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Analytical Data Package Prepared For

Brown and Caldwell

Yerington Air Quality - Event #85

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.: 32988

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
32138		000502	J6G180200-1	H9F7N1AG	9H9F7N10	6200142
		000502	J6G180200-1	H9F7N1AA	9H9F7N10	6200145
		000502	J6G180200-1	H9F7N1AE	9H9F7N10	6200160
		000502	J6G180200-1	H9F7N1AF	9H9F7N10	6200161
		000502	J6G180200-1	H9F7N1AC	9H9F7N10	6200163
		000502	J6G180200-1	H9F7N1AD	9H9F7N10	6200165
		000503	J6G180200-2	H9F731AG	9H9F7310	6200142
		000503	J6G180200-2	H9F731AA	9H9F7310	6200145
		000503	J6G180200-2	H9F731AE	9H9F7310	6200160
		000503	J6G180200-2	H9F731AF	9H9F7310	6200161
		000503	J6G180200-2	H9F731AC	9H9F7310	6200163
		000503	J6G180200-2	H9F731AD	9H9F7310	6200165
		000504	J6G180200-3	H9F751AG	9H9F7510	6200142
		000504	J6G180200-3	H9F751AA	9H9F7510	6200145
		000504	J6G180200-3	H9F751AE	9H9F7510	6200160
		000504	J6G180200-3	H9F751AF	9H9F7510	6200161
		000504	J6G180200-3	H9F751AC	9H9F7510	6200163
		000504	J6G180200-3	H9F751AD	9H9F7510	6200165
		000505	J6G180200-4	H9F781AG	9H9F7810	6200142
		000505	J6G180200-4	H9F781AA	9H9F7810	6200145
		000505	J6G180200-4	H9F781AE	9H9F7810	6200160
		000505	J6G180200-4	H9F781AF	9H9F7810	6200161
		000505	J6G180200-4	H9F781AC	9H9F7810	6200163
		000505	J6G180200-4	H9F781AD	9H9F7810	6200165
		000506	J6G180200-5	H9F8F1AG	9H9F8F10	6200142
		000506	J6G180200-5	H9F8F1AA	9H9F8F10	6200145

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
32138		000506	J6G180200-5	H9F8F1AE	9H9F8F10	6200160
		000506	J6G180200-5	H9F8F1AF	9H9F8F10	6200161
		000506	J6G180200-5	H9F8F1AC	9H9F8F10	6200163
		000506	J6G180200-5	H9F8F1AD	9H9F8F10	6200165
		000507	J6G180200-6	H9F8L1AG	9H9F8L10	6200142
		000507	J6G180200-6	H9F8L1AA	9H9F8L10	6200145
		000507	J6G180200-6	H9F8L1AE	9H9F8L10	6200160
		000507	J6G180200-6	H9F8L1AF	9H9F8L10	6200161
		000507	J6G180200-6	H9F8L1AC	9H9F8L10	6200163
		000507	J6G180200-6	H9F8L1AD	9H9F8L10	6200165
		000508	J6G180200-7	H9F8W1AG	9H9F8W10	6200142
		000508	J6G180200-7	H9F8W1AA	9H9F8W10	6200145
		000508	J6G180200-7	H9F8W1AE	9H9F8W10	6200160
		000508	J6G180200-7	H9F8W1AF	9H9F8W10	6200161
		000508	J6G180200-7	H9F8W1AC	9H9F8W10	6200163
		000508	J6G180200-7	H9F8W1AD	9H9F8W10	6200165
		P-0675	J6G180200-8	H9F851AG	9H9F8510	6200142
		P-0675	J6G180200-8	H9F851AA	9H9F8510	6200145
		P-0675	J6G180200-8	H9F851AE	9H9F8510	6200160
		P-0675	J6G180200-8	H9F851AF	9H9F8510	6200161
		P-0675	J6G180200-8	H9F851AC	9H9F8510	6200163
		P-0675	J6G180200-8	H9F851AD	9H9F8510	6200165
		P-0676	J6G180200-9	H9F891AG	9H9F8910	6200142
		P-0676	J6G180200-9	H9F891AA	9H9F8910	6200145
		P-0676	J6G180200-9	H9F891AE	9H9F8910	6200160
		P-0676	J6G180200-9	H9F891AF	9H9F8910	6200161
		P-0676	J6G180200-9	H9F891AC	9H9F8910	6200163
		P-0676	J6G180200-9	H9F891AD	9H9F8910	6200165
		P-0677	J6G180200-10	H9F9A1AG	9H9F9A10	6200142
		P-0677	J6G180200-10	H9F9A1AA	9H9F9A10	6200145
		P-0677	J6G180200-10	H9F9A1AE	9H9F9A10	6200160
		P-0677	J6G180200-10	H9F9A1AF	9H9F9A10	6200161
		P-0677	J6G180200-10	H9F9A1AC	9H9F9A10	6200163
		P-0677	J6G180200-10	H9F9A1AD	9H9F9A10	6200165
		P-0678	J6G180200-11	H9F9F1AG	9H9F9F10	6200142
		P-0678	J6G180200-11	H9F9F1AA	9H9F9F10	6200145
		P-0678	J6G180200-11	H9F9F1AE	9H9F9F10	6200160
		P-0678	J6G180200-11	H9F9F1AF	9H9F9F10	6200161
		P-0678	J6G180200-11	H9F9F1AC	9H9F9F10	6200163

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
32138		P-0678	J6G180200-11	H9F9F1AD	9H9F9F10	6200165
		P-0679	J6G180200-12	H9F9J1AG	9H9F9J10	6200142
		P-0679	J6G180200-12	H9F9J1AA	9H9F9J10	6200145
		P-0679	J6G180200-12	H9F9J1AE	9H9F9J10	6200160
		P-0679	J6G180200-12	H9F9J1AF	9H9F9J10	6200161
		P-0679	J6G180200-12	H9F9J1AC	9H9F9J10	6200163
		P-0679	J6G180200-12	H9F9J1AD	9H9F9J10	6200165
		P-0680	J6G180200-13	H9F9L1AG	9H9F9L10	6200142
		P-0680	J6G180200-13	H9F9L1AE	9H9F9L10	6200160
		P-0680	J6G180200-13	H9F9L1AF	9H9F9L10	6200161
		P-0680	J6G180200-13	H9F9L1AC	9H9F9L10	6200163
		P-0680	J6G180200-13	H9F9L1AD	9H9F9L10	6200165
		P-0680	J6G180200-13	H9F9L2AA	9H9F9L20	6213179
		P-0681	J6G180200-14	H9F9M1AG	9H9F9M10	6200142
		P-0681	J6G180200-14	H9F9M1AA	9H9F9M10	6200145
		P-0681	J6G180200-14	H9F9M1AE	9H9F9M10	6200160
		P-0681	J6G180200-14	H9F9M1AF	9H9F9M10	6200161
		P-0681	J6G180200-14	H9F9M1AC	9H9F9M10	6200163
		P-0681	J6G180200-14	H9F9M1AD	9H9F9M10	6200165
		P-0682	J6G180200-15	H9F9N1AG	9H9F9N10	6200142
		P-0682	J6G180200-15	H9F9N1AA	9H9F9N10	6200145
		P-0682	J6G180200-15	H9F9N1AE	9H9F9N10	6200160
		P-0682	J6G180200-15	H9F9N1AF	9H9F9N10	6200161
		P-0682	J6G180200-15	H9F9N1AC	9H9F9N10	6200163
		P-0682	J6G180200-15	H9F9N1AD	9H9F9N10	6200165

SEVERN TRENT STL

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Certificate of Analysis

August 15, 2006

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

Attention: Guy Graening

Date Received at Lab	:	July 18, 2006
Project Name	:	Air Quality Monitoring Yerington Mine
Project Number	:	121243
Event Number	:	85
PO Number	:	129682.001
Sample Type	:	Fifteen (15) Filters
SDG Number	:	32138

CASE NARRATIVE

I. Introduction

On July 18, 2006, fifteen 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 J6G180200.

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:

Sample P-0680 had a slightly smeared spectra on the original analysis. It was reanalyzed with better results. 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:

All of the beta samples except 000508 do not meet CRDL but their results >MDA>CRDL except P-0682 which has an MDA of 5.48 pCi/Sa, just over the 5 that is required. Except as noted, the LCS, batch blank and sample results are within acceptance limits.

Radium-228 Analysis:

The LCS, batch blank and sample results are within analytical requirements.

Radium-226 Analysis:

The LCS, batch blank and sample results are within analytical requirements.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. The Laboratory Manager or a designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Reviewed and approved:

Sherryl A. Adam
Project Manager

Drinking Water Method Cross References

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

Uncertainty Estimation

STL Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, R = constants * f(x,y,z,...). The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

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

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

Report Definitions

Action Lev	An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.
Batch	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
Bias	Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.
COC No	Chain of Custody Number assigned by the Client or STL Richland.
Count Error (#s)	Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.
Total Uncert (#s) ***u_c - Combined Uncertainty.***	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, ***u_c the combined uncertainty.*** The uncertainty is absolute and in the same units as the result.
(#s), Coverage Factor	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
CRDL (RL)	Contractual Required Detection Limit as defined in the Client's Statement Of Work or STL Richland "default" nominal detection limit. Often referred to the reporting level (RL)
Lc	Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. Lc=(1.645 * Sqrt(2*(BkgrndCnt/BkgrndCntMin)/SCntMin)) * (ConvFct/(Eff*Yld*Abn*Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero.
Lot-Sample No	The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.
MDC|MDA	Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. MDC = (4.65 * Sqrt((BkgrndCnt/BkgrndCntMin)/SCntMin) + 2.71/SCntMin) * (ConvFct/(Eff * Yld * Abn * Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability.
Primary Detector	The instrument identifier associated with the analysis of the sample aliquot.
Ratio U-234/U-238	The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.
Rst/MDC	Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Rst/TotUcert	Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Report DB No	Sample Identifier used by the report system. The number is based upon the first five digits of the **Work Order** Number.
RER	The equation Replicate Error Ratio = (S-D)/[sqrt($TPUs^2$ + $TPUd^2$)] as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the total uncertainty of the duplicate sample.
SDG	Sample Delivery Group Number assigned by the Client or assigned by STL Richland upon sample receipt.
Sum Rpt Alpha Spec Rst(s)	The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.
Work Order	The LIMS software assign test specific identifier.
Yield	The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

Sample Results Summary

STL Richland STLR

Ordered by Client Sample ID, Batch No.

Date: 15-Aug-06

Report No. : 32988

SDG No: 32138

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RER2
000502	H9F7N1AG	U-234	0.160 +- 0.290	ND	pCi/sample	99%	0.565	
		U-235	-0.0400 +- 0.0569	ND	pCi/sample	99%	0.565	
		U-238	0.0400 +- 0.212	ND	pCi/sample	99%	0.631	
000502	H9F7N1AA	TH-228	0.0842 +- 0.215	ND	pCi/sample	91%	0.453	
		TH-230	0.221 +- 0.205	ND	pCi/sample	91%	0.241	
		TH-232	0.0402 +- 0.0807	ND	pCi/sample	91%	0.109	
000502	H9F7N1AE	ALPHA	2.90 +- 2.86	ND	pCi/sample	100%	4.85	
000502	H9F7N1AF	BETA	16.4 +- 4.18	=	pCi/sample	100%	5.46	
000502	H9F7N1AC	RA-226	-0.0746 +- 0.189	ND	pCi/sample	99%	0.408	
000502	H9F7N1AD	RA-228	1.94 +- 1.08	ND	pCi/sample	89%	2.16	
000503	H9F731AG	U-234	0.200 +- 0.284	ND	pCi/sample	105%	0.27	
		U-235	-0.0599 +- 0.0698	ND	pCi/sample	105%	0.63	
		U-238	0.0399 +- 0.211	ND	pCi/sample	105%	0.63	
000503	H9F731AA	TH-228	-0.0366 +- 0.137	ND	pCi/sample	100%	0.394	
		TH-230	0.262 +- 0.206	=	pCi/sample	100%	0.21	
		TH-232	0.0349 +- 0.111	ND	pCi/sample	100%	0.257	
000503	H9F731AE	ALPHA	4.49 +- 3.22	ND	pCi/sample	100%	4.52	
000503	H9F731AF	BETA	18.7 +- 4.55	=	pCi/sample	100%	4.63	
000503	H9F731AC	RA-226	0.0385 +- 0.128	ND	pCi/sample	112%	0.248	
000503	H9F731AD	RA-228	0.733 +- 0.870	ND	pCi/sample	102%	1.91	
000504	H9F751AG	U-234	-0.0226 +- 0.252	ND	pCi/sample	86%	0.881	
		U-235	-0.0678 +- 0.0790	ND	pCi/sample	86%	0.713	
		U-238	-0.0000245 +- 0.247	ND	pCi/sample	86%	0.831	
000504	H9F751AA	TH-228	0.0668 +- 0.134	ND	pCi/sample	101%	0.267	
		TH-230	0.595 +- 0.336	=	pCi/sample	101%	0.115	
		TH-232	0.0425 +- 0.0853	ND	pCi/sample	101%	0.115	
000504	H9F751AE	ALPHA	4.70 +- 3.53	ND	pCi/sample	100%	5.27	
000504	H9F751AF	BETA	18.1 +- 4.24	=	pCi/sample	100%	5.14	
000504	H9F751AC	RA-226	0.335 +- 0.247	=	pCi/sample	88%	0.33	
000504	H9F751AD	RA-228	2.10 +- 1.12	ND	pCi/sample	81%	2.16	

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rptSTLRchSaSum
V4.15.0 A97

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

= ERPIMS - Equal To, Analyte Detected

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

Sample Results Summary

STL Richland STLR

Ordered by Client Sample ID, Batch No.

Date: 15-Aug-06

Report No. : 32988

SDG No: 32138

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RER2
000505	H9F781AG	U-234	0.00000514 +- 0.225	ND	pCi/sample	94%	0.757	
		U-235	-0.0206 +- 0.0413	ND	pCi/sample	94%	0.493	
		U-238	-0.1230 +- 0.103	ND	pCi/sample	94%	0.803	
000505	H9F781AA	TH-228	0.254 +- 0.263	ND	pCi/sample	80%	0.338	
		TH-230	0.511 +- 0.358	=	pCi/sample	80%	0.323	
		TH-232	0.0538 +- 0.108	ND	pCi/sample	80%	0.146	
000505	H9F781AE	ALPHA	4.33 +- 3.41	ND	pCi/sample	100%	5.34	
000505	H9F781AF	BETA	19.5 +- 4.57	=	pCi/sample	100%	5.5	
000505	H9F781AC	RA-226	0.0681 +- 0.162	ND	pCi/sample	95%	0.3	
000505	H9F781AD	RA-228	2.97 +- 1.09	=	pCi/sample	88%	1.85	
000506	H9F8F1AG	U-234	0.396 +- 0.401	ND	pCi/sample	93%	0.268	
		U-235	0.0594 +- 0.206	ND	pCi/sample	93%	0.559	
		U-238	1.44 +- 0.803	=	pCi/sample	93%	0.559	
000506	H9F8F1AA	TH-228	0.320 +- 0.236	=	pCi/sample	104%	0.226	
		TH-230	0.612 +- 0.316	=	pCi/sample	104%	0.0975	
		TH-232	0.126 +- 0.150	ND	pCi/sample	104%	0.216	
000506	H9F8F1AE	ALPHA	4.68 +- 3.52	ND	pCi/sample	100%	5.26	
000506	H9F8F1AF	BETA	15.8 +- 4.10	=	pCi/sample	100%	5.48	
000506	H9F8F1AC	RA-226	0.403 +- 0.243	=	pCi/sample	100%	0.292	
000506	H9F8F1AD	RA-228	3.20 +- 1.13	=	pCi/sample	90%	1.9	
000507	H9F8L1AG	U-234	0.208 +- 0.296	ND	pCi/sample	93%	0.282	
		U-235	-0.0208 +- 0.0417	ND	pCi/sample	93%	0.498	
		U-238	-0.0416 +- 0.0592	ND	pCi/sample	93%	0.588	
000507	H9F8L1AA	TH-228	0.161 +- 0.222	ND	pCi/sample	86%	0.385	
		TH-230	0.416 +- 0.290	=	pCi/sample	86%	0.263	
		TH-232	0.175 +- 0.208	ND	pCi/sample	86%	0.322	
000507	H9F8L1AE	ALPHA	7.72 +- 4.20	=	pCi/sample	100%	4.88	
000507	H9F8L1AF	BETA	31.0 +- 5.94	=	pCi/sample	100%	5.36	
000507	H9F8L1AC	RA-226	0.241 +- 0.285	ND	pCi/sample	108%	0.467	
000507	H9F8L1AD	RA-228	2.44 +- 0.903	=	pCi/sample	97%	1.36	

STL Richland

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V4.15.0 A97

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

= ERPIMS - Equal To, Analyte Detected

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

Sample Results Summary

STL Richland STLR

Ordered by Client Sample ID, Batch No.

Date: 15-Aug-06

Report No. : 32988

SDG No: 32138

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RER2
000508	H9F8W1AG	U-234	-0.0199 +- 0.0399	ND	pCi/sample	103%	0.476	
		U-235	0.00000 +- 0.243	ND	pCi/sample	103%	0.269	
		U-238	-0.0199 +- 0.0399	ND	pCi/sample	103%	0.476	
000508	H9F8W1AA	TH-228	0.120 +- 0.174	ND	pCi/sample	90%	0.287	
		TH-230	0.00000 +- 0.112	ND	pCi/sample	90%	0.124	
		TH-232	0.00000 +- 0.112	ND	pCi/sample	90%	0.124	
000508	H9F8W1AE	ALPHA	1.25 +- 2.21	ND	pCi/sample	100%	4.5	
000508	H9F8W1AF	BETA	2.87 +- 2.54	ND	pCi/sample	100%	4.89	
000508	H9F8W1AC	RA-226	0.0654 +- 0.211	ND	pCi/sample	92%	0.404	
000508	H9F8W1AD	RA-228	2.24 +- 0.944	=	pCi/sample	83%	1.54	
P-0675	H9F851AG	U-234	0.00000 +- 0.231	ND	pCi/sample	98%	0.256	
		U-235	-0.0189 +- 0.0379	ND	pCi/sample	98%	0.452	
		U-238	0.0755 +- 0.193	ND	pCi/sample	98%	0.452	
P-0675	H9F851AA	TH-228	0.0184 +- 0.0823	ND	pCi/sample	97%	0.221	
		TH-230	0.0175 +- 0.0785	ND	pCi/sample	97%	0.21	
		TH-232	0.0351 +- 0.111	ND	pCi/sample	97%	0.258	
P-0675	H9F851AE	ALPHA	1.21 +- 2.42	ND	pCi/sample	100%	5.08	
P-0675	H9F851AF	BETA	13.2 +- 3.91	=	pCi/sample	100%	5.74	
P-0675	H9F851AC	RA-226	0.0726 +- 0.228	ND	pCi/sample	101%	0.43	
P-0675	H9F851AD	RA-228	3.10 +- 1.02	=	pCi/sample	90%	1.45	
P-0676	H9F891AG	U-234	-0.0196 +- 0.0394	ND	pCi/sample	102%	0.47	
		U-235	0.0980 +- 0.197	ND	pCi/sample	102%	0.266	
		U-238	0.0588 +- 0.204	ND	pCi/sample	102%	0.554	
P-0676	H9F891AA	TH-228	0.0390 +- 0.183	ND	pCi/sample	106%	0.419	
		TH-230	0.279 +- 0.219	=	pCi/sample	106%	0.223	
		TH-232	0.00000 +- 0.0911	ND	pCi/sample	106%	0.101	
P-0676	H9F891AE	ALPHA	2.81 +- 2.93	ND	pCi/sample	100%	5.18	
P-0676	H9F891AF	BETA	14.1 +- 3.98	=	pCi/sample	100%	5.68	
P-0676	H9F891AC	RA-226	-0.0121 +- 0.177	ND	pCi/sample	104%	0.375	
P-0676	H9F891AD	RA-228	1.14 +- 0.759	ND	pCi/sample	92%	1.51	

STL Richland
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V4.15.0 A97

RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.
= ERPIMS - Equal To, Analyte Detected
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

Sample Results Summary

STL Richland STLR

Ordered by Client Sample ID, Batch No.

Date: 15-Aug-06

Report No. : 32988

SDG No: 32138

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RER2
P-0677	H9F9A1AG	U-234	-0.0202 +- 0.0405	ND	pCi/sample	97%	0.484	
		U-235	0.00000 +- 0.247	ND	pCi/sample	97%	0.274	
		U-238	0.0808 +- 0.206	ND	pCi/sample	97%	0.484	
P-0677	H9F9A1AA	TH-228	0.152 +- 0.223	ND	pCi/sample	101%	0.409	
		TH-230	0.490 +- 0.287	=	pCi/sample	101%	0.218	
		TH-232	0.00000061 +- 0.0889	ND	pCi/sample	101%	0.267	
P-0677	H9F9A1AE	ALPHA	1.25 +- 2.50	ND	pCi/sample	100%	5.24	
P-0677	H9F9A1AF	BETA	15.3 +- 4.06	=	pCi/sample	100%	5.51	
P-0677	H9F9A1AC	RA-226	-0.00571 +- 0.132	ND	pCi/sample	107%	0.276	
P-0677	H9F9A1AD	RA-228	0.985 +- 0.606	ND	pCi/sample	99%	1.14	
P-0678	H9F9F1AG	U-234	0.00000 +- 0.228	ND	pCi/sample	95%	0.252	
		U-235	0.0744 +- 0.190	ND	pCi/sample	95%	0.445	
		U-238	-0.0186 +- 0.0373	ND	pCi/sample	95%	0.445	
P-0678	H9F9F1AA	TH-228	0.0223 +- 0.0998	ND	pCi/sample	110%	0.268	
		TH-230	0.468 +- 0.294	=	pCi/sample	110%	0.115	
		TH-232	0.0426 +- 0.0854	ND	pCi/sample	110%	0.115	
P-0678	H9F9F1AE	ALPHA	2.59 +- 2.98	ND	pCi/sample	100%	5.45	
P-0678	H9F9F1AF	BETA	17.7 +- 4.19	=	pCi/sample	100%	5.19	
P-0678	H9F9F1AC	RA-226	-0.0593 +- 0.173	ND	pCi/sample	97%	0.377	
P-0678	H9F9F1AD	RA-228	1.37 +- 0.736	=	pCi/sample	90%	1.34	
P-0679	H9F9J1AG	U-234	0.102 +- 0.204	ND	pCi/sample	97%	0.276	
		U-235	0.00000 +- 0.249	ND	pCi/sample	97%	0.276	
		U-238	-0.0203 +- 0.0408	ND	pCi/sample	97%	0.487	
P-0679	H9F9J1AA	TH-228	0.506 +- 0.464	=	pCi/sample	45%	0.274	
		TH-230	1.25 +- 0.742	=	pCi/sample	45%	0.261	
		TH-232	0.00000 +- 0.236	ND	pCi/sample	45%	0.261	
P-0679	H9F9J1AE	ALPHA	2.20 +- 2.83	ND	pCi/sample	100%	5.37	
P-0679	H9F9J1AF	BETA	20.0 +- 4.42	=	pCi/sample	100%	5.03	
P-0679	H9F9J1AC	RA-226	0.258 +- 0.247	ND	pCi/sample	104%	0.383	
P-0679	H9F9J1AD	RA-228	2.34 +- 0.862	=	pCi/sample	95%	1.36	

STL Richland

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V4.15.0 A97

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

= ERPIMS - Equal To, Analyte Detected

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

Sample Results Summary

STL Richland STLR

Ordered by Client Sample ID, Batch No.

