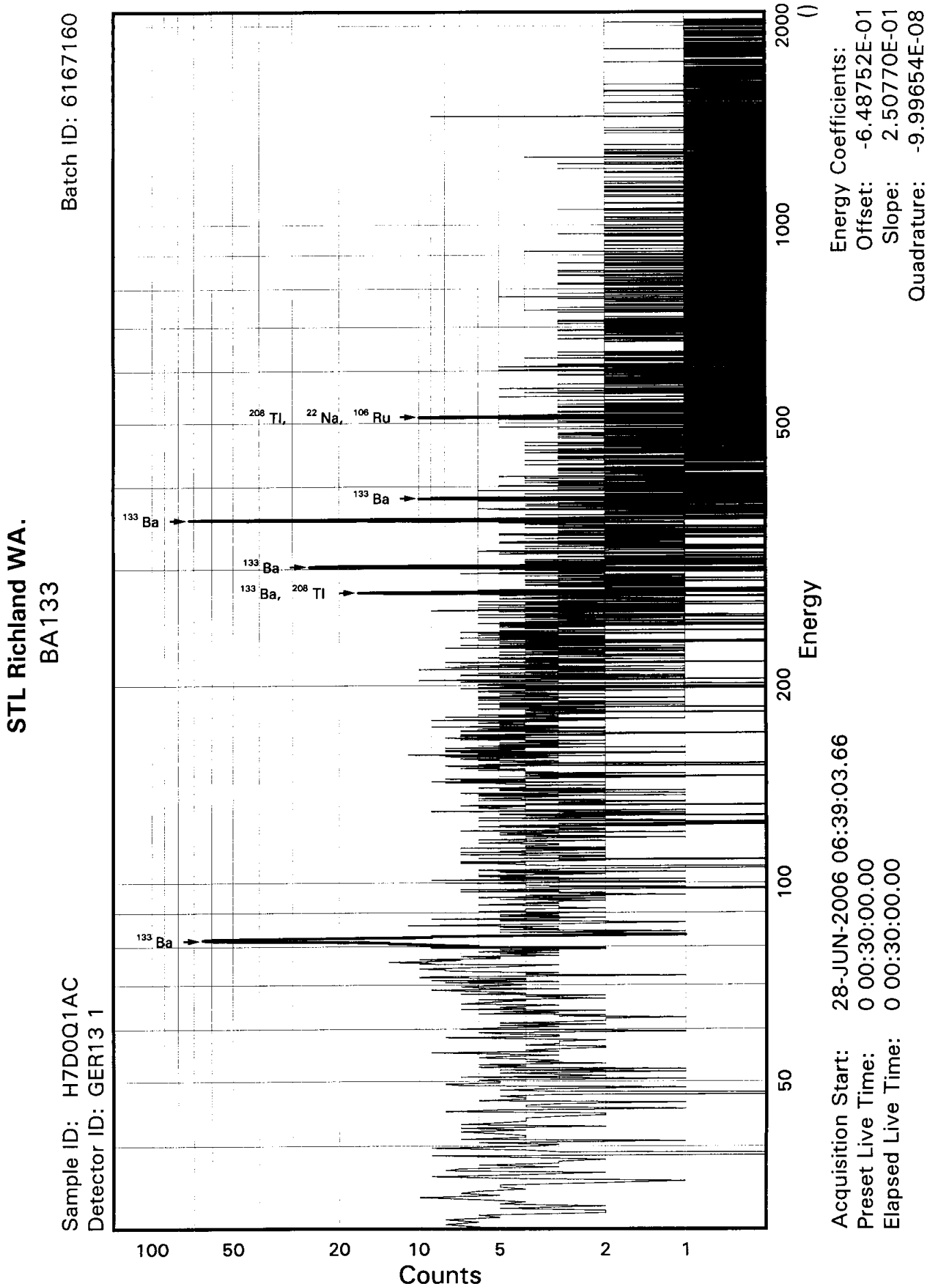
Report Date: 6-JUL-2006 14:03:00.63
First Separation Date: 30-JUN-2006 13:34:00.00
Second Separation Date: 6-JUL-2006 10:13:00.00

Detector ID: 23 Cell ID: PMB

Bkg Date: 5-JUL-2006 08:36:36.63
Bkg Counts: 000009 Bkg Duration: 000060.0

Count Date: 6-JUL-2006 13:13:00.29
Counts: 000231 Count Duration: 000050.0

End of Report


STL Richland WA.
BA133
Batch ID: 6167160
Sample ID: H7D0Q1AC
Detector ID: GER13 1
133 Ba
133 Ba
133 Ba
133 Ba, 208 Tl
133 Ba
208 Tl, 22 Na, 106 Ru
Counts
100
50
20
10
5
2
1
Energy
50
100
200
500
1000
2000
()
Acquisition Start: 28-JUN-2006 06:39:03.66
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00
Energy Coefficients:
Offset: -6.48752E-01
Slope: 2.50770E-01
Quadrature: -9.99654E-08

SAMPLE IDENTIFICATION: H7D0Q1AC

CONFIGURATION ID: GER13:H7D0Q1AC_280660639
TITLE : BA133
SAMPLE ID : H7D0Q1AC

REPORT DATE: 28-JUN-06
ACQUIRE DATE: 28-JUN-06 06:39:03
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 26-JUN-2006 12:00:00.00
CALIB DATE: 28-JUN-2006 05:46:53.00
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: -.6488E+00 keV
ENERGY SLOPE: 2.5077E-01 keV/C
ENERGY Q COEFF: -.9997E-07 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 4.5382E-01 keV
FWHM SLOPE: 4.1426E-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 28-JUN-2006 07:09:48

```
Configuration     : $DISK1:[GER13.SAMPLE]H7D0Q1AC_280660639.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 06:39:03
Sample ID         : H7D0Q1AC             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      :    19.41             End energy       :  2046.95
Sensitivity       :     5.00             Gaussian         :    10.00
Critical level    : No
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.69	287	28	0.87	328.37	320	16	1.59E-01	7.2	
2	0	276.46	48	35	0.70	1105.51	1098	14	2.67E-02	29.9	
3	0	302.57	143	24	1.32	1209.74	1203	19	7.97E-02	11.2	
4	0	355.74	368	24	1.13	1421.99	1411	19	2.04E-01	6.1	
5	0	383.87	47	20	1.71	1534.30	1527	15	2.60E-02	26.2	
6	0	510.92*	21	30	1.33	2041.67	2029	24	1.17E-02	79.5	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUN-2006 07:09:49

Configuration : $DISK1:[GER13.SAMPLE]H7D0Q1AC_280660639.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 26-JUN-2006 12:00:00
Sample ID : H7D0Q1AC
Sample type :
Elapsed live time: 0 00:30:00.00
Energy tolerance : 1.50
Errors propagated: Yes
Efficiency type : Empirical
Abundance limit : 80.00

Acquisition date : 28-JUN-2006 06:39:03
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.37 0.0%
Half life ratio : 8.00
Systematic Error : 5.00 %
Efficiencies at : Peak Energy

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	287	33.00	2.704E+00	1.072E+03	1.072E+03	9.03
	276.40	48	6.90	2.897E+00	8.005E+02	8.007E+02	30.35
	302.84	143	17.80	2.900E+00	9.258E+02	9.261E+02	12.41
	356.00	368	62.05*	2.903E+00	6.803E+02	6.805E+02	8.15
	383.85	47	8.70	2.902E+00	6.188E+02	6.190E+02	26.80

Flag: "*" = Keyline

Sample ID : H7D0Q1AC Acquisition date : 28-JUN-2006 06:39:03

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	510.92	21	30	1.33	2041.67	2029	24	1.17E-02	79.5	2.89E+00	T

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : H7D0Q1AC

Acquisition date : 28-JUN-2006 06:39:03

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
NA-22	2.60Y	0.00	511.00	179.68	1.359E+01	79.72	Abun.
			1274.54*	99.94	--- Not Found ---		
		% Abundances Found =		64.26			
RU-106DA	368.20D	0.00	511.85	20.60	1.188E+02	79.72	Abun.
			621.84*	9.80	--- Not Found ---		
		% Abundances Found =		67.76			
TL-208	1.41E+10Y	0.00	277.35	6.80	8.122E+02	30.35	Abun.
			510.84	21.60	1.129E+02	79.72	
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		22.71			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 28-JUN-2006 07:09:51

Configuration : $DISK1:[GER13.SAMPLE]H7D0Q1AC_280660639.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 : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 06:39:03
Sample ID : H7D0Q1AC 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
BA-133	6.805E+02	5.543E+01	4.878E+01	9.756E-01	13.950

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	2.899E+00		6.296E+01	2.376E+02	4.766E+00	0.012
NA-22	-3.286E+00		4.281E+00	1.590E+01	3.354E-01	-0.207
NA-24	-1.735E+01		2.155E+01	8.210E+01	1.743E+00	-0.211
K-40	-9.734E+01		9.076E+01	4.286E+02	9.152E+00	-0.227
SC-46	-1.172E+00		5.664E+00	2.289E+01	4.780E-01	-0.051
CR-51	1.903E+01		8.910E+01	3.288E+02	6.578E+00	0.058
MN-54	-1.182E+01		6.200E+00	1.943E+01	3.980E-01	-0.608
CO-57	3.042E+01		1.006E+02	3.720E+02	7.667E+00	0.082
CO-58	1.448E+01		4.858E+00	2.416E+01	4.941E-01	0.599
FE-59	-8.604E+00		7.529E+00	2.615E+01	5.453E-01	-0.329
CO-60	-4.696E+00		3.802E+00	1.309E+01	2.771E-01	-0.359
ZN-65	-8.546E+00		9.616E+00	3.432E+01	7.164E-01	-0.249
SE-75	-7.594E+00		1.583E+01	5.624E+01	1.128E+00	-0.135
SR-85	1.912E+01		7.793E+00	3.096E+01	6.219E-01	0.618
Y-88	1.212E+00		2.885E+00	1.374E+01	3.001E-01	0.088
NB-94	4.418E-01		5.332E+00	2.087E+01	4.284E-01	0.021
NB-95	7.696E+00		5.626E+00	2.442E+01	4.978E-01	0.315
TC-95M	1.482E+01		1.711E+01	6.301E+01	1.273E+00	0.235
ZR-95	1.375E+01		9.974E+00	4.336E+01	8.835E-01	0.317
ZRNB-95	1.486E+01		1.104E+01	4.788E+01	9.761E-01	0.310
MO-99	-7.198E+00		1.937E+01	6.892E+01	1.418E+00	-0.104
RH-101	-2.905E+01		1.612E+01	5.153E+01	1.042E+00	-0.564
RH-102M	5.400E+00		6.538E+00	2.629E+01	5.271E-01	0.205
RU-103	-1.696E+01		8.003E+00	2.422E+01	4.862E-01	-0.700
RU-106DA	-3.381E+01		5.661E+01	2.067E+02	4.177E+00	-0.164
AG-108M	6.898E+00		7.752E+00	3.080E+01	6.169E-01	0.224
AG-110M	1.804E-01		6.174E+00	2.475E+01	5.087E-01	0.007

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	-2.022E+01		1.121E+01	3.641E+01	7.285E-01	-0.555
SB-124	9.975E+00		7.396E+00	3.017E+01	6.089E-01	0.331
SB-125	-4.709E+00		2.407E+01	8.888E+01	1.780E+00	-0.053
SN-126DA	4.606E+00		5.243E+00	2.194E+01	4.444E-01	0.210
I-131	-4.993E-01		9.734E+00	3.582E+01	7.165E-01	-0.014
CS-134	-1.170E+01		6.770E+00	2.181E+01	4.455E-01	-0.536
CS-137DA	-4.999E+00		5.581E+00	1.982E+01	4.014E-01	-0.252
LA-138	-3.734E+00		4.525E+00	1.703E+01	3.630E-01	-0.219
CE-139	1.115E+01		1.467E+01	5.413E+01	1.104E+00	0.206
BA-140	-2.438E+01		2.688E+01	9.247E+01	1.860E+00	-0.264
BALA-140	6.699E+00		9.027E+00	4.082E+01	8.790E-01	0.164
LA-140	3.193E+00		9.647E+00	4.069E+01	8.763E-01	0.078
CE-141	-4.005E+01		2.255E+01	7.407E+01	1.521E+00	-0.541
CE-144	-1.069E+02		9.651E+01	3.326E+02	6.866E+00	-0.321
CEPR-144	-2.147E+02		1.930E+02	6.649E+02	1.373E+01	-0.323
PM-144	-1.096E+01		6.229E+00	1.992E+01	4.024E-01	-0.550
PM-146	-2.437E+00		1.098E+01	4.025E+01	8.065E-01	-0.061
EU-152	2.240E+01		2.721E+01	1.060E+02	2.120E+00	0.211
EU-154	-9.240E+00		1.204E+01	4.472E+01	9.434E-01	-0.207
EU-155	-8.886E+01		5.154E+01	1.641E+02	3.446E+00	-0.541
HF-181	-8.047E-02		7.951E+00	2.987E+01	5.991E-01	-0.003
BI-207	-8.890E+00		5.869E+00	1.952E+01	3.932E-01	-0.455
TL-208	-1.150E+01		7.750E+00	2.763E+01	5.571E-01	-0.416
BI-210M	2.424E+01		1.758E+01	6.927E+01	1.389E+00	0.350
BI-212	-7.605E+01		8.207E+01	2.849E+02	8.703E+00	-0.267
PB-212	-4.631E+01		2.605E+01	8.914E+01	1.792E+00	-0.520
BI-214	9.661E+00		1.688E+01	7.132E+01	1.440E+00	0.135
PB-214	3.922E+01		2.879E+01	1.057E+02	2.115E+00	0.371
RA-223	-3.344E+01		6.505E+01	2.313E+02	4.637E+00	-0.145
RA-224DA	-4.639E+01		2.609E+01	8.930E+01	1.795E+00	-0.520
RA-226DA	9.861E+00		1.690E+01	7.141E+01	1.442E+00	0.138
AC-227DA	1.106E+02		9.486E+01	3.623E+02	7.286E+00	0.305
AC-228	-9.763E-01		1.958E+01	8.214E+01	1.691E+00	-0.012
RA-228DA	-9.768E-01		1.959E+01	8.219E+01	1.692E+00	-0.012
TH-228DA	-3.207E+01		2.161E+01	7.705E+01	1.553E+00	-0.416
TH-232DA	2.346E+02		6.581E+01	2.861E+02	5.723E+00	0.820
TH-234DA	-8.017E+02		6.494E+02	2.249E+03	4.659E+01	-0.356
U-234DA	3.529E+01		5.136E+01	1.917E+02	3.839E+00	0.184
U-235HP	1.514E+02		1.042E+02	4.014E+02	8.247E+00	0.377
NP-237DA	6.716E+00		2.090E+01	7.881E+01	1.577E+00	0.085
U-238DA	3.922E+01		2.879E+01	1.057E+02	2.115E+00	0.371
U-238DHP	-2.444E+02		2.770E+02	9.671E+02	2.133E+01	-0.253
AM-241HP	3.444E+01		2.789E+01	1.094E+02	2.431E+00	0.315

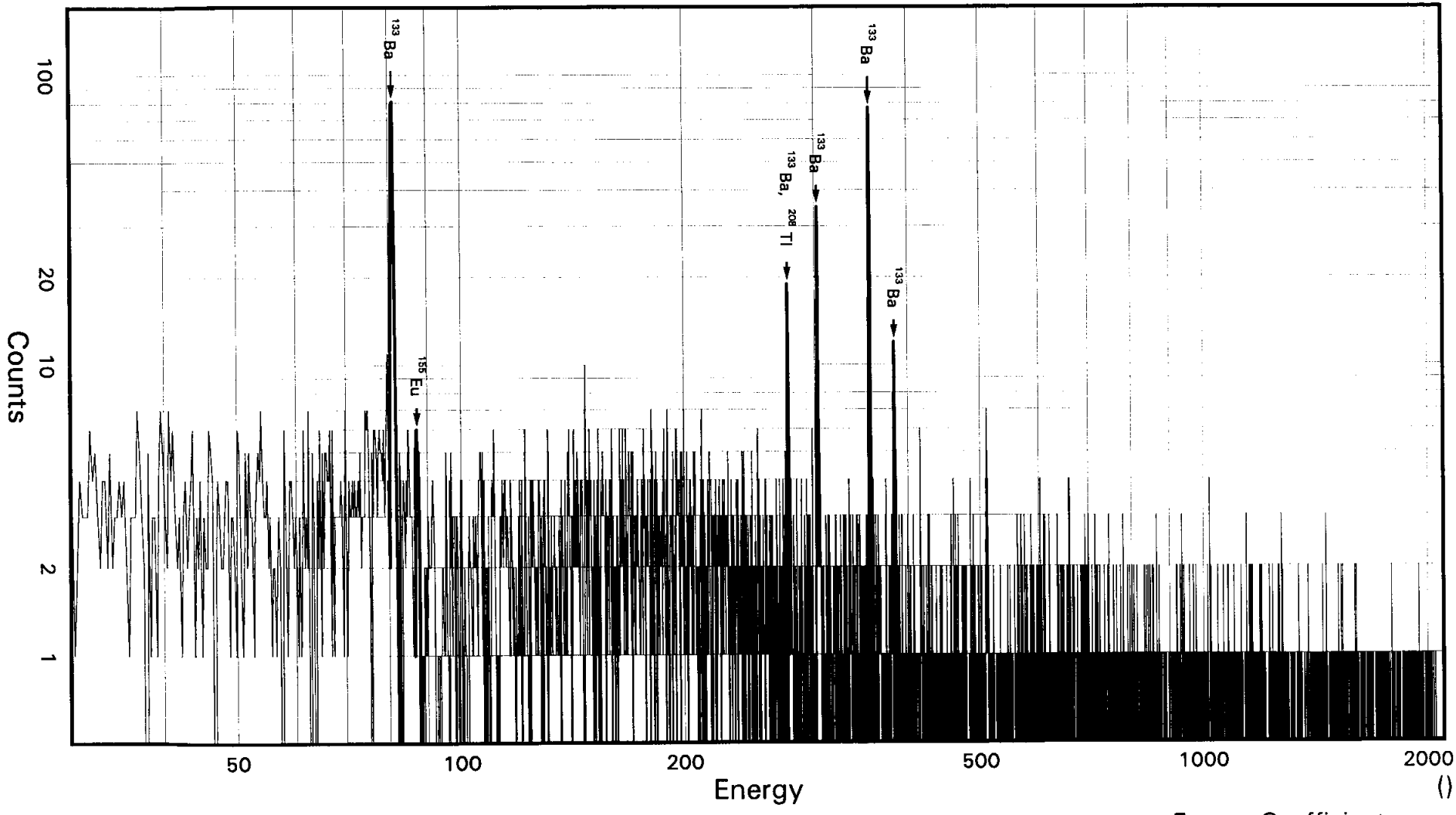
STL Richland WA.

BA133

Sample ID: H7D0W1AC

Detector ID: GER11 1

Batch ID: 6167160



Acquisition Start: 28-JUN-2006 06:39:09.23

Preset Live Time: 0 00:30:00.00

Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:

Offset: -1.94689E+00

Slope: 2.50323E-01

Quadrature: 3.95633E-08

SAMPLE IDENTIFICATION: H7D0W1AC

CONFIGURATION ID: GER11:H7D0W1AC_280660639
TITLE : BA133
SAMPLE ID : H7D0W1AC

REPORT DATE: 28-JUN-06
ACQUIRE DATE: 28-JUN-06 06:39:09
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 26-JUN-2006 12:00:00.00
CALIB DATE: 28-JUN-2006 05:10:13.17
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: -.1947E+01 keV
ENERGY SLOPE: 2.5032E-01 keV/C
ENERGY Q COEFF: 3.9563E-08 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 2.0020E-01 keV
FWHM SLOPE: 4.1950E-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 28-JUN-2006 07:10:04

Configuration : $DISK1:[GER11.SAMPLE]H7D0W1AC_280660639.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 06:39:09
Sample ID : H7D0W1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.93 0.1%
Start energy : 0.56 End energy : 2051.36
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.11	224	36	0.63	331.78	327	10	1.25E-01	8.5	
2	0	87.37*	16	6	1.00	356.78	353	8	8.63E-03	39.8	
3	0	147.63	14	15	0.46	597.48	594	8	7.71E-03	54.4	
4	0	276.23	55	19	0.58	1111.07	1106	12	3.05E-02	20.6	
5	0	302.71	100	23	0.60	1216.82	1211	13	5.55E-02	14.0	
6	0	355.85	341	24	1.03	1429.02	1423	15	1.89E-01	6.2	
7	0	383.95	50	16	1.12	1541.23	1529	18	2.80E-02	22.4	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUN-2006 07:10:04

Configuration : $DISK1:[GER11.SAMPLE]H7D0W1AC_280660639.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 06:39:09
Sample ID : H7D0W1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.93 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	224	33.00	2.679E+00	8.450E+02	8.453E+02	10.06
	276.40	55	6.90	2.873E+00	9.233E+02	9.236E+02	21.30
	302.84	100	17.80	2.876E+00	6.508E+02	6.510E+02	15.04
	356.00	341	62.05*	2.879E+00	6.364E+02	6.366E+02	8.22
	383.85	50	8.70	2.878E+00	6.701E+02	6.703E+02	23.00

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H7D0W1AC Acquisition date : 28-JUN-2006 06:39:09

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	87.37	16	6	1.00	356.78	353	8	8.63E-03	39.8	2.70E+00	T
0	147.63	14	15	0.46	597.48	594	8	7.71E-03	54.4	2.81E+00	

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : H7D0W1AC

Acquisition date : 28-JUN-2006 06:39:09

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	6.215E+01	40.14	
			105.31*	20.70	--- Not Found ---		
		% Abundances Found =		42.47			
TL-208	1.41E+10Y	0.00	277.35	6.80	9.368E+02	21.30	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 28-JUN-2006 07:10:06

Configuration : $DISK1:[GER11.SAMPLE]H7D0W1AC_280660639.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 : 26-JUN-2006 12:00:00
Sample ID : H7D0W1AC
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 : 28-JUN-2006 06:39:09
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.93 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	6.366E+02	5.235E+01	4.066E+01	8.132E-01	15.658

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	4.812E+01		4.209E+01	1.899E+02	3.809E+00	0.253
NA-22	7.279E+00		4.276E+00	2.038E+01	4.300E-01	0.357
NA-24	-1.874E+01		1.329E+01	2.412E+01	5.120E-01	-0.777
K-40	1.608E+01		5.149E+01	2.599E+02	5.550E+00	0.062
SC-46	1.893E-01		3.405E+00	1.473E+01	3.076E-01	0.013
CR-51	-5.475E+00		5.499E+01	2.145E+02	4.291E+00	-0.026
MN-54	-1.811E+00		5.063E+00	1.888E+01	3.867E-01	-0.096
CO-57	4.513E+01		6.336E+01	2.502E+02	5.157E+00	0.180
CO-58	-1.697E+00		3.693E+00	1.430E+01	2.924E-01	-0.119
FE-59	-3.882E+00		6.038E+00	2.363E+01	4.928E-01	-0.164
CO-60	1.135E+00		2.786E+00	1.320E+01	2.795E-01	0.086
ZN-65	-2.006E+00		6.189E+00	2.575E+01	5.375E-01	-0.078
SE-75	-8.415E+00		1.046E+01	3.635E+01	7.290E-01	-0.232
SR-85	-2.103E+01		7.369E+00	2.078E+01	4.174E-01	-1.012
Y-88	1.288E+00		1.290E+00	9.469E+00	2.069E-01	0.136
NB-94	2.679E+00		4.370E+00	1.885E+01	3.870E-01	0.142
NB-95	-1.150E+00		3.748E+00	1.493E+01	3.044E-01	-0.077
TC-95M	-1.004E+00		1.252E+01	4.625E+01	9.345E-01	-0.022
ZR-95	1.075E+01		7.898E+00	3.622E+01	7.381E-01	0.297
ZRNB-95	-2.552E+00		7.329E+00	2.905E+01	5.924E-01	-0.088
MO-99	-7.017E+00		1.420E+01	5.156E+01	1.061E+00	-0.136
RH-101	-1.428E+01		1.205E+01	4.182E+01	8.459E-01	-0.341
RH-102M	1.289E+00		4.890E+00	2.008E+01	4.026E-01	0.064
RU-103	-1.083E+00		4.786E+00	1.899E+01	3.812E-01	-0.057
RU-106DA	6.371E+00		4.786E+01	1.899E+02	3.837E+00	0.034
AG-108M	-4.712E+00		5.222E+00	1.817E+01	3.640E-01	-0.259
AG-110M	-1.086E+00		2.913E+00	1.308E+01	2.688E-01	-0.083

Sample ID : H7D0W1AC
Acquisition date : 28-JUN-2006 06:39:09

---- Non-Identified Nuclides ----

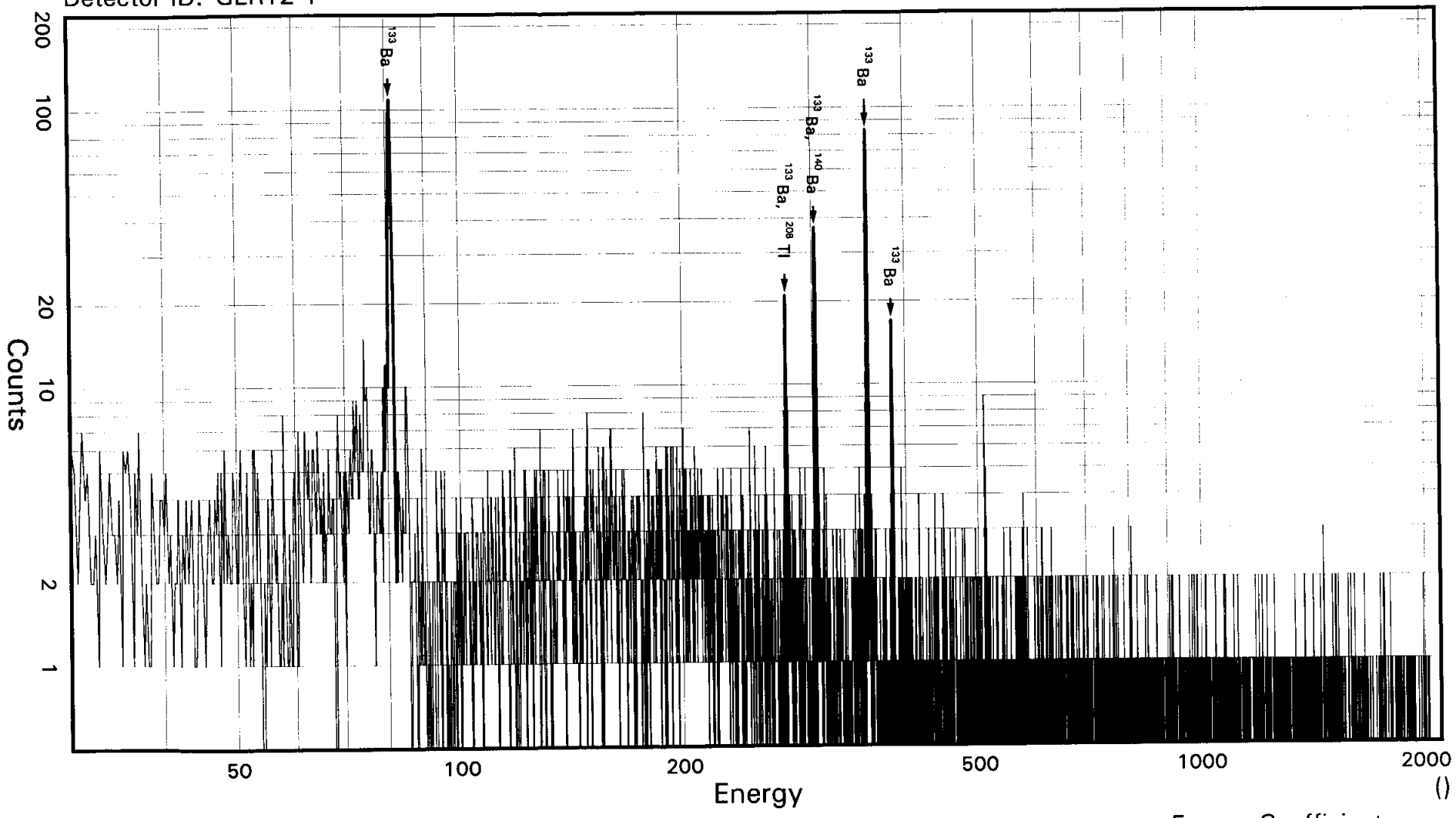
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	-3.191E+00		8.307E+00	3.080E+01	6.161E-01	-0.104
SB-124	8.807E-02		5.079E+00	1.981E+01	3.999E-01	0.004
SB-125	-9.387E+00		1.851E+01	6.698E+01	1.341E+00	-0.140
SN-126DA	-1.272E-01		3.927E+00	1.615E+01	3.272E-01	-0.008
I-131	-3.327E+00		8.150E+00	3.015E+01	6.030E-01	-0.110
CS-134	7.345E+00		4.298E+00	2.126E+01	4.343E-01	0.346
CS-137DA	-6.796E+00		7.132E+00	3.115E+01	6.309E-01	-0.218
LA-138	-1.378E-01		3.596E+00	1.679E+01	3.579E-01	-0.008
CE-139	5.623E+00		1.030E+01	3.838E+01	7.824E-01	0.147
BA-140	1.522E+01		1.541E+01	7.220E+01	1.452E+00	0.211
BALA-140	-2.539E-01		8.228E+00	3.453E+01	7.438E-01	-0.007
LA-140	-2.423E-01		7.822E+00	3.283E+01	7.071E-01	-0.007
CE-141	-3.930E+00		1.938E+01	6.057E+01	1.244E+00	-0.065
CE-144	1.356E+01		6.327E+01	2.407E+02	4.968E+00	0.056
CEPR-144	2.801E+01		1.266E+02	4.818E+02	9.947E+00	0.058
PM-144	1.913E+00		4.556E+00	1.877E+01	3.793E-01	0.102
PM-146	-4.015E+00		7.504E+00	2.834E+01	5.679E-01	-0.142
EU-152	2.422E+00		2.130E+01	8.303E+01	1.661E+00	0.029
EU-154	2.047E+01		1.203E+01	5.732E+01	1.209E+00	0.357
EU-155	4.345E+01		3.746E+01	1.509E+02	3.169E+00	0.288
HF-181	-1.103E+01		4.442E+00	1.062E+01	2.130E-01	-1.039
BI-207	2.149E+00		4.836E+00	1.988E+01	4.004E-01	0.108
TL-208	-5.972E+00		4.936E+00	1.664E+01	3.354E-01	-0.359
BI-210M	7.893E+00		1.167E+01	4.668E+01	9.362E-01	0.169
BI-212	-7.125E+01		5.664E+01	1.925E+02	5.880E+00	-0.370
PB-212	-1.179E+01		1.621E+01	5.684E+01	1.143E+00	-0.207
BI-214	2.361E+01		1.143E+01	5.174E+01	1.045E+00	0.456
PB-214	-7.805E+00		1.714E+01	6.206E+01	1.241E+00	-0.126
RA-223	5.010E+00		4.250E+01	1.623E+02	3.254E+00	0.031
RA-224DA	-1.181E+01		1.624E+01	5.694E+01	1.145E+00	-0.207
RA-226DA	2.371E+01		1.144E+01	5.181E+01	1.046E+00	0.458
AC-227DA	4.157E+01		6.219E+01	2.426E+02	4.879E+00	0.171
AC-228	4.608E+00		1.127E+01	5.165E+01	1.063E+00	0.089
RA-228DA	4.611E+00		1.128E+01	5.168E+01	1.064E+00	0.089
TH-228DA	-1.665E+01		1.376E+01	4.639E+01	9.353E-01	-0.359
TH-232DA	5.101E+01		4.064E+01	1.773E+02	3.545E+00	0.288
TH-234DA	2.568E+02		5.717E+02	2.503E+03	5.186E+01	0.103
U-234DA	-5.275E+01		3.492E+01	1.215E+02	2.433E+00	-0.434
U-235HP	-4.837E+01		8.172E+01	2.839E+02	5.834E+00	-0.170
NP-237DA	1.048E+01		1.614E+01	6.575E+01	1.316E+00	0.159
U-238DA	-7.805E+00		1.714E+01	6.206E+01	1.241E+00	-0.126
U-238DHP	-1.698E+02		1.850E+02	6.326E+02	1.396E+01	-0.268
AM-241HP	5.570E+00		2.145E+01	8.095E+01	1.799E+00	0.069

STL Richland WA.

BA133

Sample ID: H7D001AC
Detector ID: GER12 1

Batch ID: 6167160



Acquisition Start: 28-JUN-2006 06:39:14.82
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 1.25330E+01
Slope: 2.47513E-01
Quadrature: 6.39114E-10

SAMPLE IDENTIFICATION: H7D001AC

CONFIGURATION ID: GER12:H7D001AC_280660639
TITLE : BA133
SAMPLE ID : H7D001AC

REPORT DATE: 28-JUN-06
ACQUIRE DATE: 28-JUN-06 06:39:14
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 26-JUN-2006 12:00:00.00
CALIB DATE: 28-JUN-2006 05:10:27.31
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: 1.2533E+01 keV
ENERGY SLOPE: 2.4751E-01 keV/C
ENERGY Q COEFF: 6.3911E-10 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 2.9940E-01 keV
FWHM SLOPE: 4.1558E-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 28-JUN-2006 07:10:19

Configuration : $DISK1:[GER12.SAMPLE]H7D001AC_280660639.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 06:39:14
Sample ID : H7D001AC 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 : 12.78 End energy : 2040.21
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	80.96	328	70	0.66	276.45	269	12	1.82E-01	7.4	
2	0	276.54	52	26	0.38	1066.63	1059	15	2.89E-02	25.6	
3	0	302.94	176	13	1.07	1173.31	1167	16	9.79E-02	8.7	
4	0	356.01	420	28	1.13	1387.72	1376	22	2.33E-01	5.8	
5	0	383.91	58	7	0.77	1500.44	1493	12	3.22E-02	15.7	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUN-2006 07:10:20

Configuration : $DISK1:[GER12.SAMPLE]H7D001AC_280660639.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 06:39:14
Sample ID : H7D001AC 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	328	33.00	2.899E+00	1.144E+03	1.144E+03	9.21
	276.40	52	6.90	3.105E+00	8.081E+02	8.083E+02	26.14
	302.84	176	17.80	3.109E+00	1.062E+03	1.062E+03	10.26
	356.00	420	62.05*	3.111E+00	7.249E+02	7.252E+02	7.94
	383.85	58	8.70	3.111E+00	7.149E+02	7.152E+02	16.59

Flag: "*" = Keyline

None

Flags: "T" = Tentatively associated

Sample ID : H7D001AC Acquisition date : 28-JUN-2006 06:39:14

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
BA-140	12.79D	0.14	162.64	6.70	--- Not Found ---		Abun.
			304.84	4.50	4.626E+03	10.26	
			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	8.200E+02	26.14	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 28-JUN-2006 07:10:22

Configuration : $DISK1:[GER12.SAMPLE]H7D001AC_280660639.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 : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 06:39:14
Sample ID : H7D001AC 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%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
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 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	7.252E+02	5.756E+01	3.946E+01	7.891E-01	18.380

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	4.032E+01		4.832E+01	1.998E+02	4.007E+00	0.202
NA-22	-1.051E+00		2.963E+00	1.217E+01	2.564E-01	-0.086
NA-24	-3.939E-01		2.347E+01	9.899E+01	2.099E+00	-0.004
K-40	-1.159E+01		5.180E+01	2.459E+02	5.245E+00	-0.047
SC-46	5.091E+00		3.283E+00	1.702E+01	3.552E-01	0.299
CR-51	-9.458E+01		5.871E+01	1.859E+02	3.720E+00	-0.509
MN-54	-4.495E+00		3.848E+00	1.322E+01	2.706E-01	-0.340
CO-57	7.704E+01		6.692E+01	2.689E+02	5.540E+00	0.286
CO-58	-6.710E+00		3.896E+00	1.206E+01	2.465E-01	-0.556
FE-59	1.897E+00		6.139E+00	2.661E+01	5.544E-01	0.071
CO-60	-2.272E+00		3.211E+00	1.220E+01	2.580E-01	-0.186
ZN-65	-9.101E+00		5.544E+00	1.627E+01	3.394E-01	-0.559
SE-75	8.768E+00		9.997E+00	4.036E+01	8.095E-01	0.217
SR-85	-1.428E+01		7.638E+00	2.485E+01	4.992E-01	-0.575
Y-88	7.210E-02		2.343E+00	1.104E+01	2.407E-01	0.007
NB-94	8.764E+00		3.518E+00	1.831E+01	3.757E-01	0.479
NB-95	4.669E+00		4.212E+00	1.887E+01	3.846E-01	0.247
TC-95M	-7.828E+00		1.324E+01	4.539E+01	9.170E-01	-0.172
ZR-95	-3.678E+00		6.256E+00	2.415E+01	4.918E-01	-0.152
ZRNB-95	9.188E+00		8.289E+00	3.714E+01	7.570E-01	0.247
MO-99	-7.146E+00		1.443E+01	5.278E+01	1.085E+00	-0.135
RH-101	-1.000E+00		1.233E+01	4.473E+01	9.047E-01	-0.022
RH-102M	-8.370E-01		4.573E+00	1.758E+01	3.525E-01	-0.048
RU-103	9.416E+00		5.385E+00	2.416E+01	4.849E-01	0.390
RU-106DA	-2.435E+01		4.161E+01	1.551E+02	3.132E+00	-0.157
AG-108M	-9.636E+00		5.400E+00	1.687E+01	3.378E-01	-0.571
AG-110M	1.929E+00		4.193E+00	1.892E+01	3.886E-01	0.102

Sample ID : H7D001AC Acquisition date : 28-JUN-2006 06:39:14

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	-8.985E+00		8.402E+00	2.925E+01	5.851E-01	-0.307
SB-124	1.184E+00		4.655E+00	1.882E+01	3.797E-01	0.063
SB-125	7.234E+00		1.467E+01	6.097E+01	1.221E+00	0.119
SN-126DA	6.623E+00		4.160E+00	1.910E+01	3.869E-01	0.347
I-131	-5.543E+00		7.550E+00	2.745E+01	5.491E-01	-0.202
CS-134	1.340E+00		4.239E+00	1.808E+01	3.692E-01	0.074
CS-137DA	3.684E+00		3.877E+00	1.797E+01	3.638E-01	0.205
LA-138	-1.669E-01		4.257E+00	1.839E+01	3.916E-01	-0.009
CE-139	1.130E+01		9.204E+00	3.649E+01	7.437E-01	0.310
BA-140	-5.847E+00		1.876E+01	7.279E+01	1.464E+00	-0.080
BALA-140	1.095E-01		7.479E+00	3.190E+01	6.860E-01	0.003
LA-140	-2.398E+00		7.539E+00	3.033E+01	6.522E-01	-0.079
CE-141	-1.034E+01		1.374E+01	4.891E+01	1.004E+00	-0.212
CE-144	-1.274E+02		6.308E+01	2.008E+02	4.143E+00	-0.634
CEPR-144	-2.557E+02		1.261E+02	4.011E+02	8.275E+00	-0.637
PM-144	7.627E+00		4.273E+00	1.986E+01	4.010E-01	0.384
PM-146	-1.375E+01		7.169E+00	2.161E+01	4.331E-01	-0.636
EU-152	-9.001E+00		2.503E+01	8.900E+01	1.780E+00	-0.101
EU-154	-2.957E+00		8.334E+00	3.422E+01	7.212E-01	-0.086
EU-155	9.081E+00		3.376E+01	1.256E+02	2.634E+00	0.072
HF-181	-1.995E+00		5.978E+00	2.225E+01	4.463E-01	-0.090
BI-207	-5.406E-01		5.265E+00	2.021E+01	4.070E-01	-0.027
TL-208	-1.083E+00		4.942E+00	1.930E+01	3.891E-01	-0.056
BI-210M	1.357E+01		1.176E+01	4.838E+01	9.703E-01	0.280
BI-212	-6.982E+01		5.442E+01	1.873E+02	5.722E+00	-0.373
PB-212	1.002E+01		1.586E+01	6.166E+01	1.240E+00	0.162
BI-214	6.025E+00		1.213E+01	5.137E+01	1.037E+00	0.117
PB-214	7.488E-01		1.915E+01	6.650E+01	1.330E+00	0.011
RA-223	3.625E+01		4.205E+01	1.705E+02	3.418E+00	0.213
RA-224DA	1.004E+01		1.589E+01	6.177E+01	1.242E+00	0.162
RA-226DA	6.215E+00		1.215E+01	5.147E+01	1.039E+00	0.121
AC-227DA	-1.102E+02		5.759E+01	1.851E+02	3.723E+00	-0.595
AC-228	-5.268E+00		1.471E+01	5.608E+01	1.154E+00	-0.094
RA-228DA	-5.271E+00		1.472E+01	5.611E+01	1.155E+00	-0.094
TH-228DA	-3.019E+00		1.378E+01	5.382E+01	1.085E+00	-0.056
TH-232DA	8.805E+01		4.414E+01	1.925E+02	3.849E+00	0.458
TH-234DA	-8.930E+02		4.942E+02	1.469E+03	3.040E+01	-0.608
U-234DA	-4.965E+01		2.989E+01	9.532E+01	1.909E+00	-0.521
U-235HP	-9.141E-01		6.290E+01	2.366E+02	4.860E+00	-0.004
NP-237DA	-2.840E+01		1.878E+01	6.072E+01	1.215E+00	-0.468
U-238DA	7.488E-01		1.915E+01	6.650E+01	1.330E+00	0.011
U-238DHP	1.238E+02		2.441E+02	9.202E+02	2.026E+01	0.135
AM-241HP	-1.648E+01		2.061E+01	7.340E+01	1.627E+00	-0.225

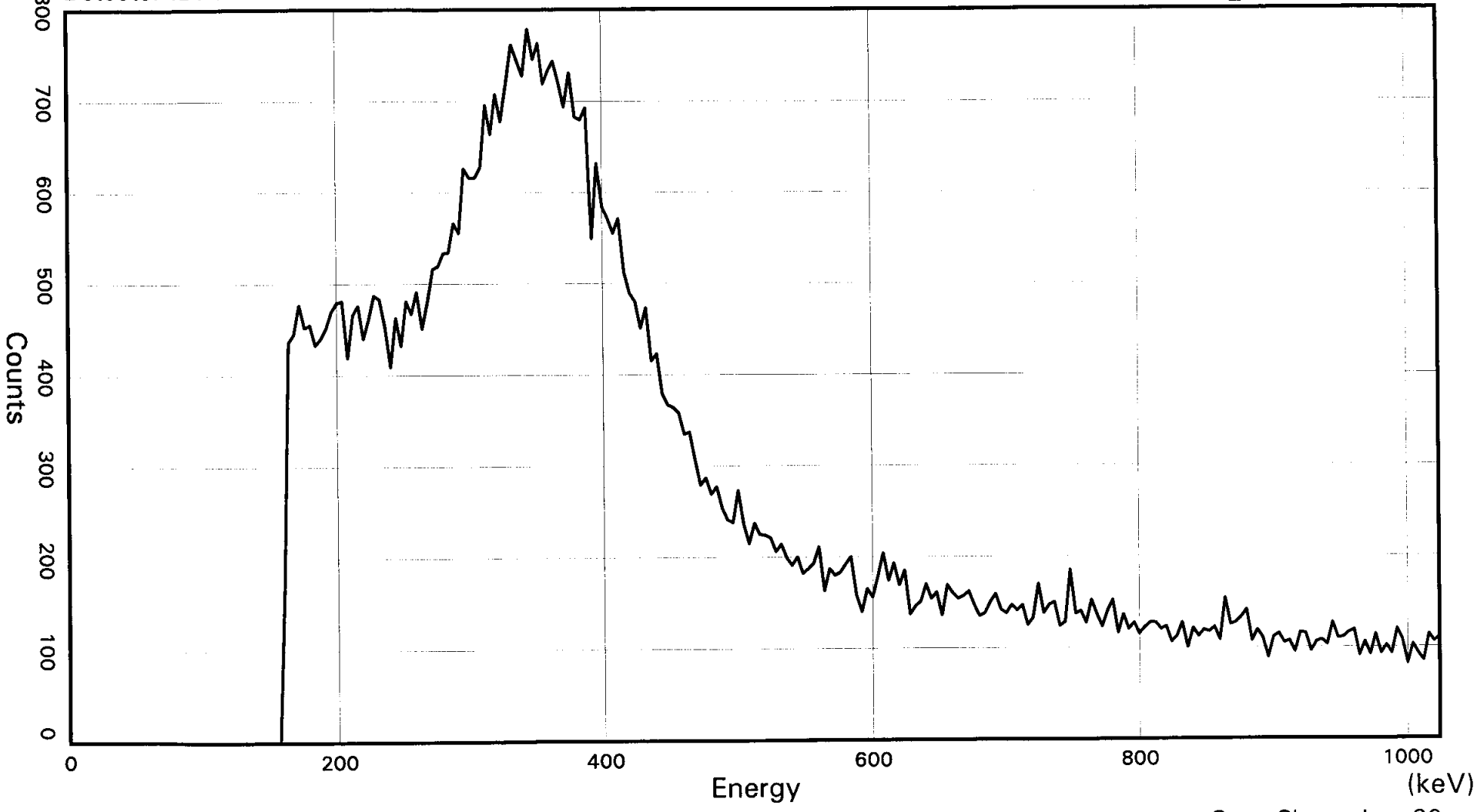
STL Richland WA.

BA133

Sample ID: H7D021AC

Detector ID: NAI1 1

Library: [NUC_LIBR]BA133.NLB



Acquisition Start:	28-JUN-2006 07:15:58.28
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: H7D021AC

CONFIGURATION ID: NAI1:H7D021AC_280660715
TITLE : BA133
SAMPLE ID : H7D021AC

REPORT DATE: 28-JUN-06
ACQUIRE DATE: 28-JUN-06 07:15:58
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 26-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 28-JUN-2006 07:46:03