Date: 15-Aug-06

Report No. : 32988

SDG No: 32138

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RER2
P-0680	H9F9L1AG	U-234	0.0836 +- 0.201	ND	pCi/sample	97%	0.455	
		U-235	-0.0239 +- 0.0278	ND	pCi/sample	97%	0.496	
		U-238	-0.0478 +- 0.0398	ND	pCi/sample	97%	0.59	
P-0680	H9F9L1AE	ALPHA	4.35 +- 3.53	ND	pCi/sample	100%	5.59	
P-0680	H9F9L1AF	BETA	14.0 +- 3.84	=	pCi/sample	100%	5.36	
P-0680	H9F9L1AC	RA-226	0.142 +- 0.273	ND	pCi/sample	91%	0.49	
P-0680	H9F9L1AD	RA-228	1.19 +- 0.807	ND	pCi/sample	82%	1.61	
P-0680	H9F9L2AA	TH-228	0.197 +- 0.264	ND	pCi/sample	100%	0.473	
		TH-230	0.206 +- 0.191	ND	pCi/sample	100%	0.225	
		TH-232	0.0375 +- 0.0753	ND	pCi/sample	100%	0.102	
P-0681	H9F9M1AG	U-234	-0.0555 +- 0.0462	ND	pCi/sample	87%	0.685	
		U-235	0.0877 +- 0.234	ND	pCi/sample	87%	0.576	
		U-238	-0.0462 +- 0.0420	ND	pCi/sample	87%	0.653	
P-0681	H9F9M1AA	TH-228	-0.0212 +- 0.112	ND	pCi/sample	93%	0.356	
		TH-230	0.344 +- 0.254	=	pCi/sample	93%	0.243	
		TH-232	-0.0405 +- 0.0577	ND	pCi/sample	93%	0.298	
P-0681	H9F9M1AE	ALPHA	4.17 +- 3.22	ND	pCi/sample	100%	4.86	
P-0681	H9F9M1AF	BETA	13.9 +- 3.80	=	pCi/sample	100%	5.26	
P-0681	H9F9M1AC	RA-226	0.240 +- 0.213	ND	pCi/sample	100%	0.321	
P-0681	H9F9M1AD	RA-228	1.78 +- 0.840	=	pCi/sample	91%	1.5	
P-0682	H9F9N1AG	U-234	0.0915 +- 0.243	ND	pCi/sample	86%	0.6	
		U-235	-0.0193 +- 0.0274	ND	pCi/sample	86%	0.55	
		U-238	-0.0193 +- 0.0274	ND	pCi/sample	86%	0.55	
P-0682	H9F9N1AA	TH-228	0.0916 +- 0.410	ND	pCi/sample	24%	1.1	
		TH-230	0.699 +- 0.719	ND	pCi/sample	24%	0.474	
		TH-232	0.00000 +- 0.428	ND	pCi/sample	24%	0.474	
P-0682	H9F9N1AE	ALPHA	-0.7530 +- 1.82	ND	pCi/sample	100%	5.31	
P-0682	H9F9N1AF	BETA	0.147 +- 2.59	ND	pCi/sample	100%	5.48	
P-0682	H9F9N1AC	RA-226	0.0218 +- 0.171	ND	pCi/sample	111%	0.336	
P-0682	H9F9N1AD	RA-228	2.44 +- 0.909	=	pCi/sample	99%	1.43	

STL Richland

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V4.15.0 A97

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

= ERPIMS - Equal To, Analyte Detected

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

Sample Results Summary

STL Richland STLR

Ordered by Client Sample ID, Batch No.

Date: 15-Aug-06

Report No. : 32988

SDG No: 32138

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RER2

Number of Results: 150

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

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QC Results Summary
STL Richland STLR

Ordered by QC Type, Batch No.

Date: 15-Aug-06

Report No. : 32988

SDG No.: 32138

QC Type	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	Recovery	Bias	MDC|MDA
BLANK QC	H9HX01AA	U-234	-0.00346 +- 0.00288	N	pCi/sample	90%			0.0428
		U-235	-0.000577 +- 0.00116	N	pCi/sample	90%			0.029
		U-238	-0.00115 +- 0.00164	N	pCi/sample	90%			0.0329
BLANK QC	H9HX61AA	TH-228	0.00156 +- 0.00696	N	pCi/sample	97%			0.0187
		TH-230	0.0163 +- 0.0151	N	pCi/sample	97%			0.0178
		TH-232	0.00000005 +- 0.00727	N	pCi/sample	97%			0.0219
BLANK QC	H9H1M1AA	ALPHA	0.0237 +- 0.0533	N	pCi/sample	100%			0.114
BLANK QC	H9H111AA	BETA	0.0786 +- 0.189	N	pCi/sample	100%			0.391
BLANK QC	H9H181AA	RA-226	0.0290 +- 0.0340	N	pCi/sample	101%			0.053
BLANK QC	H9H2F1AA	RA-228	0.325 +- 0.193	N	pCi/sample	91%			0.37
BLANK QC	JADTW1AA	TH-228	-0.0095 +- 0.00792	N	pCi/sample	104%			0.0341
		TH-230	0.0256 +- 0.0188	=	pCi/sample	104%			0.0181
		TH-232	0.00301 +- 0.00954	N	pCi/sample	104%			0.0222
LCS	H9HX01AC	U-234	0.911 +- 0.236	=	pCi/sample	95%	94%	-0.1	0.0421
		U-238	0.810 +- 0.218	=	pCi/sample	95%	80%	-0.2	0.0421
LCS	H9HX61AC	TH-230	1.97 +- 0.419	=	pCi/sample	71%	108%	0.1	0.0143
LCS	H9H1M1AC	ALPHA	2.43 +- 0.566	=	pCi/sample	100%	102%	0.0	0.113
LCS	H9H111AC	BETA	4.91 +- 0.756	=	pCi/sample	100%	107%	0.1	0.412
LCS	H9H181AC	RA-226	1.39 +- 0.327	=	pCi/sample	102%	100%	0.0	0.0813
LCS	H9H2F1AC	RA-228	5.00 +- 0.755	=	pCi/sample	91%	99%	0.0	0.372
LCS	JADTW1AC	TH-230	1.96 +- 0.382	=	pCi/sample	98%	106%	0.1	0.0098

Number of Results: 21

STL Richland
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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: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180200-1
Client Sample ID: 000502
Yerington Air Quality - Event #85

SDG: 32138
Report No. : 32988
COC No. :

Collection Date: 6/20/2006 10:15:00 AM
Received Date: 7/18/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6200142	**Work Order:** H9F7N1AG			**Report DB ID:** 9H9F7N10								
U-234	**0.160**	ND	0.29	0.29	0.565	pCi/sample	99%	*0.28*	7/29/06 03:14 p	1.0	0.06223	E908.0
						0.147	1.0	*(1.1)*		Sample	Sample	ALP1
U-235	**-0.0400**	ND	0.057	0.057	0.565	pCi/sample	99%	*-0.07*	7/29/06 03:14 p	1.0	0.06223	E908.0
						0.147	1.0	*-(1.4)*		Sample	Sample	ALP1
U-238	**0.0400**	ND	0.21	0.21	0.631	pCi/sample	99%	*0.06*	7/29/06 03:14 p	1.0	0.06223	E908.0
						0.18	1.0	*0.38*		Sample	Sample	ALP1
								Ratio U-234/238 = 4.0				
Batch: 6200145	**Work Order:** H9F7N1AA			**Report DB ID:** 9H9F7N10								
TH-228	**0.0842**	ND	0.21	0.22	0.453	pCi/sample	91%	*0.19*	7/31/06 10:14 a	1.0	0.085	ISOTH
						0.17	1.0	*0.78*		Sample	Sample	ALP171
TH-230	**0.221**	ND	0.20	0.20	0.241	pCi/sample	91%	*0.92*	7/31/06 10:14 a	1.0	0.085	ISOTH
						0.0661	1.0	*(2.2)*		Sample	Sample	ALP171
TH-232	**0.0402**	ND	0.080	0.081	0.109	pCi/sample	91%	*0.37*	7/31/06 10:14 a	1.0	0.085	ISOTH
							1.0	*1.*		Sample	Sample	ALP171
Batch: 6200160	**Work Order:** H9F7N1AE			**Report DB ID:** 9H9F7N10								
ALPHA	**2.90**	ND	2.8	2.9	4.85	pCi/sample	100%	*0.6*	8/3/06 05:10 p	1.0	0.02084	E900.0
						1.93	20.0	*(2.)*		Sample	Sample	GPC10A
Batch: 6200161	**Work Order:** H9F7N1AF			**Report DB ID:** 9H9F7N10								
BETA	**16.4**	=	3.5	4.2	5.46	pCi/sample	100%	*(3.)*	8/2/06 04:18 p	1.0	0.08299	E900.0
						2.62	5.0	*(7.9)*		Sample	Sample	GPC31A
Batch: 6200163	**Work Order:** H9F7N1AC			**Report DB ID:** 9H9F7N10								

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: 15-Aug-06

Lab Name: STL Richland
SDG: 32138
Collection Date: 6/20/2006 10:15:00 AM
Lot-Sample No.: J6G180200-1
Report No. : 32988
Received Date: 7/18/2006 10:00:00 AM
Client Sample ID: 000502
COC No. :
Matrix: FILTER AIR

Yerington Air Quality - Event #85

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	-0.0746	ND	0.19	0.19	0.408	pCi/sample	99%	*-0.18*	8/11/06 01:11 p	1.0	0.25142	E903.1
						0.175	1.0	*-0.79*		Sample	Sample	ASC2RC
Batch: 6200165	**Work Order:** H9F7N1AD			**Report DB ID:** 9H9F7N10								
RA-228	1.94	ND	1.0	1.1	2.16	pCi/sample	89%	*0.9*	8/15/06 06:14 a	1.0	0.25142	E904.0
						0.985	3.1	*(3.6)*		Sample	Sample	GPC7A

Number of Results: 10

Comments:

STL Richland
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V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180200-2
Client Sample ID: 000503
Yerington Air Quality - Event #85

SDG: 32138
Report No. : 32988
COC No. :

Collection Date: 6/20/2006 10:25:00 AM
Received Date: 7/18/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6200142	**Work Order:** H9F731AG			**Report DB ID:** 9H9F7310								
U-234	0.200	ND	0.28	0.28	0.27	pCi/sample	105%	*0.74*	7/29/06 03:15 p	1.0	0.06234	E908.0
						1.0	1.0	*(1.4)*		Sample	Sample	ALP2
U-235	-0.0599	ND	0.069	0.070	0.63	pCi/sample	105%	*-0.1*	7/29/06 03:15 p	1.0	0.06234	E908.0
						0.18	1.0	*-(1.7)*		Sample	Sample	ALP2
U-238	0.0399	ND	0.21	0.21	0.63	pCi/sample	105%	*0.06*	7/29/06 03:15 p	1.0	0.06234	E908.0
						0.18	1.0	*0.38*		Sample	Sample	ALP2
								Ratio U-234/238 = 5.0				
Batch: 6200145	**Work Order:** H9F731AA			**Report DB ID:** 9H9F7310								
TH-228	-0.0366	ND	0.14	0.14	0.394	pCi/sample	100%	*-0.09*	7/31/06 10:14 a	1.0	0.08618	ISOTH
						0.148	1.0	*-0.53*		Sample	Sample	ALP172
TH-230	0.262	=	0.20	0.21	0.21	pCi/sample	100%	*(1.3)*	7/31/06 10:14 a	1.0	0.08618	ISOTH
						0.0575	1.0	*(2.5)*		Sample	Sample	ALP172
TH-232	0.0349	ND	0.11	0.11	0.257	pCi/sample	100%	*0.14*	7/31/06 10:14 a	1.0	0.08618	ISOTH
						0.0813	1.0	*0.63*		Sample	Sample	ALP172
Batch: 6200160	**Work Order:** H9F731AE			**Report DB ID:** 9H9F7310								
ALPHA	4.49	ND	3.1	3.2	4.52	pCi/sample	100%	*0.99*	8/3/06 05:10 p	1.0	0.02094	E900.0
						1.77	20.0	*(2.8)*		Sample	Sample	GPC10B
Batch: 6200161	**Work Order:** H9F731AF			**Report DB ID:** 9H9F7310								
BETA	18.7	=	3.3	4.5	4.63	pCi/sample	100%	*(4.)*	8/2/06 04:18 p	1.0	0.08519	E900.0
						2.21	5.0	*(8.2)*		Sample	Sample	GPC31B
Batch: 6200163	**Work Order:** H9F731AC			**Report DB ID:** 9H9F7310								

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: 15-Aug-06

Lab Name: STL Richland
SDG: 32138
Collection Date: 6/20/2006 10:25:00 AM
Lot-Sample No.: J6G180200-2
Report No. : 32988
Received Date: 7/18/2006 10:00:00 AM
Client Sample ID: 000503
COC No. :
Matrix: FILTER AIR

Yerington Air Quality - Event #85

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	0.0385	ND	0.13	0.13	0.248	pCi/sample	112%	*0.16*	8/11/06 01:12 p	1.0	0.25513	E903.1
						0.0998	1.0	*0.6*		Sample	Sample	ASC3MA
Batch: 6200165	**Work Order:** H9F731AD			**Report DB ID:** 9H9F7310								
RA-228	0.733	ND	0.75	0.87	1.91	pCi/sample	102%	*0.38*	8/15/06 06:14 a	1.0	0.25513	E904.0
						0.872	3.1	*(1.7)*		Sample	Sample	GPC7B

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180200-3
Client Sample ID: 000504
Yerington Air Quality - Event #85

SDG: 32138
Report No. : 32988
COC No. :

Collection Date: 6/20/2006 10:40:00 AM
Received Date: 7/18/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6200142	**Work Order:** H9F751AG			**Report DB ID:** 9H9F7510								
U-234	-0.0226	ND	0.25	0.25	0.881	pCi/sample	86%	*-0.03*	7/29/06 03:15 p	1.0	0.0619	E908.0
						0.288	1.0	*-0.18*		Sample	Sample	ALP3
U-235	-0.0678	ND	0.078	0.079	0.713	pCi/sample	86%	*-0.1*	7/29/06 03:15 p	1.0	0.0619	E908.0
						0.203	1.0	*-(1.7)*		Sample	Sample	ALP3
U-238	-0.0000245	ND	0.25	0.25	0.831	pCi/sample	86%	*0.*	7/29/06 03:15 p	1.0	0.0619	E908.0
						0.263	1.0	*0.*		Sample	Sample	ALP3
								Ratio U-234/238 = 924.3				
Batch: 6200145	**Work Order:** H9F751AA			**Report DB ID:** 9H9F7510								
TH-228	0.0668	ND	0.13	0.13	0.267	pCi/sample	101%	*0.25*	7/31/06 10:14 a	1.0	0.08364	ISOTH
						0.0732	1.0	*1.*		Sample	Sample	ALP173
TH-230	0.595	=	0.32	0.34	0.115	pCi/sample	101%	*(5.2)*	7/31/06 10:14 a	1.0	0.08364	ISOTH
							1.0	*(3.5)*		Sample	Sample	ALP173
TH-232	0.0425	ND	0.085	0.085	0.115	pCi/sample	101%	*0.37*	7/31/06 10:14 a	1.0	0.08364	ISOTH
							1.0	*1.*		Sample	Sample	ALP173
Batch: 6200160	**Work Order:** H9F751AE			**Report DB ID:** 9H9F7510								
ALPHA	4.70	ND	3.4	3.5	5.27	pCi/sample	100%	*0.89*	8/3/06 05:10 p	1.0	0.02068	E900.0
						2.12	20.0	*(2.7)*		Sample	Sample	GPC10C
Batch: 6200161	**Work Order:** H9F751AF			**Report DB ID:** 9H9F7510								
BETA	18.1	=	3.4	4.2	5.14	pCi/sample	100%	*(3.5)*	8/2/06 04:18 p	1.0	0.08438	E900.0
						2.46	5.0	*(8.5)*		Sample	Sample	GPC31C
Batch: 6200163	**Work Order:** H9F751AC			**Report DB ID:** 9H9F7510								

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: 15-Aug-06

Lab Name: STL Richland | **SDG:** 32138 | **Collection Date:** 6/20/2006 10:40:00 AM

Lot-Sample No.: J6G180200-3 | **Report No. :** 32988 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: 000504 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #85

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	**0.335**	=	0.24	0.25	0.33	pCi/sample	88%	*(1.)*	8/11/06 01:11 p	1.0	0.24829	E903.1
						0.133	1.0	*(2.7)*		Sample	Sample	ASC4UA
Batch: 6200165	**Work Order:** H9F751AD			**Report DB ID:** 9H9F7510								
RA-228	**2.10**	ND	1.1	1.1	2.16	pCi/sample	81%	*0.98*	8/15/06 06:14 a	1.0	0.24829	E904.0
						0.975	3.1	*(3.8)*		Sample	Sample	GPC1A

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180200-4
Client Sample ID: 000505
Yerington Air Quality - Event #85

SDG: 32138
Report No. : 32988
COC No. :

Collection Date: 6/20/2006 11:00:00 AM
Received Date: 7/18/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6200142	**Work Order:** H9F781AG			**Report DB ID:** 9H9F7810								
U-234	0.00000514	ND	0.23	0.23	0.757	pCi/sample	94%	*0.*	7/29/06 03:15 p	1.0	0.06135	E908.0
						0.239	1.0	*0.*		Sample	Sample	ALP4
U-235	-0.0206	ND	0.041	0.041	0.493	pCi/sample	94%	*-0.04*	7/29/06 03:15 p	1.0	0.06135	E908.0
						0.107	1.0	*-1.*		Sample	Sample	ALP4
U-238	-0.1230	ND	0.10	0.10	0.803	pCi/sample	94%	*-0.15*	7/29/06 03:15 p	1.0	0.06135	E908.0
						0.262	1.0	*-(2.4)*		Sample	Sample	ALP4
								Ratio U-234/238 = 0.0				
Batch: 6200145	**Work Order:** H9F781AA			**Report DB ID:** 9H9F7810								
TH-228	0.254	ND	0.26	0.26	0.338	pCi/sample	80%	*0.75*	7/31/06 10:14 a	1.0	0.084	ISOTH
						0.0928	1.0	*(1.9)*		Sample	Sample	ALP174
TH-230	0.511	=	0.34	0.36	0.323	pCi/sample	80%	*(1.6)*	7/31/06 10:14 a	1.0	0.084	ISOTH
						0.0885	1.0	*(2.9)*		Sample	Sample	ALP174
TH-232	0.0538	ND	0.11	0.11	0.146	pCi/sample	80%	*0.37*	7/31/06 10:14 a	1.0	0.084	ISOTH
							1.0	*1.*		Sample	Sample	ALP174
Batch: 6200160	**Work Order:** H9F781AE			**Report DB ID:** 9H9F7810								
ALPHA	4.33	ND	3.3	3.4	5.34	pCi/sample	100%	*0.81*	8/3/06 05:10 p	1.0	0.02051	E900.0
						2.19	20.0	*(2.5)*		Sample	Sample	GPC10D
Batch: 6200161	**Work Order:** H9F781AF			**Report DB ID:** 9H9F7810								
BETA	19.5	=	3.7	4.6	5.5	pCi/sample	100%	*(3.5)*	8/2/06 04:18 p	1.0	0.08181	E900.0
						2.63	5.0	*(8.5)*		Sample	Sample	GPC31D
Batch: 6200163	**Work Order:** H9F781AC			**Report DB ID:** 9H9F7810								

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: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180200-4
Client Sample ID: 000505
Yerington Air Quality - Event #85

SDG: 32138
Report No. : 32988
COC No. :

Collection Date: 6/20/2006 11:00:00 AM
Received Date: 7/18/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	**0.0681**	ND	0.16	0.16	0.3	pCi/sample	95%	*0.23*	8/11/06 01:13 p	1.0	0.24912	E903.1
						0.125	1.0	*0.84*		Sample	Sample	ASC6MB
Batch: 6200165	**Work Order:** H9F781AD			**Report DB ID:** 9H9F7810								
RA-228	**2.97**	=	1.0	1.1	1.85	pCi/sample	88%	*(1.6)*	8/15/06 06:14 a	1.0	0.24912	E904.0
						0.831	3.1	*(5.4)*		Sample	Sample	GPC1C

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

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

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180200-5
Client Sample ID: 000506
Yerington Air Quality - Event #85

SDG: 32138
Report No. : 32988
COC No. :

Collection Date: 6/20/2006 11:15:00 AM
Received Date: 7/18/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6200142	**Work Order:** H9F8F1AG			**Report DB ID:** 9H9F8F10								
U-234	0.396	ND	0.40	0.40	0.268	pCi/sample	93%	*(1.5)*	7/29/06 03:16 p	1.0	0.06228	E908.0
							1.0	*(2.)*		Sample	Sample	ALP5
U-235	0.0594	ND	0.21	0.21	0.559	pCi/sample	93%	*0.11*	7/29/06 03:16 p	1.0	0.06228	E908.0
						0.146	1.0	*0.58*		Sample	Sample	ALP5
U-238	1.44	=	0.77	0.80	0.559	pCi/sample	93%	*(2.6)*	7/29/06 03:16 p	1.0	0.06228	E908.0
						0.146	1.0	*(3.6)*		Sample	Sample	ALP5
								Ratio U-234/238 = 0.3				
Batch: 6200145	**Work Order:** H9F8F1AA			**Report DB ID:** 9H9F8F10								
TH-228	0.320	=	0.23	0.24	0.226	pCi/sample	104%	*(1.4)*	7/31/06 10:14 a	1.0	0.08538	ISOTH
						0.062	1.0	*(2.7)*		Sample	Sample	ALP175
TH-230	0.612	=	0.30	0.32	0.0975	pCi/sample	104%	*(6.3)*	7/31/06 10:14 a	1.0	0.08538	ISOTH
							1.0	*(3.9)*		Sample	Sample	ALP175
TH-232	0.126	ND	0.15	0.15	0.216	pCi/sample	104%	*0.58*	7/31/06 10:14 a	1.0	0.08538	ISOTH
						0.0592	1.0	*(1.7)*		Sample	Sample	ALP175
Batch: 6200160	**Work Order:** H9F8F1AE			**Report DB ID:** 9H9F8F10								
ALPHA	4.68	ND	3.4	3.5	5.26	pCi/sample	100%	*0.89*	8/3/06 05:10 p	1.0	0.0208	E900.0
						2.12	20.0	*(2.7)*		Sample	Sample	GPC10E
Batch: 6200161	**Work Order:** H9F8F1AF			**Report DB ID:** 9H9F8F10								
BETA	15.8	=	3.5	4.1	5.48	pCi/sample	100%	*(2.9)*	8/2/06 04:19 p	1.0	0.08302	E900.0
						2.62	5.0	*(7.7)*		Sample	Sample	GPC32A
Batch: 6200163	**Work Order:** H9F8F1AC			**Report DB ID:** 9H9F8F10								

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: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180200-5
Client Sample ID: 000506
Yerington Air Quality - Event #85

SDG: 32138
Report No. : 32988
COC No. :

Collection Date: 6/20/2006 11:15:00 AM
Received Date: 7/18/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	**0.403**	=	0.23	0.24	0.292	pCi/sample	100%	*(1.4)*	8/11/06 01:14 p	1.0	0.25295	E903.1
						0.119	1.0	*(3.3)*		Sample	Sample	ASC7UA
Batch: 6200165	**Work Order:** H9F8F1AD			**Report DB ID:** 9H9F8F10								
RA-228	**3.20**	=	1.0	1.1	1.9	pCi/sample	90%	*(1.7)*	8/15/06 06:14 a	1.0	0.25295	E904.0
						0.86	3.1	*(5.7)*		Sample	Sample	GPC1D

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180200-6
Client Sample ID: 000507
Yerington Air Quality - Event #85

SDG: 32138
Report No. : 32988
COC No. :

Collection Date: 6/20/2006 11:30:00 AM
Received Date: 7/18/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6200142	**Work Order:** H9F8L1AG			**Report DB ID:** 9H9F8L10								
U-234	0.208	ND	0.29	0.30	0.282	pCi/sample	93%	*0.74*	7/29/06 03:16 p	1.0	0.06166	E908.0
							1.0	*(1.4)*		Sample	Sample	ALP6
U-235	-0.0208	ND	0.042	0.042	0.498	pCi/sample	93%	*-0.04*	7/29/06 03:16 p	1.0	0.06166	E908.0
						0.108	1.0	*-1.*		Sample	Sample	ALP6
U-238	-0.0416	ND	0.059	0.059	0.588	pCi/sample	93%	*-0.07*	7/29/06 03:16 p	1.0	0.06166	E908.0
						0.153	1.0	*-(1.4)*		Sample	Sample	ALP6
								Ratio U-234/238 = -5.0				
Batch: 6200145	**Work Order:** H9F8L1AA			**Report DB ID:** 9H9F8L10								
TH-228	0.161	ND	0.22	0.22	0.385	pCi/sample	86%	*0.42*	7/31/06 10:14 a	1.0	0.08227	ISOTH
						0.131	1.0	*(1.4)*		Sample	Sample	ALP176
TH-230	0.416	=	0.28	0.29	0.263	pCi/sample	86%	*(1.6)*	7/31/06 10:14 a	1.0	0.08227	ISOTH
						0.072	1.0	*(2.9)*		Sample	Sample	ALP176
TH-232	0.175	ND	0.21	0.21	0.322	pCi/sample	86%	*0.54*	7/31/06 10:14 a	1.0	0.08227	ISOTH
						0.102	1.0	*(1.7)*		Sample	Sample	ALP176
Batch: 6200160	**Work Order:** H9F8L1AE			**Report DB ID:** 9H9F8L10								
ALPHA	7.72	=	3.9	4.2	4.88	pCi/sample	100%	*(1.6)*	8/3/06 08:17 p	1.0	0.02074	E900.0
						1.94	20.0	*(3.7)*		Sample	Sample	GPC10A
Batch: 6200161	**Work Order:** H9F8L1AF			**Report DB ID:** 9H9F8L10								
BETA	31.0	=	4.1	5.9	5.36	pCi/sample	100%	*(5.8)*	8/2/06 04:19 p	1.0	0.08238	E900.0
						2.56	5.0	*(10.4)*		Sample	Sample	GPC32B
Batch: 6200163	**Work Order:** H9F8L1AC			**Report DB ID:** 9H9F8L10								

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: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180200-6
Client Sample ID: 000507
Yerington Air Quality - Event #85

SDG: 32138
Report No. : 32988
COC No. :

Collection Date: 6/20/2006 11:30:00 AM
Received Date: 7/18/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	0.241	ND	0.28	0.28	0.467	pCi/sample	108%	*0.52*	8/11/06 01:12 p	1.0	0.25173	E903.1
						0.197	1.0	*(1.7)*		Sample	Sample	ASC8RD
Batch: 6200165	**Work Order:** H9F8L1AD			**Report DB ID:** 9H9F8L10								
RA-228	2.44	=	0.81	0.90	1.36	pCi/sample	97%	*(1.8)*	8/15/06 06:14 a	1.0	0.25173	E904.0
						0.576	3.1	*(5.4)*		Sample	Sample	GPC2A

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180200-7
Client Sample ID: 000508
Yerington Air Quality - Event #85

SDG: 32138
Report No. : 32988
COC No. :

Collection Date: 6/20/2006 11:20:00 AM
Received Date: 7/18/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6200142	**Work Order:** H9F8W1AG			**Report DB ID:** 9H9F8W10								
U-234	-0.0199	ND	0.040	0.040	0.476	pCi/sample	103%	*-0.04*	7/29/06 03:16 p	1.0	0.06241	E908.0
						0.103	1.0	*-1.*		Sample	Sample	ALP7
U-235	0.00000	ND	0.0000	0.24	0.269	pCi/sample	103%	*0.*	7/29/06 03:16 p	1.0	0.06241	E908.0
							1.0	*0.*		Sample	Sample	ALP7
U-238	-0.0199	ND	0.040	0.040	0.476	pCi/sample	103%	*-0.04*	7/29/06 03:16 p	1.0	0.06241	E908.0
						0.103	1.0	*-1.*		Sample	Sample	ALP7
								Ratio U-234/238 = 1.0				
Batch: 6200145	**Work Order:** H9F8W1AA			**Report DB ID:** 9H9F8W10								
TH-228	0.120	ND	0.17	0.17	0.287	pCi/sample	90%	*0.42*	7/31/06 10:14 a	1.0	0.08364	ISOTH
						0.0788	1.0	*(1.4)*		Sample	Sample	ALP177
TH-230	0.00000	ND	0.0000	0.11	0.124	pCi/sample	90%	*0.*	7/31/06 10:14 a	1.0	0.08364	ISOTH
							1.0	*0.*		Sample	Sample	ALP177
TH-232	0.00000	ND	0.0000	0.11	0.124	pCi/sample	90%	*0.*	7/31/06 10:14 a	1.0	0.08364	ISOTH
							1.0	*0.*		Sample	Sample	ALP177
Batch: 6200160	**Work Order:** H9F8W1AE			**Report DB ID:** 9H9F8W10								
ALPHA	1.25	ND	2.2	2.2	4.5	pCi/sample	100%	*0.28*	8/3/06 08:17 p	1.0	0.02092	E900.0
						1.77	20.0	*(1.1)*		Sample	Sample	GPC10B
Batch: 6200161	**Work Order:** H9F8W1AF			**Report DB ID:** 9H9F8W10								
BETA	2.87	ND	2.5	2.5	4.89	pCi/sample	100%	*0.59*	8/2/06 04:19 p	1.0	0.08371	E900.0
						2.34	5.0	*(2.3)*		Sample	Sample	GPC32C
Batch: 6200163	**Work Order:** H9F8W1AC			**Report DB ID:** 9H9F8W10								

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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: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180200-7
Client Sample ID: 000508
Yerington Air Quality - Event #85

SDG: 32138
Report No. : 32988
COC No. :

Collection Date: 6/20/2006 11:20:00 AM
Received Date: 7/18/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	0.0654	ND	0.21	0.21	0.404	pCi/sample	92%	*0.16*	8/11/06 01:11 p	1.0	0.2502	E903.1
						0.167	1.0	*0.62*		Sample	Sample	ASC9RC
Batch: 6200165	**Work Order:** H9F8W1AD			**Report DB ID:** 9H9F8W10								
RA-228	2.24	=	0.86	0.94	1.54	pCi/sample	83%	*(1.5)*	8/15/06 06:14 a	1.0	0.2502	E904.0
						0.65	3.1	*(4.8)*		Sample	Sample	GPC2B

Number of Results: 10

Comments:

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

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180200-8
Client Sample ID: P-0675
Yerington Air Quality - Event #85

SDG: 32138
Report No. : 32988
COC No. :

Collection Date: 6/20/2006 10:05:00 AM
Received Date: 7/18/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6200142	**Work Order:** H9F851AG			**Report DB ID:** 9H9F8510								
U-234	0.00000	ND	0.0000	0.23	0.256	pCi/sample	98%	*0.*	7/29/06 03:17 p	1.0	0.06263	E908.0
							1.0	*0.*		Sample	Sample	ALP8
U-235	-0.0189	ND	0.038	0.038	0.452	pCi/sample	98%	*-0.04*	7/29/06 03:17 p	1.0	0.06263	E908.0
						0.0982	1.0	*-1.*		Sample	Sample	ALP8
U-238	0.0755	ND	0.19	0.19	0.452	pCi/sample	98%	*0.17*	7/29/06 03:17 p	1.0	0.06263	E908.0
						0.0982	1.0	*0.78*		Sample	Sample	ALP8
Batch: 6200145	**Work Order:** H9F851AA			**Report DB ID:** 9H9F8510								
TH-228	0.0184	ND	0.082	0.082	0.221	pCi/sample	97%	*0.08*	7/31/06 10:14 a	1.0	0.08449	ISOTH
						0.0605	1.0	*0.45*		Sample	Sample	ALP178
TH-230	0.0175	ND	0.078	0.079	0.21	pCi/sample	97%	*0.08*	7/31/06 10:14 a	1.0	0.08449	ISOTH
						0.0577	1.0	*0.45*		Sample	Sample	ALP178
TH-232	0.0351	ND	0.11	0.11	0.258	pCi/sample	97%	*0.14*	7/31/06 10:14 a	1.0	0.08449	ISOTH
						0.0816	1.0	*0.63*		Sample	Sample	ALP178
Batch: 6200160	**Work Order:** H9F851AE			**Report DB ID:** 9H9F8510								
ALPHA	1.21	ND	2.4	2.4	5.08	pCi/sample	100%	*0.24*	8/3/06 08:17 p	1.0	0.02112	E900.0
						2.04	20.0	*(1.)*		Sample	Sample	GPC10C
Batch: 6200161	**Work Order:** H9F851AF			**Report DB ID:** 9H9F8510								
BETA	13.2	=	3.4	3.9	5.74	pCi/sample	100%	*(2.3)*	8/2/06 04:19 p	1.0	0.08537	E900.0
						2.76	5.0	*(6.8)*		Sample	Sample	GPC32D
Batch: 6200163	**Work Order:** H9F851AC			**Report DB ID:** 9H9F8510								

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V4.15.0 A97

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FORM I

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180200-8
Client Sample ID: P-0675
Yerington Air Quality - Event #85

SDG: 32138
Report No. : 32988
COC No. :

Collection Date: 6/20/2006 10:05:00 AM
Received Date: 7/18/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	0.0726	ND	0.23	0.23	0.43	pCi/sample	101%	*0.17*	8/11/06 01:13 p	1.0	0.25221	E903.1
						0.181	1.0	*0.64*		Sample	Sample	ASCASC
Batch: 6200165	**Work Order:** H9F851AD			**Report DB ID:** 9H9F8510								
RA-228	3.10	=	0.94	1.0	1.45	pCi/sample	90%	*(2.1)*	8/15/06 06:14 a	1.0	0.25221	E904.0
						0.615	3.1	*(6.1)*		Sample	Sample	GPC2C

Number of Results: 10

Comments:

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FORM I

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180200-9
Client Sample ID: P-0676
Yerington Air Quality - Event #85

SDG: 32138
Report No. : 32988
COC No. :

Collection Date: 6/20/2006 10:20:00 AM
Received Date: 7/18/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6200142	**Work Order:** H9F891AG			**Report DB ID:** 9H9F8910								
U-234	-0.0196	ND	0.039	0.039	0.47	pCi/sample	102%	*-0.04*	7/29/06 03:17 p	1.0	0.06263	E908.0
						0.102	1.0	*-1.*		Sample	Sample	ALP9
U-235	0.0980	ND	0.20	0.20	0.266	pCi/sample	102%	*0.37*	7/29/06 03:17 p	1.0	0.06263	E908.0
							1.0	*1.*		Sample	Sample	ALP9
U-238	0.0588	ND	0.20	0.20	0.554	pCi/sample	102%	*0.11*	7/29/06 03:17 p	1.0	0.06263	E908.0
						0.144	1.0	*0.58*		Sample	Sample	ALP9
								Ratio U-234/238 = -0.3				
Batch: 6200145	**Work Order:** H9F891AA			**Report DB ID:** 9H9F8910								
TH-228	0.0390	ND	0.18	0.18	0.419	pCi/sample	106%	*0.09*	7/31/06 08:19 p	1.0	0.08341	ISOTH
						0.157	1.0	*0.43*		Sample	Sample	ALP171
TH-230	0.279	=	0.21	0.22	0.223	pCi/sample	106%	*(1.3)*	7/31/06 08:19 p	1.0	0.08341	ISOTH
						0.0611	1.0	*(2.5)*		Sample	Sample	ALP171
TH-232	0.00000	ND	0.0000	0.091	0.101	pCi/sample	106%	*0.*	7/31/06 08:19 p	1.0	0.08341	ISOTH
							1.0	*0.*		Sample	Sample	ALP171
Batch: 6200160	**Work Order:** H9F891AE			**Report DB ID:** 9H9F8910								
ALPHA	2.81	ND	2.9	2.9	5.18	pCi/sample	100%	*0.54*	8/3/06 08:17 p	1.0	0.02102	E900.0
						2.12	20.0	*(1.9)*		Sample	Sample	GPC10D
Batch: 6200161	**Work Order:** H9F891AF			**Report DB ID:** 9H9F8910								
BETA	14.1	=	3.4	4.0	5.68	pCi/sample	100%	*(2.5)*	8/2/06 04:19 p	1.0	0.08401	E900.0
						2.73	5.0	*(7.1)*		Sample	Sample	GPC26A
Batch: 6200163	**Work Order:** H9F891AC			**Report DB ID:** 9H9F8910								

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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: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180200-9
Client Sample ID: P-0676
Yerington Air Quality - Event #85

SDG: 32138
Report No. : 32988
COC No. :

Collection Date: 6/20/2006 10:20:00 AM
Received Date: 7/18/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	-0.0121	ND	0.18	0.18	0.375	pCi/sample	104%	*-0.03*	8/11/06 01:22 p	1.0	0.25245	E903.1
						0.155	1.0	*-0.14*		Sample	Sample	ASCDSA
Batch: 6200165	**Work Order:** H9F891AD			**Report DB ID:** 9H9F8910								
RA-228	1.14	ND	0.71	0.76	1.51	pCi/sample	92%	*0.75*	8/15/06 06:14 a	1.0	0.25245	E904.0
						0.648	3.1	*(3.)*		Sample	Sample	GPC2D

Number of Results: 10

Comments:

STL Richland
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FORM I

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland | **SDG:** 32138 | **Collection Date:** 6/20/2006 10:35:00 AM

Lot-Sample No.: J6G180200-10 | **Report No. :** 32988 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: P-0677 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #85

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6200142	**Work Order:** H9F9A1AG			**Report DB ID:** 9H9F9A10								
U-234	-0.0202	ND	0.040	0.041	0.484	pCi/sample	97%	*-0.04*	7/29/06 03:17 p	1.0	0.06196	E908.0
						0.105	1.0	*-1.*		Sample	Sample	ALP10
U-235	0.00000	ND	0.0000	0.25	0.274	pCi/sample	97%	*0.*	7/29/06 03:17 p	1.0	0.06196	E908.0
							1.0	*0.*		Sample	Sample	ALP10
U-238	0.0808	ND	0.21	0.21	0.484	pCi/sample	97%	*0.17*	7/29/06 03:17 p	1.0	0.06196	E908.0
						0.105	1.0	*0.78*		Sample	Sample	ALP10
								Ratio U-234/238 = -0.2				
Batch: 6200145	**Work Order:** H9F9A1AA			**Report DB ID:** 9H9F9A10								
TH-228	0.152	ND	0.22	0.22	0.409	pCi/sample	101%	*0.37*	7/31/06 08:19 p	1.0	0.08301	ISOTH
						0.153	1.0	*(1.4)*		Sample	Sample	ALP172
TH-230	0.490	=	0.27	0.29	0.218	pCi/sample	101%	*(2.3)*	7/31/06 08:19 p	1.0	0.08301	ISOTH
						0.0597	1.0	*(3.4)*		Sample	Sample	ALP172
TH-232	0.00000061	ND	0.089	0.089	0.267	pCi/sample	101%	*0.*	7/31/06 08:19 p	1.0	0.08301	ISOTH
						0.0844	1.0	*0.*		Sample	Sample	ALP172
Batch: 6200160	**Work Order:** H9F9A1AE			**Report DB ID:** 9H9F9A10								
ALPHA	1.25	ND	2.5	2.5	5.24	pCi/sample	100%	*0.24*	8/3/06 08:17 p	1.0	0.0206	E900.0
						2.11	20.0	*(1.)*		Sample	Sample	GPC10E
Batch: 6200161	**Work Order:** H9F9A1AF			**Report DB ID:** 9H9F9A10								
BETA	15.3	=	3.4	4.1	5.51	pCi/sample	100%	*(2.8)*	8/2/06 04:19 p	1.0	0.08248	E900.0
						2.64	5.0	*(7.5)*		Sample	Sample	GPC26B
Batch: 6200163	**Work Order:** H9F9A1AC			**Report DB ID:** 9H9F9A10								

STL Richland
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FORM I

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180200-10
Client Sample ID: P-0677
Yerington Air Quality - Event #85

SDG: 32138
Report No. : 32988
COC No. :

Collection Date: 6/20/2006 10:35:00 AM
Received Date: 7/18/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	-0.00571	ND	0.13	0.13	0.276	pCi/sample	107%	*-0.02*	8/11/06 01:40 p	1.0	0.24879	E903.1
						0.115	1.0	*-0.09*		Sample	Sample	ASCEHB
Batch: 6200165	**Work Order:** H9F9A1AD			**Report DB ID:** 9H9F9A10								
RA-228	0.985	ND	0.58	0.61	1.14	pCi/sample	99%	*0.86*	8/15/06 06:15 a	1.0	0.24879	E904.0
						0.477	3.1	*(3.3)*		Sample	Sample	GPC3A

Number of Results: 10

Comments:

STL Richland
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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: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180200-11
Client Sample ID: P-0678
Yerington Air Quality - Event #85

SDG: 32138
Report No. : 32988
COC No. :

Collection Date: 6/20/2006 10:55:00 AM
Received Date: 7/18/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6200142	**Work Order:** H9F9F1AG			**Report DB ID:** 9H9F9F10								
U-234	**0.00000**	ND	0.0000	0.23	0.252	pCi/sample	95%	*0.*	7/29/06 03:18 p	1.0	0.06238	E908.0
							1.0	*0.*		Sample	Sample	ALP11
U-235	**0.0744**	ND	0.19	0.19	0.445	pCi/sample	95%	*0.17*	7/29/06 03:18 p	1.0	0.06238	E908.0
						0.0968	1.0	*0.78*		Sample	Sample	ALP11
U-238	**-0.0186**	ND	0.037	0.037	0.445	pCi/sample	95%	*-0.04*	7/29/06 03:18 p	1.0	0.06238	E908.0
						0.0968	1.0	*-1.*		Sample	Sample	ALP11
Batch: 6200145	**Work Order:** H9F9F1AA			**Report DB ID:** 9H9F9F10								
TH-228	**0.0223**	ND	0.10	0.10	0.268	pCi/sample	110%	*0.08*	7/31/06 08:19 p	1.0	0.08353	ISOTH
						0.0734	1.0	*0.45*		Sample	Sample	ALP173
TH-230	**0.468**	=	0.28	0.29	0.115	pCi/sample	110%	*(4.1)*	7/31/06 08:19 p	1.0	0.08353	ISOTH
							1.0	*(3.2)*		Sample	Sample	ALP173
TH-232	**0.0426**	ND	0.085	0.085	0.115	pCi/sample	110%	*0.37*	7/31/06 08:19 p	1.0	0.08353	ISOTH
							1.0	*1.*		Sample	Sample	ALP173
Batch: 6200160	**Work Order:** H9F9F1AE			**Report DB ID:** 9H9F9F10								
ALPHA	**2.59**	ND	2.9	3.0	5.45	pCi/sample	100%	*0.48*	8/4/06 08:07 a	1.0	0.02092	E900.0
						2.23	20.0	*(1.7)*		Sample	Sample	GPC10A
Batch: 6200161	**Work Order:** H9F9F1AF			**Report DB ID:** 9H9F9F10								
BETA	**17.7**	=	3.4	4.2	5.19	pCi/sample	100%	*(3.4)*	8/2/06 04:19 p	1.0	0.08467	E900.0
						2.48	5.0	*(8.4)*		Sample	Sample	GPC26D
Batch: 6200163	**Work Order:** H9F9F1AC			**Report DB ID:** 9H9F9F10								

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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: 15-Aug-06

Lab Name: STL Richland
SDG: 32138
Collection Date: 6/20/2006 10:55:00 AM
Lot-Sample No.: J6G180200-11
Report No. : 32988
Received Date: 7/18/2006 10:00:00 AM
Client Sample ID: P-0678
COC No. :
Matrix: FILTER AIR

Yerington Air Quality - Event #85

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	-0.0593	ND	0.17	0.17	0.377	pCi/sample	97%	*-0.16*	8/11/06 01:41 p	1.0	0.25238	E903.1
						0.16	1.0	*-0.68*		Sample	Sample	ASCGSA
Batch: 6200165	**Work Order:** H9F9F1AD			**Report DB ID:** 9H9F9F10								
RA-228	1.37	=	0.68	0.74	1.34	pCi/sample	90%	*(1.)*	8/15/06 06:15 a	1.0	0.25238	E904.0
						0.57	3.1	*(3.7)*		Sample	Sample	GPC3B

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180200-12
Client Sample ID: P-0679
Yerington Air Quality - Event #85

SDG: 32138
Report No. : 32988
COC No. :

Collection Date: 6/20/2006 11:10:00 AM
Received Date: 7/18/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6200142	**Work Order:** H9F9J1AG			**Report DB ID:** 9H9F9J10								
U-234	0.102	ND	0.20	0.20	0.276	pCi/sample	97%	*0.37*	7/29/06 03:18 p	1.0	0.06233	E908.0
							1.0	*1.*		Sample	Sample	ALP12
U-235	0.00000	ND	0.0000	0.25	0.276	pCi/sample	97%	*0.*	7/29/06 03:18 p	1.0	0.06233	E908.0
							1.0	*0.*		Sample	Sample	ALP12
U-238	-0.0203	ND	0.041	0.041	0.487	pCi/sample	97%	*-0.04*	7/29/06 03:18 p	1.0	0.06233	E908.0
						0.106	1.0	*-1.*		Sample	Sample	ALP12
								Ratio U-234/238 = -5.0				
Batch: 6200145	**Work Order:** H9F9J1AA			**Report DB ID:** 9H9F9J10								
TH-228	0.506	=	0.45	0.46	0.274	pCi/sample	45%	*(1.8)*	7/31/06 08:19 p	1.0	0.08376	ISOTH
							1.0	*(2.2)*		Sample	Sample	ALP174
TH-230	1.25	=	0.70	0.74	0.261	pCi/sample	45%	*(4.8)*	7/31/06 08:19 p	1.0	0.08376	ISOTH
							1.0	*(3.4)*		Sample	Sample	ALP174
TH-232	0.00000	ND	0.0000	0.24	0.261	pCi/sample	45%	*0.*	7/31/06 08:19 p	1.0	0.08376	ISOTH
							1.0	*0.*		Sample	Sample	ALP174
Batch: 6200160	**Work Order:** H9F9J1AE			**Report DB ID:** 9H9F9J10								
ALPHA	2.20	ND	2.8	2.8	5.37	pCi/sample	100%	*0.41*	8/4/06 08:07 a	1.0	0.02086	E900.0
						2.2	20.0	*(1.6)*		Sample	Sample	GPC10B
Batch: 6200161	**Work Order:** H9F9J1AF			**Report DB ID:** 9H9F9J10								
BETA	20.0	=	3.5	4.4	5.03	pCi/sample	100%	*(4.)*	8/2/06 04:19 p	1.0	0.08405	E900.0
						2.41	5.0	*(9.1)*		Sample	Sample	GPC27A
Batch: 6200163	**Work Order:** H9F9J1AC			**Report DB ID:** 9H9F9J10								

STL Richland
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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: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180200-12
Client Sample ID: P-0679
Yerington Air Quality - Event #85

SDG: 32138
Report No. : 32988
COC No. :

Collection Date: 6/20/2006 11:10:00 AM
Received Date: 7/18/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	**0.258**	ND	0.24	0.25	0.383	pCi/sample	104%	*0.68*	8/11/06 01:36 p	1.0	0.25195	E903.1
						0.163	1.0	*(2.1)*		Sample	Sample	ASCKMD
Batch: 6200165	**Work Order:** H9F9J1AD			**Report DB ID:** 9H9F9J10								
RA-228	**2.34**	=	0.80	0.86	1.36	pCi/sample	95%	*(1.7)*	8/15/06 06:15 a	1.0	0.25195	E904.0
						0.58	3.1	*(5.4)*		Sample	Sample	GPC3C

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180200-13
Client Sample ID: P-0680
Yerington Air Quality - Event #85

SDG: 32138
Report No. : 32988
COC No. :

Collection Date: 6/20/2006 11:25:00 AM
Received Date: 7/18/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6200142	**Work Order:** H9F9L1AG			**Report DB ID:** 9H9F9L10								
U-234	0.0836	ND	0.20	0.20	0.455	pCi/sample	97%	*0.18*	7/29/06 03:19 p	1.0	0.06208	E908.0
						0.0926	1.0	*0.83*		Sample	Sample	ALP69
U-235	-0.0239	ND	0.028	0.028	0.496	pCi/sample	97%	*-0.05*	7/29/06 03:19 p	1.0	0.06208	E908.0
						0.113	1.0	*-(1.7)*		Sample	Sample	ALP69
U-238	-0.0478	ND	0.039	0.040	0.59	pCi/sample	97%	*-0.08*	7/29/06 03:19 p	1.0	0.06208	E908.0
						0.16	1.0	*-(2.4)*		Sample	Sample	ALP69
								Ratio U-234/238 = -1.7				
Batch: 6200160	**Work Order:** H9F9L1AE			**Report DB ID:** 9H9F9L10								
ALPHA	4.35	ND	3.4	3.5	5.59	pCi/sample	100%	*0.78*	8/4/06 08:07 a	1.0	0.02072	E900.0
						2.28	20.0	*(2.5)*		Sample	Sample	GPC10C
Batch: 6200161	**Work Order:** H9F9L1AF			**Report DB ID:** 9H9F9L10								
BETA	14.0	=	3.3	3.8	5.36	pCi/sample	100%	*(2.6)*	8/2/06 04:19 p	1.0	0.08274	E900.0
						2.57	5.0	*(7.3)*		Sample	Sample	GPC27C
Batch: 6200163	**Work Order:** H9F9L1AC			**Report DB ID:** 9H9F9L10								
RA-226	0.142	ND	0.27	0.27	0.49	pCi/sample	91%	*0.29*	8/11/06 01:37 p	1.0	0.24896	E903.1
						0.204	1.0	*(1.)*		Sample	Sample	ASCFSA
Batch: 6200165	**Work Order:** H9F9L1AD			**Report DB ID:** 9H9F9L10								
RA-228	1.19	ND	0.76	0.81	1.61	pCi/sample	82%	*0.74*	8/15/06 06:15 a	1.0	0.24896	E904.0
						0.692	3.1	*(3.)*		Sample	Sample	GPC3D
Batch: 6213179	**Work Order:** H9F9L2AA			**Report DB ID:** 9H9F9L20								

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: 15-Aug-06

Lab Name: STL Richland
SDG: 32138
Collection Date: 6/20/2006 11:25:00 AM
Lot-Sample No.: J6G180200-13
Report No. : 32988
Received Date: 7/18/2006 10:00:00 AM
Client Sample ID: P-0680
COC No. :
Matrix: FILTER AIR