```
Configuration     : RDND06$DKA100:[NAI1.SAMPLE]H7D021AC_280660715.CNF;1
Analyses by       : NAI V3.0
Sample title      : BA133
Sample date       : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 07:15:58
Sample ID         : H7D021AC             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:	5.9	2.8	3.6	5.7	4.9	3.1	4.2	1.3
88:	2.4	0.5	-0.2	0.6	0.9	-1.5	1.4	-0.8
96:	-0.2	0.2	-5.5	-1.8	-4.2	-2.7	-1.9	-0.2
104:	-5.6	-5.5	-3.8	-4.6	-3.4	-4.0	-3.9	-5.8
112:	-4.6	-4.9						

List of Suspicious Channels

81	82	83	84	85

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	1.36E+01	0.00E+00	1.03E+00
2	4.00E+00	0.00E+00	1.06E+00
3	1.18E+00	0.00E+00	1.07E+00

Brief Report

Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	740.	10.4

Total Activity :	740.	

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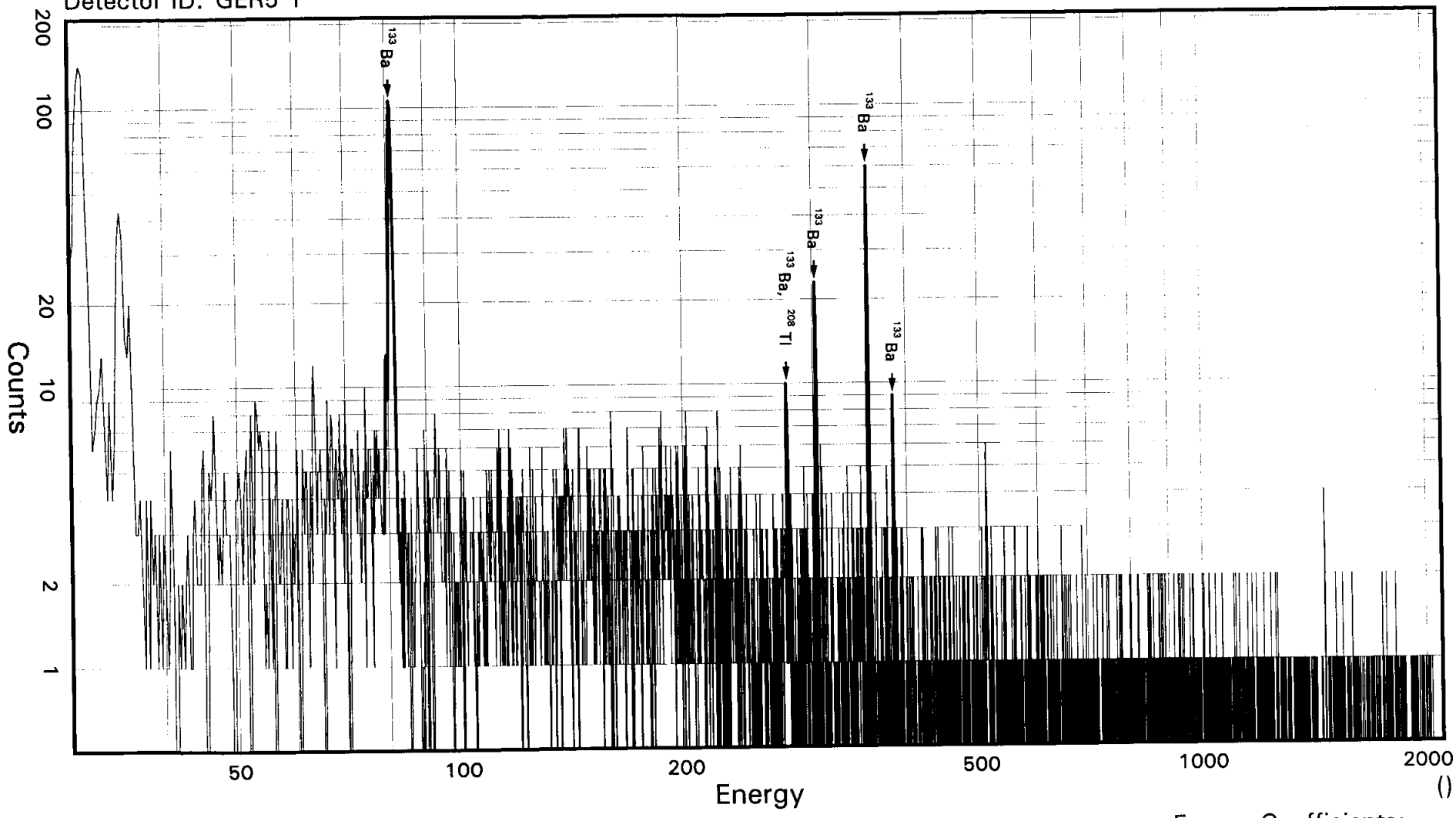
BA133

Sample ID: H7D031AC
Detector ID: GER5 1

Batch ID: 6167160



Acquisition Start: 28-JUN-2006 07:16:15.90
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -3.73693E-01
Slope: 2.49400E-01
Quadrature: 1.33221E-09

SAMPLE IDENTIFICATION: H7D031AC

CONFIGURATION ID: GER5:H7D031AC_280660716
TITLE : BA133
SAMPLE ID : H7D031AC

REPORT DATE: 28-JUN-06
ACQUIRE DATE: 28-JUN-06 07:16:15
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 26-JUN-2006 12:00:00.00
CALIB DATE: 28-JUN-2006 05:08:28.08
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: -.3737E+00 keV
ENERGY SLOPE: 2.4940E-01 keV/C
ENERGY Q COEFF: 1.3322E-09 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 7.7531E-01 keV
FWHM SLOPE: 2.5845E-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 28-JUN-2006 07:46:31