Yerington Air Quality - Event #85

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
TH-228	**0.197**	ND	0.26	0.26	0.473	pCi/sample	100%	*0.42*	8/3/06 04:56 p	1.0	0.08277	ISOTH
						0.183	1.0	*(1.5)*		Sample	Sample	ALP171
TH-230	**0.206**	ND	0.19	0.19	0.225	pCi/sample	100%	*0.92*	8/3/06 04:56 p	1.0	0.08277	ISOTH
						0.0617	1.0	*(2.2)*		Sample	Sample	ALP171
TH-232	**0.0375**	ND	0.075	0.075	0.102	pCi/sample	100%	*0.37*	8/3/06 04:56 p	1.0	0.08277	ISOTH
							1.0	*1.*		Sample	Sample	ALP171

Number of Results: 10

Comments:

STL Richland
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V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland | **SDG:** 32138 | **Collection Date:** 6/20/2006 10:10:00 AM

Lot-Sample No.: J6G180200-14 | **Report No. :** 32988 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: P-0681 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #85

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6200142	**Work Order:** H9F9M1AG			**Report DB ID:** 9H9F9M10								
U-234	-0.0555	ND	0.045	0.046	0.685	pCi/sample	87%	*-0.08*	7/29/06 03:19 p	1.0	0.06163	E908.0
						0.186	1.0	*-(2.4)*		Sample	Sample	ALP71
U-235	0.0877	ND	0.23	0.23	0.576	pCi/sample	87%	*0.15*	7/29/06 03:19 p	1.0	0.06163	E908.0
						0.132	1.0	*0.75*		Sample	Sample	ALP71
U-238	-0.0462	ND	0.041	0.042	0.653	pCi/sample	87%	*-0.07*	7/29/06 03:19 p	1.0	0.06163	E908.0
						0.17	1.0	*-(2.2)*		Sample	Sample	ALP71
								Ratio U-234/238 = 1.2				
Batch: 6200145	**Work Order:** H9F9M1AA			**Report DB ID:** 9H9F9M10								
TH-228	-0.0212	ND	0.11	0.11	0.356	pCi/sample	93%	*-0.06*	7/31/06 08:19 p	1.0	0.0821	ISOTH
						0.121	1.0	*-0.38*		Sample	Sample	ALP176
TH-230	0.344	=	0.25	0.25	0.243	pCi/sample	93%	*(1.4)*	7/31/06 08:19 p	1.0	0.0821	ISOTH
						0.0665	1.0	*(2.7)*		Sample	Sample	ALP176
TH-232	-0.0405	ND	0.057	0.058	0.298	pCi/sample	93%	*-0.14*	7/31/06 08:19 p	1.0	0.0821	ISOTH
						0.0941	1.0	*-(1.4)*		Sample	Sample	ALP176
Batch: 6200160	**Work Order:** H9F9M1AE			**Report DB ID:** 9H9F9M10								
ALPHA	4.17	ND	3.1	3.2	4.86	pCi/sample	100%	*0.86*	8/4/06 08:07 a	1.0	0.02057	E900.0
						1.94	20.0	*(2.6)*		Sample	Sample	GPC10D
Batch: 6200161	**Work Order:** H9F9M1AF			**Report DB ID:** 9H9F9M10								
BETA	13.9	=	3.3	3.8	5.26	pCi/sample	100%	*(2.6)*	8/2/06 04:19 p	1.0	0.08302	E900.0
						2.52	5.0	*(7.3)*		Sample	Sample	GPC27D
Batch: 6200163	**Work Order:** H9F9M1AC			**Report DB ID:** 9H9F9M10								

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: 15-Aug-06

Lab Name: STL Richland
SDG: 32138
Collection Date: 6/20/2006 10:10:00 AM
Lot-Sample No.: J6G180200-14
Report No. : 32988
Received Date: 7/18/2006 10:00:00 AM
Client Sample ID: P-0681
COC No. :
Matrix: FILTER AIR

Yerington Air Quality - Event #85

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	**0.240**	ND	0.21	0.21	0.321	pCi/sample	100%	*0.75*	8/11/06 01:38 p	1.0	0.2468	E903.1
						0.136	1.0	*(2.2)*		Sample	Sample	ASCLMC
Batch: 6200165	**Work Order:** H9F9M1AD			**Report DB ID:** 9H9F9M10								
RA-228	**1.78**	=	0.80	0.84	1.5	pCi/sample	91%	*(1.2)*	8/15/06 06:15 a	1.0	0.2468	E904.0
						0.648	3.1	*(4.2)*		Sample	Sample	GPC4A

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

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

FORM I

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland | **SDG:** 32138 | **Collection Date:** 6/20/2006 11:35:00 AM

Lot-Sample No.: J6G180200-15 | **Report No. :** 32988 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: P-0682 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #85

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6200142	**Work Order:** H9F9N1AG			**Report DB ID:** 9H9F9N10								
U-234	0.0915	ND	0.24	0.24	0.6	pCi/sample	86%	*0.15*	7/29/06 03:20 p	1.0	0.0622	E908.0
						0.137	1.0	*0.75*		Sample	Sample	ALP83
U-235	-0.0193	ND	0.027	0.027	0.55	pCi/sample	86%	*-0.04*	7/29/06 03:20 p	1.0	0.0622	E908.0
						0.112	1.0	*-(1.4)*		Sample	Sample	ALP83
U-238	-0.0193	ND	0.027	0.027	0.55	pCi/sample	86%	*-0.04*	7/29/06 03:20 p	1.0	0.0622	E908.0
						0.112	1.0	*-(1.4)*		Sample	Sample	ALP83
								Ratio U-234/238 = -4.7				
Batch: 6200145	**Work Order:** H9F9N1AA			**Report DB ID:** 9H9F9N10								
TH-228	0.0916	ND	0.41	0.41	1.1	pCi/sample	24%	*0.08*	7/31/06 08:19 p	1.0	0.0833	ISOTH
						0.301	1.0	*0.45*		Sample	Sample	ALP177
TH-230	0.699	ND	0.70	0.72	0.474	pCi/sample	24%	*(1.5)*	7/31/06 08:19 p	1.0	0.0833	ISOTH
							1.0	*(1.9)*		Sample	Sample	ALP177
TH-232	0.00000	ND	0.0000	0.43	0.474	pCi/sample	24%	*0.*	7/31/06 08:19 p	1.0	0.0833	ISOTH
							1.0	*0.*		Sample	Sample	ALP177
Batch: 6200160	**Work Order:** H9F9N1AE			**Report DB ID:** 9H9F9N10								
ALPHA	-0.7530	ND	1.8	1.8	5.31	pCi/sample	100%	*-0.14*	8/4/06 08:07 a	1.0	0.02094	E900.0
						2.15	20.0	*-0.83*		Sample	Sample	GPC10E
Batch: 6200161	**Work Order:** H9F9N1AF			**Report DB ID:** 9H9F9N10								
BETA	0.147	ND	2.6	2.6	5.48	pCi/sample	100%	*0.03*	8/2/06 06:58 p	1.0	0.08296	E900.0
						2.63	5.0	*0.11*		Sample	Sample	GPC31A
Batch: 6200163	**Work Order:** H9F9N1AC			**Report DB ID:** 9H9F9N10								

STL Richland
rptSTLRchSample
V4.15.0 A97

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

FORM I

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180200-15
Client Sample ID: P-0682
Yerington Air Quality - Event #85

SDG: 32138
Report No. : 32988
COC No. :

Collection Date: 6/20/2006 11:35:00 AM
Received Date: 7/18/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	0.0218	ND	0.17	0.17	0.336	pCi/sample	111%	*0.06*	8/11/06 01:41 p	1.0	0.24874	E903.1
						0.143	1.0	*0.25*		Sample	Sample	ASCMRA
Batch: 6200165	**Work Order:** H9F9N1AD			**Report DB ID:** 9H9F9N10								
RA-228	2.44	=	0.81	0.91	1.43	pCi/sample	99%	*(1.7)*	8/15/06 06:15 a	1.0	0.24874	E904.0
						0.619	3.1	*(5.4)*		Sample	Sample	GPC4B

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II

BLANK RESULTS

Date: 15-Aug-06

Lab Name: STL Richland **SDG:** 32138

Lot-Sample No.: J6G190000-142 **Report No. :** 32988 **Matrix:** FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6200142	Work Order: H9HX01AA			Report DB ID: H9HX01AB								
U-234	-0.00346	ND	0.0028	0.0029	0.0428	pCi/sample	90%	-0.08	7/29/06 03:20 p	1.0	1.0	E908.0
					0.0116	1.0		-(2.4)		Sample	Sample	ALP84
U-235	-0.000577	ND	0.0012	0.0012	0.029	pCi/sample	90%	-0.02	7/29/06 03:20 p	1.0	1.0	E908.0
					0.00474	1.0		-1.		Sample	Sample	ALP84
U-238	-0.00115	ND	0.0016	0.0016	0.0329	pCi/sample	90%	-0.04	7/29/06 03:20 p	1.0	1.0	E908.0
					0.00671	1.0		-(1.4)		Sample	Sample	ALP84

Ratio U-234/238 = 3.0

Number of Results: 3

Comments:

STL Richland
rptSTLRchBlank
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II

BLANK RESULTS

Date: 15-Aug-06

Lab Name: STL Richland **SDG:** 32138

Lot-Sample No.: J6G190000-145 **Report No. :** 32988 **Matrix:** FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6200145	Work Order:	H9HX61AA		Report DB ID:	H9HX61AB							
TH-228	0.00156	ND	0.0070	0.0070	0.0187	pCi/sample	97%	0.08	7/31/06 08:19 p	1.0	1.0	ISOTH
					0.00512	1.0		0.45		Sample	Sample	ALP178
TH-230	0.0163	ND	0.015	0.015	0.0178	pCi/sample	97%	0.92	7/31/06 08:19 p	1.0	1.0	ISOTH
					0.00488	1.0		(2.2)		Sample	Sample	ALP178
TH-232	0.00000005	ND	0.0073	0.0073	0.0219	pCi/sample	97%	0.	7/31/06 08:19 p	1.0	1.0	ISOTH
					0.00691	1.0		0.		Sample	Sample	ALP178

Number of Results: 3

Comments:

STL Richland
rptSTLRchBlank
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II

BLANK RESULTS

Date: 15-Aug-06

Lab Name: STL Richland **SDG:** 32138

Lot-Sample No.: J6G190000-160 **Report No. :** 32988 **Matrix:** FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6200160	Work Order:	H9H1M1AA		Report DB ID:	H9H1M1AB							
ALPHA	0.0237	ND	0.053	0.053	0.114	pCi/sample	100%	0.21	8/4/06 10:54 a	1.0	1.0	E900.0
					0.0467	20.0		0.89		Sample	Sample	GPC10A

Number of Results: 1

Comments:

STL Richland
rptSTLRchBlank
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II

BLANK RESULTS

Date: 15-Aug-06

Lab Name: STL Richland **SDG:** 32138

Lot-Sample No.: J6G190000-161 **Report No. :** 32988 **Matrix:** FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6200161	**Work Order:** H9H111AA			**Report DB ID:** H9H111AB								
BETA	0.0786	ND	0.19	0.19	0.391	pCi/sample	100%	0.2	8/2/06 06:58 p	1.0	1.0	E900.0
					0.186	5.0		0.83		Sample	Sample	GPC31B

Number of Results: 1

Comments:

STL Richland
rptSTLRchBlank
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II

BLANK RESULTS

Date: 15-Aug-06

Lab Name: STL Richland **SDG:** 32138

Lot-Sample No.: J6G190000-163 **Report No. :** 32988 **Matrix:** FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6200163	Work Order: H9H181AA			Report DB ID: H9H181AB								
RA-226	0.0290	ND	0.033	0.034	0.053	pCi/sample	101%	0.55	8/11/06 01:41 p	1.0	1.0	E903.1
					0.0194	1.0		(1.7)		Sample	Sample	ASCJSB

Number of Results: 1

Comments:

STL Richland
rptSTLRchBlank
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II

BLANK RESULTS

Date: 15-Aug-06

Lab Name: STL Richland **SDG:** 32138

Lot-Sample No.: J6G190000-165 **Report No. :** 32988 **Matrix:** FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6200165	Work Order:	H9H2F1AA		Report DB ID:	H9H2F1AB							
RA-228	0.325	ND	0.18	0.19	0.37	pCi/sample	91%	0.88	8/15/06 06:15 a	1.0	1.0	E904.0
					0.159	3.1		(3.4)		Sample	Sample	GPC4C

Number of Results: 1

Comments:

STL Richland

rptSTLRchBlank
V4.15.0 A97

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

Lab Name: STL Richland **SDG:** 32138

Lot-Sample No.: J6H010000-179 **Report No. :** 32988 **Matrix:** FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6213179	Work Order:	JADTW1AA		Report DB ID:	JADTW1AB							
TH-228	-0.0095	ND	0.0078	0.0079	0.0341	pCi/sample	104%	-0.28	8/3/06 04:56 p	1.0	1.0	ISOTH
					0.0128	1.0		-(2.4)		Sample	Sample	ALP172
TH-230	0.0256	=	0.018	0.019	0.0181	pCi/sample	104%	(1.4)	8/3/06 04:56 p	1.0	1.0	ISOTH
					0.00495	1.0		(2.7)		Sample	Sample	ALP172
TH-232	0.00301	ND	0.0095	0.0095	0.0222	pCi/sample	104%	0.14	8/3/06 04:56 p	1.0	1.0	ISOTH
					0.00701	1.0		0.63		Sample	Sample	ALP172

Number of Results: 3

Comments:

STL Richland
rptSTLRchBlank
V4.15.0 A97

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

LCS RESULTS

Date: 15-Aug-06

Lab Name: STL Richland **SDG:** 32138

Lot-Sample No.: J6G190000-142 **Report No. :** 32988 **Matrix:** FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 6200142	**Work Order:** H9HX01AC			**Report DB ID:** H9HX01CS									
U-234	0.911	=	0.18	0.24	0.0421	pCi/sample	94.55%	0.967	0.0056	94%	7/29/06 03:21 p	1.0	E908.0
						Rec Limits:				-0.1		Sample	ALP85
U-238	0.810	=	0.17	0.22	0.0421	pCi/sample	94.55%	1.01	0.0059	80%	7/29/06 03:21 p	1.0	E908.0
						Rec Limits:				-0.2		Sample	ALP85

Number of Results: 2

Comments:

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

FORM II

LCS RESULTS

Date: 15-Aug-06

Lab Name: STL Richland **SDG:** 32138

Lot-Sample No.: J6G190000-145 **Report No. :** 32988 **Matrix:** FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 6200145	Work Order: H9HX61AC			Report DB ID: H9HX61CS									
TH-230	1.97	=	0.20	0.42	0.0143	pCi/sample	70.71%	1.83	0.06	108%	7/31/06 04:15 p	1.0	ISOTH
							Rec Limits:	70.	130.	0.1		Sample	ALP120

Number of Results: 1

Comments:

STL Richland
rptSTLRchLcs
V4.15.0 A97

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

FORM II

LCS RESULTS

Date: 15-Aug-06

Lab Name: STL Richland **SDG:** 32138

Lot-Sample No.: J6G190000-160 **Report No. :** 32988 **Matrix:** FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 6200160	**Work Order:** H9H1M1AC			**Report DB ID:** H9H1M1CS									
ALPHA	2.43	=	0.27	0.57	0.113	pCi/sample	100.00%	2.38	0.075	102%	8/4/06 10:54 a	1.0	E900.0
							Rec Limits:			0.0		Sample	GPC10B

Number of Results: 1

Comments:

STL Richland
rptSTLRchLcs
V4.15.0 A97

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

FORM II

LCS RESULTS

Date: 15-Aug-06

Lab Name: STL Richland **SDG:** 32138

Lot-Sample No.: J6G190000-161 **Report No. :** 32988 **Matrix:** FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 6200161	Work Order: H9H111AC			Report DB ID: H9H111CS									
BETA	4.91	=	0.41	0.76	0.412	pCi/sample	100.00%	4.59	0.037	107%	8/2/06 06:58 p	1.0	E900.0
						Rec Limits:				0.1		Sample	GPC31C

Number of Results: 1

Comments:

STL Richland
rptSTLRchLcs
V4.15.0 A97

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

FORM II

LCS RESULTS

Date: 15-Aug-06

Lab Name: STL Richland **SDG:** 32138

Lot-Sample No.: J6G190000-163 **Report No. :** 32988 **Matrix:** FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 6200163	Work Order: H9H181AC			Report DB ID: H9H181CS									
RA-226	1.39	=	0.16	0.33	0.0813	pCi/sample	101.94%	1.39	0.021	100%	8/11/06 01:42 p	1.0	E903.1
							Rec Limits:	70.	130.	0.0		Sample	ASCPMA

Number of Results: 1

Comments:

STL Richland
rptSTLRchLcs
V4.15.0 A97

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

FORM II

LCS RESULTS

Date: 15-Aug-06

Lab Name: STL Richland **SDG:** 32138

Lot-Sample No.: J6G190000-165 **Report No. :** 32988 **Matrix:** FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 6200165	Work Order: H9H2F1AC			Report DB ID: H9H2F1CS									
RA-228	5.00	=	0.50	0.75	0.372	pCi/sample	90.68%	5.05	0.021	99%	8/15/06 06:15 a	1.0	E904.0
							Rec Limits:	70.	130.	0.0		Sample	GPC4D

Number of Results: 1

Comments:

STL Richland
rptSTLRchLcs
V4.15.0 A97

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

FORM II

LCS RESULTS

Date: 15-Aug-06

Lab Name: STL Richland **SDG:** 32138

Lot-Sample No.: J6H010000-179 **Report No. :** 32988 **Matrix:** FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 6213179	Work Order: JADTW1AC			Report DB ID: JADTW1CS									
TH-230	1.96	=	0.17	0.38	0.0098	pCi/sample	98.25%	1.85	0.061	106%	8/3/06 04:56 p	1.0	ISOTH
							Rec Limits:	70.	130.	0.1		Sample	ALP173

Number of Results: 1

Comments:

STL Richland
rptSTLRchLcs
V4.15.0 A97

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

CHAIN OF CUSTODY

STL RICHLAND

BROWN AND CALDWELL

CHAIN OF CUSTODY RECORD

J6G180200
32138

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

Due 8.15.06

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

PROJECT NAME: [illegible]

PROJECT NUMBER: [illegible]

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

SACRAMENTO LOT # G6F230235

1/6 OF THE EXPOSED FILTER WAS UTILIZED FOR THE METALS ANALYSIS

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 µSV/hr	SAMPLING METHOD	DEPTH (FT.) BEGIN ---- END	PID READING (ppm)
01	100502	[illegible]	10:15	[illegible]	1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9F7N			0.23		----	
02	100503		10:25		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9F73			0.27		----	
03	100504		10:40		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9F75			0.37		----	
04	100505		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) H9F78			0.32		----	
05	100506		11:15		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9F8F			0.29		----	
06	100507		11:30		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9F8L			0.25		----	
07	100508		11:20		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9F8W			0.33		----	
08														----	
09														----	
10														----	

COLLECTED & RELEASED BY:	DATE	TIME	COOLER I.D.:	DATE	TIME	COMMENTS (see note on back):
[illegible]	[illegible]	[illegible]				
RECEIVED BY:	DATE	TIME	RELINQUISHED BY:	DATE / /	TIME :	
[illegible]	[illegible]	11:00	Steve Valmers	7/17/06	1000	
S. Welch	7.18.06	10:00				
RECORD RETURNED BY:	DATE / /	TIME :				
COURIER: [illegible]			SHIPPING NUMBER: [illegible]			

RECEIVED IN GOOD CONDITION UNDER COC
JUN 23 2006
INT.

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

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

PROJECT NAME: [illegible] Air Qlty

PROJECT NUMBER: [illegible]

LABORATORY NAME & ADDRESS: [illegible] SACRAMENTO

1/6 OF THE EXPOSED FILTER WAS UTILIZED FOR THE METALS ANALYSIS. SACRAMENTO LOT # G6F230235

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-0675	[illegible]	10:15	[illegible]	1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9F85			0.35		----	
02	P-0676		10:20		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9F89			0.35		----	
03	P-0677		10:35		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9F9A			0.31		----	
04	P-0678		10:55		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9F9F			0.29		----	
05	P-0679		11:10		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9F9J			0.29		----	
06	P-0680		11:25		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9F9L			0.30		----	
07	P-0681		10:10		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9F9m			0.32		----	
08	P-0682		11:35		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9F9N			0.35		----	
09														----	
10														----	

	DATE	TIME		DATE	TIME
COLLECTED & RELEASED BY: [illegible]	[illegible]	[illegible]	COOLER I.D.:		
RECEIVED BY: [illegible]	6/23/06	11:00	RELINQUISHED BY: Steve Valmore	7/17/06	1600
S. Welch	7-18-06	10:00			
RECORD RETURNED BY:	/ /	:			
COURIER: [illegible]			SHIPPING NUMBER: [illegible]		

COMMENTS (see note on back):

RECEIVED IN GOOD CONDITION UNDER COC
JUN 23 2006
INT: [illegible]

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

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

SEVERN TRENT STL

Sample Check-in List

Date/Time Received: 7-18-06 10:00

Client: BNC SDG #: 32138 NA [ ] SAF #: _____ NA [ ]

Work Order Number: J6G180200 Chain of Custody # N/A

Shipping Container ID: N/A Air Bill # N/A

1. Custody Seals on shipping container intact? NA [ ] Yes [ ] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [ ] No [ ]
3. Chain of Custody record present? NA [ ] Yes [ ] No [ ]
4. Cooler temperature: _____ NA [ ] 5. Vermiculite/packing materials is NA [ ] Wet [ ] Dry [ ] Yes [ ] No [ ]
6. Number of samples in shipping container: 15
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? * Yes [ ] No [ ]
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [ ]
13. Description of anomalies (include sample numbers): _____

Sample Custodian: S. Welch Date: 7-18-06 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

8/4/2006 3:52:37 PM

Lot No., Due Date: J6G180200; 08/15/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6213179; RTHISO Thlso by ALP

SDG, Matrix: 32138; FILTER

1.0 COC

	Yes	No	N/A
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	✓		

2.0 QC Batch

	Yes	No	N/A
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2.2 Are the QC appropriate for the analysis included in the batch?	✓		
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	✓		
2.4 Does the Worksheets include a Tracer Vial label for each sample?	✓		

3.0 QC & Samples

	Yes	No	N/A
3.1 Is the blank results, yield, and MDA within contract limits?	✓		
3.2 Is the LCS result, yield, and MDA within contract limits?	✓		
3.3 Are the MS/MSD results, yields, and MDA within contract limits?			✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?			✓
3.5 Are the sample yields and MDAs within contract limits?	✓		

4.0 Raw Data

	Yes	No	N/A
4.1 Were results calculated in the correct units?	✓		
4.2 Were analysis volumes entered correctly?	✓		
4.3 Were Yields entered correctly?			✓
4.4 Were spectra reviewed/meet contractual requirements?	✓		
4.5 Were raw counts reviewed for anomalies?	✓		

5.0 Other

	Yes	No	N/A
5.1 Are all nonconformances included and noted?	✓		
5.2 Are all required forms filled out?	✓		
5.3 Was the correct methodology used?	✓		
5.4 Was transcription checked?	✓		
5.5 Were all calculations checked at a minimum frequency?	✓		
5.6 Are worksheet entries complete and correct?	✓		

6.0 Comments on any No response:
See NCM. 108446

First Level Review Pam Anderson **Date** 8-4-06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6213179

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: 8-7-06

STL RICHLAND

8/1/2006 9:25:45 AM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell , Brown & Caldwell

9N Thiso PrpRc5016, SepRC~~5004~~(5003) 5029 J.C. 8/1/06

S1 Thorium-228,230,232 by Alpha Spec

01 STANDARD TEST SET

Pipet #: _____

AnalyDueDate: 08/14/2006

Sep1 DT/Tm Tech:

Batch: 6213179 **FILTER** **pCi/sampl** **PM, Quote: SA , 63174**

Sep2 DT/Tm Tech: 8-3-06 [illegible]

SEQ Batch, Test: None All Tests: 6200142 7YSR, 6200145 9NS1, 6200160 BAS7, 6200161 BDS8, 6200163 BXTE, 6200165 BXTF, 6213179 9NS1,

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 H9F9L-2-AA J6G180200-13-SAMP 06/20/2006 11:25	0.833sa,g	504.90sa,g	50.17g,in	0.0828g	THTF0772 07/21/06,pd 10/04/04,r	500				
		AmtRec: FILTER	#Containers: 1					Scr:	Alpha:	Beta:
2 JADTW-1-AA-B J6H010000-179-BLK 06/20/2006 11:25			1.00sa,in	1.00sa	THTF0773 07/21/06,pd 10/04/04,r					
		AmtRec:	#Containers: 1					Scr:	Alpha:	Beta:
3 JADTW-1-AC-C J6H010000-179-LCS 06/20/2006 11:25			1.00sa,in	1.00sa	THSO0087 07/21/06,pd 10/04/04,r					
		AmtRec:	#Containers: 1					Scr:	Alpha:	Beta:

Comments:

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

H9F9L2AA-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

JADTW1AA-BLK 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

JADTW1AC-LCS:

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

H9F9L2AA-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
JADTW1AA-BLK Calc Info:

66

SEVERN TRENT STL

*** RE-ANALYSIS REQUEST ***

DUE DATE 8-14-06

CUSTOMER B&C

ANALYSIS Th

MATRIX filter

LOT NUMBER J6G180200

SAMPLE DELIVERY GROUP NA

OLD BATCH NUMBER 6200145

NEW BATCH NUMBER 6213179

LAB SAMPLE ID	REASON FOR REQUEST & ANALYSIS COMMENTS
1) H9F9L1A-A	smeared sample
2)	
3)	
4)	
5)	
6)	
7)	
8)	
9)	
10)	
11)	
12)	
13)	
14)	
15)	
16)	
17)	
18)	
19)	
20)	
LAB QC ID	Assigned with new batch.

RC-048, 10/03, Rev 7

Clouseau
Nonconformance Memo

SEVERN TRENT SERVICES

NCM #: **10-08446**
NCM Initiated By: Pam Anderson
Date Opened: 08/04/2006
Date Closed:

Classification: **Anomaly**
Status: **GLREVIEW**
Production Area: Environmental - Sep
Tests: Thlso by ALP
Lot #'s (Sample #'s): J6G180200 (13),
QC Batches: 6213179

Nonconformance: Other (describe in detail)
Subcategory: Other (explanation required)

Problem Description / Root Cause

Name	Date	Description
Pam Anderson	08/04/2006	Sample H9F9L1AC for Th isio on batch 6200145 had a slightly smeared spectra. The result for this sample was positive but probably a false positive. The sample was reanalyzed and it showed a better spectra in batch 6213179. This result will be transferred for reporting.

Corrective Action

Name	Date	Corrective Action
Pam Anderson	08/04/2006	The sample was reanalyzed.

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: 8/4/2006

8/4/2006 3:34:12 PM

ICOC Fraction Transfer/Status Report

ByDate: 8/4/2005, 8/9/2006, Batch: '6213179', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6213179						
AC		**CalcC**	**HansenM**	8/1/2006 9:25:31 AM		
SC			andersonp	IsBatched	8/1/2006 9:05:32 AM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	8/1/2006 9:25:31 AM	RICH-RC-5016 REVISION 5
SC			HansenM	Prep2C	8/1/2006 12:36:59 PM	RICH-RC-5016 REVISION 5
SC			AndersonE	Sep1C	8/2/2006 3:07:46 PM	RICH-RC-5087 REV0
SC			FABREM	Sep2C	8/3/2006 12:21:57 PM	RICH-RC-5039 REV 6
SC			BlackCL	InCnt1	8/3/2006 12:27:01 PM	RICH-RD-0008 REVISION 4
SC			DAWKINSO	CalcC	8/3/2006 9:45:04 PM	RICH-RD-0003 REVISION 4
AC			**HansenM**	8/1/2006 12:36:59 PM		
AC			**AndersonE**	8/2/2006 3:07:46 PM		
AC			**FABREM**	8/3/2006 12:21:57 PM		
AC			**BlackCL**	8/3/2006 12:27:01 PM		
AC			**DAWKINSO**	8/3/2006 9:45:04 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 6

ICOCFractions v4.8.18

8/4/2006 3:34:11 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	
32138	**9H9F9L20**			**J6G18020013**	P-0680	FILTER	7/18/2006 10:00:00	6/20/2006 11:25:00 AM					
TH-228	9NS1	1		8/3/2006 4:56:37 PM	**1.9702E-01**	1.307E-01	1.319E-01	4.732E-01	PCI/SA		0.999	1.0E+0	3.277E-2
TH-230	9NS1	1		8/3/2006 4:56:37 PM	**2.0617E-01**	9.372E-02	9.549E-02	2.248E-01	PCI/SA		0.999	1.0E+0	3.277E-2
TH-232	9NS1	1		8/3/2006 4:56:37 PM	**3.7486E-02**	3.749E-02	3.763E-02	1.016E-01	PCI/SA		0.999	1.0E+0	3.277E-2
32138	**JADTW1AB**			**J6H010000179**	INTRA-LAB BLANK	FILTER	7/18/2006 10:00:00	6/20/2006 11:25:00 AM					
TH-228	9NS1	0	B	8/3/2006 4:56:37 PM	**-9.4958E-03**	3.877E-03	3.961E-03	3.407E-02	PCI/SA		1.037	1.0E+0	1.0E+0
TH-230	9NS1	0	B	8/3/2006 4:56:37 PM	**2.5596E-02**	9.159E-03	9.416E-03	1.806E-02	PCI/SA		1.037	1.0E+0	1.0E+0
TH-232	9NS1	0	B	8/3/2006 4:56:37 PM	**3.0114E-03**	4.761E-03	4.768E-03	2.216E-02	PCI/SA		1.037	1.0E+0	1.0E+0
32138	**JADTW1CS**			**J6H010000179**	INTRA-LAB CHECK	FILTER	7/18/2006 10:00:00	6/20/2006 11:25:00 AM					
TH-230	9NS1	0	S	8/3/2006 4:56:37 PM	**1.9571E+00**	8.414E-02	1.911E-01	9.804E-03	PCI/SA	1.8453E+00	0.983	1.0E+0	1.0E+0

6213179, **Samples Inserted | Updated | NotUpdated => 3 | 0 | 0,
**Results Inserted | ReTestInserted | Updated | NotInserted => 7 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:JADTW1AA=> , mat:FILTER | Air *wo:JADTW1AA=> , mat:FILTER | Air *wo:JADTW1AA=> , mat:FILTER | Air.

Batch Nbr: 6213179

Alpha Spec, ThIso by ALP , Results

8/3/2006 9:41:34 PM

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
ThIso by ALP				Richland Standard AlpIso Wo Blk Subt.										
Calc	S1	FILTER	**H9F9L2AA**	TH-228	**1.97E-01**	**(1.32E-01)**	**U4**	PCI/SA	R	1.83E-01	4.73E-01		100%	
Calc	S1	FILTER	**H9F9L2AA**	TH-230	**2.06E-01**	**(9.55E-02)**		PCI/SA	R	6.17E-02	2.25E-01		100%	
Calc	S1	FILTER	**H9F9L2AA**	TH-232	**3.75E-02**	**(3.76E-02)**	**U4**	PCI/SA	R		1.02E-01		100%	
Calc	S1	FILTER	**JADTW1AA**	TH-228	**-9.50E-03**	**(3.96E-03)**	**U4**	PCI/SA	R	1.28E-02	3.41E-02	**B**	104%	
Calc	S1	FILTER	**JADTW1AA**	TH-230	**2.56E-02**	**(9.42E-03)**		PCI/SA	R	4.95E-03	1.81E-02	**B**	104%	
Calc	S1	FILTER	**JADTW1AA**	TH-232	**3.01E-03**	**(4.77E-03)**	**U4**	PCI/SA	R	7.01E-03	2.22E-02	**B**	104%	
Calc	S1	FILTER	**JADTW1AC**	TH-230	**1.96E+00**	**(1.91E-01)**		PCI/SA	R		9.80E-03	**S**	98%	106%

() - (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:10
RADCALC v4.8.18
STL Richland

Batch Nbr: 6213179

Alpha Spec, Thiso by ALP , Calculated Results

8/3/2006 9:41:35 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	S1	FILTER	*STLE	AlpIsoWoBS	**H9F9L2AA**	**PCI/SA**		06/20/06 11:25	08/03/06 16:56			1	1.00 Sa	
536403,P-0680					,J6G180200-13 v4.8.18		FILTER					THTF0772 Alq		0.082772 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	08/03/06 12:46	TH-228	9	8	ALP171	ED	N	N	2.9087E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0448E+00	
			499.4666666	998.95			Y		(8.726E-03)			6%			(0.000E+00)	12.081372		
1	08/03/06 12:46	TH-229	590	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)	12.081372		
2	08/03/06 12:46	TH-230	6	1	ALP171	ED	N	N	2.9087E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.726E-03)			6%			(0.000E+00)	12.081372		
3	08/03/06 12:46	TH-232	1	0	ALP171	ED	N	N	2.9087E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.726E-03)			6%			(0.000E+00)	12.081372		

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
	08/03/06	TH-228	R	**0.197019**	**U4**	1.00108E-02	0.034649	0.034649	1.00 Sa	100%		0.473229		
				(0.131853)		(6.6403E-03)	(0.023103)	(0.023103)	(0.028284)			0.183332		
	08/03/06	TH-229	R	**22.0262**		1.17726E+00	4.047405	4.047405	1.00 Sa	100%				
				(1.693206)		(4.8673E-02)	(0.206749)	(0.206749)	(0.028284)					
	08/03/06	TH-230	R	**0.206173**		1.10118E-02	0.037885	0.037885	1.00 Sa	100%		0.224842		
				(0.095489)		(5.0053E-03)	(0.017411)	(0.017411)	(0.028284)			0.061664		
	08/03/06	TH-232	R	**0.037486**	**U4**	2.00214E-03	0.006888	0.006888	1.00 Sa	100%		0.101587		
				(0.037634)		(2.0021E-03)	(0.006904)	(0.006904)	(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	**JADTW1AA**	**PCI/SA**	**B**	06/20/06 11:25	08/03/06 16:56			1	1.00 Sa	
0,INTRA-LAB BLANK					,J6H010000-179		FILTER					THTF0773 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	08/03/06 12:46	TH-228	0	6	ALP172	ED	N	N	2.9949E-01		N	104%	N		1.0000E+00	4.5045E-01	1.0448E+00	
			499.4666666	998.95			Y		(8.985E-03)			6%			(0.000E+00)	1.00		
1	08/03/06 12:46	TH-229	631	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)	1.00		
2	08/03/06 12:46	TH-230	9	1	ALP172	ED	N	N	2.9949E-01		N	104%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.985E-03)			6%			(0.000E+00)	1.00		
3	08/03/06 12:46	TH-232	2	2	ALP172	ED	N	N	2.9949E-01		N	104%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.985E-03)			6%			(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:2

RADCALC v4.8.18

STL Richland

Batch Nbr: 6213179 — Alpha Spec, ThIso by ALP , Calculated Results — 8/3/2006 9:41:35 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
	08/03/06	TH-228	R	**-0.009496**	U4	-6.00631E-03	-0.020176	-0.020176	1.00 Sa	104%		0.034071		
				(0.003961)		(2.4521E-03)	(0.008347)	(0.008347)	(0.017321)			0.012754		
	08/03/06	TH-229	R	**1.891107**		1.25734E+00	4.198262	4.198262	1.00 Sa	104%				
				(0.137724)		(5.0353E-02)	(0.210071)	(0.210071)	(0.017321)					
	08/03/06	TH-230	R	**0.025596**		1.70182E-02	0.056824	0.056824	1.00 Sa	104%		0.018062		
				(0.009416)		(6.0893E-03)	(0.020686)	(0.020686)	(0.017321)			0.004954		
	08/03/06	TH-232	R	**0.003011**	U4	2.00217E-03	0.006685	0.006685	1.00 Sa	104%		0.022163		
				(0.004768)		(3.1656E-03)	(0.01058)	(0.01058)	(0.017321)			0.007005		

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	**JADTW1AC**	**PCI/SA**	**S**	06/20/06 11:25	08/03/06 16:56		THSO0087	1	1.00 Sa	
0,INTRA-LAB CHECK					,J6H010000-179		FILTER					THSO0087 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	08/03/06 12:46	TH-229	504	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)	1.00		
2	08/03/06 12:46	TH-230	541	0	ALP173	ED	N	N	2.5374E-01		N	98%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.612E-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
	08/03/06	TH-229	R	**1.787782**		1.00707E+00	3.96888	3.96888	1.00 Sa	98%				
				(0.134904)		(4.4970E-02)	(0.213509)	(0.213509)	(0.017321)					
	08/03/06	TH-230	R	**1.957084**		1.08316E+00	4.34473	4.34473	1.00 Sa	98%	106%	0.009804		
				(0.191068)		(4.6568E-02)	(0.356464)	(0.356464)	(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:3 RADCALC v4.8.18 STL Richland

STL RICHLAND

SEVERN TRENT **STL**

THORIUM ISOTOPIC COUNTING REQUEST

8/3

C.R. Technician CS
Date Counted 8/3
C.R. Analyst AD
Date Analyzed 8/3/06

Counting Time
Sample 50 Minutes
Background See Alpha Analysis Report

SOP's
Operating: RICHRD008 2/04
Review: RICHRD0016 BRC 6/20 6/23/09

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)		
H9F9L0AA		10		0	See Alpha Analysis Report for ROI Information			171	
8/3/6 HJADTW1AA		10		0	See Alpha Analysis Report for ROI Information			172	
JADTW1AC		10		0	See Alpha Analysis Report for ROI Information			173	
		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: 8/3/06

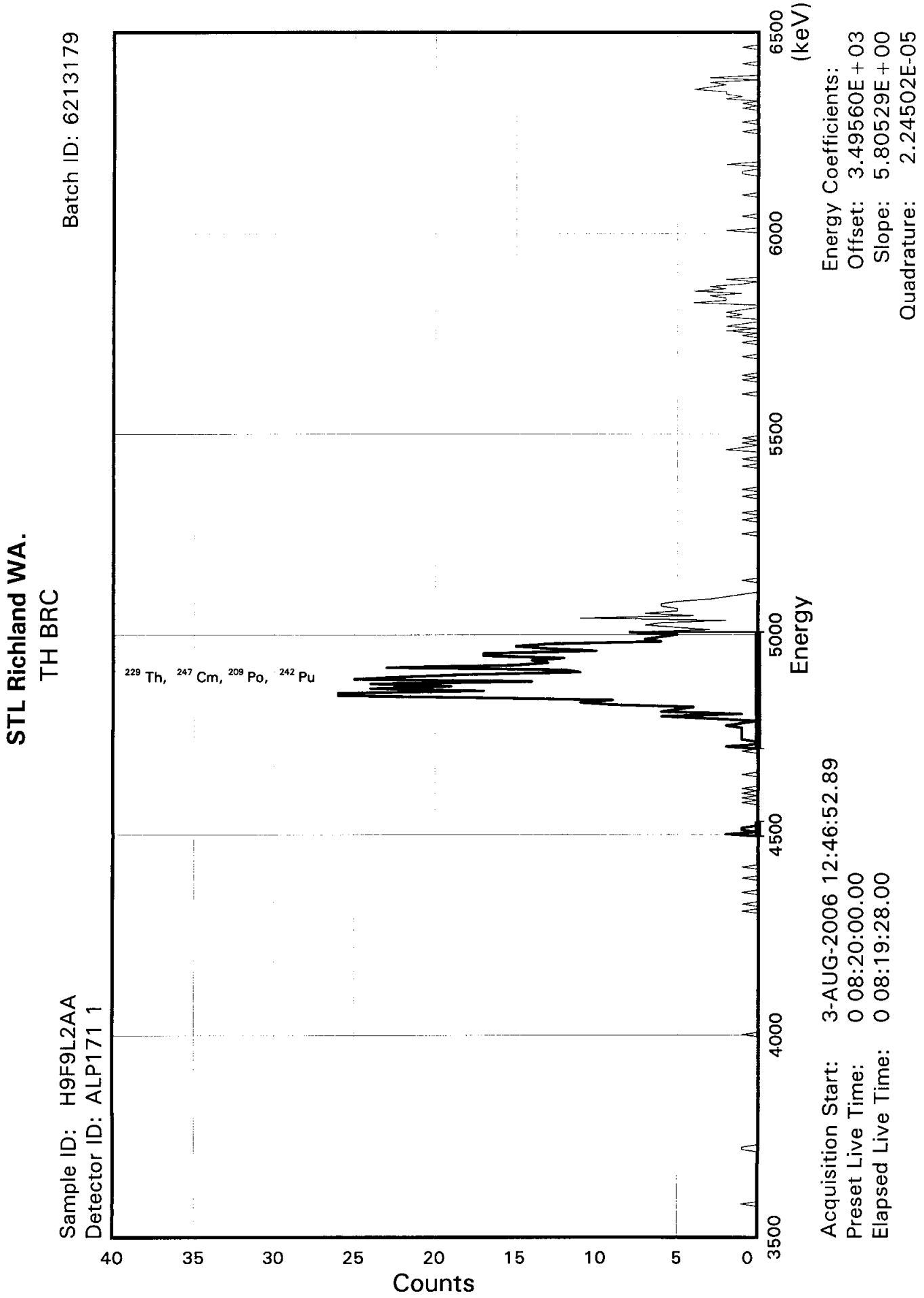
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H9F9L2AA

Detector: ALP171 1
Report Date: 03-Aug-06 09:11 PM
Acquire Date: 3-AUG-2006 12:46:52.89
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	9	8	0.010	5423.2	157.1	317	344
TH-229	590	4	1.177	4845.3	372.2	214	278
TH-230	6	1	0.011	4687.7	139.5	186	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
Batch ID: 6213179
Sample ID: H9F9L2AA
Detector ID: ALP171 1
229 Th, 247 Cm, 209 Po, 242 Pu
Counts
40
35
30
25
20
15
10
5
0
3500
4000
4500
5000
5500
6000
6500
Energy
(keV)
Acquisition Start: 3-AUG-2006 12:46:52.89
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 IDENTIITY: H9F9L2AA

TITLE : TH BRC

DETECTOR : ALP171 1
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9F9L2AA_030861246A.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 03-Aug-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 03-AUG-2006 12:46:52 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 Regions Report
(Version: 8-Oct-91)

Sample Identity: H9F9L2AA

Detector: ALP171 1
Report Date: 03-Aug-06 09:07 PM
Acquire Date: 3-AUG-2006 12:46:52.89
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	5166.2	290.9	256	306	0.00	0.00	M I
PO-209	515	4	0	1.027	4934.5	290.8	210	260	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5355.7	291.0	289	339	0.00	0.00	M
AC-227	-9999	-9999	0	-10.010	6089.3	291.3	415	465	0.00	0.00	M
TH-227	-9999	-9999	0	-10.010	6089.3	291.3	415	465	0.00	0.00	M
TH-228	-9999	-9999	0	-10.010	5474.5	291.0	309	359	0.00	0.00	M
TH-229	515	4	0	1.027	4896.6	290.8	210	260	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4739.0	290.7	183	233	0.00	0.00	M I
TH-232	1	1	0	0.001	4064.3	290.5	67	117	0.00	0.00	S
U-232	-9999	-9999	0	-10.010	5371.5	291.0	292	342	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4825.9	290.8	198	248	0.00	0.00	M I
U-235	8	2	3	0.013	4449.1	290.6	133	183	0.00	0.00	S
PU-236	-9999	-9999	0	-10.010	5819.0	285.3	369	418	0.00	0.00	M
NP-237	-9999	-9999	0	-10.010	4839.3	290.8	200	250	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.010	5550.4	291.0	322	372	0.00	0.00	M
U-238	-9999	-9999	0	-10.010	4249.3	290.5	99	149	0.00	0.00	M
PU-239	-9999	-9999	0	-10.010	5207.9	290.9	264	314	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5536.9	291.0	320	370	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5258.1	290.9	272	322	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6164.0	291.3	428	478	0.00	0.00	M
PU-242	515	4	0	1.027	4951.8	290.8	210	260	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5326.6	291.0	284	334	0.00	0.00	M
CM-244	-9999	-9999	0	-10.010	5856.1	291.2	375	425	0.00	0.00	M
CM-246	-9999	-9999	0	-10.010	5437.8	291.0	303	353	0.00	0.00	M
CM-247	515	4	0	1.027	4921.7	290.8	210	260	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5129.9	290.9	250	300	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: H9F9L2AA
Detector: ALP171 1
Report Date: 03-Aug-06 09:07 PM
Acquire Date: 3-AUG-2006 12:46:52.89

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

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

VMS Peak Search Report V1.9 Generated 3-AUG-2006 21:07:25

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9F9L2AA_030861246A.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 3-AUG-2006 12:46:52
Sample ID         : H9F9L2AA             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	4509.30	4	0	23.22	174.50	172	7	1.33E-04	50.0	
2	0	4896.63	515	0	133.52	241.11	210	50	1.72E-02	4.4	

VMS Nuclide Identification Report V3.0 Generated 3-AUG-2006 21:07:28

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9F9L2AA_030861246A.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 3-AUG-2006 12:46:52
Sample ID         : H9F9L2AA             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	
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]H9F9L2AA_030861246A.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4509.30	172	179	4	4	0.00		
4896.62	210	260	515	514	0.04		

End of Report

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

Sample Identity: JADTW1AA

Detector: ALP171 2
Report Date: 03-Aug-06 09:12 PM
Acquire Date: 3-AUG-2006 12:46:52.89
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	112.8	320	340
TH-229	631	6	1.257	4845.3	361.2	215	279
TH-230	9	1	0.017	4687.7	129.9	190	213
TH-232	2	2	0.002	4013.0	118.7	69	90

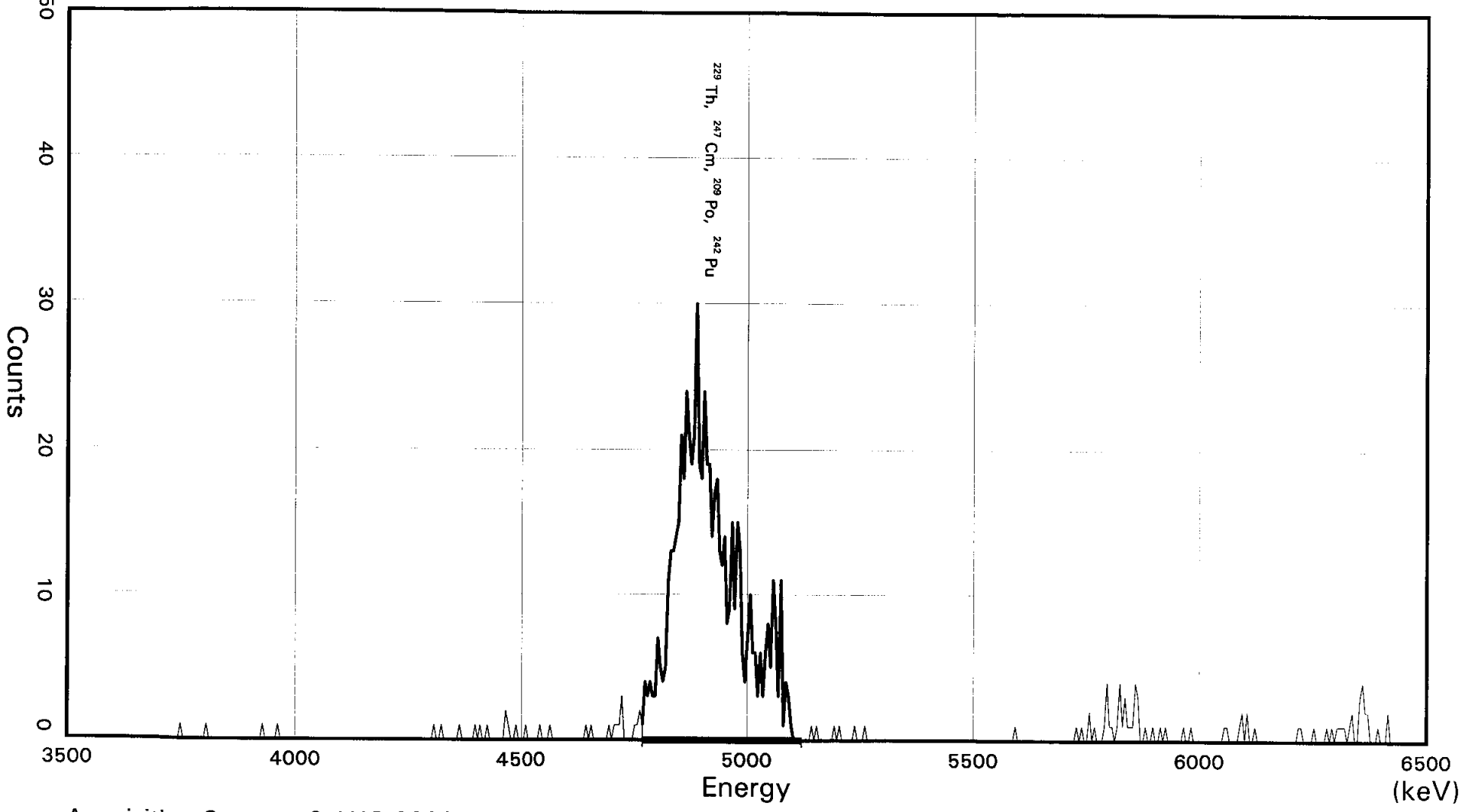
End of Alpha Region Report
(Produced by ANAL Report)

STL Richland WA.