Configuration : RDND06$DKA100:[GER5.SAMPLE]H7D031AC_280660716.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 07:16:15
Sample ID : H7D031AC 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 : 19.58 End energy : 2042.80
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	30.95	564	84	0.95	125.61	119	12	3.13E-01	5.3	
2	0	35.25	147	62	0.77	142.84	137	13	8.16E-02	14.0	
3	0	80.96	420	55	0.87	326.10	316	20	2.33E-01	6.5	
4	0	276.72	38	21	1.23	1111.05	1103	16	2.09E-02	33.1	
5	0	302.69	93	3	0.89	1215.18	1208	13	5.17E-02	11.1	
6	0	355.94	269	0	0.96	1428.69	1420	16	1.49E-01	6.1	
7	0	384.06	32	13	0.59	1541.43	1533	18	1.78E-02	32.1	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 28-JUN-2006 07:46:31

Configuration : RDND06$DKA100:[GER5.SAMPLE]H7D031AC_280660716.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4
Sample title : BA133
Sample date : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 07:16:15
Sample ID : H7D031AC 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	420	33.00	1.924E+00	2.205E+03	2.206E+03	8.50
	276.40	38	6.90	2.077E+00	8.748E+02	8.751E+02	33.54
	302.84	93	17.80	2.080E+00	8.382E+02	8.385E+02	12.33
	356.00	269	62.05*	2.082E+00	6.942E+02	6.944E+02	8.13
	383.85	32	8.70	2.081E+00	5.903E+02	5.905E+02	32.52

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H7D031AC Acquisition date : 28-JUN-2006 07:16:15

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	30.95	564	84	0.95	125.61	119	12	3.13E-01	5.3	1.68E+00	
0	35.25	147	62	0.77	142.84	137	13	8.16E-02	14.0	1.72E+00	

Flags: "T" = Tentatively associated

Sample ID : H7D031AC Acquisition date : 28-JUN-2006 07:16:15

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	8.877E+02	33.54	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 V3.1 Generated 28-JUN-2006 07:46:32

Configuration : RDND06$DKA100:[GER5.SAMPLE]H7D031AC_280660716.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 : 26-JUN-2006 12:00:00
Sample ID : H7D031AC
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 : 28-JUN-2006 07:16:15
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.23 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	6.944E+02	5.649E+01	3.817E+01	7.634E-01	18.193

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-3.287E+01		7.089E+01	2.628E+02	5.273E+00	-0.125
NA-22	-1.809E+00		3.853E+00	1.578E+01	3.346E-01	-0.115
NA-24	-1.584E+00		3.193E+01	1.374E+02	2.932E+00	-0.012
K-40	1.761E+02		7.702E+01	3.952E+02	8.490E+00	0.446
SC-46	3.431E+00		3.402E+00	1.833E+01	3.844E-01	0.187
CR-51	-1.445E+02		9.530E+01	3.051E+02	6.104E+00	-0.474
MN-54	-6.744E+00		4.117E+00	1.214E+01	2.491E-01	-0.556
CO-57	-6.305E+01		1.491E+02	5.113E+02	1.057E+01	-0.123
CO-58	3.310E+00		4.773E+00	2.201E+01	4.511E-01	0.150
FE-59	1.681E-01		7.406E+00	3.282E+01	6.871E-01	0.005
CO-60	3.290E+00		3.429E+00	1.826E+01	3.888E-01	0.180
ZN-65	-6.405E+00		9.322E+00	3.575E+01	7.493E-01	-0.179
SE-75	-3.157E+00		1.636E+01	5.988E+01	1.201E+00	-0.053
SR-85	-2.900E+01		1.188E+01	3.542E+01	7.119E-01	-0.819
Y-88	-5.546E+00		3.216E+00	4.854E+00	1.069E-01	-1.143
NB-94	-5.311E+00		6.051E+00	2.159E+01	4.444E-01	-0.246
NB-95	3.423E+00		5.365E+00	2.393E+01	4.889E-01	0.143
TC-95M	1.082E+01		1.949E+01	7.329E+01	1.482E+00	0.148
ZR-95	5.536E+00		5.896E+00	3.172E+01	6.475E-01	0.174
ZRNB-95	6.736E+00		1.056E+01	4.709E+01	9.619E-01	0.143
MO-99	3.549E+01		2.616E+01	1.010E+02	2.083E+00	0.351
RH-101	-1.276E+01		1.909E+01	6.663E+01	1.349E+00	-0.192
RH-102M	1.350E+01		6.821E+00	3.184E+01	6.387E-01	0.424
RU-103	-3.816E+00		7.554E+00	2.815E+01	5.652E-01	-0.136
RU-106DA	3.910E+01		6.489E+01	2.761E+02	5.584E+00	0.142
AG-108M	-4.933E+00		9.872E+00	3.588E+01	7.187E-01	-0.137
AG-110M	-1.714E+00		7.125E+00	2.847E+01	5.866E-01	-0.060

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	1.768E+01		1.279E+01	5.424E+01	1.085E+00	0.326
SB-124	-9.650E+00		7.654E+00	2.532E+01	5.115E-01	-0.381
SB-125	-8.914E+00		2.317E+01	8.775E+01	1.757E+00	-0.102
SN-126DA	1.859E+00		4.798E+00	2.129E+01	4.318E-01	0.087
I-131	1.486E+00		1.150E+01	4.496E+01	8.991E-01	0.033
CS-134	1.269E-01		5.481E+00	2.327E+01	4.763E-01	0.005
CS-137DA	-4.958E+00		5.645E+00	2.097E+01	4.252E-01	-0.236
LA-138	0.000E+00		1.287E-01	6.958E+00	1.492E-01	0.000
CE-139	-2.910E+01		1.719E+01	5.669E+01	1.158E+00	-0.513
BA-140	-1.746E+01		2.885E+01	1.057E+02	2.127E+00	-0.165
BALA-140	4.058E+00		6.926E+00	3.722E+01	8.072E-01	0.109
LA-140	3.893E+00		6.645E+00	3.572E+01	7.745E-01	0.109
CE-141	2.349E+01		2.883E+01	1.103E+02	2.270E+00	0.213
CE-144	-2.500E+01		1.204E+02	4.245E+02	8.788E+00	-0.059
CEPR-144	-5.494E+01		2.405E+02	8.468E+02	1.753E+01	-0.065
PM-144	1.141E+01		6.239E+00	2.942E+01	5.950E-01	0.388
PM-146	1.701E+01		9.551E+00	4.450E+01	8.919E-01	0.382
EU-152	8.781E+00		4.075E+01	1.543E+02	3.086E+00	0.057
EU-154	-5.089E+00		1.084E+01	4.439E+01	9.412E-01	-0.115
EU-155	-3.849E+01		6.172E+01	2.139E+02	4.512E+00	-0.180
HF-181	8.618E+00		6.461E+00	3.058E+01	6.137E-01	0.282
BI-207	6.786E-01		5.514E+00	2.328E+01	4.693E-01	0.029
TL-208	1.148E-01		9.084E+00	3.609E+01	7.281E-01	0.003
BI-210M	2.434E+01		1.780E+01	7.360E+01	1.477E+00	0.331
BI-212	-2.399E+01		4.249E+01	1.822E+02	5.572E+00	-0.132
PB-212	5.337E+00		2.764E+01	1.080E+02	2.173E+00	0.049
BI-214	2.383E+01		1.555E+01	6.900E+01	1.394E+00	0.345
PB-214	-2.863E+01		2.456E+01	7.168E+01	1.434E+00	-0.399
RA-223	-1.199E+02		7.883E+01	2.560E+02	5.134E+00	-0.468
RA-224DA	5.347E+00		2.769E+01	1.082E+02	2.177E+00	0.049
RA-226DA	2.369E+01		1.554E+01	6.891E+01	1.393E+00	0.344
AC-227DA	-1.089E+02		1.093E+02	3.725E+02	7.495E+00	-0.292
AC-228	1.076E+01		2.102E+01	8.954E+01	1.848E+00	0.120
RA-228DA	1.076E+01		2.103E+01	8.959E+01	1.850E+00	0.120
TH-228DA	3.202E-01		2.533E+01	1.006E+02	2.030E+00	0.003
TH-232DA	3.933E+01		7.336E+01	2.903E+02	5.807E+00	0.135
TH-234DA	4.290E+01		7.091E+02	3.073E+03	6.386E+01	0.014
U-234DA	-1.674E+01		5.614E+01	2.007E+02	4.019E+00	-0.083
U-235HP	1.212E+02		1.289E+02	4.956E+02	1.021E+01	0.244
NP-237DA	-1.585E+01		2.403E+01	8.466E+01	1.694E+00	-0.187
U-238DA	-2.863E+01		2.456E+01	7.168E+01	1.434E+00	-0.399
U-238DHP	-1.285E+01		4.793E+02	1.839E+03	4.094E+01	-0.007
AM-241HP	-4.066E+01		4.281E+01	1.470E+02	3.298E+00	-0.277

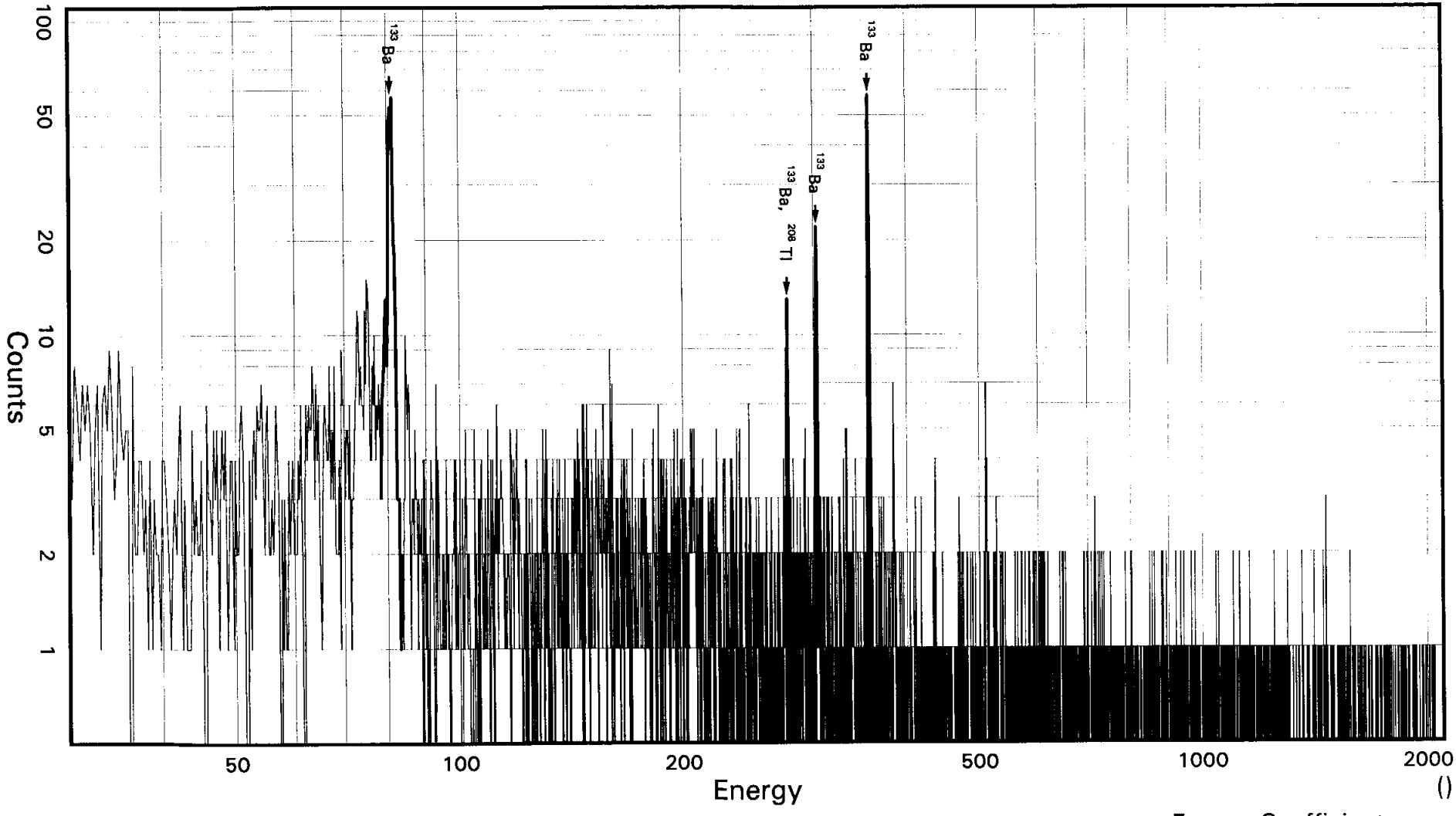
STL Richland WA.

BA133

Sample ID: H7D051AC

Detector ID: GER7 1

Batch ID: 6167160



Acquisition Start: 28-JUN-2006 07:16:25.28

Preset Live Time: 0 00:30:00.00

Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:

Offset: 5.64187E-01

Slope: 2.49258E-01

Quadrature: 1.23721E-07

SAMPLE IDENTIFICATION: H7D051AC

CONFIGURATION ID: GER7:H7D051AC_280660716
TITLE : BA133
SAMPLE ID : H7D051AC

REPORT DATE: 28-JUN-06
ACQUIRE DATE: 28-JUN-06 07:16:25
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 26-JUN-2006 12:00:00.00
CALIB DATE: 28-JUN-2006 05:09:11.06
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: 5.6419E-01 keV
ENERGY SLOPE: 2.4926E-01 keV/C
ENERGY Q COEFF: 1.2372E-07 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 6.0738E-01 keV
FWHM SLOPE: 3.7080E-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 28-JUN-2006 07:46:42

Configuration : $DISK1:[GER7.SAMPLE]H7D051AC_280660716.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 07:16:25
Sample ID : H7D051AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.20 0.0%
Start energy : 20.51 End energy : 2050.79
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	80.89	311	49	1.14	322.19	312	20	1.73E-01	7.9	
2	0	276.55	48	24	1.25	1106.62	1096	19	2.69E-02	28.1	
3	0	302.91	125	6	1.31	1212.24	1202	23	6.93E-02	10.3	
4	0	356.01	302	14	1.11	1425.02	1416	20	1.68E-01	6.6	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUN-2006 07:46:42

Configuration : $DISK1:[GER7.SAMPLE]H7D051AC_280660716.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 07:16:25
Sample ID : H7D051AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.20 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	9.63
	276.40	48	6.90	2.076E+00	1.125E+03	1.125E+03	28.63
	302.84	125	17.80	2.078E+00	1.124E+03	1.124E+03	11.60
	356.00	302	62.05*	2.080E+00	7.786E+02	7.789E+02	8.49
	383.85	------	8.70	2.080E+00	------	Line Not Found	------

Flag: "*" = Keyline

None

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : H7D051AC

Acquisition date : 28-JUN-2006 07:16:25

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	1.142E+03	28.63	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 28-JUN-2006 07:46:44

Configuration : $DISK1:[GER7.SAMPLE]H7D051AC_280660716.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 : 26-JUN-2006 12:00:00
Sample ID : H7D051AC
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 : 28-JUN-2006 07:16:25
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.20 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	7.789E+02	6.609E+01	5.154E+01	1.031E+00	15.111

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-6.827E+01		7.016E+01	2.504E+02	5.023E+00	-0.273
NA-22	-1.541E+00		3.735E+00	1.579E+01	3.348E-01	-0.098
NA-24	-2.537E+01		1.799E+01	3.454E+01	7.372E-01	-0.734
K-40	1.950E+01		7.194E+01	3.638E+02	7.816E+00	0.054
SC-46	1.234E+01		5.235E+00	2.738E+01	5.742E-01	0.451
CR-51	-1.215E+02		9.412E+01	3.210E+02	6.422E+00	-0.378
MN-54	6.555E+00		5.251E+00	2.478E+01	5.088E-01	0.265
CO-57	3.112E+01		1.098E+02	4.069E+02	8.412E+00	0.076
CO-58	5.042E+00		3.770E+00	2.018E+01	4.135E-01	0.250
FE-59	9.145E+00		6.852E+00	3.665E+01	7.672E-01	0.250
CO-60	1.707E+00		1.709E+00	1.255E+01	2.672E-01	0.136
ZN-65	-2.018E+01		9.550E+00	2.445E+01	5.125E-01	-0.825
SE-75	-5.937E+00		1.480E+01	5.362E+01	1.076E+00	-0.111
SR-85	-2.699E+01		1.226E+01	3.843E+01	7.723E-01	-0.702
Y-88	3.534E+00		4.430E+00	2.157E+01	4.751E-01	0.164
NB-94	1.490E+00		5.001E+00	2.160E+01	4.447E-01	0.069
NB-95	1.815E+00		5.061E+00	2.226E+01	4.547E-01	0.082
TC-95M	-1.954E+01		1.966E+01	6.753E+01	1.366E+00	-0.289
ZR-95	3.265E+00		8.967E+00	3.951E+01	8.065E-01	0.083
ZRNB-95	3.571E+00		9.957E+00	4.380E+01	8.947E-01	0.082
MO-99	-1.972E+01		1.929E+01	6.510E+01	1.343E+00	-0.303
RH-101	1.325E+01		1.745E+01	6.642E+01	1.345E+00	0.199
RH-102M	2.508E+00		7.199E+00	2.948E+01	5.914E-01	0.085
RU-103	-1.212E+01		6.057E+00	1.773E+01	3.561E-01	-0.683
RU-106DA	3.263E-01		5.347E+01	2.198E+02	4.445E+00	0.001
AG-108M	-6.370E+00		9.477E+00	3.357E+01	6.724E-01	-0.190
AG-110M	-5.104E+00		8.698E+00	3.220E+01	6.635E-01	-0.159

---- Non-Identified Nuclides ----

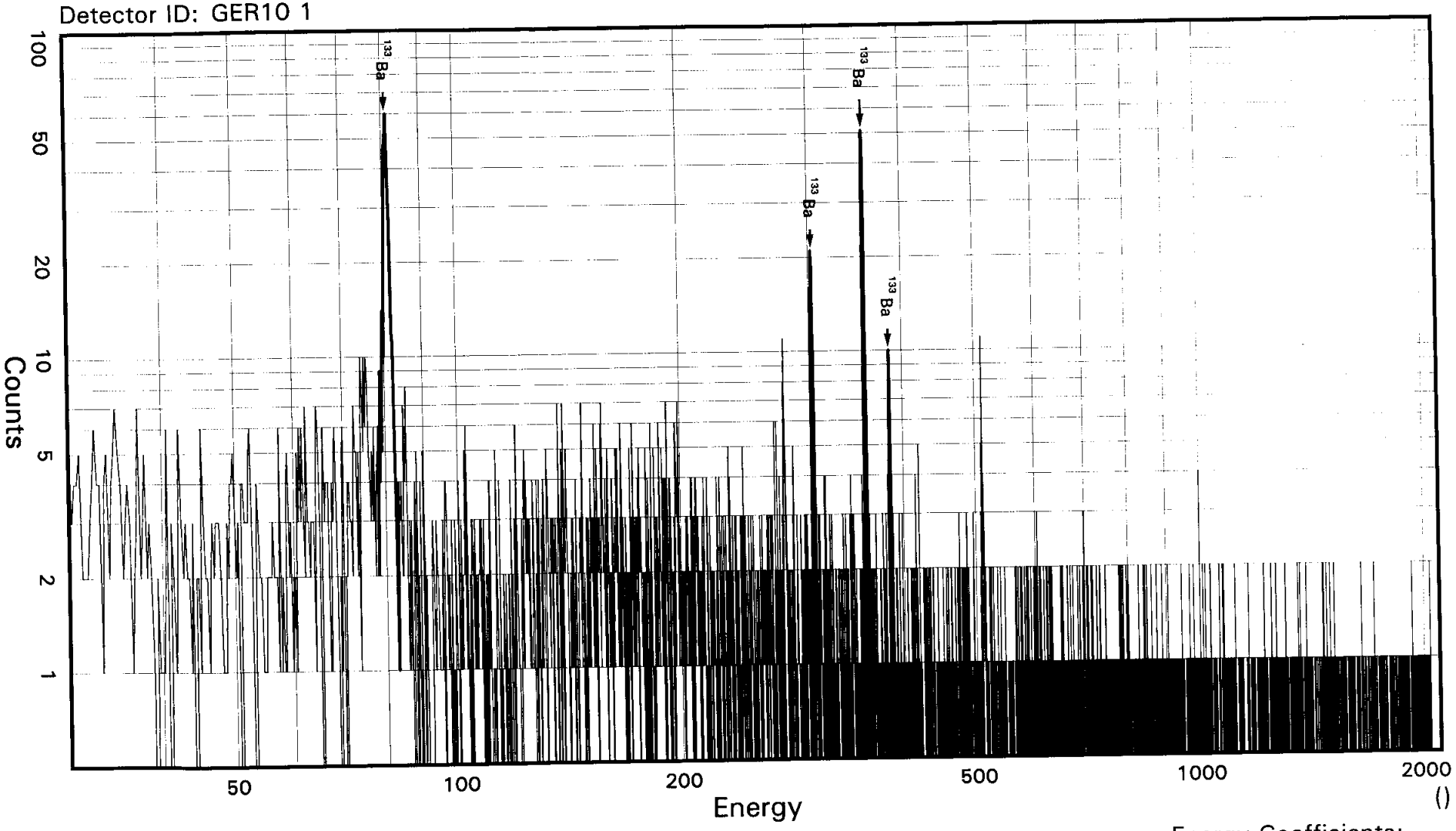
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	7.379E+00		9.042E+00	3.959E+01	7.920E-01	0.186
SB-124	7.505E+00		6.914E+00	3.004E+01	6.069E-01	0.250
SB-125	-6.589E+00		1.850E+01	7.174E+01	1.437E+00	-0.092
SN-126DA	3.773E+00		4.811E+00	2.206E+01	4.474E-01	0.171
I-131	-1.989E+00		1.147E+01	4.340E+01	8.680E-01	-0.046
CS-134	1.971E+00		6.366E+00	2.711E+01	5.549E-01	0.073
CS-137DA	1.257E+00		5.073E+00	2.244E+01	4.551E-01	0.056
LA-138	-4.738E-02		5.176E+00	2.390E+01	5.126E-01	-0.002
CE-139	5.585E+00		1.473E+01	5.603E+01	1.144E+00	0.100
BA-140	-6.160E+00		2.539E+01	1.003E+02	2.017E+00	-0.061
BALA-140	8.161E+00		7.975E+00	4.318E+01	9.364E-01	0.189
LA-140	7.831E+00		7.653E+00	4.143E+01	8.985E-01	0.189
CE-141	-2.208E+01		2.964E+01	1.009E+02	2.078E+00	-0.219
CE-144	-1.240E+02		1.084E+02	3.626E+02	7.506E+00	-0.342
CEPR-144	-2.492E+02		2.166E+02	7.245E+02	1.500E+01	-0.344
PM-144	-1.118E+00		4.519E+00	1.851E+01	3.743E-01	-0.060
PM-146	2.014E+00		6.662E+00	2.953E+01	5.920E-01	0.068
EU-152	3.008E+00		2.553E+01	1.020E+02	2.039E+00	0.030
EU-154	1.808E+00		9.799E+00	4.680E+01	9.923E-01	0.039
EU-155	4.730E+01		4.866E+01	1.947E+02	4.108E+00	0.243
HF-181	1.211E+00		6.850E+00	2.876E+01	5.772E-01	0.042
BI-207	6.625E+00		5.733E+00	2.621E+01	5.283E-01	0.253
TL-208	1.643E+01		8.354E+00	3.976E+01	8.022E-01	0.413
BI-210M	-2.067E+01		1.818E+01	6.117E+01	1.227E+00	-0.338
BI-212	-1.250E+02		8.654E+01	2.879E+02	8.800E+00	-0.434
PB-212	-4.209E+01		2.254E+01	8.145E+01	1.638E+00	-0.517
BI-214	-1.365E+01		1.510E+01	5.927E+01	1.198E+00	-0.230
PB-214	-6.214E+01		3.138E+01	8.701E+01	1.740E+00	-0.714
RA-223	-5.746E+01		7.073E+01	2.447E+02	4.908E+00	-0.235
RA-224DA	-4.216E+01		2.258E+01	8.160E+01	1.641E+00	-0.517
RA-226DA	-1.379E+01		1.508E+01	5.916E+01	1.196E+00	-0.233
AC-227DA	-6.318E+01		9.695E+01	3.403E+02	6.847E+00	-0.186
AC-228	-2.430E+01		1.792E+01	7.167E+01	1.479E+00	-0.339
RA-228DA	-2.431E+01		1.793E+01	7.171E+01	1.480E+00	-0.339
TH-228DA	4.582E+01		2.329E+01	1.109E+02	2.237E+00	0.413
TH-232DA	7.800E+01		7.193E+01	2.944E+02	5.888E+00	0.265
TH-234DA	-4.858E+02		6.172E+02	2.377E+03	4.940E+01	-0.204
U-234DA	9.396E+00		4.736E+01	1.785E+02	3.574E+00	0.053
U-235HP	2.671E+02		1.185E+02	4.809E+02	9.906E+00	0.555
NP-237DA	-2.601E+01		2.703E+01	9.487E+01	1.899E+00	-0.274
U-238DA	-6.214E+01		3.138E+01	8.701E+01	1.740E+00	-0.714
U-238DHP	8.794E+02		4.635E+02	1.791E+03	3.986E+01	0.491
AM-241HP	-1.426E+01		3.867E+01	1.351E+02	3.031E+00	-0.106

STL Richland WA.