TH BRC

Sample ID: JADTW1AA
Detector ID: ALP171 2

Batch ID: 6213179



Acquisition Start: 3-AUG-2006 12:46:52.89
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: JADTW1AA

TITLE : TH BRC

DETECTOR : ALP171 2
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]JADTW1AA_030861246B.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 03-Aug-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 03-AUG-2006 12:46:52 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: JADTW1AA

Detector: ALP171 2
Report Date: 03-Aug-06 09:07 PM
Acquire Date: 3-AUG-2006 12:46:52.89
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	5188.0	349.8	267	329	0.00	0.00	M I
PO-209	627	6	0	1.249	4956.3	349.9	219	281	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5377.5	349.7	300	362	0.00	0.00	M
AC-227	-9999	-9999	0	-10.010	6111.1	354.9	430	493	0.00	0.00	M
TH-227	-9999	-9999	0	-10.010	6111.1	354.9	430	493	0.00	0.00	M
TH-228	-9999	-9999	0	-10.010	5496.3	349.6	321	383	0.00	0.00	M
TH-229	627	6	0	1.249	4918.4	349.9	219	281	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4760.8	350.0	191	253	0.00	0.00	M I
TH-232	1	2	0	0.000	4086.1	350.4	72	134	0.00	0.00	S
U-232	-9999	-9999	0	-10.010	5393.3	349.6	303	365	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4847.7	350.0	206	268	0.00	0.00	M I
U-235	-9999	-9999	0	-10.010	4470.9	350.2	140	202	0.00	0.00	M
PU-236	-9999	-9999	0	-10.010	5840.8	349.4	383	445	0.00	0.00	M
NP-237	-9999	-9999	0	-10.010	4861.1	349.9	209	271	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.010	5572.2	349.5	335	397	0.00	0.00	M
U-238	-9999	-9999	0	-10.010	4271.1	350.3	104	166	0.00	0.00	M
PU-239	-9999	-9999	0	-10.010	5229.7	349.7	274	336	0.00	0.00	M I
AM-241	-9999	-9999	0	-10.010	5558.7	355.2	332	395	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5279.9	349.7	283	345	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6185.9	349.2	444	506	0.00	0.00	M
PU-242	627	6	0	1.249	4973.6	349.9	219	281	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5348.4	349.7	295	357	0.00	0.00	M
CM-244	-9999	-9999	0	-10.010	5878.0	349.4	389	451	0.00	0.00	M
CM-246	-9999	-9999	0	-10.010	5459.6	349.6	315	377	0.00	0.00	M
CM-247	627	6	0	1.249	4943.5	349.9	219	281	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5151.7	349.8	260	322	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: JADTW1AA
Detector: ALP171 2
Report Date: 03-Aug-06 09:07 PM
Acquire Date: 3-AUG-2006 12:46:52.89

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

VMS Peak Search Report V1.9 Generated 3-AUG-2006 21:07:31

```
Configuration     : $DISK1:[ALP171.SAMPLE]JADTW1AA_030861246B.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 3-AUG-2006 12:46:52
Sample ID         : JADTW1AA             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	4918.43	627	0288.49		245.38	219	62	2.09E-02	4.0	

VMS Nuclide Identification Report V3.0 Generated 3-AUG-2006 21:07:33

Configuration	: $DISK1:[ALP171.SAMPLE]JADTW1AA_030861246B.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: TH BRC		
Sample date	: 20-JUN-2006 12:00:00	Acquisition date	: 3-AUG-2006 12:46:52
Sample ID	: JADTW1AA	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]JADTW1AA_030861246B.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4918.43	219	281	627	627	0.00		

End of Report

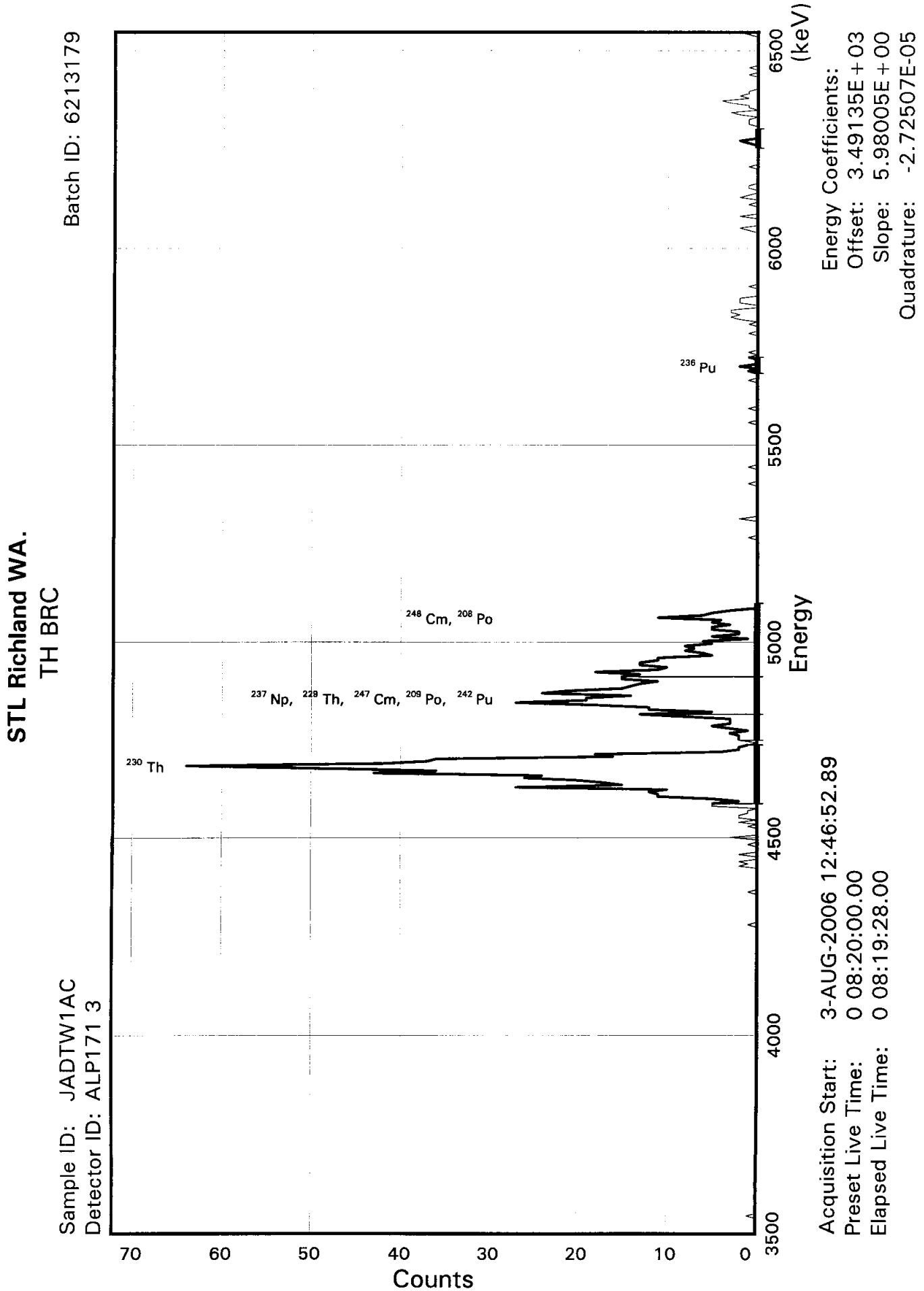
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: JADTW1AC

Detector: ALP171 3
Report Date: 03-Aug-06 09:13 PM
Acquire Date: 3-AUG-2006 12:46:52.89
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	119.3	309	329
TH-229	504	2	1.007	4845.3	340.1	211	268
TH-230	541	0	1.083	4687.7	167.1	182	210
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
Batch ID: 6213179
Sample ID: JADTW1AC
Detector ID: ALP171 3
230 Th
237 Np, 228 Th, 247 Cm, 209 Po, 242 Pu
248 Cm, 208 Po
236 Pu
Counts
70
60
50
40
30
20
10
0
Energy
3500
4000
4500
5000
5500
6000
6500
(keV)
Acquisition Start: 3-AUG-2006 12:46:52.89
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: JADTW1AC

TITLE : TH BRC

DETECTOR : ALP171 3
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]JADTW1AC_030861246C.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 03-Aug-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 03-AUG-2006 12:46:52 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 Regions Report
(Version: 8-Oct-91)

Sample Identity: JADTW1AC

Detector: ALP171 3
Report Date: 03-Aug-06 09:07 PM
Acquire Date: 3-AUG-2006 12:46:52.89
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	161	2	0	0.320	5125.9	280.4	222	269	0.00	0.00	P
PO-209	343	1	0	0.686	4894.2	161.1	211	238	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5315.3	161.0	288	315	0.00	0.00	M
AC-227	3	1	5	0.004	6049.0	160.8	411	438	0.00	0.00	S
TH-227	3	1	5	0.004	6049.0	160.8	411	438	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5434.2	161.0	308	335	0.00	0.00	M
TH-229	343	1	0	0.686	4856.3	161.1	211	238	0.00	0.00	P
TH-230	537	0	0	1.075	4698.7	149.2	184	209	0.00	0.00	P
TH-232	0	1	0	-0.001	4024.0	161.3	72	99	0.00	0.00	
U-232	-9999	-9999	0	-10.010	5331.1	161.0	291	318	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4785.6	161.1	199	226	0.00	0.00	I
U-235	8	1	0	0.015	4408.8	161.2	136	163	0.00	0.00	
PU-236	4	5	0	0.003	5778.6	41.7	367	374	0.00	0.00	P
NP-237	343	1	0	0.686	4799.0	161.1	211	238	0.00	0.00	P
PU-238	-9999	-9999	0	-10.010	5510.0	161.0	321	348	0.00	0.00	M
U-238	0	1	0	-0.001	4209.0	161.3	103	130	0.00	0.00	
PU-239	-9999	-9999	0	-10.010	5167.6	161.1	263	290	0.00	0.00	M I
AM-241	-9999	-9999	0	-10.010	5496.6	161.0	318	345	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5217.8	161.0	272	299	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6123.7	160.8	424	451	0.00	0.00	M
PU-242	343	1	0	0.686	4911.5	161.1	211	238	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5286.3	161.0	283	310	0.00	0.00	M
CM-244	-9999	-9999	0	-10.010	5815.8	160.9	372	399	0.00	0.00	I
CM-246	-9999	-9999	0	-10.010	5397.5	161.0	302	329	0.00	0.00	M
CM-247	343	1	0	0.686	4881.4	161.1	211	238	0.00	0.00	P
CM-248	161	2	0	0.320	5089.6	280.4	222	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: JADTW1AC
Detector: ALP171 3
Report Date: 03-Aug-06 09:07 PM
Acquire Date: 3-AUG-2006 12:46:52.89

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

VMS Peak Search Report V1.9 Generated 3-AUG-2006 21:07:36

Configuration : $DISK1:[ALP171.SAMPLE]JADTW1AC_030861246C.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 20-JUN-2006 12:00:00 Acquisition date : 3-AUG-2006 12:46:52
Sample ID : JADTW1AC 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	4683.64	537	0	47.84	199.56	184	25	1.79E-02	4.3	
2	0	4856.26	343	0	59.80	228.48	211	27	1.14E-02	5.4	
3	0	5059.32	161	0	35.88	262.51	222	47	5.37E-03	7.9	
4	0	5697.26	4	0	23.92	369.50	367	7	1.33E-04	50.0	
5	0	6269.16	4	0	23.92	465.50	463	8	1.33E-04	50.0	

VMS Nuclide Identification Report V3.0 Generated 3-AUG-2006 21:07:38

```
Configuration     : $DISK1:[ALP171.SAMPLE]JADTW1AC_030861246C.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 3-AUG-2006 12:46:52
Sample ID         : JADTW1AC             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                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-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	
TH-230	7.54E+04Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-236	2.86Y	1.03	0.000E+00	0.000E+00	0.000E+00	0.00	
NP-237	2.14E+06Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-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]JADTW1AC_030861246C.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4683.63	184	209	537	536	0.04		
4856.26	211	238	343	302	2.21		
5059.31	222	269	161	469	-24.27	267	0.00
5697.25	367	374	4	4	0.00		
6269.15	463	471	4	3	0.50		

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

End of Report

8/1/2006 9:25:46 AM

Sample Preparation/Analysis

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

Balance Id:1120373922

Pipet #: _____

AnalyDueDate: 08/14/2006

Sep1 DT/Tm Tech:

Batch: 6213179 pCi/sampl

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,HansenM

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

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

JADTW1AC-LCS:

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

Approved By _____ Date: _____

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

8/4/2006 3:54:09 PM

Lot No., Due Date: J6G180200; 08/15/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6200145; RTHISO Thlso by ALP

SDG, Matrix: 32138; FILTER

1.0 COC

	Yes	No	N/A
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	✓		

2.0 QC Batch

	Yes	No	N/A
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2.2 Are the QC appropriate for the analysis included in the batch?	✓		
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	✓		
2.4 Does the Worksheets include a Tracer Vial label for each sample?			✓

3.0 QC & Samples

	Yes	No	N/A
3.1 Is the blank results, yield, and MDA within contract limits?	✓		
3.2 Is the LCS result, yield, and MDA within contract limits?	✓		
3.3 Are the MS/MSD results, yields, and MDA within contract limits?			✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?			✓
3.5 Are the sample yields and MDAs within contract limits?	✓		

4.0 Raw Data

	Yes	No	N/A
4.1 Were results calculated in the correct units?	✓		
4.2 Were analysis volumes entered correctly?	✓		
4.3 Were Yields entered correctly?			✓
4.4 Were spectra reviewed/meet contractual requirements?	✓		
4.5 Were raw counts reviewed for anomalies?	✓		

5.0 Other

	Yes	No	N/A
5.1 Are all nonconformances included and noted?	✓		
5.2 Are all required forms filled out?	✓		
5.3 Was the correct methodology used?	✓		
5.4 Was transcription checked?	✓		
5.5 Were all calculations checked at a minimum frequency?	✓		
5.6 Are worksheet entries complete and correct?	✓		

6.0 Comments on any No response:

See NCM on batch 6213179.

First Level Review Pam Anderson **Date** 8-4-06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6200145

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: 8-7-06

STL RICHLAND

7/26/2006 1:46:45 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: 08/14/2006

Sep1 DT/Tm Tech:

Batch: 6200145 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: None

Sep2 DT/Tm Tech: 7-28-06

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 **H9F7N-1-AA** J6G180200-1-SAMP 06/20/2006 10:15	0.833sa,g	502.14sa,g	51.24g,in	0.085g	THTF0724 07/21/06,pd 10/04/04,r					
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
2 **H9F73-1-AA** J6G180200-2-SAMP 06/20/2006 10:25	0.833sa,g	501.63sa,g	51.90g,in	0.0862g	THTF0725 07/21/06,pd 10/04/04,r					
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
3 **H9F75-1-AA** J6G180200-3-SAMP 06/20/2006 10:40	0.833sa,g	506.26sa,g	50.83g,in	0.0836g	THTF0726 07/21/06,pd 10/04/04,r					
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
4 **H9F78-1-AA** J6G180200-4-SAMP 06/20/2006 11:00	0.833sa,g	509.29sa,g	51.36g,in	0.084g	THTF0727 07/21/06,pd 10/04/04,r					
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
5 **H9F8F-1-AA** J6G180200-5-SAMP 06/20/2006 11:15	0.833sa,g	502.26sa,g	51.48g,in	0.0854g	THTF0728 07/21/06,pd 10/04/04,r					
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
6 **H9F8L-1-AA** J6G180200-6-SAMP 06/20/2006 11:30	0.833sa,g	506.78sa,g	50.05g,in	0.0823g	THTF0729 07/21/06,pd 10/04/04,r					
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
7 **H9F8W-1-AA** J6G180200-7-SAMP 06/20/2006 11:20	0.833sa,g	501.33sa,g	50.34g,in	0.0836g	THTF0732 07/21/06,pd 10/04/04,r					
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:

STL RICHLAND

7/26/2006 1:46:46 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: 08/14/2006

Sep1 DT/Tm Tech:

Batch: 6200145 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 H9F85-1-AA J6G180200-8-SAMP 06/20/2006 10:05	0.833sa,g	500.08sa,g	50.72g,in	0.0845g	THTF0733 07/21/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
9 H9F89-1-AA J6G180200-9-SAMP 06/20/2006 10:20	0.833sa,g	501.72sa,g	50.24g,in	0.0834g	THTF0730 07/21/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
10 H9F9A-1-AA J6G180200-10-SAMP 06/20/2006 10:35	0.833sa,g	505.38sa,g	50.36g,in	0.083g	THTF0731 07/21/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
11 H9F9F-1-AA J6G180200-11-SAMP 06/20/2006 10:55	0.833sa,g	502.51sa,g	50.39g,in	0.0835g	THTF0734 07/21/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
12 H9F9J-1-AA J6G180200-12-SAMP 06/20/2006 11:10	0.833sa,g	502.25sa,g	50.50g,in	0.0838g	THTF0735 07/21/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
13 H9F9L-1-AA J6G180200-13-SAMP 06/20/2006 11:25	0.833sa,g	504.90sa,g	50.19g,in	0.0828g	THTF0736 07/21/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
14 H9F9M-1-AA J6G180200-14-SAMP 06/20/2006 10:10	0.833sa,g	508.91sa,g	50.16g,in	0.0821g	THTF0737 07/21/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:

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STL RICHLAND

7/26/2006 1:46:46 PM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell , Brown & Caldwell

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

Pipet #: _____

AnalyDueDate: 08/14/2006

Sep1 DT/Tm Tech:

Batch: 6200145 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:
15H9F9N-1-AA J6G180200-15-SAMP 06/20/2006 11:35	0.833sa,g	503.53sa,g	50.35g,in	0.0833g	THTF0738 07/21/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
16H9HX6-1-AA-B J6G190000-145-BLK 06/20/2006 10:15			1.00sa,in	1.00sa	THTF0739 07/21/06,pd 10/04/04,r					
		AmtRec:		#Containers: 1				Scr:	Alpha:	Beta:
17H9HX6-1-AC-C J6G190000-145-LCS 06/20/2006 10:15			1.00sa,in	1.00sa	THSO0084 06/15/06,pd 10/04/04,r					
		AmtRec:		#Containers: 1				Scr:	Alpha:	Beta:

Comments:

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

H9F7N1AA-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

H9HX61AA-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

H9HX61AC-LCS:

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

H9F7N1AA-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H9HX61AA-BLK:

8/4/2006 3:36:08 PM

ICOC Fraction Transfer/Status Report

ByDate: 8/4/2005, 8/9/2006, Batch: '6200145', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6200145						
AC		**CalcC**	**HansenM**	7/20/2006 1:21:20 PM		
SC			wagarr	IsBatched	7/19/2006 8:00:26 AM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	7/20/2006 1:21:20 PM	RICH-RC-5016 REVISION 5
SC			HansenM	Prep2C	7/27/2006 7:12:40 AM	RICH-RC-5016 REVISION 5
SC			AndersonE	Sep1C	7/28/2006 8:24:16 AM	RICH-RC-5087 REV0
SC			FABREM	Sep2C	7/28/2006 3:36:56 PM	RICH-RC-5039 REV 6
SC			DAWKINSO	InCnt1	7/28/2006 3:51:00 PM	RICH-RD-0008 REVISION 4
SC			BlackCL	CalcC	8/1/2006 6:23:20 AM	RICH-RD-0008 REVISION 4
AC			**HansenM**	7/27/2006 7:12:40		
AC			**AndersonE**	7/28/2006 8:24:16		
AC			**FABREM**	7/28/2006 3:36:56 PM		
AC			**DAWKINSO**	7/28/2006 3:51:00 PM		
AC			**BlackCL**	8/1/2006 6:23:20 AM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 6

ICOCFractions v4.8.18

8/4/2006 3:36:07 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
32138	**9H9F7310**			**J6G1802002**	000503	FILTER	7/18/2006 10:00:00	6/20/2006 10:25:00 AM				
BETA	BDS8		0	8/2/2006 4:18:54 PM	**1.8657E+01**	1.625E+00	2.273E+00	4.628E+00	PCI/SA	1.0	1.0E+0	3.519E-2
TH-228	9NS1		0	7/31/2006 10:14:42	**-3.6608E-02**	6.849E-02	6.857E-02	3.941E-01	PCI/SA	1.001	1.0E+0	3.618E-2
TH-230	9NS1		0	7/31/2006 10:14:42	**2.6205E-01**	1.004E-01	1.03E-01	2.096E-01	PCI/SA	1.001	1.0E+0	3.618E-2
TH-232	9NS1		0	7/31/2006 10:14:42	**3.4941E-02**	5.525E-02	5.533E-02	2.572E-01	PCI/SA	1.001	1.0E+0	3.618E-2
U-234	7YSR		0	7/29/2006 3:15:06 PM	**1.9955E-01**	1.411E-01	1.42E-01	2.704E-01	PCI/SA	1.05	1.0E+0	3.234E-2
U-235	7YSR		0	7/29/2006 3:15:06 PM	**-5.9866E-02**	3.456E-02	3.489E-02	6.298E-01	PCI/SA	1.05	1.0E+0	3.234E-2
U-238	7YSR		0	7/29/2006 3:15:06 PM	**3.9907E-02**	1.056E-01	1.056E-01	6.298E-01	PCI/SA	1.05	1.0E+0	3.234E-2
32138	**9H9F7510**			**J6G1802003**	000504	FILTER	7/18/2006 10:00:00	6/20/2006 10:40:00 AM				
BETA	BDS8		0	8/2/2006 4:18:54 PM	**1.8053E+01**	1.72E+00	2.119E+00	5.139E+00	PCI/SA	1.0	1.0E+0	3.438E-2
TH-228	9NS1		0	7/31/2006 10:14:42	**6.679E-02**	6.679E-02	6.706E-02	2.671E-01	PCI/SA	1.005	1.0E+0	3.364E-2
TH-230	9NS1		0	7/31/2006 10:14:42	**5.9495E-01**	1.59E-01	1.678E-01	1.152E-01	PCI/SA	1.005	1.0E+0	3.364E-2
TH-232	9NS1		0	7/31/2006 10:14:42	**4.2497E-02**	4.25E-02	4.267E-02	1.152E-01	PCI/SA	1.005	1.0E+0	3.364E-2
U-234	7YSR		0	7/29/2006 3:15:24 PM	**-2.2612E-02**	1.257E-01	1.258E-01	8.812E-01	PCI/SA	0.856	1.0E+0	3.19E-2
U-235	7YSR		0	7/29/2006 3:15:24 PM	**-6.7763E-02**	3.912E-02	3.951E-02	7.127E-01	PCI/SA	0.856	1.0E+0	3.19E-2
U-238	7YSR		0	7/29/2006 3:15:24 PM	**-2.4464E-05**	1.237E-01	1.237E-01	8.311E-01	PCI/SA	0.856	1.0E+0	3.19E-2
32138	**9H9F7810**			**J6G1802004**	000505	FILTER	7/18/2006 10:00:00	6/20/2006 11:00:00 AM				
BETA	BDS8		0	8/2/2006 4:18:54 PM	**1.948E+01**	1.827E+00	2.283E+00	5.496E+00	PCI/SA	1.0	1.0E+0	3.181E-2
TH-228	9NS1		0	7/31/2006 10:14:42	**2.5373E-01**	1.292E-01	1.313E-01	3.382E-01	PCI/SA	0.804	1.0E+0	3.4E-2
TH-230	9NS1		0	7/31/2006 10:14:42	**5.1125E-01**	1.723E-01	1.788E-01	3.228E-01	PCI/SA	0.804	1.0E+0	3.4E-2
TH-232	9NS1		0	7/31/2006 10:14:42	**5.3816E-02**	5.382E-02	5.405E-02	1.458E-01	PCI/SA	0.804	1.0E+0	3.4E-2
U-234	7YSR		0	7/29/2006 3:15:51 PM	**5.1406E-06**	1.127E-01	1.127E-01	7.569E-01	PCI/SA	0.94	1.0E+0	3.135E-2
U-235	7YSR		0	7/29/2006 3:15:51 PM	**-2.0567E-02**	2.057E-02	2.063E-02	4.926E-01	PCI/SA	0.94	1.0E+0	3.135E-2
U-238	7YSR		0	7/29/2006 3:15:51 PM	**-1.234E-01**	5.038E-02	5.135E-02	8.026E-01	PCI/SA	0.94	1.0E+0	3.135E-2
32138	**9H9F7N10**			**J6G1802001**	000502	FILTER	7/18/2006 10:00:00	6/20/2006 10:15:00 AM				
BETA	BDS8		0	8/2/2006 4:18:54 PM	**1.6424E+01**	1.733E+00	2.091E+00	5.465E+00	PCI/SA	1.0	1.0E+0	3.299E-2
TH-228	9NS1		0	7/31/2006 10:14:42	**8.4214E-02**	1.073E-01	1.076E-01	4.532E-01	PCI/SA	0.908	1.0E+0	3.5E-2
TH-230	9NS1		0	7/31/2006 10:14:42	**2.2102E-01**	1.005E-01	1.024E-01	2.41E-01	PCI/SA	0.908	1.0E+0	3.5E-2
TH-232	9NS1		0	7/31/2006 10:14:42	**4.0186E-02**	4.019E-02	4.035E-02	1.089E-01	PCI/SA	0.908	1.0E+0	3.5E-2
U-234	7YSR		0	7/29/2006 3:14:32 PM	**1.6003E-01**	1.442E-01	1.448E-01	5.652E-01	PCI/SA	0.989	1.0E+0	3.223E-2
U-235	7YSR		0	7/29/2006 3:14:32 PM	**-4.0009E-02**	2.829E-02	2.847E-02	5.652E-01	PCI/SA	0.989	1.0E+0	3.223E-2
U-238	7YSR		0	7/29/2006 3:14:32 PM	**4.0004E-02**	1.059E-01	1.059E-01	6.313E-01	PCI/SA	0.989	1.0E+0	3.223E-2
32138	**9H9F8510**			**J6G1802008**	P-0675	FILTER	7/18/2006 10:00:00	6/20/2006 10:05:00 AM				
BETA	BDS8		0	8/2/2006 4:19:08 PM	**1.3235E+01**	1.707E+00	1.954E+00	5.741E+00	PCI/SA	1.0	1.0E+0	3.537E-2
TH-228	9NS1		0	7/31/2006 10:14:42	**1.8382E-02**	4.11E-02	4.114E-02	2.205E-01	PCI/SA	0.971	1.0E+0	3.449E-2
TH-230	9NS1		0	7/31/2006 10:14:42	**1.7544E-02**	3.923E-02	3.926E-02	2.105E-01	PCI/SA	0.971	1.0E+0	3.449E-2
TH-232	9NS1		0	7/31/2006 10:14:42	**3.5088E-02**	5.548E-02	5.556E-02	2.582E-01	PCI/SA	0.971	1.0E+0	3.449E-2
U-234	7YSR		0	7/29/2006 3:17:03 PM	**0.0E+00**	0.0E+00	1.156E-01	2.557E-01	PCI/SA	0.976	1.0E+0	3.263E-2
U-235	7YSR		0	7/29/2006 3:17:03 PM	**-1.8874E-02**	1.887E-02	1.893E-02	4.519E-01	PCI/SA	0.976	1.0E+0	3.263E-2
U-238	7YSR		0	7/29/2006 3:17:03 PM	**7.5476E-02**	9.622E-02	9.641E-02	4.519E-01	PCI/SA	0.976	1.0E+0	3.263E-2
32138	**9H9F8910**			**J6G1802009**	P-0676	FILTER	7/18/2006 10:00:00	6/20/2006 10:20:00 AM				
BETA	BDS8		0	8/2/2006 4:19:38 PM	**1.4073E+01**	1.702E+00	1.99E+00	5.678E+00	PCI/SA	1.0	1.0E+0	3.401E-2
TH-228	9NS1		0	7/31/2006 8:19:57 PM	**3.8966E-02**	9.138E-02	9.144E-02	4.194E-01	PCI/SA	1.06	1.0E+0	3.341E-2
TH-230	9NS1		0	7/31/2006 8:19:57 PM	**2.7879E-01**	1.068E-01	1.096E-01	2.23E-01	PCI/SA	1.06	1.0E+0	3.341E-2
TH-232	9NS1		0	7/31/2006 8:19:57 PM	**0.0E+00**	0.0E+00	4.553E-02	1.007E-01	PCI/SA	1.06	1.0E+0	3.341E-2
U-234	7YSR		0	7/29/2006 3:17:19 PM	**-1.9614E-02**	1.961E-02	1.968E-02	4.696E-01	PCI/SA	1.022	1.0E+0	3.263E-2
U-235	7YSR		0	7/29/2006 3:17:19 PM	**9.8048E-02**	9.805E-02	9.836E-02	2.657E-01	PCI/SA	1.022	1.0E+0	3.263E-2
U-238	7YSR		0	7/29/2006 3:17:19 PM	**5.882E-02**	1.019E-01	1.02E-01	5.541E-01	PCI/SA	1.022	1.0E+0	3.263E-2
32138	**9H9F8F10**			**J6G1802005**	000506	FILTER	7/18/2006 10:00:00	6/20/2006 11:15:00 AM				
BETA	BDS8		0	8/2/2006 4:19:08 PM	**1.5794E+01**	1.736E+00	2.051E+00	5.479E+00	PCI/SA	1.0	1.0E+0	3.302E-2
TH-228	9NS1		0	7/31/2006 10:14:42	**3.2041E-01**	1.146E-01	1.181E-01	2.261E-01	PCI/SA	1.039	1.0E+0	3.538E-2
TH-230	9NS1		0	7/31/2006 10:14:42	**6.1162E-01**	1.483E-01	1.579E-01	9.75E-02	PCI/SA	1.039	1.0E+0	3.538E-2