BA133

Batch ID: 6167160

Sample ID: H7D081AC
Detector ID: GER10 1



Acquisition Start: 28-JUN-2006 07:16:36.01
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 1.56802E+01
Slope: 2.46972E-01
Quadrature: 3.56657E-09

SAMPLE IDENTIFICATION: H7D081AC

CONFIGURATION ID: GER10:H7D081AC_280660716
TITLE : BA133
SAMPLE ID : H7D081AC

REPORT DATE: 28-JUN-06
ACQUIRE DATE: 28-JUN-06 07:16:36
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 26-JUN-2006 12:00:00.00
CALIB DATE: 28-JUN-2006 05:09:43.29
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: 1.5680E+01 keV
ENERGY SLOPE: 2.4697E-01 keV/C
ENERGY Q COEFF: 3.5666E-09 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 8.5214E-01 keV
FWHM SLOPE: 3.0556E-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 28-JUN-2006 07:46:57

```
Configuration     : $DISK1:[GER10.SAMPLE]H7D081AC_280660716.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 07:16:36
Sample ID         : H7D081AC             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      :    18.15             End energy       :  2039.11
Sensitivity       :     5.00             Gaussian         :    10.00
Critical level    : No
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	80.86	305	60	1.12	263.92	253	20	1.69E-01	8.5	
2	0	303.14	106	29	1.64	1163.93	1153	19	5.90E-02	15.5	
3	0	356.07	335	30	1.73	1378.24	1367	20	1.86E-01	6.8	
4	0	383.83	52	10	1.43	1490.64	1483	14	2.91E-02	18.9	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUN-2006 07:46:58

Configuration : $DISK1:[GER10.SAMPLE]H7D081AC_280660716.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 07:16:36
Sample ID : H7D081AC 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	305	33.00	2.398E+00	1.282E+03	1.283E+03	10.07
	276.40	------	6.90	2.578E+00	------ Line Not Found		------
	302.84	106	17.80	2.582E+00	7.698E+02	7.700E+02	16.40
	356.00	335	62.05*	2.584E+00	6.964E+02	6.967E+02	8.65
	383.85	52	8.70	2.584E+00	7.781E+02	7.784E+02	19.69

Flag: "*" = Keyline

Sample ID : H7D081AC
Acquisition date : 28-JUN-2006 07:16:36

None

Flags: "T" = Tentatively associated

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 28-JUN-2006 07:47:00

Configuration : $DISK1:[GER10.SAMPLE]H7D081AC_280660716.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 : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 07:16:36
Sample ID : H7D081AC 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	6.967E+02	6.029E+01	5.496E+01	1.099E+00	12.676

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-2.967E+01		6.317E+01	2.304E+02	4.622E+00	-0.129
NA-22	-2.664E+00		2.701E+00	1.004E+01	2.122E-01	-0.265
NA-24	-3.504E-02		1.452E+01	7.538E+01	1.603E+00	0.000
K-40	-3.830E+01		4.422E+01	1.941E+02	4.153E+00	-0.197
SC-46	-1.418E+00		1.420E+00	3.701E+00	7.739E-02	-0.383
CR-51	-6.975E+01		7.798E+01	2.672E+02	5.347E+00	-0.261
MN-54	-5.098E+00		5.743E+00	2.067E+01	4.238E-01	-0.247
CO-57	-1.937E+01		1.067E+02	3.768E+02	7.774E+00	-0.051
CO-58	1.165E+00		3.648E+00	1.622E+01	3.320E-01	0.072
FE-59	2.232E+00		6.572E+00	2.943E+01	6.145E-01	0.076
CO-60	-1.346E+00		3.615E+00	1.473E+01	3.125E-01	-0.091
ZN-65	5.250E+00		5.394E+00	2.873E+01	6.005E-01	0.183
SE-75	-8.205E+00		1.517E+01	5.344E+01	1.072E+00	-0.154
SR-85	-4.236E+01		1.156E+01	3.076E+01	6.180E-01	-1.377
Y-88	-2.920E+00		2.903E+00	1.058E+01	2.318E-01	-0.276
NB-94	1.535E+00		4.334E+00	1.868E+01	3.839E-01	0.082
NB-95	2.047E+00		4.296E+00	1.876E+01	3.827E-01	0.109
TC-95M	6.492E+00		1.471E+01	5.548E+01	1.121E+00	0.117
ZR-95	7.072E+00		7.354E+00	3.418E+01	6.969E-01	0.207
ZRNB-95	1.173E+00		8.881E+00	3.683E+01	7.515E-01	0.032
MO-99	-1.295E+01		1.959E+01	6.829E+01	1.406E+00	-0.190
RH-101	3.086E+01		1.534E+01	6.357E+01	1.286E+00	0.485
RH-102M	-4.526E+00		6.634E+00	2.373E+01	4.760E-01	-0.191
RU-103	5.695E+00		6.096E+00	2.615E+01	5.249E-01	0.218
RU-106DA	-1.046E+01		6.054E+01	2.324E+02	4.696E+00	-0.045
AG-108M	-7.270E+00		6.615E+00	2.278E+01	4.562E-01	-0.319
AG-110M	-6.991E+00		5.709E+00	1.976E+01	4.064E-01	-0.354

Sample ID : H7D081AC Acquisition date : 28-JUN-2006 07:16:36

---- Non-Identified Nuclides ----

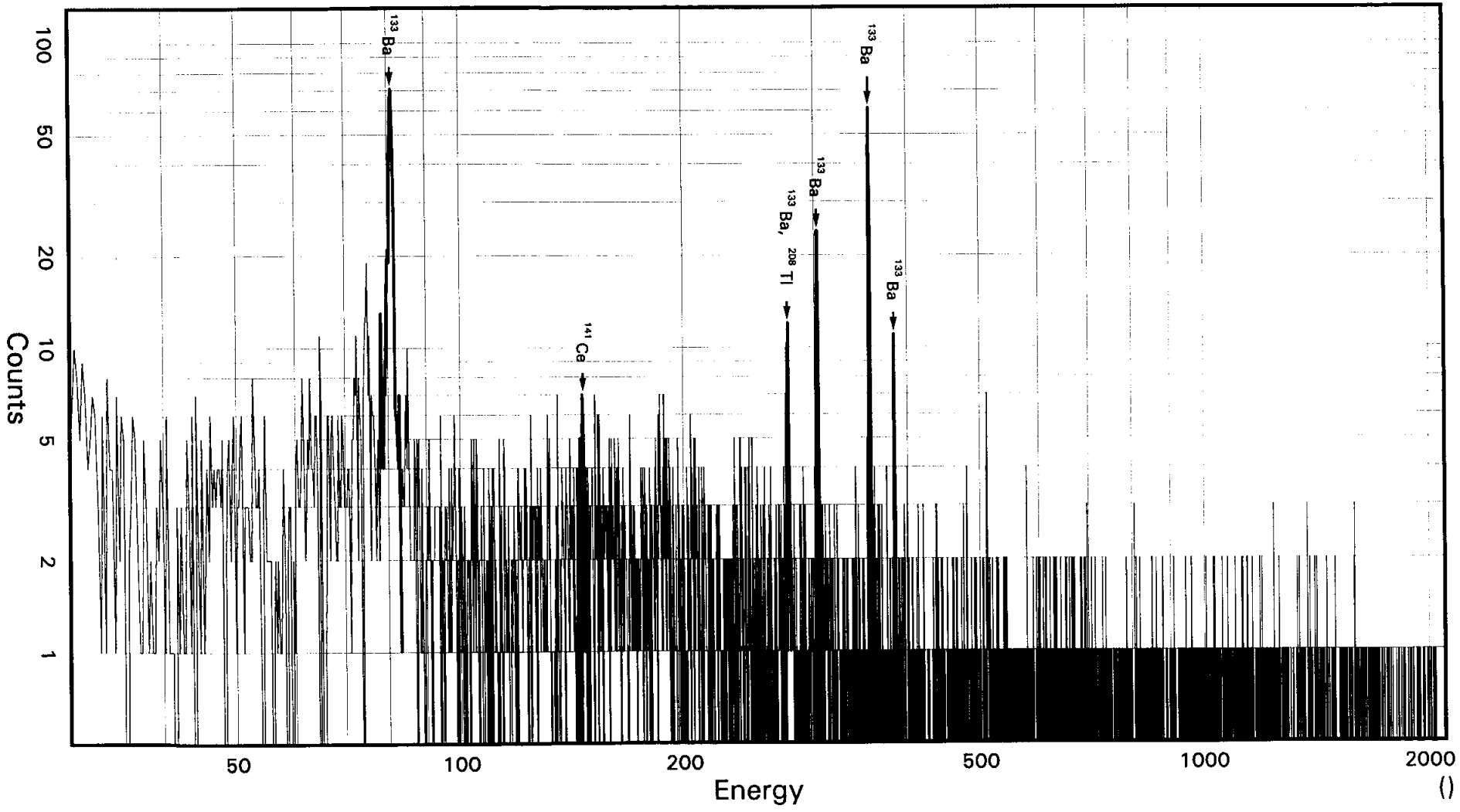
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	-4.799E+00		9.635E+00	3.557E+01	7.116E-01	-0.135
SB-124	5.003E+00		7.029E+00	2.843E+01	5.740E-01	0.176
SB-125	-2.295E+00		2.046E+01	7.834E+01	1.569E+00	-0.029
SN-126DA	3.107E-02		4.886E+00	1.963E+01	3.978E-01	0.002
I-131	3.530E+00		1.026E+01	4.003E+01	8.007E-01	0.088
CS-134	4.745E+00		4.192E+00	2.050E+01	4.191E-01	0.231
CS-137DA	-1.497E+00		4.595E+00	1.844E+01	3.735E-01	-0.081
LA-138	2.066E+00		2.069E+00	1.519E+01	3.245E-01	0.136
CE-139	1.273E+01		1.293E+01	5.001E+01	1.020E+00	0.255
BA-140	-9.050E+00		2.421E+01	9.029E+01	1.816E+00	-0.100
BALA-140	9.754E+00		7.169E+00	3.862E+01	8.336E-01	0.253
LA-140	9.359E+00		6.879E+00	3.706E+01	7.999E-01	0.253
CE-141	2.209E+00		2.117E+01	7.680E+01	1.578E+00	0.029
CE-144	1.002E+01		1.047E+02	3.760E+02	7.770E+00	0.027
CEPR-144	1.228E+02		2.030E+02	7.517E+02	1.553E+01	0.163
PM-144	-6.848E+00		5.913E+00	2.042E+01	4.125E-01	-0.335
PM-146	-5.703E+00		7.833E+00	2.848E+01	5.708E-01	-0.200
EU-152	-2.089E+01		2.728E+01	9.760E+01	1.952E+00	-0.214
EU-154	-7.491E+00		7.598E+00	2.824E+01	5.969E-01	-0.265
EU-155	-9.793E+00		4.885E+01	1.757E+02	3.695E+00	-0.056
HF-181	-8.765E+00		8.517E+00	2.918E+01	5.854E-01	-0.300
BI-207	-8.410E+00		5.686E+00	1.895E+01	3.819E-01	-0.444
TL-208	4.239E-01		6.074E+00	2.449E+01	4.939E-01	0.017
BI-210M	-2.615E+01		1.720E+01	5.594E+01	1.122E+00	-0.467
BI-212	-1.033E+02		7.842E+01	2.613E+02	7.985E+00	-0.395
PB-212	-1.859E+01		1.794E+01	6.148E+01	1.236E+00	-0.302
BI-214	1.997E+01		1.536E+01	6.713E+01	1.356E+00	0.297
PB-214	3.562E+00		2.494E+01	8.625E+01	1.725E+00	0.041
RA-223	5.741E+01		6.433E+01	2.493E+02	5.000E+00	0.230
RA-224DA	-1.862E+01		1.798E+01	6.159E+01	1.239E+00	-0.302
RA-226DA	1.986E+01		1.535E+01	6.708E+01	1.355E+00	0.296
AC-227DA	-1.858E+01		7.642E+01	2.773E+02	5.579E+00	-0.067
AC-228	-4.312E+00		1.424E+01	5.760E+01	1.187E+00	-0.075
RA-228DA	-4.315E+00		1.424E+01	5.763E+01	1.188E+00	-0.075
TH-228DA	1.182E+00		1.694E+01	6.830E+01	1.377E+00	0.017
TH-232DA	5.191E+00		6.854E+01	2.573E+02	5.147E+00	0.020
TH-234DA	-2.111E+02		6.842E+02	2.696E+03	5.591E+01	-0.078
U-234DA	7.643E+01		4.343E+01	1.777E+02	3.558E+00	0.430
U-235HP	-1.159E+02		9.662E+01	3.195E+02	6.571E+00	-0.363
NP-237DA	9.870E+00		2.197E+01	8.361E+01	1.673E+00	0.118
U-238DA	3.562E+00		2.494E+01	8.625E+01	1.725E+00	0.041
U-238DHP	2.276E+02		3.555E+02	1.322E+03	2.925E+01	0.172
AM-241HP	-2.528E+01		3.458E+01	1.213E+02	2.705E+00	-0.208

STL Richland WA.

BA133

Sample ID: H7D1A1AC
Detector ID: GER6 1

Batch ID: 6167160



Acquisition Start: 28-JUN-2006 07:17:14.31
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 2.95630E-02
Slope: 2.49319E-01
Quadrature: 2.25669E-08

SAMPLE IDENTIFICATION: H7D1A1AC

CONFIGURATION ID: GER6:H7D1A1AC_280660717
TITLE : BA133
SAMPLE ID : H7D1A1AC

REPORT DATE: 28-JUN-06
ACQUIRE DATE: 28-JUN-06 07:17:14
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 26-JUN-2006 12:00:00.00
CALIB DATE: 28-JUN-2006 05:08:55.68
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: 2.9563E-02 keV
ENERGY SLOPE: 2.4932E-01 keV/C
ENERGY Q COEFF: 2.2567E-08 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 2.4904E-01 keV
FWHM SLOPE: 5.8849E-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 28-JUN-2006 07:47:30

Configuration : $DISK1:[GER6.SAMPLE]H7D1A1AC_280660717.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 07:17:14
Sample ID : H7D1A1AC 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 : 19.98 End energy : 2043.97
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	3	78.32	33	3	0.77	314.00	313	20	1.81E-02	6.8	3.94E+00
2	3	80.92	257	42	1.04	324.44	313	20	1.43E-01	8.4	
3	0	146.79	26	10	2.56	588.61	581	14	1.42E-02	33.4	
4	0	276.27	66	12	1.70	1107.89	1100	16	3.67E-02	17.0	
5	0	302.76	128	6	1.25	1214.09	1202	20	7.12E-02	9.8	
6	0	356.00	294	9	1.15	1427.59	1418	17	1.63E-01	6.3	
7	0	383.78	48	0	0.78	1538.98	1530	17	2.67E-02	14.4	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUN-2006 07:47:31

Configuration : $DISK1:[GER6.SAMPLE]H7D1A1AC_280660717.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 07:17:14
Sample ID : H7D1A1AC 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	257	33.00	2.167E+00	1.200E+03	1.201E+03	10.05
	276.40	66	6.90	2.334E+00	1.366E+03	1.367E+03	17.84
	302.84	128	17.80	2.337E+00	1.027E+03	1.027E+03	11.22
	356.00	294	62.05*	2.339E+00	6.742E+02	6.744E+02	8.26
	383.85	48	8.70	2.338E+00	7.865E+02	7.868E+02	15.41
CE-141	145.44	26	48.40*	2.276E+00	7.722E+01	8.026E+01	33.86

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H7D1A1AC

Acquisition date : 28-JUN-2006 07:17:14

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	78.32	33	3	0.77	314.00	313	20	1.81E-02	6.8	2.16E+00	

Flags: "T" = Tentatively associated

Sample ID : H7D1A1AC Acquisition date : 28-JUN-2006 07:17:14

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	1.386E+03	17.84	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 28-JUN-2006 07:47:33

Configuration : $DISK1:[GER6.SAMPLE]H7D1A1AC_280660717.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 : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 07:17:14
Sample ID : H7D1A1AC 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	6.744E+02	5.571E+01	5.398E+01	1.080E+00	12.492
CE-141	8.026E+01	2.718E+01	8.128E+01	1.672E+00	0.987

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-6.341E+00		6.953E+01	2.629E+02	5.274E+00	-0.024
NA-22	-1.556E+00		3.400E+00	1.402E+01	2.968E-01	-0.111
NA-24	-4.418E+01		2.222E+01	3.068E+01	6.536E-01	-1.440
K-40	-3.662E+01		6.027E+01	3.050E+02	6.539E+00	-0.120
SC-46	1.188E+00		6.326E+00	2.522E+01	5.281E-01	0.047
CR-51	6.125E+01		8.212E+01	3.300E+02	6.603E+00	0.186
MN-54	-2.703E+00		5.020E+00	1.923E+01	3.945E-01	-0.141
CO-57	6.719E+01		9.160E+01	3.590E+02	7.413E+00	0.187
CO-58	4.188E-01		5.874E+00	2.369E+01	4.852E-01	0.018
FE-59	7.988E+00		8.198E+00	3.822E+01	7.990E-01	0.209
CO-60	6.016E+00		3.745E+00	1.985E+01	4.219E-01	0.303
ZN-65	-9.451E+00		1.083E+01	3.870E+01	8.100E-01	-0.244
SE-75	-1.878E+01		1.465E+01	4.856E+01	9.743E-01	-0.387
SR-85	-2.137E+01		1.013E+01	3.209E+01	6.449E-01	-0.666
Y-88	-1.532E+00		2.726E+00	1.172E+01	2.574E-01	-0.131
NB-94	3.159E+00		4.179E+00	1.942E+01	3.993E-01	0.163
NB-95	-2.440E-01		5.304E+00	2.129E+01	4.346E-01	-0.011
TC-95M	9.518E+00		1.566E+01	6.038E+01	1.221E+00	0.158
ZR-95	2.507E+00		7.161E+00	3.218E+01	6.565E-01	0.078
ZRNB-95	-4.805E-01		1.044E+01	4.189E+01	8.551E-01	-0.011
MO-99	2.433E+01		1.817E+01	7.249E+01	1.494E+00	0.336
RH-101	2.141E+01		1.221E+01	5.020E+01	1.016E+00	0.426
RH-102M	-1.254E+00		7.060E+00	2.670E+01	5.355E-01	-0.047
RU-103	-2.797E+00		6.042E+00	2.278E+01	4.574E-01	-0.123
RU-106DA	7.803E+01		4.563E+01	2.259E+02	4.567E+00	0.345
AG-108M	-3.048E+00		8.018E+00	2.974E+01	5.956E-01	-0.102

---- Non-Identified Nuclides ----

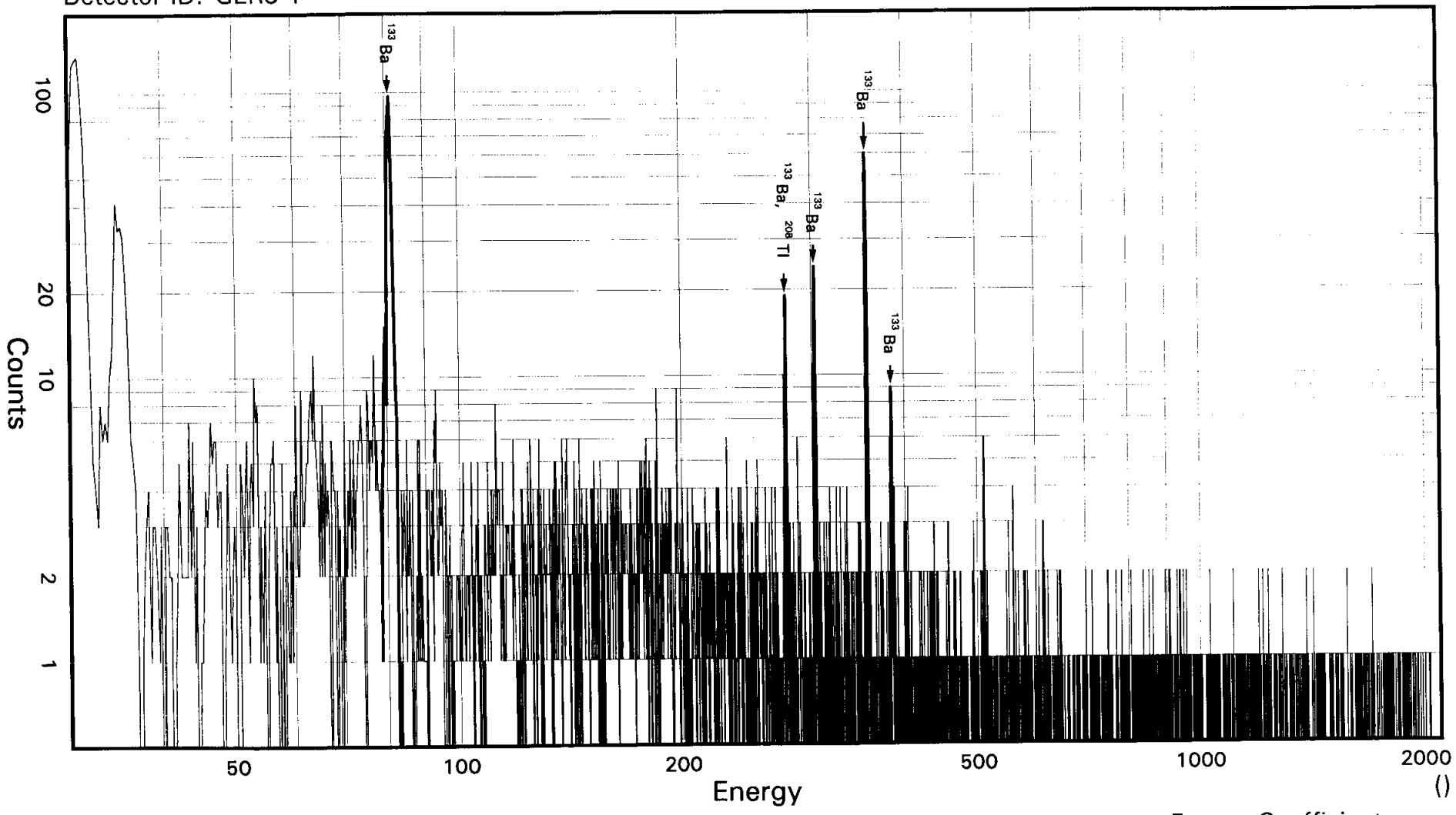
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
AG-110M	-1.019E+01		6.129E+00	1.884E+01	3.879E-01	-0.541
SN-113DA	4.900E-01		1.004E+01	3.965E+01	7.933E-01	0.012
SB-124	-1.107E+01		6.636E+00	2.098E+01	4.236E-01	-0.528
SB-125	-3.810E+01		1.527E+01	3.582E+01	7.172E-01	-1.064
SN-126DA	1.045E+01		6.577E+00	2.906E+01	5.892E-01	0.360
I-131	3.245E+00		1.103E+01	4.251E+01	8.502E-01	0.076
CS-134	8.474E+00		4.576E+00	2.410E+01	4.929E-01	0.352
CS-137DA	4.186E+00		7.128E+00	2.977E+01	6.035E-01	0.141
LA-138	3.930E-02		5.585E+00	2.460E+01	5.264E-01	0.002
CE-139	-6.438E+00		1.282E+01	4.544E+01	9.274E-01	-0.142
BA-140	-4.836E+00		2.412E+01	9.494E+01	1.910E+00	-0.051
BALA-140	-6.728E+00		9.943E+00	3.832E+01	8.289E-01	-0.176
LA-140	-6.458E+00		9.543E+00	3.677E+01	7.955E-01	-0.176
CE-144	-2.747E+02		8.529E+01	2.363E+02	4.886E+00	-1.163
CEPR-144	-5.473E+02		1.707E+02	4.741E+02	9.806E+00	-1.154
PM-144	-3.589E+00		4.636E+00	1.702E+01	3.441E-01	-0.211
PM-146	3.113E+00		7.442E+00	3.184E+01	6.381E-01	0.098
EU-152	4.146E-02		2.761E+01	1.051E+02	2.103E+00	0.000
EU-154	-4.885E+00		9.451E+00	3.859E+01	8.168E-01	-0.127
EU-155	7.523E+01		4.811E+01	1.942E+02	4.091E+00	0.387
HF-181	-3.182E+00		8.196E+00	3.036E+01	6.092E-01	-0.105
BI-207	4.447E+00		5.295E+00	2.331E+01	4.697E-01	0.191
TL-208	-8.855E+00		7.049E+00	2.384E+01	4.809E-01	-0.371
BI-210M	6.063E+00		1.612E+01	6.201E+01	1.244E+00	0.098
BI-212	6.411E+01		7.309E+01	3.294E+02	1.007E+01	0.195
PB-212	1.344E+01		2.301E+01	8.907E+01	1.791E+00	0.151
BI-214	1.175E+01		1.350E+01	5.948E+01	1.202E+00	0.198
PB-214	1.589E+01		2.256E+01	7.936E+01	1.587E+00	0.200
RA-223	2.313E+01		6.700E+01	2.524E+02	5.061E+00	0.092
RA-224DA	1.346E+01		2.305E+01	8.923E+01	1.795E+00	0.151
RA-226DA	1.170E+01		1.350E+01	5.944E+01	1.201E+00	0.197
AC-227DA	-1.699E+02		8.602E+01	2.715E+02	5.462E+00	-0.626
AC-228	4.952E+00		1.353E+01	6.951E+01	1.434E+00	0.071
RA-228DA	4.955E+00		1.353E+01	6.955E+01	1.435E+00	0.071
TH-228DA	-2.469E+01		1.966E+01	6.648E+01	1.341E+00	-0.371
TH-232DA	1.263E+02		6.439E+01	2.760E+02	5.521E+00	0.458
TH-234DA	-8.789E+02		6.344E+02	2.112E+03	4.384E+01	-0.416
U-234DA	5.548E+01		3.796E+01	1.623E+02	3.251E+00	0.342
U-235HP	-1.101E+02		1.171E+02	3.400E+02	6.998E+00	-0.324
NP-237DA	-1.000E+01		2.428E+01	8.848E+01	1.771E+00	-0.113
U-238DA	1.589E+01		2.256E+01	7.936E+01	1.587E+00	0.200
U-238DHP	5.958E+00		3.847E+02	1.365E+03	3.029E+01	0.004
AM-241HP	-4.180E+01		3.260E+01	1.071E+02	2.395E+00	-0.390

STL Richland WA.

BA133

Sample ID: H7D1E1AC
Detector ID: GER8 1

Batch ID: 6167160



Acquisition Start: 28-JUN-2006 07:17:35.49
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 2.20038E-01
Slope: 2.49828E-01
Quadrature: 1.42949E-08

SAMPLE IDENTIFICATION: H7D1E1AC

CONFIGURATION ID: GER8:H7D1E1AC_280660717
TITLE : BA133
SAMPLE ID : H7D1E1AC

REPORT DATE: 28-JUN-06
ACQUIRE DATE: 28-JUN-06 07:17:35
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 26-JUN-2006 12:00:00.00
CALIB DATE: 28-JUN-2006 05:09:27.45
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: 2.2004E-01 keV
ENERGY SLOPE: 2.4983E-01 keV/C
ENERGY Q COEFF: 1.4295E-08 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 9.0735E-01 keV