6200145, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 14,
**Results Inserted | ReTestInserted | Updated | NotInserted => 46 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H9HX61AA=> , mat:FILTER | Air *wo:H9HX61AA=> , mat:FILTER | Air *wo:H9HX61AA=> , 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		7/31/2006 10:14:42	**1.2592E-01**	7.417E-02	7.5E-02	2.158E-01	PCI/SA		1.039	1.0E+0	3.538E-2
U-234	7YSR	0		7/29/2006 3:16:16 PM	**3.9574E-01**	1.979E-01	2.004E-01	2.681E-01	PCI/SA		0.932	1.0E+0	3.228E-2
U-235	7YSR	0		7/29/2006 3:16:16 PM	**5.9365E-02**	1.028E-01	1.029E-01	5.591E-01	PCI/SA		0.932	1.0E+0	3.228E-2
U-238	7YSR	0		7/29/2006 3:16:16 PM	**1.4444E+00**	3.842E-01	4.014E-01	5.591E-01	PCI/SA		0.932	1.0E+0	3.228E-2
32138	**9H9F8L10**			**J6G1802006**	000507	FILTER	7/18/2006 10:00:00	6/20/2006 11:30:00 AM					
BETA	BDS8	0		8/2/2006 4:19:08 PM	**3.1016E+01**	2.05E+00	2.968E+00	5.356E+00	PCI/SA		1.0	1.0E+0	3.238E-2
TH-228	9NS1	0		7/31/2006 10:14:42	**1.6053E-01**	1.1E-01	1.109E-01	3.855E-01	PCI/SA		0.859	1.0E+0	3.227E-2
TH-230	9NS1	0		7/31/2006 10:14:42	**4.1587E-01**	1.401E-01	1.451E-01	2.626E-01	PCI/SA		0.859	1.0E+0	3.227E-2
TH-232	9NS1	0		7/31/2006 10:14:42	**1.751E-01**	1.027E-01	1.039E-01	3.222E-01	PCI/SA		0.859	1.0E+0	3.227E-2
U-234	7YSR	0		7/29/2006 3:16:34 PM	**2.0801E-01**	1.471E-01	1.48E-01	2.818E-01	PCI/SA		0.934	1.0E+0	3.166E-2
U-235	7YSR	0		7/29/2006 3:16:34 PM	**-2.0799E-02**	2.08E-02	2.087E-02	4.981E-01	PCI/SA		0.934	1.0E+0	3.166E-2
U-238	7YSR	0		7/29/2006 3:16:34 PM	**-4.1598E-02**	2.941E-02	2.961E-02	5.877E-01	PCI/SA		0.934	1.0E+0	3.166E-2
32138	**9H9F8W10**			**J6G1802007**	000508	FILTER	7/18/2006 10:00:00	6/20/2006 11:20:00 AM					
BETA	BDS8	0		8/2/2006 4:19:08 PM	**2.8685E+00**	1.242E+00	1.269E+00	4.889E+00	PCI/SA		1.0	1.0E+0	3.371E-2
TH-228	9NS1	0		7/31/2006 10:14:42	**1.1977E-01**	8.637E-02	8.705E-02	2.874E-01	PCI/SA		0.902	1.0E+0	3.364E-2
TH-230	9NS1	0		7/31/2006 10:14:42	**0.0E+00**	0.0E+00	5.6E-02	1.239E-01	PCI/SA		0.902	1.0E+0	3.364E-2
TH-232	9NS1	0		7/31/2006 10:14:42	**0.0E+00**	0.0E+00	5.6E-02	1.239E-01	PCI/SA		0.902	1.0E+0	3.364E-2
U-234	7YSR	0		7/29/2006 3:16:46 PM	**-1.9868E-02**	1.987E-02	1.993E-02	4.758E-01	PCI/SA		1.032	1.0E+0	3.241E-2
U-235	7YSR	0		7/29/2006 3:16:46 PM	**0.0E+00**	0.0E+00	1.217E-01	2.692E-01	PCI/SA		1.032	1.0E+0	3.241E-2
U-238	7YSR	0		7/29/2006 3:16:46 PM	**-1.9868E-02**	1.987E-02	1.993E-02	4.758E-01	PCI/SA		1.032	1.0E+0	3.241E-2
32138	**9H9F9A10**			**J6G18020010**	P-0677	FILTER	7/18/2006 10:00:00	6/20/2006 10:35:00 AM					
BETA	BDS8	0		8/2/2006 4:19:38 PM	**1.532E+01**	1.718E+00	2.03E+00	5.506E+00	PCI/SA		1.0	1.0E+0	3.248E-2
TH-228	9NS1	0		7/31/2006 8:19:57 PM	**1.5211E-01**	1.109E-01	1.117E-01	4.093E-01	PCI/SA		1.012	1.0E+0	3.301E-2
TH-230	9NS1	0		7/31/2006 8:19:57 PM	**4.8975E-01**	1.369E-01	1.436E-01	2.176E-01	PCI/SA		1.012	1.0E+0	3.301E-2
TH-232	9NS1	0		7/31/2006 8:19:57 PM	**6.0527E-07**	4.443E-02	4.443E-02	2.67E-01	PCI/SA		1.012	1.0E+0	3.301E-2
U-234	7YSR	0		7/29/2006 3:17:44 PM	**-2.0197E-02**	2.02E-02	2.026E-02	4.838E-01	PCI/SA		0.975	1.0E+0	3.196E-2
U-235	7YSR	0		7/29/2006 3:17:44 PM	**0.0E+00**	0.0E+00	1.237E-01	2.737E-01	PCI/SA		0.975	1.0E+0	3.196E-2
U-238	7YSR	0		7/29/2006 3:17:44 PM	**8.081E-02**	1.03E-01	1.032E-01	4.838E-01	PCI/SA		0.975	1.0E+0	3.196E-2
32138	**9H9F9F10**			**J6G18020011**	P-0678	FILTER	7/18/2006 10:00:00	6/20/2006 10:55:00 AM					
BETA	BDS8	0		8/2/2006 4:19:38 PM	**1.7656E+01**	1.717E+00	2.095E+00	5.188E+00	PCI/SA		1.0	1.0E+0	3.467E-2
TH-228	9NS1	0		7/31/2006 8:19:57 PM	**2.2301E-02**	4.986E-02	4.99E-02	2.675E-01	PCI/SA		1.099	1.0E+0	3.353E-2
TH-230	9NS1	0		7/31/2006 8:19:57 PM	**4.6805E-01**	1.411E-01	1.472E-01	1.153E-01	PCI/SA		1.099	1.0E+0	3.353E-2
TH-232	9NS1	0		7/31/2006 8:19:57 PM	**4.255E-02**	4.255E-02	4.272E-02	1.153E-01	PCI/SA		1.099	1.0E+0	3.353E-2
U-234	7YSR	0		7/29/2006 3:18:06 PM	**0.0E+00**	0.0E+00	1.139E-01	2.521E-01	PCI/SA		0.948	1.0E+0	3.238E-2
U-235	7YSR	0		7/29/2006 3:18:06 PM	**7.4404E-02**	9.485E-02	9.504E-02	4.455E-01	PCI/SA		0.948	1.0E+0	3.238E-2
U-238	7YSR	0		7/29/2006 3:18:06 PM	**-1.8606E-02**	1.861E-02	1.867E-02	4.455E-01	PCI/SA		0.948	1.0E+0	3.238E-2
32138	**9H9F9J10**			**J6G18020012**	P-0679	FILTER	7/18/2006 10:00:00	6/20/2006 11:10:00 AM					
BETA	BDS8	0		8/2/2006 4:19:33 PM	**2.0028E+01**	1.736E+00	2.212E+00	5.03E+00	PCI/SA		1.0	1.0E+0	3.405E-2
TH-228	9NS1	0		7/31/2006 8:19:57 PM	**5.0555E-01**	2.261E-01	2.321E-01	2.74E-01	PCI/SA		0.45	1.0E+0	3.376E-2
TH-230	9NS1	0		7/31/2006 8:19:57 PM	**1.254E+00**	3.478E-01	3.712E-01	2.614E-01	PCI/SA		0.45	1.0E+0	3.376E-2
TH-232	9NS1	0		7/31/2006 8:19:57 PM	**0.0E+00**	0.0E+00	1.181E-01	2.614E-01	PCI/SA		0.45	1.0E+0	3.376E-2
U-234	7YSR	0		7/29/2006 3:18:29 PM	**1.0176E-01**	1.018E-01	1.021E-01	2.758E-01	PCI/SA		0.967	1.0E+0	3.233E-2
U-235	7YSR	0		7/29/2006 3:18:29 PM	**0.0E+00**	0.0E+00	1.246E-01	2.758E-01	PCI/SA		0.967	1.0E+0	3.233E-2
U-238	7YSR	0		7/29/2006 3:18:29 PM	**-2.0348E-02**	2.035E-02	2.041E-02	4.874E-01	PCI/SA		0.967	1.0E+0	3.233E-2
32138	**9H9F9M10**			**J6G18020014**	P-0681	FILTER	7/18/2006 10:00:00	6/20/2006 10:10:00 AM					
BETA	BDS8	0		8/2/2006 4:19:33 PM	**1.391E+01**	1.637E+00	1.902E+00	5.263E+00	PCI/SA		1.0	1.0E+0	3.302E-2
TH-228	9NS1	0		7/31/2006 8:19:57 PM	**-2.12E-02**	5.609E-02	5.613E-02	3.564E-01	PCI/SA		0.932	1.0E+0	3.21E-2
TH-230	9NS1	0		7/31/2006 8:19:57 PM	**3.4384E-01**	1.23E-01	1.268E-01	2.426E-01	PCI/SA		0.932	1.0E+0	3.21E-2
TH-232	9NS1	0		7/31/2006 8:19:57 PM	**-4.0451E-02**	2.86E-02	2.883E-02	2.977E-01	PCI/SA		0.932	1.0E+0	3.21E-2
U-234	7YSR	0		7/29/2006 3:19:32 PM	**-5.5451E-02**	2.264E-02	2.309E-02	6.85E-01	PCI/SA		0.866	1.0E+0	3.163E-2
U-235	7YSR	0		7/29/2006 3:19:32 PM	**8.7737E-02**	1.166E-01	1.168E-01	5.76E-01	PCI/SA		0.866	1.0E+0	3.163E-2
U-238	7YSR	0		7/29/2006 3:19:32 PM	**-4.6209E-02**	2.067E-02	2.101E-02	6.526E-01	PCI/SA		0.866	1.0E+0	3.163E-2
32138	**9H9F9N10**			**J6G18020015**	P-0682	FILTER	7/18/2006 10:00:00	6/20/2006 11:35:00 AM					
BETA	BDS8	0		8/2/2006 6:58:31 PM	**1.4714E-01**	1.296E+00	1.296E+00	5.478E+00	PCI/SA		1.0	1.0E+0	3.296E-2

6200145, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 14,
**Results Inserted | ReTestInserted | Updated | NotInserted => 46 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H9HX61AA=> , mat:FILTER | Air *wo:H9HX61AA=> , mat:FILTER | Air *wo:H9HX61AA=> , 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-228	9NS1	0		7/31/2006 8:19:57 PM	**9.1592E-02**	2.048E-01	2.051E-01	1.099E+00	PCI/SA		0.237	1.0E+0	3.33E-2
TH-230	9NS1	0		7/31/2006 8:19:57 PM	**6.9905E-01**	3.495E-01	3.593E-01	4.736E-01	PCI/SA		0.237	1.0E+0	3.33E-2
TH-232	9NS1	0		7/31/2006 8:19:57 PM	**0.0E+00**	0.0E+00	2.14E-01	4.736E-01	PCI/SA		0.237	1.0E+0	3.33E-2
U-234	7YSR	0		7/29/2006 3:20:17 PM	**9.146E-02**	1.215E-01	1.217E-01	6.004E-01	PCI/SA		0.865	1.0E+0	3.22E-2
U-235	7YSR	0		7/29/2006 3:20:17 PM	**-1.9262E-02**	1.362E-02	1.371E-02	5.5E-01	PCI/SA		0.865	1.0E+0	3.22E-2
U-238	7YSR	0		7/29/2006 3:20:17 PM	**-1.9262E-02**	1.362E-02	1.371E-02	5.5E-01	PCI/SA		0.865	1.0E+0	3.22E-2
32138	**H9HX61AB**			**J6G190000145**	INTRA-LAB BLANK	FILTER	7/18/2006 10:00:00	6/20/2006 10:15:00 AM					
TH-228	9NS1	0	B	7/31/2006 8:19:57 PM	**1.5562E-03**	3.48E-03	3.482E-03	1.867E-02	PCI/SA		0.969	1.0E+0	1.0E+0
TH-230	9NS1	0	B	7/31/2006 8:19:57 PM	**1.633E-02**	7.423E-03	7.553E-03	1.781E-02	PCI/SA		0.969	1.0E+0	1.0E+0
TH-232	9NS1	0	B	7/31/2006 8:19:57 PM	**4.9537E-08**	3.636E-03	3.636E-03	2.185E-02	PCI/SA		0.969	1.0E+0	1.0E+0
32138	**H9HX61CS**			**J6G190000145**	INTRA-LAB CHECK	FILTER	7/18/2006 10:00:00	6/20/2006 10:15:00 AM					
TH-230	9NS1	0	S	7/31/2006 4:15:38 PM	**1.9738E+00**	1.022E-01	2.095E-01	1.434E-02	PCI/SA	1.8267E+00	0.707	1.0E+0	1.0E+0

6200145, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 14,
**Results Inserted | ReTestInserted | Updated | NotInserted => 46 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H9HX61AA=> , mat:FILTER | Air *wo:H9HX61AA=> , mat:FILTER | Air *wo:H9HX61AA=> , mat:FILTER | Air.

Batch Nbr: 6200145

Alpha Spec, Thlso by ALP , Results

8/1/2006 6:20:03 AM

Summary Report

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	H9F7N1AA	TH-228	8.42E-02	(1.08E-01)	U4	PCI/SA	R	1.70E-01	4.53E-01		91%	
Calc	S1	FILTER	H9F7N1AA	TH-230	2.21E-01	(1.02E-01)		PCI/SA	R	6.61E-02	2.41E-01		91%	
Calc	S1	FILTER	H9F7N1AA	TH-232	4.02E-02	(4.03E-02)	U4	PCI/SA	R		1.09E-01		91%	
Calc	S1	FILTER	H9F731AA	TH-228	-3.66E-02	(6.86E-02)	U4	PCI/SA	R	1.48E-01	3.94E-01		100%	
Calc	S1	FILTER	H9F731AA	TH-230	2.62E-01	(1.03E-01)		PCI/SA	R	5.75E-02	2.10E-01		100%	
Calc	S1	FILTER	H9F731AA	TH-232	3.49E-02	(5.53E-02)	U4	PCI/SA	R	8.13E-02	2.57E-01		100%	
Calc	S1	FILTER	H9F751AA	TH-228	6.68E-02	(6.71E-02)	U4	PCI/SA	R	7.32E-02	2.67E-01		101%	
Calc	S1	FILTER	H9F751AA	TH-230	5.95E-01	(1.68E-01)		PCI/SA	R		1.15E-01		101%	
Calc	S1	FILTER	H9F751AA	TH-232	4.25E-02	(4.27E-02)	U4	PCI/SA	R		1.15E-01		101%	
Calc	S1	FILTER	H9F781AA	TH-228	2.54E-01	(1.31E-01)		PCI/SA	R	9.28E-02	3.38E-01		80%	
Calc	S1	FILTER	H9F781AA	TH-230	5.11E-01	(1.79E-01)		PCI/SA	R	8.85E-02	3.23E-01		80%	
Calc	S1	FILTER	H9F781AA	TH-232	5.38E-02	(5.40E-02)	U4	PCI/SA	R		1.46E-01		80%	
Calc	S1	FILTER	H9F8F1AA	TH-228	3.20E-01	(1.18E-01)		PCI/SA	R	6.20E-02	2.26E-01		104%	
Calc	S1	FILTER	H9F8F1AA	TH-230	6.12E-01	(1.58E-01)		PCI/SA	R		9.75E-02		104%	
Calc	S1	FILTER	H9F8F1AA	TH-232	1.26E-01	(7.50E-02)		PCI/SA	R	5.92E-02	2.16E-01		104%	
Calc	S1	FILTER	H9F8L1AA	TH-228	1.61E-01	(1.11E-01)	U4	PCI/SA	R	1.31E-01	3.85E-01		86%	
Calc	S1	FILTER	H9F8L1AA	TH-230	4.16E-01	(1.45E-01)		PCI/SA	R	7.20E-02	2.63E-01		86%	
Calc	S1	FILTER	H9F8L1AA	TH-232	1.75E-01	(1.04E-01)		PCI/SA	R	1.02E-01	3.22E-01		86%	
Calc	S1	FILTER	H9F8W1AA	TH-228	1.20E-01	(8.71E-02)	U4	PCI/SA	R	7.88E-02	2.87E-01		90%	
Calc	S1	FILTER	H9F8W1AA	TH-230	0.00E+00	(5.60E-02)	U4	PCI/SA	R		1.24E-01		90%	
Calc	S1	FILTER	H9F8W1AA	TH-232	0.00E+00	(5.60E-02)	U4	PCI/SA	R		1.24E-01		90%	
Calc	S1	FILTER	H9F851AA	TH-228	1.84E-02	(4.11E-02)	U4	PCI/SA	R	6.05E-02	2.21E-01		97%	
Calc	S1	FILTER	H9F851AA	TH-230	1.75E-02	(3.93E-02)	U4	PCI/SA	R	5.77E-02	2.10E-01		97%	
Calc	S1	FILTER	H9F851AA	TH-232	3.51E-02	(5.56E-02)	U4	PCI/SA	R	8.16E-02	2.58E-01		97%	
Calc	S1	FILTER	H9F891AA	TH-228	3.90E-02	(9.14E-02)	U4	PCI/SA	R	1.57E-01	4.19E-01		106%	
Calc	S1	FILTER	H9F891AA	TH-230	2.79E-01	(1.10E-01)		PCI/SA	R	6.11E-02	2.23E-01		106%	
Calc	S1	FILTER	H9F891AA	TH-232	0.00E+00	(4.55E-02)	U4	PCI/SA	R		1.01E-01		106%	
Calc	S1	FILTER	H9F9A1AA	TH-228	1.52E-01	(1.12E-01)	U4	PCI/SA	R	1.53E-01	4.09E-01		101%	
Calc	S1	FILTER	H9F9A1AA	TH-230	4.90E-01	(1.44E-01)		PCI/SA	R	5.97E-02	2.18E-01		101%	
Calc	S1	FILTER	H9F9A1AA	TH-232	6.05E-07	(4.44E-02)	U4	PCI/SA	R	8.44E-02	2.67E-01		101%	
Calc	S1	FILTER	H9F9F1AA	TH-228	2.23E-02	(4.99E-02)	U4	PCI/SA	R	7.34E-02	2.68E-01		110%	
Calc	S1	FILTER	H9F9F1AA	TH-230	4.68E-01	(1.47E-01)		PCI/SA	R		1.15E-01		110%	
Calc	S1	FILTER	H9F9F1AA	TH-232	4.26E-02	(4.27E-02)	U4	PCI/SA	R		1.15E-01		110%	
Calc	S1	FILTER	H9F9J1AA	TH-228	5.06E-01	(2.32E-01)		PCI/SA	R		2.74E-01		45%	
Calc	S1	FILTER	H9F9J1AA	TH-230	1.25E+00	(3.71E-01)		PCI/SA	R		2.61E-01		45%	
Calc	S1	FILTER	H9F9J1AA	TH-232	0.00E+00	(1.18E-01)	U4	PCI/SA	R		2.61E-01		45%	
Calc	S1	FILTER	H9F9L1AA	TH-228	4.97E-01	(2.58E-01)		PCI/SA	R	1.82E-01	6.62E-01		35%	