FWHM SLOPE: 2.2582E-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 28-JUN-2006 07:47:52

Configuration : $DISK1:[GER8.SAMPLE]H7D1E1AC_280660717.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 07:17:35
Sample ID : H7D1E1AC 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 : 20.21 End energy : 2047.77
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	30.81	659	113	1.19	122.45	115	15	3.66E-01	5.3	
2	0	35.02	229	35	1.28	139.29	130	18	1.27E-01	9.0	
3	0	53.32	30	18	0.72	212.53	208	12	1.65E-02	35.5	
4	0	80.91	488	24	1.11	322.98	313	18	2.71E-01	5.1	
5	0	276.42	76	0	1.16	1105.47	1098	17	4.22E-02	11.5	
6	0	302.74	111	6	1.01	1210.84	1201	16	6.16E-02	11.0	
7	0	356.02	303	14	1.18	1424.08	1414	19	1.68E-01	6.5	
8	0	383.75	45	8	1.52	1535.03	1528	16	2.50E-02	20.5	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUN-2006 07:47:52

Configuration : $DISK1:[GER8.SAMPLE]H7D1E1AC_280660717.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 07:17:35
Sample ID : H7D1E1AC 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	488	33.00	2.202E+00	2.240E+03	2.241E+03	7.44
	276.40	76	6.90	2.371E+00	1.549E+03	1.549E+03	12.67
	302.84	111	17.80	2.374E+00	8.743E+02	8.746E+02	12.26
	356.00	303	62.05*	2.376E+00	6.841E+02	6.843E+02	8.43
	383.85	45	8.70	2.375E+00	7.258E+02	7.261E+02	21.18

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H7D1E1AC

Acquisition date : 28-JUN-2006 07:17:35

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	30.81	659	113	1.19	122.45	115	15	3.66E-01	5.3	1.93E+00	
0	35.02	229	35	1.28	139.29	130	18	1.27E-01	9.0	1.97E+00	
0	53.32	30	18	0.72	212.53	208	12	1.65E-02	35.5	2.10E+00	

Flags: "T" = Tentatively associated

Sample ID : H7D1E1AC
Acquisition date : 28-JUN-2006 07:17:35

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	1.572E+03	12.67	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 28-JUN-2006 07:47:54

Configuration : $DISK1:[GER8.SAMPLE]H7D1E1AC_280660717.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 : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 07:17:35
Sample ID : H7D1E1AC 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	6.843E+02	5.767E+01	4.256E+01	8.512E-01	16.078

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-3.404E+01		5.695E+01	2.075E+02	4.162E+00	-0.164
NA-22	2.932E+00		3.001E+00	1.600E+01	3.386E-01	0.183
NA-24	-5.183E-01		1.617E+01	8.216E+01	1.750E+00	-0.006
K-40	-1.969E+01		3.754E+01	1.846E+02	3.956E+00	-0.107
SC-46	5.967E+00		4.228E+00	2.101E+01	4.398E-01	0.284
CR-51	-1.551E+02		8.312E+01	2.633E+02	5.267E+00	-0.589
MN-54	-4.569E+00		3.345E+00	1.062E+01	2.179E-01	-0.430
CO-57	7.838E+01		1.134E+02	4.246E+02	8.768E+00	0.185
CO-58	3.729E+00		3.825E+00	1.865E+01	3.819E-01	0.200
FE-59	1.525E-02		3.764E+00	1.963E+01	4.102E-01	0.001
CO-60	4.474E+00		2.595E+00	1.604E+01	3.408E-01	0.279
ZN-65	-5.787E+00		7.117E+00	2.698E+01	5.645E-01	-0.215
SE-75	-2.069E+00		1.401E+01	5.243E+01	1.052E+00	-0.039
SR-85	-2.816E+01		1.041E+01	3.129E+01	6.286E-01	-0.900
Y-88	-1.983E-01		2.187E+00	1.115E+01	2.447E-01	-0.018
NB-94	-1.731E+00		3.928E+00	1.552E+01	3.191E-01	-0.112
NB-95	-1.553E+00		2.615E+00	1.093E+01	2.232E-01	-0.142
TC-95M	-1.149E+01		1.462E+01	5.025E+01	1.016E+00	-0.229
ZR-95	7.813E+00		7.034E+00	3.457E+01	7.052E-01	0.226
ZRNB-95	-3.056E+00		5.146E+00	2.151E+01	4.391E-01	-0.142
MO-99	1.247E+01		2.073E+01	7.725E+01	1.592E+00	0.161
RH-101	2.924E+01		1.546E+01	6.117E+01	1.238E+00	0.478
RH-102M	7.530E+00		5.502E+00	2.501E+01	5.017E-01	0.301
RU-103	-9.227E+00		7.014E+00	2.303E+01	4.623E-01	-0.401
RU-106DA	-1.259E+01		5.183E+01	2.047E+02	4.137E+00	-0.062
AG-108M	-5.948E+00		7.589E+00	2.678E+01	5.364E-01	-0.222
AG-110M	1.679E+00		5.412E+00	2.399E+01	4.938E-01	0.070

---- Non-Identified Nuclides ----

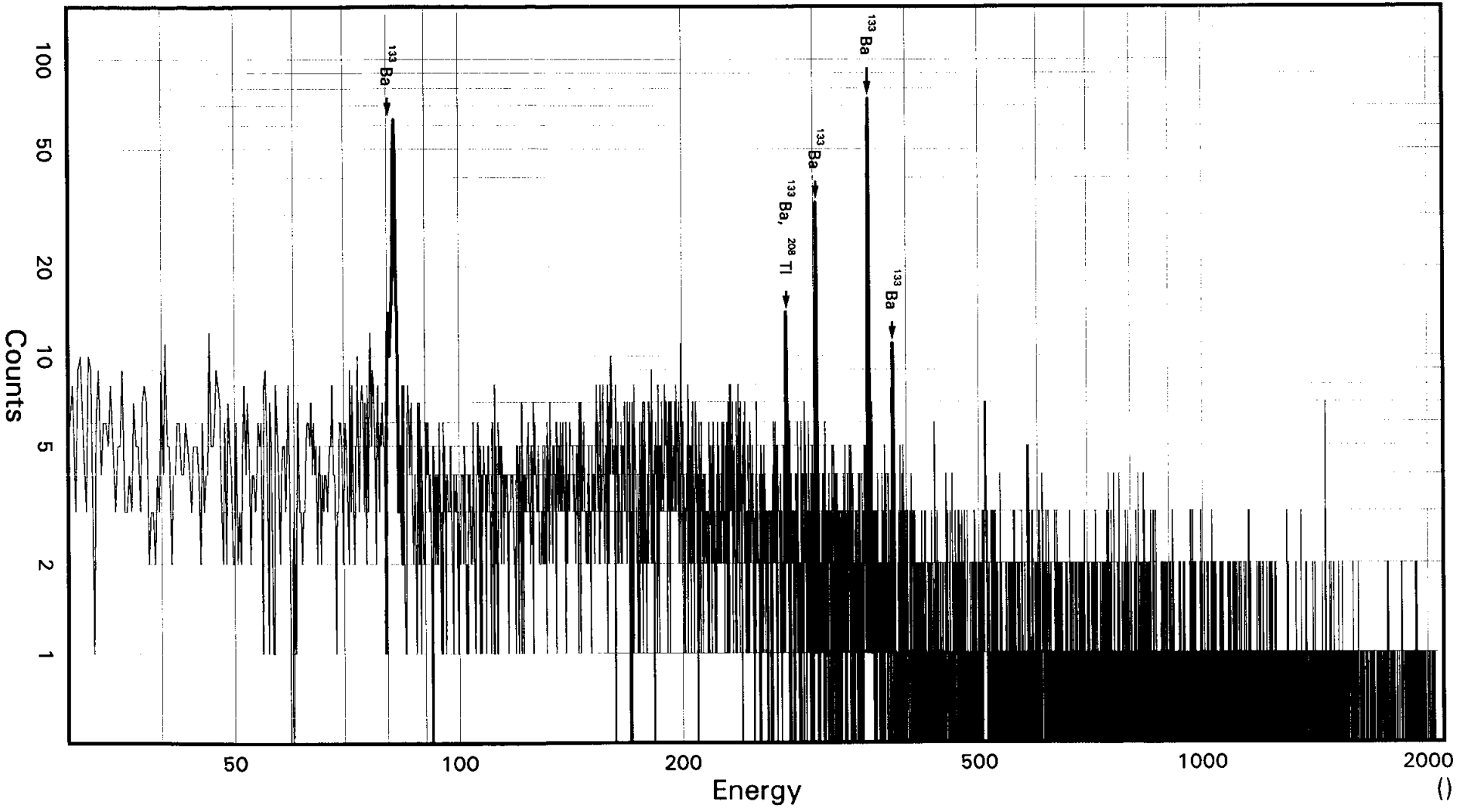
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	2.886E+00		9.203E+00	3.716E+01	7.435E-01	0.078
SB-124	4.988E-01		4.666E+00	1.969E+01	3.975E-01	0.025
SB-125	9.120E+00		1.688E+01	7.221E+01	1.446E+00	0.126
SN-126DA	-7.669E+00		3.653E+00	8.868E+00	1.798E-01	-0.865
I-131	1.155E+00		8.736E+00	3.459E+01	6.918E-01	0.033
CS-134	4.403E+00		4.395E+00	2.147E+01	4.392E-01	0.205
CS-137DA	9.337E+00		4.624E+00	2.445E+01	4.955E-01	0.382
LA-138	1.696E-01		4.417E+00	2.088E+01	4.467E-01	0.008
CE-139	4.095E+00		1.494E+01	5.445E+01	1.111E+00	0.075
BA-140	-4.246E+00		2.191E+01	8.778E+01	1.766E+00	-0.048
BALA-140	7.011E+00		4.972E+00	3.253E+01	7.034E-01	0.216
LA-140	6.729E+00		4.772E+00	3.122E+01	6.751E-01	0.216
CE-141	-7.025E-01		2.573E+01	9.259E+01	1.904E+00	-0.008
CE-144	-3.470E+01		1.076E+02	3.829E+02	7.918E+00	-0.091
CEPR-144	-7.264E+01		2.151E+02	7.645E+02	1.581E+01	-0.095
PM-144	3.074E+00		5.695E+00	2.391E+01	4.833E-01	0.129
PM-146	-2.306E+01		1.052E+01	3.045E+01	6.103E-01	-0.757
EU-152	2.417E+01		2.922E+01	1.173E+02	2.347E+00	0.206
EU-154	8.246E+00		8.439E+00	4.500E+01	9.522E-01	0.183
EU-155	7.651E+00		5.017E+01	1.870E+02	3.937E+00	0.041
HF-181	8.477E+00		5.911E+00	2.776E+01	5.570E-01	0.305
BI-207	2.075E+00		4.781E+00	2.074E+01	4.181E-01	0.100
TL-208	1.992E+00		5.974E+00	2.522E+01	5.086E-01	0.079
BI-210M	2.688E+01		1.553E+01	6.625E+01	1.329E+00	0.406
BI-212	1.659E+02		6.078E+01	3.377E+02	1.032E+01	0.491
PB-212	2.059E+01		2.156E+01	8.730E+01	1.756E+00	0.236
BI-214	-2.136E+01		1.230E+01	4.314E+01	8.714E-01	-0.495
PB-214	-3.406E+01		2.465E+01	7.132E+01	1.426E+00	-0.477
RA-223	-8.739E+01		5.233E+01	1.708E+02	3.426E+00	-0.512
RA-224DA	2.063E+01		2.160E+01	8.746E+01	1.759E+00	0.236
RA-226DA	-2.136E+01		1.230E+01	4.314E+01	8.714E-01	-0.495
AC-227DA	-1.781E+02		8.156E+01	2.568E+02	5.167E+00	-0.693
AC-228	1.441E+00		1.768E+01	7.360E+01	1.518E+00	0.020
RA-228DA	1.441E+00		1.769E+01	7.365E+01	1.519E+00	0.020
TH-228DA	5.555E+00		1.666E+01	7.031E+01	1.418E+00	0.079
TH-232DA	4.834E+01		5.080E+01	2.145E+02	4.290E+00	0.225
TH-234DA	2.416E+02		5.862E+02	2.689E+03	5.580E+01	0.090
U-234DA	-4.584E+00		3.607E+01	1.377E+02	2.757E+00	-0.033
U-235HP	-6.352E+01		1.104E+02	3.858E+02	7.939E+00	-0.165
NP-237DA	3.823E+00		2.140E+01	8.236E+01	1.648E+00	0.046
U-238DA	-3.406E+01		2.465E+01	7.132E+01	1.426E+00	-0.477
U-238DHP	4.445E+02		4.659E+02	1.787E+03	3.963E+01	0.249
AM-241HP	-1.406E+01		3.965E+01	1.368E+02	3.058E+00	-0.103

STL Richland WA.

BA133

Sample ID: H7D1J1AC
Detector ID: GER13 1

Batch ID: 6167160



Acquisition Start: 28-JUN-2006 07:18:04.84
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -6.48752E-01
Slope: 2.50770E-01
Quadrature: -9.99654E-08

SAMPLE IDENTIFICATION: H7D1J1AC

CONFIGURATION ID: GER13:H7D1J1AC_280660718
TITLE : BA133
SAMPLE ID : H7D1J1AC

REPORT DATE: 28-JUN-06
ACQUIRE DATE: 28-JUN-06 07:18:04
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 26-JUN-2006 12:00:00.00
CALIB DATE: 28-JUN-2006 05:46:53.00
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: -.6488E+00 keV
ENERGY SLOPE: 2.5077E-01 keV/C
ENERGY Q COEFF: -.9997E-07 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 4.5382E-01 keV
FWHM SLOPE: 4.1426E-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 28-JUN-2006 07:48:21

Configuration : $DISK1:[GER13.SAMPLE]H7D1J1AC_280660718.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 07:18:04
Sample ID : H7D1J1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.38 0.0%
Start energy : 19.41 End energy : 2046.95
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	1	80.42	37	22	0.91	323.33	320	18	2.07E-02	28.9	2.78E+00
2	1	81.82	206	41	0.86	328.92	320	18	1.14E-01	9.1	
3	0	276.52	71	19	1.06	1105.76	1099	16	3.93E-02	18.4	
4	0	302.72	130	13	1.00	1210.34	1204	14	7.21E-02	10.7	
5	0	355.86	354	32	1.11	1422.45	1413	21	1.96E-01	6.6	
6	0	383.76	45	16	1.12	1533.85	1525	14	2.53E-02	24.3	
7	0	436.71	9	9	0.71	1745.30	1741	11	5.03E-03	70.4	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUN-2006 07:48:21

Configuration : $DISK1:[GER13.SAMPLE]H7D1J1AC_280660718.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 07:18:04
Sample ID : H7D1J1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.38 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	37	33.00	2.700E+00	1.393E+02	1.393E+02	29.44
	276.40	71	6.90	2.897E+00	1.179E+03	1.179E+03	19.21
	302.84	130	17.80	2.900E+00	8.383E+02	8.386E+02	11.95
	356.00	354	62.05*	2.903E+00	6.542E+02	6.544E+02	8.55
	383.85	45	8.70	2.902E+00	6.005E+02	6.007E+02	24.89

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H7D1J1AC

Acquisition date : 28-JUN-2006 07:18:04

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	81.82	206	41	0.86	328.92	320	18	1.14E-01	9.1	2.70E+00	
0	436.71	9	9	0.71	1745.30	1741	11	5.03E-03	70.4	2.90E+00	

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : H7D1J1AC

Acquisition date : 28-JUN-2006 07:18:04

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	1.196E+03	19.21	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 28-JUN-2006 07:48:23

Configuration : $DISK1:[GER13.SAMPLE]H7D1J1AC_280660718.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 : 26-JUN-2006 12:00:00
Sample ID : H7D1J1AC
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 : 28-JUN-2006 07:18:04
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.38 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	6.544E+02	5.593E+01	5.952E+01	1.190E+00	10.994

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	8.900E+01		6.857E+01	2.779E+02	5.573E+00	0.320
NA-22	-2.548E+00		4.383E+00	1.664E+01	3.511E-01	-0.153
NA-24	-6.998E+01		3.185E+01	8.790E+01	1.866E+00	-0.796
K-40	-2.587E+02		8.581E+01	3.869E+02	8.262E+00	-0.669
SC-46	-2.389E+00		5.534E+00	2.206E+01	4.607E-01	-0.108
CR-51	-3.054E+01		9.262E+01	3.291E+02	6.585E+00	-0.093
MN-54	5.413E+00		5.578E+00	2.335E+01	4.782E-01	0.232
CO-57	5.144E+01		1.040E+02	3.866E+02	7.968E+00	0.133
CO-58	2.809E+00		5.342E+00	2.190E+01	4.479E-01	0.128
FE-59	8.773E+00		7.549E+00	3.456E+01	7.206E-01	0.254
CO-60	4.964E+00		4.195E+00	1.929E+01	4.085E-01	0.257
ZN-65	-1.184E+01		1.089E+01	3.764E+01	7.857E-01	-0.315
SE-75	1.357E+01		1.645E+01	6.230E+01	1.250E+00	0.218
SR-85	-4.358E+01		1.030E+01	2.546E+01	5.115E-01	-1.712
Y-88	-1.310E+00		1.312E+00	3.452E+00	7.541E-02	-0.379
NB-94	-4.318E-01		4.362E+00	1.733E+01	3.557E-01	-0.025
NB-95	-1.646E+00		4.489E+00	1.748E+01	3.564E-01	-0.094
TC-95M	5.151E+00		1.699E+01	6.101E+01	1.233E+00	0.084
ZR-95	-1.018E+01		9.982E+00	3.529E+01	7.191E-01	-0.289
ZRNB-95	-2.664E+00		8.910E+00	3.492E+01	7.119E-01	-0.076
MO-99	-9.640E+00		1.937E+01	6.856E+01	1.411E+00	-0.141
RH-101	1.152E+01		1.705E+01	6.164E+01	1.247E+00	0.187
RH-102M	-2.749E+00		7.541E+00	2.723E+01	5.462E-01	-0.101
RU-103	-4.025E-01		7.196E+00	2.697E+01	5.414E-01	-0.015
RU-106DA	8.441E+01		5.931E+01	2.530E+02	5.112E+00	0.334
AG-108M	3.198E+00		7.697E+00	2.630E+01	5.267E-01	0.122
AG-110M	-8.416E+00		8.217E+00	2.840E+01	5.837E-01	-0.296

---- Non-Identified Nuclides ----

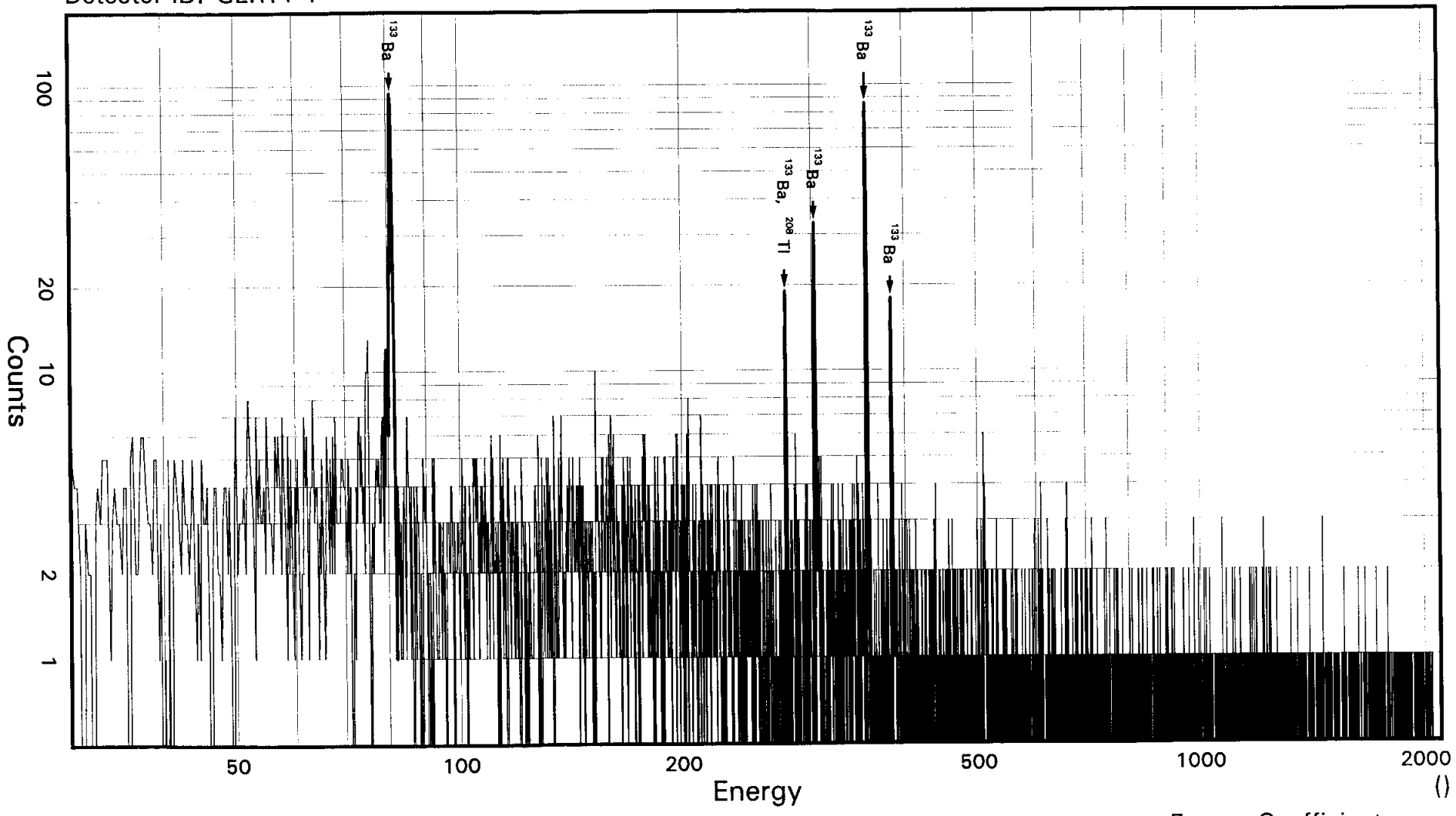
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	8.463E+00		1.107E+01	4.375E+01	8.752E-01	0.193
SB-124	8.012E+00		6.617E+00	2.735E+01	5.521E-01	0.293
SB-125	-1.566E-01		2.044E+01	7.810E+01	1.564E+00	-0.002
SN-126DA	-6.869E-02		6.209E+00	2.348E+01	4.756E-01	-0.003
I-131	1.270E+01		1.164E+01	4.508E+01	9.016E-01	0.282
CS-134	1.262E+01		6.288E+00	2.849E+01	5.820E-01	0.443
CS-137DA	6.163E+00		7.087E+00	2.881E+01	5.834E-01	0.214
LA-138	4.036E+00		3.778E+00	2.024E+01	4.315E-01	0.199
CE-139	-1.470E+01		1.439E+01	4.888E+01	9.965E-01	-0.301
BA-140	-1.412E+01		2.463E+01	8.840E+01	1.778E+00	-0.160
BALA-140	-2.603E+00		6.277E+00	2.651E+01	5.709E-01	-0.098
LA-140	-2.499E+00		6.026E+00	2.545E+01	5.480E-01	-0.098
CE-141	6.317E+00		2.372E+01	8.688E+01	1.784E+00	0.073
CE-144	1.560E+01		1.010E+02	3.704E+02	7.646E+00	0.042
CEPR-144	3.295E+01		2.021E+02	7.415E+02	1.531E+01	0.044
PM-144	-1.177E+01		6.372E+00	2.018E+01	4.077E-01	-0.583
PM-146	7.468E+00		9.725E+00	3.889E+01	7.794E-01	0.192
EU-152	2.302E+01		3.072E+01	1.169E+02	2.339E+00	0.197
EU-154	-5.935E+00		1.250E+01	4.800E+01	1.013E+00	-0.124
EU-155	1.470E+01		4.856E+01	1.764E+02	3.703E+00	0.083
HF-181	-1.138E+01		7.478E+00	2.428E+01	4.872E-01	-0.469
BI-207	-7.408E+00		6.226E+00	2.146E+01	4.322E-01	-0.345
TL-208	2.085E+01		9.352E+00	4.027E+01	8.119E-01	0.518
BI-210M	1.802E+01		2.036E+01	7.689E+01	1.542E+00	0.234
BI-212	6.628E+01		7.228E+01	3.089E+02	9.437E+00	0.215
PB-212	-1.446E+00		2.488E+01	9.280E+01	1.866E+00	-0.016
BI-214	5.287E+00		1.655E+01	6.946E+01	1.402E+00	0.076
PB-214	-2.164E+00		2.822E+01	9.485E+01	1.897E+00	-0.023
RA-223	3.272E+01		7.213E+01	2.679E+02	5.372E+00	0.122
RA-224DA	-1.448E+00		2.492E+01	9.297E+01	1.869E+00	-0.016
RA-226DA	5.287E+00		1.655E+01	6.946E+01	1.402E+00	0.076
AC-227DA	-1.717E+02		9.668E+01	3.198E+02	6.432E+00	-0.537
AC-228	1.762E+01		2.064E+01	9.090E+01	1.872E+00	0.194
RA-228DA	1.763E+01		2.066E+01	9.096E+01	1.873E+00	0.194
TH-228DA	5.815E+01		2.608E+01	1.123E+02	2.264E+00	0.518
TH-232DA	-5.371E+01		6.913E+01	2.374E+02	4.749E+00	-0.226
TH-234DA	-1.024E+03		6.672E+02	2.196E+03	4.549E+01	-0.466
U-234DA	-6.997E+01		5.088E+01	1.690E+02	3.385E+00	-0.414
U-235HP	-1.271E+02		1.058E+02	3.602E+02	7.401E+00	-0.353
NP-237DA	2.770E+00		2.472E+01	9.024E+01	1.806E+00	0.031
U-238DA	-2.164E+00		2.822E+01	9.485E+01	1.897E+00	-0.023
U-238DHP	5.077E+02		3.005E+02	1.175E+03	2.591E+01	0.432
AM-241HP	-9.906E+00		2.742E+01	9.947E+01	2.210E+00	-0.100

STL Richland WA.

BA133

Sample ID: H7D1K1AC
Detector ID: GER11 1

Batch ID: 6167160



Acquisition Start: 28-JUN-2006 07:18:12.04
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -1.94689E+00
Slope: 2.50323E-01
Quadrature: 3.95633E-08

SAMPLE IDENTIFICATION: H7D1K1AC

CONFIGURATION ID: GER11:H7D1K1AC_280660718
TITLE : BA133
SAMPLE ID : H7D1K1AC

REPORT DATE: 28-JUN-06
ACQUIRE DATE: 28-JUN-06 07:18:12
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 26-JUN-2006 12:00:00.00
CALIB DATE: 28-JUN-2006 05:10:13.17
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: -.1947E+01 keV
ENERGY SLOPE: 2.5032E-01 keV/C
ENERGY Q COEFF: 3.9563E-08 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 2.0020E-01 keV
FWHM SLOPE: 4.1950E-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 28-JUN-2006 07:48:37

```
Configuration     : $DISK1:[GER11.SAMPLE]H7D1K1AC_280660718.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 07:18:12
Sample ID         : H7D1K1AC             Sample quantity  : 1.0000 SAMPL
Sample type       :                      Sample geometry  : BA133T15
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.92   0.1%
Start energy      :     0.56             End energy       :  2051.36
Sensitivity       :     5.00             Gaussian         :    10.00
Critical level    : No
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	75.15*	15	15	0.75	307.99	304	7	8.19E-03	59.2	
2	2	79.80	28	15	0.61	326.53	324	14	1.55E-02	27.8	1.57E+00
3	2	81.03	244	19	0.60	331.47	324	14	1.35E-01	7.2	
4	0	276.08	70	7	0.77	1110.47	1101	16	3.91E-02	14.8	
5	0	302.68	128	20	0.98	1216.70	1210	15	7.14E-02	11.5	
6	0	355.77	435	11	1.24	1428.69	1418	18	2.42E-01	5.1	
7	0	383.49	77	15	0.96	1539.39	1530	20	4.28E-02	16.8	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUN-2006 07:48:38

Configuration : $DISK1:[GER11.SAMPLE]H7D1K1AC_280660718.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 07:18:12
Sample ID : H7D1K1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.92 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	244	33.00	2.679E+00	9.193E+02	9.196E+02	9.02
	276.40	70	6.90	2.873E+00	1.185E+03	1.185E+03	15.77
	302.84	128	17.80	2.876E+00	8.366E+02	8.368E+02	12.70
	356.00	435	62.05*	2.879E+00	8.125E+02	8.128E+02	7.39
	383.85	77	8.70	2.878E+00	1.024E+03	1.025E+03	17.64

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H7D1K1AC

Acquisition date : 28-JUN-2006 07:18:12

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	75.15	15	15	0.75	307.99	304	7	8.19E-03	59.2	2.66E+00	
2	79.80	28	15	0.61	326.53	324	14	1.55E-02	27.8	2.67E+00	

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : H7D1K1AC

Acquisition date : 28-JUN-2006 07:18:12

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	1.202E+03	15.77	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 28-JUN-2006 07:48:40

Configuration : $DISK1:[GER11.SAMPLE]H7D1K1AC_280660718.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 : 26-JUN-2006 12:00:00
Sample ID : H7D1K1AC
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 : 28-JUN-2006 07:18:12
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.92 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	8.128E+02	6.009E+01	3.033E+01	6.067E-01	26.795

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	5.304E+01		4.554E+01	2.018E+02	4.047E+00	0.263
NA-22	-8.509E-02		3.492E+00	1.469E+01	3.099E-01	-0.006
NA-24	-3.034E+01		2.856E+01	9.892E+01	2.100E+00	-0.307
K-40	3.002E+01		5.053E+01	2.613E+02	5.580E+00	0.115
SC-46	1.322E+00		2.704E+00	1.320E+01	2.757E-01	0.100
CR-51	-4.496E+01		6.927E+01	2.509E+02	5.019E+00	-0.179
MN-54	4.419E+00		4.556E+00	1.983E+01	4.062E-01	0.223
CO-57	-4.815E+01		7.867E+01	2.750E+02	5.668E+00	-0.175
CO-58	-4.311E-01		3.469E+00	1.430E+01	2.924E-01	-0.030
FE-59	-1.448E+00		6.465E+00	2.665E+01	5.559E-01	-0.054
CO-60	-2.592E+00		2.527E+00	9.021E+00	1.911E-01	-0.287
ZN-65	-6.600E+00		6.998E+00	2.575E+01	5.376E-01	-0.256
SE-75	-1.442E+01		1.032E+01	3.354E+01	6.728E-01	-0.430
SR-85	-1.989E+01		6.869E+00	1.893E+01	3.802E-01	-1.051
Y-88	3.145E-03		1.819E+00	9.471E+00	2.069E-01	0.000
NB-94	-3.163E+00		4.179E+00	1.557E+01	3.198E-01	-0.203
NB-95	1.294E+00		4.130E+00	1.745E+01	3.558E-01	0.074
TC-95M	3.299E+01		1.290E+01	5.420E+01	1.095E+00	0.609
ZR-95	-4.476E+00		5.385E+00	2.019E+01	4.114E-01	-0.222
ZRNB-95	2.834E+00		8.170E+00	3.461E+01	7.057E-01	0.082
MO-99	2.164E+00		1.432E+01	5.423E+01	1.116E+00	0.040
RH-101	-1.051E+00		1.152E+01	4.299E+01	8.697E-01	-0.024
RH-102M	-2.305E+00		5.011E+00	1.905E+01	3.821E-01	-0.121
RU-103	-6.047E+00		5.502E+00	1.926E+01	3.866E-01	-0.314
RU-106DA	4.310E+01		4.919E+01	2.085E+02	4.213E+00	0.207
AG-108M	-2.673E+00		6.681E+00	2.415E+01	4.836E-01	-0.111
AG-110M	-7.378E+00		4.895E+00	1.599E+01	3.286E-01	-0.461

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	-4.081E+00		7.339E+00	2.707E+01	5.416E-01	-0.151
SB-124	1.986E+00		4.992E+00	2.030E+01	4.097E-01	0.098
SB-125	-5.580E+00		1.594E+01	5.980E+01	1.197E+00	-0.093
SN-126DA	-2.027E+00		3.975E+00	1.537E+01	3.115E-01	-0.132
I-131	-1.668E+00		7.267E+00	2.776E+01	5.553E-01	-0.060
CS-134	1.483E+00		4.279E+00	1.848E+01	3.775E-01	0.080
CS-137DA	-4.280E+00		8.059E+00	3.447E+01	6.981E-01	-0.124
LA-138	9.266E-02		3.655E+00	1.717E+01	3.661E-01	0.005
CE-139	-4.469E+00		9.546E+00	3.330E+01	6.789E-01	-0.134
BA-140	-5.411E+00		1.993E+01	7.700E+01	1.549E+00	-0.070
BALA-140	-8.898E+00		6.575E+00	2.119E+01	4.563E-01	-0.420
LA-140	-6.591E+00		5.416E+00	1.811E+01	3.901E-01	-0.364
CE-141	8.588E+00		1.708E+01	6.440E+01	1.322E+00	0.133
CE-144	-4.732E+00		6.760E+01	2.496E+02	5.152E+00	-0.019
CEPR-144	-1.480E+01		1.348E+02	4.962E+02	1.024E+01	-0.030
PM-144	8.044E-01		4.044E+00	1.669E+01	3.371E-01	0.048
PM-146	4.787E+00		8.140E+00	3.360E+01	6.733E-01	0.142
EU-152	-1.770E+01		2.347E+01	8.384E+01	1.677E+00	-0.211
EU-154	-2.387E-01		9.820E+00	4.131E+01	8.717E-01	-0.006
EU-155	2.384E+01		4.002E+01	1.547E+02	3.248E+00	0.154
HF-181	-1.044E+00		4.696E+00	1.898E+01	3.808E-01	-0.055
BI-207	9.989E-01		4.362E+00	1.792E+01	3.610E-01	0.056
TL-208	2.828E+00		4.928E+00	2.108E+01	4.250E-01	0.134
BI-210M	5.752E+00		1.038E+01	4.202E+01	8.427E-01	0.137
BI-212	8.699E+00		4.549E+01	2.035E+02	6.218E+00	0.043
PB-212	4.494E+00		1.578E+01	5.995E+01	1.205E+00	0.075
BI-214	1.103E+01		1.180E+01	4.888E+01	9.869E-01	0.226
PB-214	-3.593E+01		2.274E+01	6.417E+01	1.283E+00	-0.560
RA-223	1.075E+00		4.015E+01	1.534E+02	3.076E+00	0.007
RA-224DA	4.502E+00		1.581E+01	6.006E+01	1.208E+00	0.075
RA-226DA	1.114E+01		1.181E+01	4.894E+01	9.882E-01	0.228
AC-227DA	-1.520E+01		5.912E+01	2.171E+02	4.366E+00	-0.070
AC-228	-5.423E+00		1.506E+01	5.887E+01	1.212E+00	-0.092
RA-228DA	-5.426E+00		1.507E+01	5.891E+01	1.213E+00	-0.092
TH-228DA	7.885E+00		1.374E+01	5.878E+01	1.185E+00	0.134
TH-232DA	1.160E+01		5.725E+01	2.179E+02	4.358E+00	0.053
TH-234DA	3.627E+02		4.549E+02	2.215E+03	4.588E+01	0.164
U-234DA	-1.815E+01		3.595E+01	1.352E+02	2.707E+00	-0.134
U-235HP	-3.350E+01		7.929E+01	2.795E+02	5.744E+00	-0.120
NP-237DA	-1.680E+01		1.387E+01	4.829E+01	9.663E-01	-0.348
U-238DA	-3.593E+01		2.274E+01	6.417E+01	1.283E+00	-0.560
U-238DHP	8.902E+01		2.455E+02	9.056E+02	1.998E+01	0.098
AM-241HP	1.723E+01		2.049E+01	8.118E+01	1.804E+00	0.212

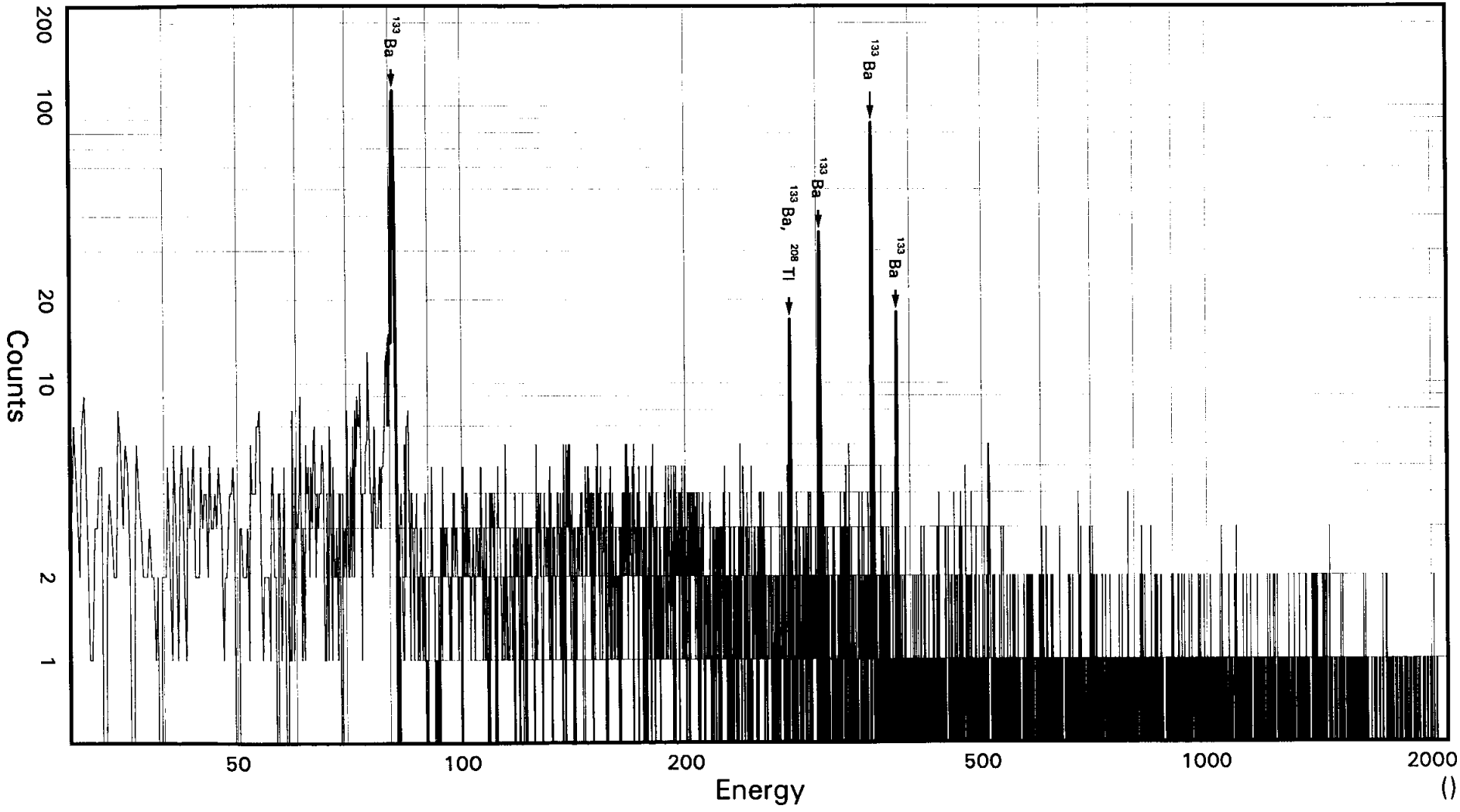
STL Richland WA.

BA133

Sample ID: H7D1N1AC

Detector ID: GER12 1

Batch ID: 6167160



Acquisition Start: 28-JUN-2006 07:18:21.95

Preset Live Time: 0 00:30:00.00

Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:

Offset: 1.25330E+01

Slope: 2.47513E-01

Quadrature: 6.39114E-10

SAMPLE IDENTIFICATION: H7D1N1AC

CONFIGURATION ID: GER12:H7D1N1AC_280660718
TITLE : BA133
SAMPLE ID : H7D1N1AC

REPORT DATE: 28-JUN-06
ACQUIRE DATE: 28-JUN-06 07:18:21
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 26-JUN-2006 12:00:00.00
CALIB DATE: 28-JUN-2006 05:10:27.31
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: 1.2533E+01 keV
ENERGY SLOPE: 2.4751E-01 keV/C
ENERGY Q COEFF: 6.3911E-10 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 2.9940E-01 keV
FWHM SLOPE: 4.1558E-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 28-JUN-2006 07:48:53

```
Configuration     : $DISK1:[GER12.SAMPLE]H7D1N1AC_280660718.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 07:18:21
Sample ID         : H7D1N1AC             Sample quantity  : 1.0000 SAMPL
Sample type       :                      Sample geometry  : BA133T15
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.33   0.0%
Start energy      :    12.78             End energy       :  2040.21
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	323	57	0.64	276.57	271	11	1.79E-01	7.2	
2	0	276.36	69	8	0.71	1065.89	1058	16	3.83E-02	15.1	
3	0	302.83	138	7	0.80	1172.83	1165	15	7.66E-02	9.5	
4	0	356.05	391	11	1.03	1387.85	1378	21	2.17E-01	5.5	
5	0	383.76	78	4	0.69	1499.84	1492	15	4.36E-02	12.5	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUN-2006 07:48:53

Configuration : $DISK1:[GER12.SAMPLE]H7D1N1AC_280660718.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 07:18:21
Sample ID : H7D1N1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.33 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	323	33.00	2.899E+00	1.125E+03	1.125E+03	9.06
	276.40	69	6.90	3.105E+00	1.074E+03	1.074E+03	16.06
	302.84	138	17.80	3.109E+00	8.305E+02	8.308E+02	10.96
	356.00	391	62.05*	3.111E+00	6.742E+02	6.745E+02	7.68
	383.85	78	8.70	3.111E+00	9.660E+02	9.664E+02	13.61

Flag: "*" = Keyline

None

Flags: "T" = Tentatively associated

Sample ID : H7D1N1AC
Acquisition date : 28-JUN-2006 07:18:21

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	1.089E+03	16.06	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 28-JUN-2006 07:48:55

Configuration : $DISK1:[GER12.SAMPLE]H7D1N1AC_280660718.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 : 26-JUN-2006 12:00:00
Sample ID : H7D1N1AC
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 : 28-JUN-2006 07:18:21
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.33 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	6.745E+02	5.177E+01	3.377E+01	6.755E-01	19.970

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-1.012E+01		4.515E+01	1.712E+02	3.434E+00	-0.059
NA-22	-3.315E+00		2.956E+00	1.046E+01	2.204E-01	-0.317
NA-24	-3.045E-01		2.094E+01	9.143E+01	1.938E+00	-0.003
K-40	-6.512E+01		4.607E+01	2.152E+02	4.589E+00	-0.303
SC-46	1.605E+00		3.843E+00	1.703E+01	3.552E-01	0.094
CR-51	-7.309E+00		5.741E+01	2.146E+02	4.294E+00	-0.034
MN-54	-1.168E+00		3.674E+00	1.443E+01	2.954E-01	-0.081
CO-57	-5.256E+01		7.450E+01	2.641E+02	5.441E+00	-0.199
CO-58	-6.216E+00		3.635E+00	1.118E+01	2.286E-01	-0.556
FE-59	-2.199E+00		6.153E+00	2.439E+01	5.081E-01	-0.090
CO-60	1.131E+00		3.403E+00	1.485E+01	3.142E-01	0.076
ZN-65	-4.676E+00		6.353E+00	2.380E+01	4.965E-01	-0.196
SE-75	3.295E+00		9.132E+00	3.609E+01	7.238E-01	0.091
SR-85	-1.839E+01		7.660E+00	2.372E+01	4.765E-01	-0.775
Y-88	3.569E+00		2.070E+00	1.280E+01	2.791E-01	0.279
NB-94	-1.199E+00		2.959E+00	1.185E+01	2.433E-01	-0.101
NB-95	1.905E-01		4.192E+00	1.701E+01	3.468E-01	0.011
TC-95M	1.299E+01		1.215E+01	4.661E+01	9.414E-01	0.279
ZR-95	8.827E-02		6.834E+00	2.811E+01	5.727E-01	0.003
ZRNB-95	2.057E+00		7.886E+00	3.304E+01	6.734E-01	0.062
MO-99	4.718E+00		1.362E+01	5.272E+01	1.084E+00	0.089
RH-101	-4.007E+00		1.087E+01	3.944E+01	7.975E-01	-0.102
RH-102M	-1.920E+00		4.438E+00	1.664E+01	3.336E-01	-0.115
RU-103	-3.062E-01		3.638E+00	1.497E+01	3.005E-01	-0.020
RU-106DA	-2.488E+01		5.220E+01	1.920E+02	3.879E+00	-0.130
AG-108M	-3.432E+00		6.707E+00	2.419E+01	4.843E-01	-0.142
AG-110M	1.774E+00		5.656E+00	2.334E+01	4.795E-01	0.076

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	-6.988E+00		7.606E+00	2.707E+01	5.415E-01	-0.258
SB-124	8.960E+00		5.305E+00	2.332E+01	4.706E-01	0.384
SB-125	-1.324E+01		1.295E+01	4.566E+01	9.142E-01	-0.290
SN-126DA	9.142E-01		3.315E+00	1.422E+01	2.880E-01	0.064
I-131	1.830E+00		7.445E+00	2.958E+01	5.915E-01	0.062
CS-134	-2.382E+00		3.634E+00	1.397E+01	2.853E-01	-0.170
CS-137DA	1.370E+00		4.348E+00	1.827E+01	3.700E-01	0.075
LA-138	-5.474E+00		5.804E+00	2.058E+01	4.381E-01	-0.266
CE-139	1.648E+01		1.091E+01	4.265E+01	8.691E-01	0.386
BA-140	-1.536E+01		1.756E+01	6.411E+01	1.289E+00	-0.240
BALA-140	1.595E+00		5.671E+00	2.707E+01	5.821E-01	0.059
LA-140	2.608E+00		5.692E+00	2.749E+01	5.911E-01	0.095
CE-141	-2.200E+01		1.641E+01	5.522E+01	1.133E+00	-0.398
CE-144	-8.165E+01		6.935E+01	2.386E+02	4.922E+00	-0.342
CEPR-144	-1.666E+02		1.385E+02	4.754E+02	9.807E+00	-0.350
PM-144	6.501E+00		4.928E+00	2.133E+01	4.308E-01	0.305
PM-146	8.690E+00		8.433E+00	3.469E+01	6.951E-01	0.251
EU-152	-1.450E+01		2.304E+01	8.057E+01	1.611E+00	-0.180
EU-154	-1.048E+01		8.094E+00	2.741E+01	5.776E-01	-0.382
EU-155	4.001E+01		3.528E+01	1.381E+02	2.897E+00	0.290
HF-181	-2.318E+00		5.945E+00	2.201E+01	4.415E-01	-0.105
BI-207	-2.628E+00		4.552E+00	1.696E+01	3.415E-01	-0.155
TL-208	1.262E+01		5.436E+00	2.561E+01	5.163E-01	0.493
BI-210M	-6.281E+00		1.223E+01	4.430E+01	8.885E-01	-0.142
BI-212	-1.216E+02		5.624E+01	1.593E+02	4.866E+00	-0.763
PB-212	5.067E+00		1.713E+01	6.467E+01	1.300E+00	0.078
BI-214	-1.031E+01		9.342E+00	3.743E+01	7.557E-01	-0.275
PB-214	-1.714E+00		1.988E+01	6.768E+01	1.354E+00	-0.025
RA-223	-1.134E+01		4.613E+01	1.701E+02	3.411E+00	-0.067
RA-224DA	5.076E+00		1.716E+01	6.479E+01	1.302E+00	0.078
RA-226DA	-1.012E+01		9.365E+00	3.759E+01	7.588E-01	-0.269
AC-227DA	5.234E+00		6.228E+01	2.345E+02	4.715E+00	0.022
AC-228	-3.713E-01		1.296E+01	5.270E+01	1.084E+00	-0.007
RA-228DA	-3.715E-01		1.297E+01	5.273E+01	1.085E+00	-0.007
TH-228DA	3.520E+01		1.516E+01	7.142E+01	1.440E+00	0.493
TH-232DA	-1.051E+02		4.604E+01	1.310E+02	2.621E+00	-0.802
TH-234DA	-3.264E+02		4.122E+02	1.583E+03	3.277E+01	-0.206
U-234DA	-9.512E+00		3.428E+01	1.245E+02	2.493E+00	-0.076
U-235HP	1.014E+02		6.499E+01	2.679E+02	5.502E+00	0.379
NP-237DA	1.305E+00		1.639E+01	6.177E+01	1.236E+00	0.021
U-238DA	-1.714E+00		1.988E+01	6.768E+01	1.354E+00	-0.025
U-238DHP	-2.711E-01		2.435E+02	8.937E+02	1.968E+01	0.000
AM-241HP	8.973E+00		2.165E+01	8.332E+01	1.847E+00	0.108

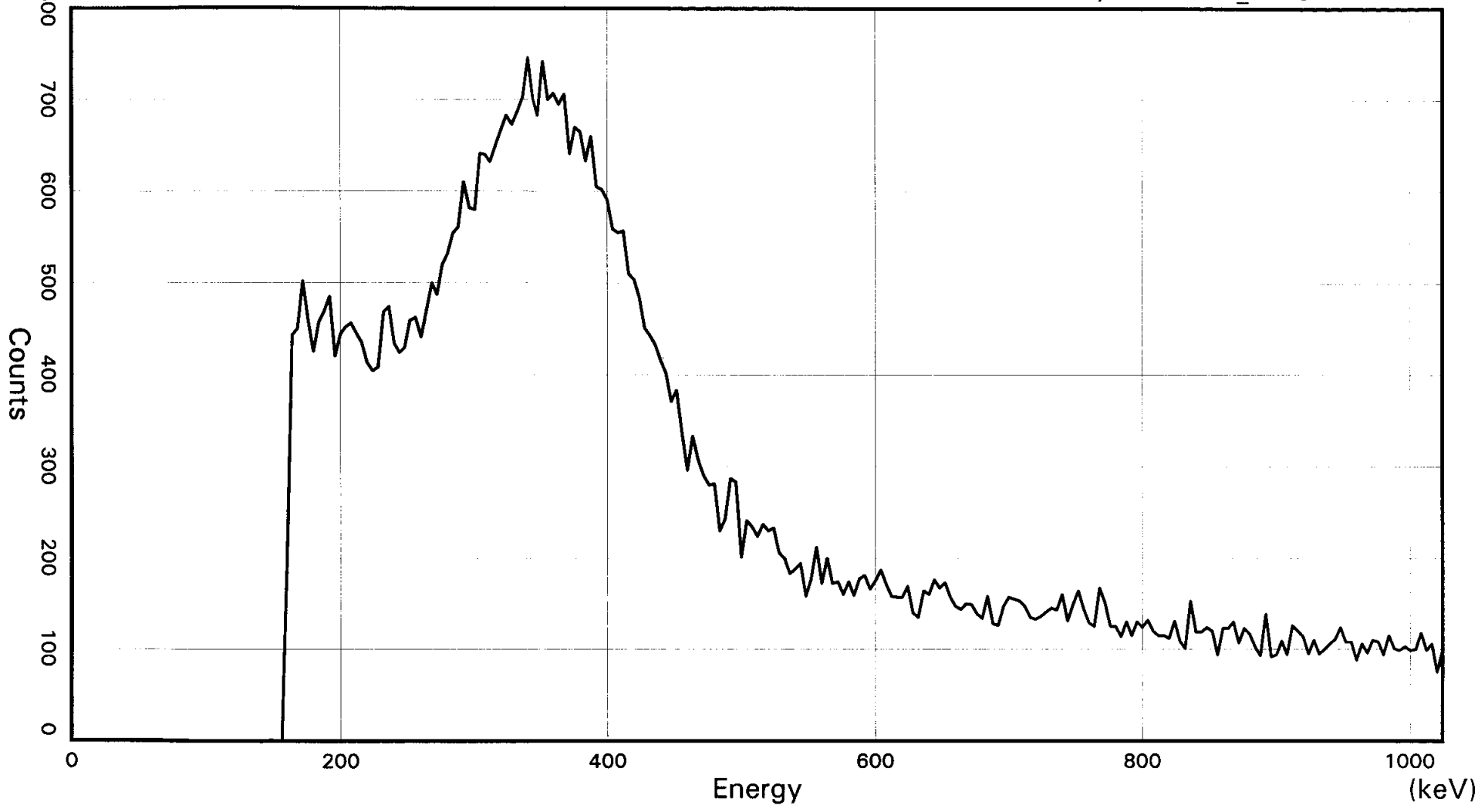
STL Richland WA.

BA133

Sample ID: H7D1R1AC

Detector ID: NAI1 1

Library: [NUC_LIBR]BA133.NLB



Acquisition Start:	28-JUN-2006 07:55:44.61	Start Channel:	80
Preset Live Time:	0 00:30:00	End Channel:	113
Elapsed Live Time:	0 00:30:00	Iterations:	5
Weighting:	DERIVED	Gain shift:	Iter

SAMPLE IDENTIFICATION: H7D1R1AC

CONFIGURATION ID: NAI1:H7D1R1AC_280660755
TITLE : BA133
SAMPLE ID : H7D1R1AC

REPORT DATE: 28-JUN-06
ACQUIRE DATE: 28-JUN-06 07:55:44
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 26-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 28-JUN-2006 08:25:49

```
Configuration     : RDND06$DKA100:[NAI1.SAMPLE]H7D1R1AC_280660755.CNF;1
Analyses by       : NAI V3.0
Sample title      : BA133
Sample date       : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 07:55:44
Sample ID         : H7D1R1AC             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:	4.6	4.9	4.1	3.8	4.2	4.7	3.3	1.3
88:	2.5	0.1	0.2	0.4	1.1	-3.3	-0.1	0.0
96:	-1.4	-0.6	-1.8	-1.8	-3.9	-2.4	-2.7	-2.3
104:	-4.3	-4.1	-3.6	-3.7	-4.2	-3.8	-4.5	-4.4
112:	-4.0	-3.2						

List of Suspicious Channels

81 82 83 84 85

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	7.76E+00	0.00E+00	1.04E+00
2	2.12E+00	0.00E+00	1.06E+00
3	7.03E-01	0.00E+00	1.07E+00

Brief Report

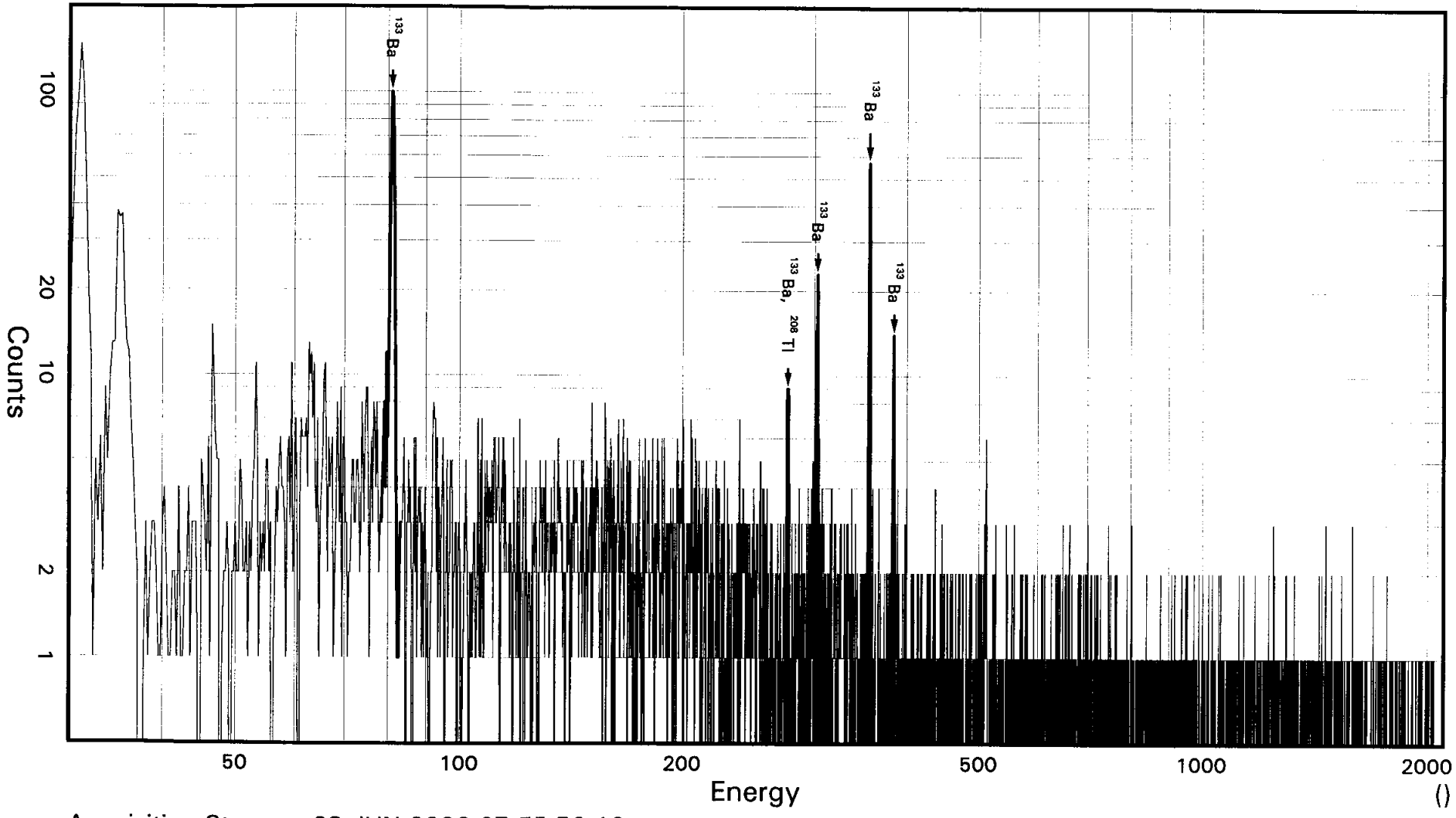
Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	692.	7.52
Total Activity :	692.	

STL Richland WA.

BA133

Sample ID: H7D1X1AC
Detector ID: GER5 1

Batch ID: 6167160



Acquisition Start: 28-JUN-2006 07:55:52.12
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -3.73693E-01
Slope: 2.49400E-01
Quadrature: 1.33221E-09

SAMPLE IDENTIFICATION: H7D1X1AC

CONFIGURATION ID: GER5:H7D1X1AC_280660755
TITLE : BA133
SAMPLE ID : H7D1X1AC

REPORT DATE: 28-JUN-06
ACQUIRE DATE: 28-JUN-06 07:55:52
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 26-JUN-2006 12:00:00.00
CALIB DATE: 28-JUN-2006 05:08:28.08
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: -.3737E+00 keV
ENERGY SLOPE: 2.4940E-01 keV/C
ENERGY Q COEFF: 1.3322E-09 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 7.7531E-01 keV
FWHM SLOPE: 2.5845E-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 28-JUN-2006 08:26:07

Configuration : RDND06$DKA100:[GER5.SAMPLE]H7D1X1AC_280660755.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 07:55:52
Sample ID : H7D1X1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.24 0.0%
Start energy : 19.58 End energy : 2042.80
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	3	31.03	491	97	0.93	125.91	120	32	2.73E-01	5.7	2.22E+00
2	3	35.20	159	26	1.24	142.64	120	32	8.85E-02	15.4	
3	0	46.46*	35	7	0.50	187.79	181	13	1.96E-02	26.2	
4	0	80.99	390	60	0.88	326.24	316	20	2.17E-01	7.0	
5	0	276.43	48	7	1.50	1109.86	1102	13	2.65E-02	18.3	
6	0	302.65	95	4	0.83	1215.01	1206	17	5.26E-02	11.4	
7	0	356.04	273	16	1.14	1429.06	1418	18	1.52E-01	6.9	
8	0	383.85	40	23	0.63	1540.56	1528	19	2.22E-02	33.2	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 28-JUN-2006 08:26:07

Configuration : RDND06$DKA100:[GER5.SAMPLE]H7D1X1AC_280660755.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4
Sample title : BA133
Sample date : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 07:55:52
Sample ID : H7D1X1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.24 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	390	33.00	1.924E+00	2.047E+03	2.048E+03	8.89
	276.40	48	6.90	2.077E+00	1.110E+03	1.111E+03	19.06
	302.84	95	17.80	2.080E+00	8.519E+02	8.522E+02	12.64
	356.00	273	62.05*	2.082E+00	7.044E+02	7.047E+02	8.71
	383.85	40	8.70	2.081E+00	7.343E+02	7.346E+02	33.67

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H7D1X1AC

Acquisition date : 28-JUN-2006 07:55:52

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	31.03	491	97	0.93	125.91	120	32	2.73E-01	5.7	1.68E+00	
3	35.20	159	26	1.24	142.64	120	32	8.85E-02	15.4	1.72E+00	
0	46.46	35	7	0.50	187.79	181	13	1.96E-02	26.2	1.79E+00	

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : H7D1X1AC

Acquisition date : 28-JUN-2006 07:55:52

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	1.126E+03	19.06	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 28-JUN-2006 08:26:08

Configuration : RDND06$DKA100:[GER5.SAMPLE]H7D1X1AC_280660755.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 : 26-JUN-2006 12:00:00
Sample ID : H7D1X1AC
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 : 28-JUN-2006 07:55:52
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.24 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	7.047E+02	6.141E+01	4.824E+01	9.648E-01	14.607

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-4.631E+01		5.752E+01	2.089E+02	4.191E+00	-0.222
NA-22	-3.510E+00		3.461E+00	1.251E+01	2.652E-01	-0.281
NA-24	1.644E+01		2.420E+01	1.282E+02	2.737E+00	0.128
K-40	2.089E+02		8.361E+01	4.184E+02	8.989E+00	0.499
SC-46	3.523E+00		5.875E+00	2.558E+01	5.363E-01	0.138
CR-51	1.025E+02		1.004E+02	3.995E+02	7.993E+00	0.257
MN-54	-3.415E+00		4.094E+00	1.532E+01	3.144E-01	-0.223
CO-57	1.708E+02		1.351E+02	5.102E+02	1.055E+01	0.335
CO-58	2.829E-01		2.492E+00	1.303E+01	2.669E-01	0.022
FE-59	9.777E+00		8.147E+00	4.051E+01	8.481E-01	0.241
CO-60	-1.151E-01		3.470E+00	1.583E+01	3.370E-01	-0.007
ZN-65	-1.960E+01		9.342E+00	2.444E+01	5.122E-01	-0.802
SE-75	-1.373E+01		1.644E+01	5.703E+01	1.144E+00	-0.241
SR-85	-2.712E+01		1.049E+01	3.022E+01	6.074E-01	-0.897
Y-88	5.388E+00		3.125E+00	1.932E+01	4.256E-01	0.279
NB-94	1.556E+00		3.727E+00	1.773E+01	3.649E-01	0.088
NB-95	6.844E+00		7.208E+00	3.080E+01	6.291E-01	0.222
TC-95M	1.426E+01		2.063E+01	7.757E+01	1.569E+00	0.184
ZR-95	-2.872E+00		1.083E+01	4.249E+01	8.673E-01	-0.068
ZRNB-95	1.346E+01		1.418E+01	6.058E+01	1.237E+00	0.222
MO-99	-2.567E+01		2.365E+01	8.179E+01	1.687E+00	-0.314
RH-101	4.761E+01		1.975E+01	7.896E+01	1.599E+00	0.603
RH-102M	1.181E+01		6.598E+00	3.068E+01	6.154E-01	0.385
RU-103	-3.001E-01		8.412E+00	3.248E+01	6.522E-01	-0.009
RU-106DA	-7.143E+01		5.836E+01	2.034E+02	4.114E+00	-0.351
AG-108M	-1.817E+01		9.986E+00	3.177E+01	6.363E-01	-0.572
AG-110M	1.127E+01		6.928E+00	3.427E+01	7.061E-01	0.329

---- Non-Identified Nuclides ----

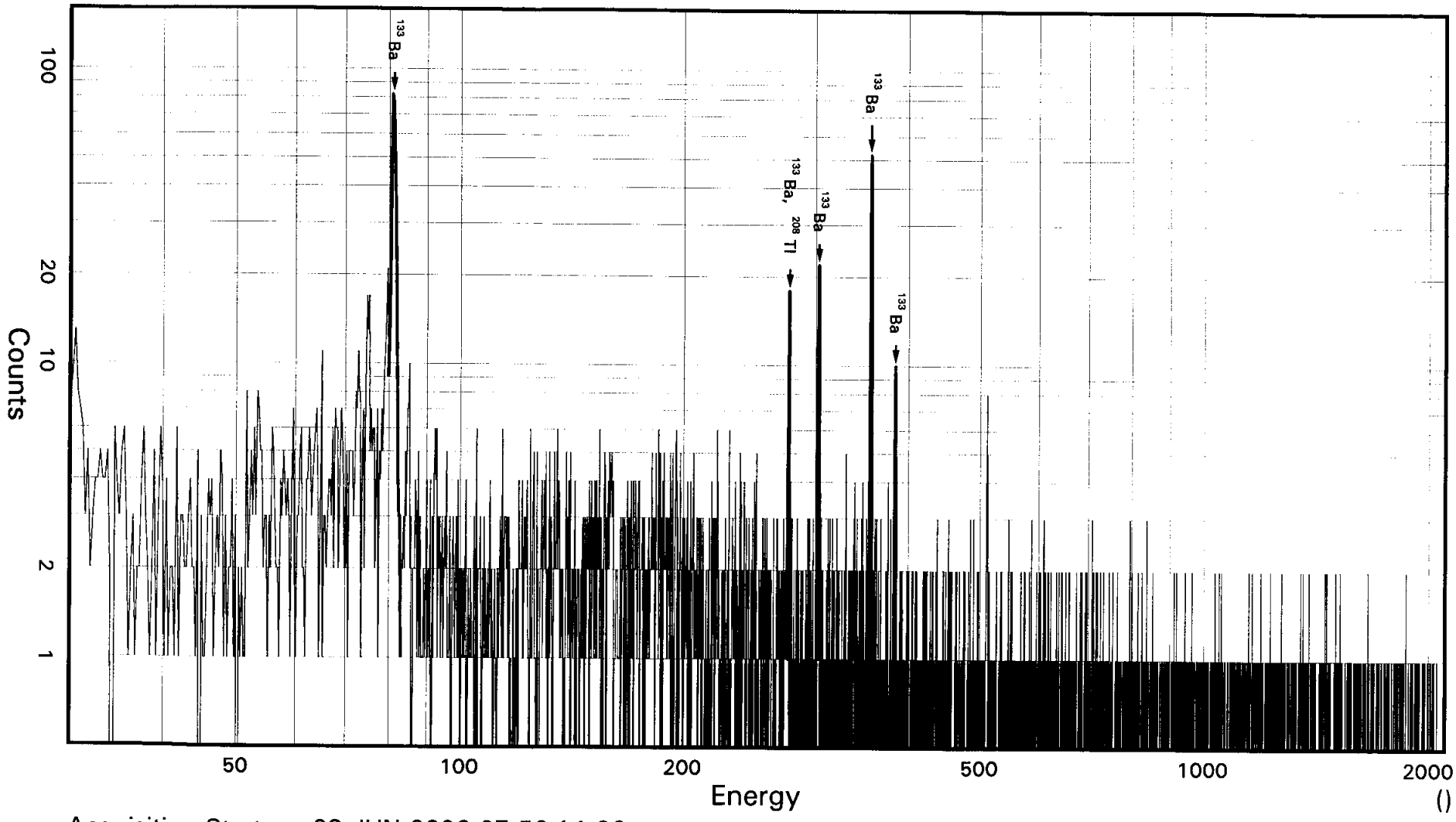
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	-1.071E+01		1.181E+01	4.205E+01	8.412E-01	-0.255
SB-124	-7.842E+00		6.059E+00	1.993E+01	4.026E-01	-0.393
SB-125	2.384E+01		2.567E+01	1.073E+02	2.149E+00	0.222
SN-126DA	4.100E-01		5.971E+00	2.438E+01	4.946E-01	0.017
I-131	-9.885E+00		8.774E+00	3.090E+01	6.180E-01	-0.320
CS-134	5.747E+00		5.103E+00	2.518E+01	5.155E-01	0.228
CS-137DA	-1.405E+00		6.742E+00	2.689E+01	5.453E-01	-0.052
LA-138	-1.224E+01		6.608E+00	1.893E+01	4.060E-01	-0.647
CE-139	-1.341E+01		1.805E+01	6.311E+01	1.289E+00	-0.213
BA-140	3.489E+01		2.391E+01	1.129E+02	2.272E+00	0.309
BALA-140	4.619E-02		5.649E+00	2.954E+01	6.406E-01	0.002
LA-140	4.459E-02		5.474E+00	2.863E+01	6.207E-01	0.002
CE-141	-1.755E+00		2.923E+01	1.070E+02	2.202E+00	-0.016
CE-144	-1.577E+02		1.355E+02	4.456E+02	9.226E+00	-0.354
CEPR-144	-3.154E+02		2.710E+02	8.913E+02	1.845E+01	-0.354
PM-144	2.156E+00		5.771E+00	2.460E+01	4.974E-01	0.088
PM-146	4.697E+00		9.819E+00	4.085E+01	8.187E-01	0.115
EU-152	-1.838E+01		2.877E+01	1.060E+02	2.119E+00	-0.173
EU-154	-9.873E+00		9.735E+00	3.518E+01	7.458E-01	-0.281
EU-155	7.011E+01		6.208E+01	2.388E+02	5.037E+00	0.294
HF-181	5.490E+00		8.237E+00	3.453E+01	6.929E-01	0.159
BI-207	1.422E+01		7.694E+00	3.445E+01	6.946E-01	0.413
TL-208	-4.724E-03		8.149E+00	3.316E+01	6.690E-01	0.000
BI-210M	-3.601E+01		1.958E+01	6.138E+01	1.231E+00	-0.587
BI-212	5.509E+00		8.563E+01	3.522E+02	1.077E+01	0.016
PB-212	-2.611E+01		3.028E+01	1.100E+02	2.213E+00	-0.237
BI-214	2.185E+01		1.532E+01	6.773E+01	1.369E+00	0.323
PB-214	3.538E+00		2.869E+01	9.693E+01	1.939E+00	0.037
RA-223	1.597E+01		6.539E+01	2.501E+02	5.015E+00	0.064
RA-224DA	-2.616E+01		3.033E+01	1.102E+02	2.217E+00	-0.237
RA-226DA	2.157E+01		1.529E+01	6.754E+01	1.365E+00	0.319
AC-227DA	-1.230E+02		1.066E+02	3.592E+02	7.227E+00	-0.342
AC-228	3.862E+00		1.580E+01	6.997E+01	1.445E+00	0.055
RA-228DA	3.865E+00		1.581E+01	7.001E+01	1.445E+00	0.055
TH-228DA	-1.317E-02		2.272E+01	9.247E+01	1.866E+00	0.000
TH-232DA	-3.779E+01		7.066E+01	2.596E+02	5.192E+00	-0.146
TH-234DA	1.301E+03		7.642E+02	3.841E+03	7.983E+01	0.339
U-234DA	-8.364E+00		5.543E+01	2.005E+02	4.015E+00	-0.042
U-235HP	5.606E+01		1.334E+02	4.986E+02	1.027E+01	0.112
NP-237DA	-2.632E+01		2.572E+01	8.704E+01	1.742E+00	-0.302
U-238DA	3.538E+00		2.869E+01	9.693E+01	1.939E+00	0.037
U-238DHP	5.403E+01		5.758E+02	2.146E+03	4.776E+01	0.025
AM-241HP	-5.663E+01		5.126E+01	1.735E+02	3.893E+00	-0.326

STL Richland WA.

BA133

Sample ID: H7JMQ1AA
Detector ID: GER7 1

Batch ID: 6167160



Acquisition Start: 28-JUN-2006 07:56:14.26
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 5.64187E-01
Slope: 2.49258E-01
Quadrature: 1.23721E-07

SAMPLE IDENTIFICATION: H7JMQ1AA

CONFIGURATION ID: GER7:H7JMQ1AA_280660756
TITLE : BA133
SAMPLE ID : H7JMQ1AA

REPORT DATE: 28-JUN-06
ACQUIRE DATE: 28-JUN-06 07:56:14
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 26-JUN-2006 12:00:00.00
CALIB DATE: 28-JUN-2006 05:09:11.06
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: 5.6419E-01 keV
ENERGY SLOPE: 2.4926E-01 keV/C
ENERGY Q COEFF: 1.2372E-07 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 6.0738E-01 keV
FWHM SLOPE: 3.7080E-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 28-JUN-2006 08:26:30

Configuration : $DISK1:[GER7.SAMPLE]H7JMQ1AA_280660756.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 07:56:14
Sample ID : H7JMQ1AA Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.21 0.0%
Start energy : 20.51 End energy : 2050.79
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	75.22*	20	39	0.85	299.47	294	13	1.10E-02	76.8	
2	0	81.14	293	89	0.93	323.22	318	13	1.63E-01	9.3	
3	0	276.60	51	8	0.48	1106.80	1101	13	2.83E-02	18.7	
4	0	302.85	101	17	1.15	1212.01	1202	22	5.61E-02	14.3	
5	0	355.97	264	5	1.38	1424.84	1417	17	1.47E-01	6.4	
6	0	383.79	31	14	1.00	1536.31	1530	12	1.75E-02	30.2	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUN-2006 08:26:31

Configuration : $DISK1:[GER7.SAMPLE]H7JMQ1AA_280660756.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 07:56:14
Sample ID : H7JMQ1AA Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.21 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	293	33.00	1.923E+00	1.541E+03	1.542E+03	10.76
	276.40	51	6.90	2.076E+00	1.186E+03	1.186E+03	19.45
	302.84	101	17.80	2.078E+00	9.105E+02	9.108E+02	15.28
	356.00	264	62.05*	2.080E+00	6.828E+02	6.831E+02	8.37
	383.85	31	8.70	2.080E+00	5.792E+02	5.794E+02	30.65

Flag: "*" = Keyline

Sample ID : H7JMQ1AA
Acquisition date : 28-JUN-2006 07:56:14

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	75.22	20	39	0.85	299.47	294	13	1.10E-02	76.8	1.91E+00	

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : H7JMQ1AA

Acquisition date : 28-JUN-2006 07:56:14

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	1.203E+03	19.45	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 28-JUN-2006 08:26:33

Configuration : $DISK1:[GER7.SAMPLE]H7JMQ1AA_280660756.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 : 26-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 07:56:14
Sample ID : H7JMQ1AA Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.21 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	6.831E+02	5.717E+01	4.992E+01	9.985E-01	13.682

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-7.172E+00		5.978E+01	2.388E+02	4.792E+00	-0.030
NA-22	-1.148E+01		5.002E+00	1.251E+01	2.653E-01	-0.918
NA-24	1.973E-01		2.625E+01	1.223E+02	2.610E+00	0.002
K-40	-6.499E+01		6.600E+01	3.243E+02	6.966E+00	-0.200
SC-46	7.724E-01		4.367E+00	1.942E+01	4.072E-01	0.040
CR-51	5.047E+01		9.511E+01	3.763E+02	7.530E+00	0.134
MN-54	-1.736E+00		4.984E+00	1.982E+01	4.070E-01	-0.088
CO-57	1.754E+02		1.156E+02	4.556E+02	9.419E+00	0.385
CO-58	-8.869E-03		5.828E+00	2.370E+01	4.857E-01	0.000
FE-59	1.357E+00		6.461E+00	3.051E+01	6.386E-01	0.044
CO-60	-6.714E+00		3.377E+00	4.613E+00	9.822E-02	-1.455
ZN-65	-1.305E-01		9.453E+00	3.992E+01	8.367E-01	-0.003
SE-75	-3.764E+01		1.520E+01	4.307E+01	8.642E-01	-0.874
SR-85	-3.207E+01		1.195E+01	3.565E+01	7.165E-01	-0.900
Y-88	-1.857E+00		3.149E+00	1.321E+01	2.911E-01	-0.141
NB-94	-1.728E+00		2.904E+00	1.212E+01	2.496E-01	-0.143
NB-95	1.815E+00		5.592E+00	2.393E+01	4.889E-01	0.076
TC-95M	-2.825E+01		1.749E+01	5.741E+01	1.161E+00	-0.492
ZR-95	1.246E-01		5.971E+00	2.799E+01	5.714E-01	0.004
ZRNB-95	3.169E+00		1.094E+01	4.670E+01	9.538E-01	0.068
MO-99	3.420E+01		1.979E+01	7.990E+01	1.648E+00	0.428
RH-101	-1.558E+01		1.697E+01	5.876E+01	1.190E+00	-0.265
RH-102M	2.224E+01		7.048E+00	3.510E+01	7.042E-01	0.633
RU-103	5.371E-01		6.844E+00	2.802E+01	5.626E-01	0.019
RU-106DA	-5.341E+01		6.526E+01	2.338E+02	4.729E+00	-0.228
AG-108M	-1.452E+01		7.893E+00	2.404E+01	4.814E-01	-0.604
AG-110M	-1.336E-01		4.638E+00	2.120E+01	4.369E-01	-0.006

---- Non-Identified Nuclides ----

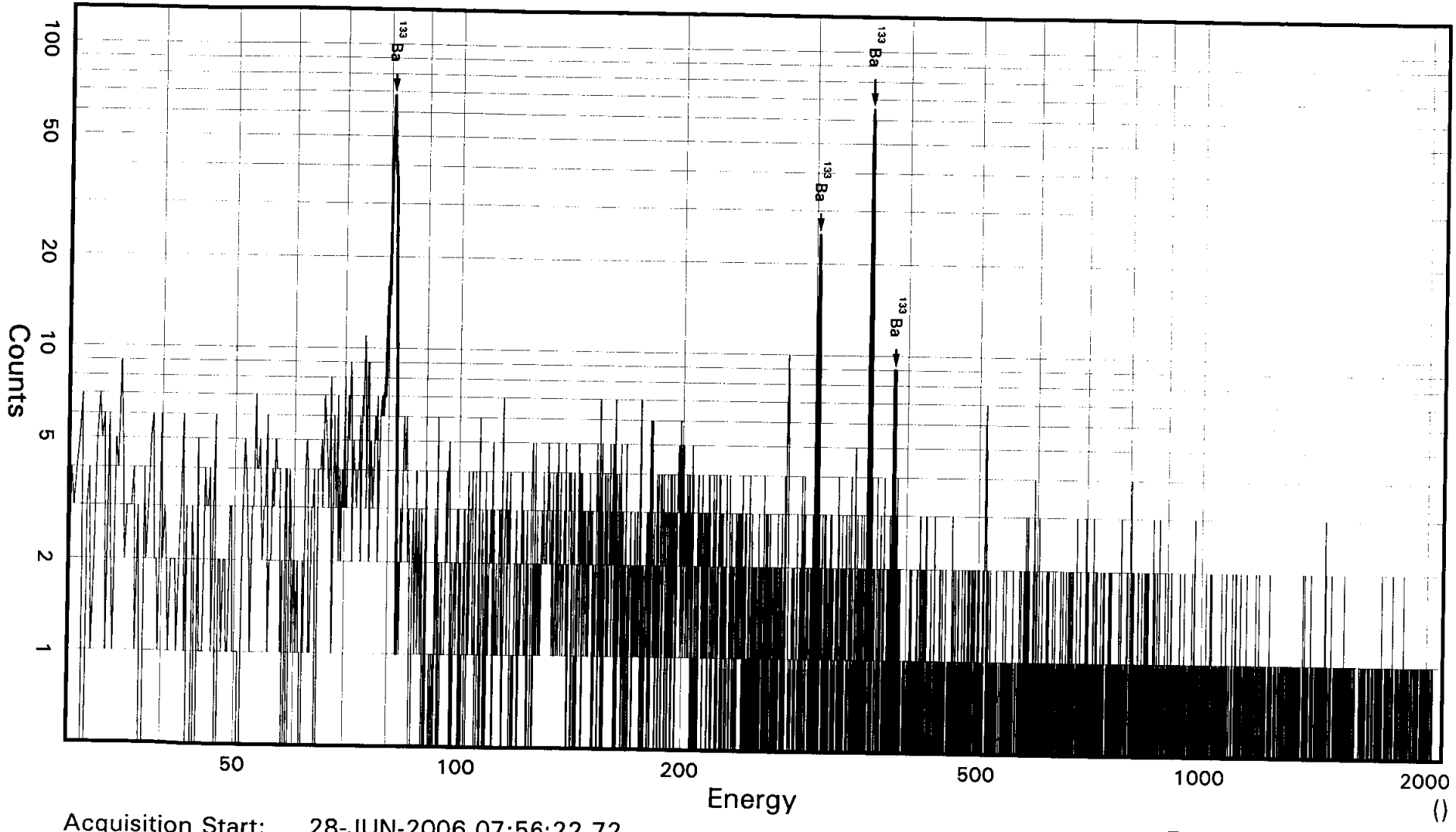
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	1.732E+01		1.152E+01	5.020E+01	1.004E+00	0.345
SB-124	1.513E+01		6.611E+00	3.177E+01	6.418E-01	0.476
SB-125	-3.471E+01		2.107E+01	6.573E+01	1.316E+00	-0.528
SN-126DA	-1.330E+00		5.638E+00	2.206E+01	4.474E-01	-0.060
I-131	3.474E+00		1.247E+01	4.839E+01	9.678E-01	0.072
CS-134	1.981E+00		6.920E+00	2.886E+01	5.909E-01	0.069
CS-137DA	1.237E+00		7.537E+00	3.020E+01	6.124E-01	0.041
LA-138	-1.042E+01		6.383E+00	1.894E+01	4.062E-01	-0.550
CE-139	3.301E+00		1.349E+01	5.145E+01	1.051E+00	0.064
BA-140	-2.123E+01		2.528E+01	9.235E+01	1.858E+00	-0.230
BALA-140	8.173E+00		7.987E+00	4.325E+01	9.378E-01	0.189
LA-140	4.153E+00		8.601E+00	4.191E+01	9.088E-01	0.099
CE-141	-2.300E+00		2.320E+01	8.419E+01	1.733E+00	-0.027
CE-144	-6.289E+01		1.190E+02	4.151E+02	8.593E+00	-0.152
CEPR-144	-1.282E+02		2.379E+02	8.290E+02	1.716E+01	-0.155
PM-144	7.078E+00		5.832E+00	2.655E+01	5.368E-01	0.267
PM-146	9.587E-01		1.098E+01	4.269E+01	8.555E-01	0.022
EU-152	-2.608E+01		3.732E+01	1.327E+02	2.655E+00	-0.196
EU-154	-3.230E+01		1.407E+01	3.520E+01	7.463E-01	-0.918
EU-155	3.650E+01		5.169E+01	2.015E+02	4.250E+00	0.181
HF-181	4.955E-01		6.173E+00	2.621E+01	5.260E-01	0.019
BI-207	4.987E+00		7.203E+00	2.996E+01	6.039E-01	0.166
TL-208	2.947E+00		8.959E+00	3.737E+01	7.540E-01	0.079
BI-210M	1.708E+01		1.660E+01	6.798E+01	1.364E+00	0.251
BI-212	5.284E+01		7.747E+01	3.495E+02	1.069E+01	0.151
PB-212	-2.669E+01		2.478E+01	9.292E+01	1.869E+00	-0.287
BI-214	1.657E+01		1.443E+01	6.794E+01	1.373E+00	0.244
PB-214	-7.200E+00		2.428E+01	8.848E+01	1.770E+00	-0.081
RA-223	-3.721E+01		7.027E+01	2.494E+02	5.003E+00	-0.149
RA-224DA	-2.674E+01		2.483E+01	9.309E+01	1.872E+00	-0.287
RA-226DA	1.671E+01		1.445E+01	6.803E+01	1.375E+00	0.246
AC-227DA	-1.974E+02		1.003E+02	3.148E+02	6.334E+00	-0.627
AC-228	-1.856E+01		2.074E+01	8.414E+01	1.737E+00	-0.221
RA-228DA	-1.857E+01		2.075E+01	8.420E+01	1.738E+00	-0.221
TH-228DA	8.218E+00		2.498E+01	1.042E+02	2.103E+00	0.079
TH-232DA	1.839E+01		7.525E+01	2.892E+02	5.785E+00	0.064
TH-234DA	5.322E+02		7.181E+02	3.356E+03	6.974E+01	0.159
U-234DA	2.593E+01		4.882E+01	1.878E+02	3.761E+00	0.138
U-235HP	-8.811E+01		1.047E+02	3.582E+02	7.379E+00	-0.246
NP-237DA	2.337E+01		2.257E+01	9.407E+01	1.883E+00	0.248
U-238DA	-7.200E+00		2.428E+01	8.848E+01	1.770E+00	-0.081
U-238DHP	3.760E+01		4.615E+02	1.652E+03	3.679E+01	0.023
AM-241HP	1.106E+01		4.164E+01	1.502E+02	3.370E+00	0.074

STL Richland WA.

BA133

Sample ID: H7JMQ1AC
Detector ID: GER10 1

Batch ID: 6167160



Acquisition Start: 28-JUN-2006 07:56:22.72
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 1.56802E+01
Slope: 2.46972E-01
Quadrature: 3.56657E-09

SAMPLE IDENTIFICATION: H7JMQ1AC

CONFIGURATION ID: GER10:H7JMQ1AC_280660756
TITLE : BA133
SAMPLE ID : H7JMQ1AC

REPORT DATE: 28-JUN-06
ACQUIRE DATE: 28-JUN-06 07:56:22
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 9-JUN-2006 12:00:00.00
CALIB DATE: 28-JUN-2006 05:09:43.29
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: 1.5680E+01 keV
ENERGY SLOPE: 2.4697E-01 keV/C
ENERGY Q COEFF: 3.5666E-09 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 8.5214E-01 keV
FWHM SLOPE: 3.0556E-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 28-JUN-2006 08:26:45

Configuration : $DISK1:[GER10.SAMPLE]H7JMQ1AC_280660756.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 9-JUN-2006 12:00:00 Acquisition date : 28-JUN-2006 07:56:22
Sample ID : H7JMQ1AC 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 : 18.15 End energy : 2039.11
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	80.95	303	67	1.24	264.27	255	16	1.68E-01	8.3	
2	0	302.85	139	11	1.50	1162.76	1153	17	7.73E-02	10.3	
3	0	356.07	348	9	1.14	1378.24	1368	19	1.93E-01	5.8	
4	0	384.01	60	5	1.44	1491.37	1483	19	3.32E-02	15.6	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUN-2006 08:26:46

Configuration : $DISK1:[GER10.SAMPLE]H7JMQ1AC_280660756.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 9-JUN-2006 12:00:00
Sample ID : H7JMQ1AC
Sample type :
Elapsed live time: 0 00:30:00.00
Energy tolerance : 1.50
Errors propagated: Yes
Efficiency type : Empirical
Abundance limit : 80.00

Acquisition date : 28-JUN-2006 07:56:22
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.22 0.0%
Half life ratio : 8.00
Systematic Error : 5.00 %
Efficiencies at : Peak Energy

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	303	33.00	2.399E+00	1.277E+03	1.281E+03	9.89
	276.40	------	6.90	2.578E+00	------ Line Not Found		------
	302.84	139	17.80	2.582E+00	1.010E+03	1.013E+03	11.59
	356.00	348	62.05*	2.584E+00	7.240E+02	7.265E+02	7.88
	383.85	60	8.70	2.583E+00	8.867E+02	8.898E+02	16.55

Flag: "*" = Keyline

None

Flags: "T" = Tentatively associated

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 28-JUN-2006 08:26:48

Configuration : $DISK1:[GER10.SAMPLE]H7JMQ1AC_280660756.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 : 9-JUN-2006 12:00:00
Sample ID : H7JMQ1AC
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 : 28-JUN-2006 07:56:22
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.22 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	7.265E+02	5.728E+01	6.278E+01	1.256E+00	11.572

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	2.763E+01		7.525E+01	2.982E+02	5.982E+00	0.093
NA-22	2.789E+00		2.758E+00	1.488E+01	3.144E-01	0.187
K-40	5.253E+01		5.280E+01	2.518E+02	5.389E+00	0.209
SC-46	-8.590E-01		5.483E+00	2.171E+01	4.540E-01	-0.040
CR-51	-3.480E+02		1.314E+02	3.663E+02	7.328E+00	-0.950
MN-54	-7.635E+00		5.373E+00	1.806E+01	3.703E-01	-0.423
CO-57	-3.911E+01		1.086E+02	3.803E+02	7.846E+00	-0.103
CO-58	2.202E+00		7.256E+00	2.871E+01	5.876E-01	0.077
FE-59	1.195E+01		9.013E+00	4.440E+01	9.272E-01	0.269
CO-60	-2.693E+00		2.762E+00	1.023E+01	2.171E-01	-0.263
ZN-65	-8.829E-01		8.951E+00	3.629E+01	7.586E-01	-0.024
SE-75	-1.918E+00		1.416E+01	5.226E+01	1.048E+00	-0.037
SR-85	-2.875E+01		1.358E+01	4.202E+01	8.442E-01	-0.684
Y-88	-1.576E-02		2.284E+00	1.182E+01	2.590E-01	-0.001
NB-94	6.669E+00		3.510E+00	1.868E+01	3.839E-01	0.357
NB-95	-1.010E+01		7.069E+00	2.297E+01	4.686E-01	-0.440
TC-95M	8.089E+00		2.000E+01	7.427E+01	1.501E+00	0.109
ZR-95	-1.976E+01		1.250E+01	3.986E+01	8.127E-01	-0.496
ZRNB-95	-1.362E+01		1.146E+01	3.888E+01	7.932E-01	-0.350
MO-99	8.232E+02		1.426E+03	5.327E+03	1.097E+02	0.155
RH-101	-1.935E+00		1.685E+01	6.313E+01	1.277E+00	-0.031
RH-102M	3.041E-01		5.991E+00	2.342E+01	4.698E-01	0.013
RU-103	7.704E+00		7.100E+00	3.204E+01	6.433E-01	0.240
RU-106DA	2.981E+00		6.107E+01	2.401E+02	4.853E+00	0.012
AG-108M	-7.179E+00		6.933E+00	2.401E+01	4.809E-01	-0.299
AG-110M	-3.531E+00		5.992E+00	2.311E+01	4.754E-01	-0.153
SN-113DA	1.314E+01		9.369E+00	4.159E+01	8.321E-01	0.316

Sample ID : H7JMQ1AC
Acquisition date : 28-JUN-2006 07:56:22

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	5.402E+00		7.840E+00	3.218E+01	6.497E-01	0.168
SB-125	-1.576E+01		2.385E+01	8.536E+01	1.709E+00	-0.185
SN-126DA	-1.040E+01		5.862E+00	1.843E+01	3.736E-01	-0.564
I-131	-1.040E+02		4.521E+01	1.366E+02	2.732E+00	-0.762
CS-134	4.390E+00		5.760E+00	2.491E+01	5.092E-01	0.176
CS-137DA	4.659E+00		5.948E+00	2.560E+01	5.188E-01	0.182
LA-138	-1.058E+01		6.307E+00	1.917E+01	4.095E-01	-0.552
CE-139	-7.292E+00		1.378E+01	4.927E+01	1.005E+00	-0.148
BA-140	-1.069E+02		5.032E+01	1.350E+02	2.717E+00	-0.792
BALA-140	-7.330E+00		1.777E+01	7.512E+01	1.622E+00	-0.098
CE-141	-3.409E+00		3.290E+01	1.169E+02	2.403E+00	-0.029
CE-144	-2.595E+00		1.100E+02	3.921E+02	8.103E+00	-0.007
CEPR-144	-6.104E+01		2.233E+02	7.836E+02	1.619E+01	-0.078
PM-144	9.621E-01		5.488E+00	2.221E+01	4.488E-01	0.043
PM-146	2.567E+00		6.147E+00	2.688E+01	5.387E-01	0.095
EU-152	-1.749E+01		2.844E+01	1.027E+02	2.055E+00	-0.170
EU-154	7.775E+00		7.691E+00	4.147E+01	8.765E-01	0.187
EU-155	8.045E+00		4.670E+01	1.728E+02	3.635E+00	0.047
HF-181	-5.023E+00		1.012E+01	3.698E+01	7.418E-01	-0.136
BI-207	8.313E+00		5.288E+00	2.418E+01	4.871E-01	0.344
TL-208	5.323E+00		8.197E+00	3.291E+01	6.636E-01	0.162
BI-210M	-1.429E+01		1.509E+01	5.195E+01	1.042E+00	-0.275
BI-212	-2.159E+00		6.972E+01	2.811E+02	8.590E+00	-0.008
PB-212	1.811E+01		2.111E+01	8.112E+01	1.631E+00	0.223
BI-214	-1.296E+01		1.194E+01	4.685E+01	9.463E-01	-0.277
PB-214	-1.854E+01		2.080E+01	6.728E+01	1.346E+00	-0.276
RA-223	1.134E+01		5.427E+01	2.063E+02	4.136E+00	0.055
RA-224DA	1.845E+01		2.151E+01	8.265E+01	1.662E+00	0.223
RA-226DA	-1.296E+01		1.194E+01	4.685E+01	9.463E-01	-0.277
AC-227DA	-1.088E+02		8.188E+01	2.728E+02	5.488E+00	-0.399
AC-228	3.644E+01		1.637E+01	8.194E+01	1.689E+00	0.445
RA-228DA	3.667E+01		1.648E+01	8.245E+01	1.699E+00	0.445
TH-228DA	1.510E+01		2.325E+01	9.333E+01	1.882E+00	0.162
TH-232DA	-5.384E+01		6.552E+01	2.318E+02	4.637E+00	-0.232
TH-234DA	-8.187E+02		5.873E+02	1.925E+03	3.993E+01	-0.425
U-234DA	-2.844E+01		4.293E+01	1.499E+02	3.001E+00	-0.190
U-235HP	-1.068E+02		1.057E+02	3.538E+02	7.275E+00	-0.302
NP-237DA	7.374E+00		2.111E+01	8.024E+01	1.606E+00	0.092
U-238DA	-1.854E+01		2.080E+01	6.728E+01	1.346E+00	-0.276
U-238DHP	-2.060E+02		3.238E+02	1.140E+03	2.524E+01	-0.181
AM-241HP	-5.572E+01		3.198E+01	1.053E+02	2.347E+00	-0.529

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		
RATA22861	BA-133	**7.5289E+02**	**± 1.397E+00**	DPM	0.0762	g	6/26/2006	6/26/2006	Armstron	9.8805E+03	± 0.000E+00	DPM/G
RATA22862	BA-133	**7.5191E+02**	**± 1.397E+00**	DPM	0.0761	g	6/26/2006	6/26/2006	Armstron	9.8805E+03	± 0.000E+00	DPM/G
RATA22863	BA-133	**7.4795E+02**	**± 1.397E+00**	DPM	0.0757	g	6/26/2006	6/26/2006	Armstron	9.8805E+03	± 0.000E+00	DPM/G
RATA22864	BA-133	**7.5487E+02**	**± 1.397E+00**	DPM	0.0764	g	6/26/2006	6/26/2006	Armstron	9.8805E+03	± 0.000E+00	DPM/G
RATA22865	BA-133	**7.5388E+02**	**± 1.397E+00**	DPM	0.0763	g	6/26/2006	6/26/2006	Armstron	9.8805E+03	± 0.000E+00	DPM/G
RATA22866	BA-133	**7.5487E+02**	**± 1.397E+00**	DPM	0.0764	g	6/26/2006	6/26/2006	Armstron	9.8805E+03	± 0.000E+00	DPM/G
RATA22867	BA-133	**7.4400E+02**	**± 1.397E+00**	DPM	0.0753	g	6/26/2006	6/26/2006	Armstron	9.8805E+03	± 0.000E+00	DPM/G
RATA22868	BA-133	**7.4993E+02**	**± 1.397E+00**	DPM	0.0759	g	6/26/2006	6/26/2006	Armstron	9.8805E+03	± 0.000E+00	DPM/G
RATA22869	BA-133	**7.4894E+02**	**± 1.397E+00**	DPM	0.0758	g	6/26/2006	6/26/2006	Armstron	9.8805E+03	± 0.000E+00	DPM/G
RATA22870	BA-133	**7.4993E+02**	**± 1.397E+00**	DPM	0.0759	g	6/26/2006	6/26/2006	Armstron	9.8805E+03	± 0.000E+00	DPM/G
RATA22871	BA-133	**7.4894E+02**	**± 1.397E+00**	DPM	0.0758	g	6/26/2006	6/26/2006	Armstron	9.8805E+03	± 0.000E+00	DPM/G
RATA22872	BA-133	**7.5092E+02**	**± 1.397E+00**	DPM	0.076	g	6/26/2006	6/26/2006	Armstron	9.8805E+03	± 0.000E+00	DPM/G
RATA22873	BA-133	**7.5388E+02**	**± 1.397E+00**	DPM	0.0763	g	6/26/2006	6/26/2006	Armstron	9.8805E+03	± 0.000E+00	DPM/G
RATA22874	BA-133	**7.5190E+02**	**± 1.397E+00**	DPM	0.0761	g	6/26/2006	6/26/2006	Armstron	9.8805E+03	± 0.000E+00	DPM/G
RATA22875	BA-133	**7.4795E+02**	**± 1.397E+00**	DPM	0.0757	g	6/26/2006	6/26/2006	Armstron	9.8805E+03	± 0.000E+00	DPM/G
		7.5085E+002	± 3.045E+000	(15)		0.405%	7.4400E+002 , 7.5487E+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		
RASC4133	BA-133	**7.5123E+02**	**± 1.402E+00**	DPM	0.0758	g	6/9/2006	6/9/2006	Armstron	9.9107E+03	± 0.000E+00	DPM/G
		7.5123E+002	± 7.512E+002	(1)			7.5123E+002 , 7.5123E+002					

* - Isotope is an Impurity

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 #: _____

AnalyDueDate: 07/11/2006

Sep1 DT/Tm Tech:

Batch: 6167160 pCi/sampl
SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,LongA

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

H7D0Q1AC-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:
H7JMQ1AA-BLK:											
Ba-133	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20	Ra-226	RDL:1.00E+00	pCi/sam	LCL:	UCL:	RPD:
H7JMQ1AC-LCS:											
Ba-133	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20	Ra-226	RDL:1	pCi/sam	LCL:70	UCL:130	RPD:20

H7D0Q1AC-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H7JMQ1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H7JMQ1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

635 STL RICHLAND

6/27/2006 9:59:50 PM

Standard Material Fractions (Vials)

Vial Prep: 6/26/05 to 6/28/06,SMFractionIdentifier Between RATA22861 and RATA22875, 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			
RATA22861	BA	**3.0261E+01**	**± 1.997E-01**	mg	1.0399	g	6/26/2006	6/26/2006	Armstron		±	mg/g
RATA22862	BA	**3.0197E+01**	**± 1.993E-01**	mg	1.0377	g	6/26/2006	6/26/2006	Armstron		±	mg/g
RATA22863	BA	**3.0320E+01**	**± 2.001E-01**	mg	1.0419	g	6/26/2006	6/26/2006	Armstron		±	mg/g
RATA22864	BA	**3.0206E+01**	**± 1.993E-01**	mg	1.038	g	6/26/2006	6/26/2006	Armstron		±	mg/g
RATA22865	BA	**3.0282E+01**	**± 1.998E-01**	mg	1.0406	g	6/26/2006	6/26/2006	Armstron		±	mg/g
RATA22866	BA	**3.0270E+01**	**± 1.998E-01**	mg	1.0402	g	6/26/2006	6/26/2006	Armstron		±	mg/g
RATA22867	BA	**3.0244E+01**	**± 1.996E-01**	mg	1.0393	g	6/26/2006	6/26/2006	Armstron		±	mg/g
RATA22868	BA	**3.0282E+01**	**± 1.998E-01**	mg	1.0406	g	6/26/2006	6/26/2006	Armstron		±	mg/g
RATA22869	BA	**3.0168E+01**	**± 1.991E-01**	mg	1.0367	g	6/26/2006	6/26/2006	Armstron		±	mg/g
RATA22870	BA	**3.0194E+01**	**± 1.993E-01**	mg	1.0376	g	6/26/2006	6/26/2006	Armstron		±	mg/g
RATA22871	BA	**3.0157E+01**	**± 1.990E-01**	mg	1.0363	g	6/26/2006	6/26/2006	Armstron		±	mg/g
RATA22872	BA	**3.0267E+01**	**± 1.997E-01**	mg	1.0401	g	6/26/2006	6/26/2006	Armstron		±	mg/g
RATA22873	BA	**3.0288E+01**	**± 1.999E-01**	mg	1.0408	g	6/26/2006	6/26/2006	Armstron		±	mg/g
RATA22874	BA	**3.0197E+01**	**± 1.993E-01**	mg	1.0377	g	6/26/2006	6/26/2006	Armstron		±	mg/g
RATA22875	BA	**3.0264E+01**	**± 1.997E-01**	mg	1.04	g	6/26/2006	6/26/2006	Armstron		±	mg/g
		3.0240E+001	± 4.910E-002	(15)		0.162%	3.0157E+001 , 3.0320E+001					

6/27/2006 10:00:04 PM

Standard Material Fractions (Vials)

Vial Prep: 6/26/05 to 6/28/06,SMFractionIdentifier Like: RASC4133%, 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			
RASC4133	BA	**3.0305E+01**	**± 2.000E-01**	mg	1.0414	g	6/9/2006	6/9/2006	Armstron		±	mg/g
		3.0305E+001	± 3.031E+001	(1)			3.0305E+001 , 3.0305E+001					

STL Richland, SMFractions v4.8.12

* - Isotope is an Impurity

Record Count: 2

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	
RASC4133	RA-226	**3.1212E+00**	**± 4.802E-02**	DPM	0.1485	g	6/9/2006	6/9/2006	Armstron	2.1018E+01	± 3.228E-01	DPM/G
		3.1212E+000	± 3.121E+000	(1)			3.1212E+000 , 3.1212E+000				

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		
RASC4133	RA-228	**1.1217E+01**	**± 4.707E-02**	DPM	0.0337	g	6/9/2006	6/9/2006	Armstron	3.3285E+02	± 0.000E+00	DPM/G
		1.1217E+001	± 1.122E+001	(1)			1.1217E+001 , 1.1217E+001					

* - Isotope is an Impurity