() - (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: 6200145

Alpha Spec, Thlso by ALP , Results Summary Report

8/1/2006 6:20:03 AM

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Calc	S1	FILTER	**H9F9L1AA**	TH-230	**2.84E+00**	**(6.24E-01)**		PCI/SA	R		2.86E-01		35%	
Calc	S1	FILTER	**H9F9L1AA**	TH-232	**1.00E+00**	**(3.53E-01)**		PCI/SA	R	1.73E-01	6.32E-01		35%	
Calc	S1	FILTER	**H9F9M1AA**	TH-228	**-2.12E-02**	**(5.61E-02)**	**U4**	PCI/SA	R	1.21E-01	3.56E-01		93%	
Calc	S1	FILTER	**H9F9M1AA**	TH-230	**3.44E-01**	**(1.27E-01)**		PCI/SA	R	6.65E-02	2.43E-01		93%	
Calc	S1	FILTER	**H9F9M1AA**	TH-232	**-4.05E-02**	**(2.88E-02)**	**U4**	PCI/SA	R	9.41E-02	2.98E-01		93%	
Calc	S1	FILTER	**H9F9N1AA**	TH-228	**9.16E-02**	**(2.05E-01)**	**U4**	PCI/SA	R	3.01E-01	1.10E+00		24%	
Calc	S1	FILTER	**H9F9N1AA**	TH-230	**6.99E-01**	**(3.59E-01)**		PCI/SA	R		4.74E-01		24%	
Calc	S1	FILTER	**H9F9N1AA**	TH-232	**0.00E+00**	**(2.14E-01)**	**U4**	PCI/SA	R		4.74E-01		24%	
Calc	S1	FILTER	**H9HX61AA**	TH-228	**1.56E-03**	**(3.48E-03)**	**U4**	PCI/SA	R	5.12E-03	1.87E-02	**B**	97%	
Calc	S1	FILTER	**H9HX61AA**	TH-230	**1.63E-02**	**(7.55E-03)**		PCI/SA	R	4.88E-03	1.78E-02	**B**	97%	
Calc	S1	FILTER	**H9HX61AA**	TH-232	**4.95E-08**	**(3.64E-03)**	**U4**	PCI/SA	R	6.91E-03	2.19E-02	**B**	97%	
Calc	S1	FILTER	**H9HX61AC**	TH-230	**1.97E+00**	**(2.10E-01)**		PCI/SA	R		1.43E-02	**S**	71%	108%

P Anderson
8-1-06

() - (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:66
RADCALC v4.8.18
STL Richland

Batch Nbr: 6200145

Alpha Spec, ThIso by ALP , Calculated Results

8/1/2006 6:20:04 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	S1	FILTER	*STLE	AlpIsoWoBS	**H9F7N1AA**	**PCI/SA**		06/20/06 10:15	07/31/06 10:14			1	1.00 SA	
536403,000502					,J6G180200-1 v4.8.18		FILTER					THTF0724 Alq		0.085002 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	07/31/06 06:04	TH-228	5	6	ALP171	ED	N	N	2.9087E-01		N	91%	N		1.0000E+00	4.5045E-01	1.0415E+00	
			499.4666666	998.95			Y		(8.726E-03)			6%			(0.000E+00)	11.764425		
1	07/31/06 06:04	TH-229	533	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)	11.764425		
2	07/31/06 06:04	TH-230	6	1	ALP171	ED	N	N	2.9087E-01		N	91%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.726E-03)			6%			(0.000E+00)	11.764425		
3	07/31/06 06:04	TH-232	1	0	ALP171	ED	N	N	2.9087E-01		N	91%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.726E-03)			6%			(0.000E+00)	11.764425		

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
	08/01/06	TH-228	R	**0.084214**	**U4**	4.00437E-03	0.015258	0.015258	1.00 SA	91%		0.453226		
				(0.107615)		(5.1044E-03)	(0.019479)	(0.019479)	(0.028284)			0.16966		
	08/01/06	TH-229	R	**19.369178**		1.06313E+00	3.655055	3.655055	1.00 SA	91%				
				(1.512022)		(4.6266E-02)	(0.193196)	(0.193196)	(0.028284)					
	08/01/06	TH-230	R	**0.221022**		1.10118E-02	0.041708	0.041708	1.00 SA	91%		0.241035		
				(0.102411)		(5.0053E-03)	(0.019176)	(0.019176)	(0.028284)			0.066105		
	08/01/06	TH-232	R	**0.040186**	**U4**	2.00214E-03	0.007583	0.007583	1.00 SA	91%		0.108903		
				(0.040348)		(2.0021E-03)	(0.007601)	(0.007601)	(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	**H9F731AA**	**PCI/SA**		06/20/06 10:25	07/31/06 10:14			1	1.00 SA	
536403,000503					,J6G180200-2 v4.8.18		FILTER					THTF0725 Alq		0.086184 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	07/31/06 06:04	TH-228	2	6	ALP172	ED	N	N	2.9949E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0415E+00	
			499.4666666	998.95			Y		(8.985E-03)			6%			(0.000E+00)	11.603023		
1	07/31/06 06:04	TH-229	607	7	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)	11.603023		
2	07/31/06 06:04	TH-230	8	1	ALP172	ED	N	N	2.9949E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.985E-03)			6%			(0.000E+00)	11.603023		
3	07/31/06 06:04	TH-232	2	2	ALP172	ED	N	N	2.9949E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.985E-03)			6%			(0.000E+00)	11.603023		

() - (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: 6200145

Alpha Spec, Thlso by ALP , Calculated Results

8/1/2006 6:20:04 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/01/06	TH-228	R	**-0.036608**	U4	-2.00204E-03	-0.006725	-0.006725	1.00 SA	100%		0.394065		
				(0.068567)		(3.7456E-03)	(0.01259)	(0.01259)	(0.028284)			0.147514		
	08/01/06	TH-229	R	**21.086522**		1.20829E+00	4.034477	4.034477	1.00 SA	100%				
				(1.615758)		(4.9398E-02)	(0.204585)	(0.204585)	(0.028284)					
	08/01/06	TH-230	R	**0.262053**		1.50160E-02	0.050139	0.050139	1.00 SA	100%		0.209573		
				(0.103013)		(5.7507E-03)	(0.019498)	(0.019498)	(0.028284)			0.057476		
	08/01/06	TH-232	R	**0.034941**	U4	2.00217E-03	0.006685	0.006685	1.00 SA	100%		0.25716		
				(0.055332)		(3.1656E-03)	(0.01058)	(0.01058)	(0.028284)			0.081284		

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	**H9F751AA**	**PCI/SA**		06/20/06 10:40	07/31/06 10:14			1	1.00 SA	
536403,000504					,J6G180200-3 v4.8.18		FILTER					THTF0726 Alq		0.083636 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	07/31/06 06:04	TH-228	2	1	ALP173	ED	N	N	2.5374E-01		N	101%	N		1.0000E+00	4.5045E-01	1.0415E+00	
			499.4666666	998.95			Y		(7.612E-03)			6%			(0.000E+00)	11.956622		
1	07/31/06 06:04	TH-229	512	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)	11.956622		
2	07/31/06 06:04	TH-230	14	0	ALP173	ED	N	N	2.5374E-01		N	101%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.612E-03)			6%			(0.000E+00)	11.956622		
3	07/31/06 06:04	TH-232	1	0	ALP173	ED	N	N	2.5374E-01		N	101%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.612E-03)			6%			(0.000E+00)	11.956622		

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
	08/01/06	TH-228	R	**0.06679**	U4	3.00322E-03	0.011907	0.011907	1.00 SA	101%		0.26707		
				(0.067061)		(3.0032E-03)	(0.011936)	(0.011936)	(0.028284)			0.073245		
	08/01/06	TH-229	R	**21.715805**		1.02309E+00	4.032003	4.032003	1.00 SA	101%				
				(1.704752)		(4.5325E-02)	(0.215729)	(0.215729)	(0.028284)					
	08/01/06	TH-230	R	**0.594954**		2.80299E-02	0.110466	0.110466	1.00 SA	101%		0.115166		
				(0.167836)		(7.4913E-03)	(0.030509)	(0.030509)	(0.028284)					
	08/01/06	TH-232	R	**0.042497**	U4	2.00214E-03	0.00789	0.00789	1.00 SA	101%		0.115166		
				(0.04267)		(2.0021E-03)	(0.00791)	(0.00791)	(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	**H9F781AA**	**PCI/SA**		06/20/06 11:00	07/31/06 10:14			1	1.00 SA	
536403,000505					,J6G180200-4 v4.8.18		FILTER					THTF0727 Alq		0.084005 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	07/31/06 06:04	TH-228	5	1	ALP174	ED	N	N	2.4814E-01		N	80%	N		1.0000E+00	4.5045E-01	1.0415E+00	
			499.4666666	998.95			Y		(7.444E-03)			5%			(0.000E+00)	11.904061		

() - (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: 6200145 — Alpha Spec, ThIso by ALP , Calculated Results — 8/1/2006 6:20:04 AM

1	07/31/06 06:04	TH-229	404	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)	11.904061	
2	07/31/06 06:04	TH-230	10	1	ALP174	ED	N	N	2.4814E-01	N	80%	N	1.0000E+00	4.5045E-01	1.0000E+00
			499.4666666	998.95			Y		(7.444E-03)		5%		(0.000E+00)	11.904061	
3	07/31/06 06:04	TH-232	1	0	ALP174	ED	N	N	2.4814E-01	N	80%	N	1.0000E+00	4.5045E-01	1.0000E+00
			499.4666666	998.95			Y		(7.444E-03)		5%		(0.000E+00)	11.904061	

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
	08/01/06	TH-228	R	**0.253735**		9.00963E-03	0.045435	0.045435	1.00 SA	80%		0.3382		
				(0.131342)		(4.5875E-03)	(0.023374)	(0.023374)	(0.028284)			0.092753		
	08/01/06	TH-229	R	**17.414306**		8.05860E-01	3.247614	3.247614	1.00 SA	80%				
				(1.425248)		(4.0280E-02)	(0.189321)	(0.189321)	(0.028284)					
	08/01/06	TH-230	R	**0.51125**		1.90203E-02	0.095344	0.095344	1.00 SA	80%		0.322788		
				(0.178762)		(6.4100E-03)	(0.032885)	(0.032885)	(0.028284)			0.088526		
	08/01/06	TH-232	R	**0.053816**	U4	2.00214E-03	0.010036	0.010036	1.00 SA	80%		0.145841		
				(0.054049)		(2.0021E-03)	(0.010063)	(0.010063)	(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	**H9F8F1AA**	**PCI/SA**		06/20/06 11:15	07/31/06 10:14			1	1.00 SA	
536403,000506					,J6G180200-5 v4.8.18		FILTER					THTF0728 Alq		0.08538 SA	

0	07/31/06 06:04	TH-228	9	1	ALP175	ED	N	N	2.9360E-01	N	104%	N	1.0000E+00	4.5045E-01	1.0415E+00
			499.4666666	998.95			Y		(8.808E-03)		6%		(0.000E+00)	11.712377	
1	07/31/06 06:04	TH-229	617	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)	11.712377	
2	07/31/06 06:04	TH-230	17	0	ALP175	ED	N	N	2.9360E-01	N	104%	N	1.0000E+00	4.5045E-01	1.0000E+00
			499.4666666	998.95			Y		(8.808E-03)		6%		(0.000E+00)	11.712377	
3	07/31/06 06:04	TH-232	4	1	ALP175	ED	N	N	2.9360E-01	N	104%	N	1.0000E+00	4.5045E-01	1.0000E+00
			499.4666666	998.95			Y		(8.808E-03)		6%		(0.000E+00)	11.712377	

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
	08/01/06	TH-228	R	**0.320407**		1.70182E-02	0.058314	0.058314	1.00 SA	104%		0.226095		
				(0.118092)		(6.0893E-03)	(0.02123)	(0.02123)	(0.028284)			0.062008		
	08/01/06	TH-229	R	**22.162079**		1.23332E+00	4.200673	4.200673	1.00 SA	104%				
				(1.691785)		(4.9752E-02)	(0.211179)	(0.211179)	(0.028284)					
	08/01/06	TH-230	R	**0.611616**		3.40363E-02	0.115928	0.115928	1.00 SA	104%		0.097499		
				(0.157887)		(8.2550E-03)	(0.029176)	(0.029176)	(0.028284)					
	08/01/06	TH-232	R	**0.125921**		7.00749E-03	0.023868	0.023868	1.00 SA	104%		0.215793		
				(0.075)		(4.1275E-03)	(0.014149)	(0.014149)	(0.028284)			0.059182		

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

RecCnt:6 RADCALC v4.8.18 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: 6200145 — Alpha Spec, Thlso by ALP , Calculated Results — 8/1/2006 6:20:04 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
6	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H9F8L1AA**	**PCI/SA**		06/20/06 11:30	07/31/06 10:14			1	1.00 SA	
536403,000507					,J6G180200-6 v4.8.18		FILTER					THTF0729 Alq		0.082268 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	07/31/06 06:04	TH-228	5	3	ALP176	ED	N	N	2.9146E-01		N	86%	N		1.0000E+00	4.5045E-01	1.0414E+00	
			499.4666666	998.95			Y		(8.744E-03)			5%			(0.000E+00)	12.155432		
1	07/31/06 06:04	TH-229	506	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)	12.155432		
2	07/31/06 06:04	TH-230	10	1	ALP176	ED	N	N	2.9146E-01		N	86%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.744E-03)			5%			(0.000E+00)	12.155432		
3	07/31/06 06:04	TH-232	5	2	ALP176	ED	N	N	2.9146E-01		N	86%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.744E-03)			5%			(0.000E+00)	12.155432		

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
	08/01/06	TH-228	R	**0.160527**	**U4**	7.00752E-03	0.028151	0.028151	1.00 SA	86%		0.385492		
				(0.110933)		(4.8009E-03)	(0.019387)	(0.019387)	(0.028284)			0.130677		
	08/01/06	TH-229	R	**18.994269**		1.01108E+00	3.46901	3.46901	1.00 SA	86%				
				(1.49393)		(4.5059E-02)	(0.186363)	(0.186363)	(0.028284)					
	08/01/06	TH-230	R	**0.415865**		1.90203E-02	0.075951	0.075951	1.00 SA	86%		0.262565		
				(0.145105)		(6.4100E-03)	(0.02614)	(0.02614)	(0.028284)			0.07201		
	08/01/06	TH-232	R	**0.175102**		8.00858E-03	0.03198	0.03198	1.00 SA	86%		0.322184		
				(0.103876)		(4.6954E-03)	(0.018882)	(0.018882)	(0.028284)			0.101837		

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	**H9F8W1AA**	**PCI/SA**		06/20/06 11:20	07/31/06 10:14			1	1.00 SA	
536403,000508					,J6G180200-7 v4.8.18		FILTER					THTF0732 Alq		0.083644 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	07/31/06 06:04	TH-228	3	1	ALP177	ED	N	N	2.6130E-01		N	90%	N		1.0000E+00	4.5045E-01	1.0414E+00	
			499.4666666	998.95			Y		(7.839E-03)			6%			(0.000E+00)	11.955438		
1	07/31/06 06:04	TH-229	475	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)	11.955438		
2	07/31/06 06:04	TH-230	0	0	ALP177	ED	N	N	2.6130E-01		N	90%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.839E-03)			6%			(0.000E+00)	11.955438		
3	07/31/06 06:04	TH-232	0	0	ALP177	ED	N	N	2.6130E-01		N	90%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.839E-03)			6%			(0.000E+00)	11.955438		

() - (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: 6200145

Alpha Spec, Thlso by ALP , Calculated Results

8/1/2006 6:20:04 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/01/06	TH-228	R	**0.119771**	U4	5.00536E-03	0.021355	0.021355	1.00 SA	90%		0.287355		
				(0.087054)		(3.6094E-03)	(0.015473)	(0.015473)	(0.028284)			0.078809		
	08/01/06	TH-229	R	**19.600071**		9.51014E-01	3.639532	3.639532	1.00 SA	90%				
				(1.556357)		(4.3636E-02)	(0.19952)	(0.19952)	(0.028284)					
	08/01/06	TH-230	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	90%		0.123917		
				(0.056002)		(0.0000E+00)	(0.010399)	(0.010399)	(0.028284)					
	08/01/06	TH-232	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	90%		0.123917		
				(0.056002)		(0.0000E+00)	(0.010399)	(0.010399)	(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	S1	FILTER	*STLE	AlpIsoWoBS	**H9F851AA**	**PCI/SA**		06/20/06 10:05	07/31/06 10:14			1	1.00 SA	
536403,P-0675					,J6G180200-8 v4.8.18		FILTER					THTF0733 Alq		0.084486 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	07/31/06 06:04	TH-228	1	1	ALP178	ED	N	N	3.1338E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0415E+00	
			499.4666666	998.95			Y		(9.401E-03)			6%			(0.000E+00)	11.83628		
1	07/31/06 06:04	TH-229	614	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)	11.83628		
2	07/31/06 06:04	TH-230	1	1	ALP178	ED	N	N	3.1338E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(9.401E-03)			6%			(0.000E+00)	11.83628		
3	07/31/06 06:04	TH-232	2	2	ALP178	ED	N	N	3.1338E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(9.401E-03)			6%			(0.000E+00)	11.83628		

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
	08/01/06	TH-228	R	**0.018382**	U4	1.00108E-03	0.00331	0.00331	1.00 SA	97%		0.220512		
				(0.041136)		(2.2384E-03)	(0.007405)	(0.007405)	(0.028284)			0.060476		
	08/01/06	TH-229	R	**20.897614**		1.22831E+00	3.919538	3.919538	1.00 SA	97%				
				(1.595897)		(4.9621E-02)	(0.197227)	(0.197227)	(0.028284)					
	08/01/06	TH-230	R	**0.017544**	U4	1.00108E-03	0.003291	0.003291	1.00 SA	97%		0.210454		
				(0.039259)		(2.2384E-03)	(0.007361)	(0.007361)	(0.028284)			0.057718		
	08/01/06	TH-232	R	**0.035088**	U4	2.00217E-03	0.006581	0.006581	1.00 SA	97%		0.258241		
				(0.055564)		(3.1656E-03)	(0.010415)	(0.010415)	(0.028284)			0.081626		

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	**H9F891AA**	**PCI/SA**		06/20/06 10:20	07/31/06 20:19			1	1.00 SA	
536403,P-0676					,J6G180200-9 v4.8.18		FILTER					THTF0730 Alq		0.083413 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	07/31/06 16:10	TH-228	4	6	ALP171	ED	N	N	2.9087E-01		N	106%	N		1.0000E+00	4.5045E-01	1.0419E+00	
			499.4666666	998.95			Y		(8.726E-03)			6%			(0.000E+00)	11.988553		

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

RecCnt:9 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: 6200145 Alpha Spec, ThIso by ALP , Calculated Results 8/1/2006 6:20:04 AM

1	07/31/06 16:10	TH-229	625	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)	11.988553	
2	07/31/06 16:10	TH-230	8	1	ALP171	ED	N	N	2.9087E-01	N	106%	N	1.0000E+00	4.5045E-01	1.0000E+00
			499.4666666	998.95			Y		(8.726E-03)		6%		(0.000E+00)	11.988553	
3	07/31/06 16:10	TH-232	0	0	ALP171	ED	N	N	2.9087E-01	N	106%	N	1.0000E+00	4.5045E-01	1.0000E+00
			499.4666666	998.95			Y		(8.726E-03)		6%		(0.000E+00)	11.988553	

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
	08/01/06	TH-228	R	**0.038966**	U4	2.00224E-03	0.006925	0.006925	1.00 SA	106%		0.419407		
				(0.091443)		(4.6954E-03)	(0.016247)	(0.016247)	(0.028284)			0.157		
	08/01/06	TH-229	R	**23.157987**		1.24733E+00	4.288322	4.288322	1.00 SA	106%				
				(1.765615)		(5.0093E-02)	(0.214967)	(0.214967)	(0.028284)					
	08/01/06	TH-230	R	**0.278788**		1.50160E-02	0.051625	0.051625	1.00 SA	106%		0.222957		
				(0.109571)		(5.7507E-03)	(0.020072)	(0.020072)	(0.028284)			0.061147		
	08/01/06	TH-232	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	106%		0.100735		
				(0.045526)		(0.0000E+00)	(0.00843)	(0.00843)	(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	**H9F9A1AA**	**PCI/SA**		06/20/06 10:35	07/31/06 20:19			1	1.00 SA	
536403,P-0677					,J6G180200-10 v4.8.18		FILTER					THTF0731 Alq		0.083007 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	07/31/06 16:10	TH-228	7	6	ALP172	ED	N	N	2.9949E-01		N	101%	N		1.0000E+00	4.5045E-01	1.0419E+00	
			499.4666666	998.95			Y		(8.985E-03)			6%			(0.000E+00)	12.047234		
1	07/31/06 16:10	TH-229	614	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)	12.047234		
2	07/31/06 16:10	TH-230	14	1	ALP172	ED	N	N	2.9949E-01		N	101%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.985E-03)			6%			(0.000E+00)	12.047234		
3	07/31/06 16:10	TH-232	1	2	ALP172	ED	N	N	2.9949E-01		N	101%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.985E-03)			6%			(0.000E+00)	12.047234		

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
	08/01/06	TH-228	R	**0.152109**	U4	8.00864E-03	0.026902	0.026902	1.00 SA	101%		0.409319		
				(0.111681)		(5.8372E-03)	(0.019691)	(0.019691)	(0.028284)			0.153224		
	08/01/06	TH-229	R	**22.165885**		1.22330E+00	4.084615	4.084615	1.00 SA	101%				
				(1.695178)		(4.9672E-02)	(0.206211)	(0.206211)	(0.028284)					
	08/01/06	TH-230	R	**0.489754**		2.70288E-02	0.090249	0.090249	1.00 SA	101%		0.217596		
				(0.143646)		(7.5579E-03)	(0.025958)	(0.025958)	(0.028284)			0.059677		
	08/01/06	TH-232	R	**6.0527E-07**	U4	3.34040E-08	1.1154E-07	1.1154E-07	1.00 SA	101%		0.267005		
				(0.044431)		(2.4521E-03)	(0.008188)	(0.008188)	(0.028284)			0.084396		

() - (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: 6200145 — Alpha Spec, ThIso by ALP , Calculated Results — 8/1/2006 6:20:05 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
11	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H9F9F1AA**	**PCI/SA**		06/20/06 10:55	07/31/06 20:19			1	1.00 SA	
536403,P-0678					,J6G180200-11 v4.8.18		FILTER					THTF0734 Alq		0.08353 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	07/31/06 16:10	TH-228	1	1	ALP173	ED	N	N	2.5374E-01		N	110%	N		1.0000E+00	4.5045E-01	1.0419E+00	
			499.4666666	998.95			Y		(7.612E-03)			7%			(0.000E+00)	11.971687		
1	07/31/06 16:10	TH-229	561	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)	11.971687		
2	07/31/06 16:10	TH-230	11	0	ALP173	ED	N	N	2.5374E-01		N	110%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.612E-03)			7%			(0.000E+00)	11.971687		
3	07/31/06 16:10	TH-232	1	0	ALP173	ED	N	N	2.5374E-01		N	110%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.612E-03)			7%			(0.000E+00)	11.971687		

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
	08/01/06	TH-228	R	**0.022301**	U4	1.00108E-03	0.003969	0.003969	1.00 SA	110%		0.267516		
				(0.049905)		(2.2384E-03)	(0.008879)	(0.008879)	(0.028284)			0.073367		
	08/01/06	TH-229	R	**23.828127**		1.12120E+00	4.418633	4.418633	1.00 SA	110%				
				(1.844257)		(4.7443E-02)	(0.229195)	(0.229195)	(0.028284)					
	08/01/06	TH-230	R	**0.468052**		2.20235E-02	0.086795	0.086795	1.00 SA	110%		0.115311		
				(0.147186)		(6.6403E-03)	(0.026835)	(0.026835)	(0.028284)					
	08/01/06	TH-232	R	**0.04255**	U4	2.00214E-03	0.00789	0.00789	1.00 SA	110%		0.115311		
				(0.04272)		(2.0021E-03)	(0.007909)	(0.007909)	(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
12	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H9F9J1AA**	**PCI/SA**		06/20/06 11:10	07/31/06 20:19			1	1.00 SA	
536403,P-0679					,J6G180200-12 v4.8.18		FILTER					THTF0735 Alq		0.083756 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	07/31/06 16:10	TH-228	5	0	ALP174	ED	N	N	2.4814E-01		N	45%	N		1.0000E+00	4.5045E-01	1.0419E+00	
			499.4666666	998.95			Y		(7.444E-03)			4%			(0.000E+00)	11.939429		
1	07/31/06 16:10	TH-229	226	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)	11.939429		
2	07/31/06 16:10	TH-230	13	0	ALP174	ED	N	N	2.4814E-01		N	45%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.444E-03)			4%			(0.000E+00)	11.939429		
3	07/31/06 16:10	TH-232	0	0	ALP174	ED	N	N	2.4814E-01		N	45%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.444E-03)			4%			(0.000E+00)	11.939429		

() - (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: 6200145 — Alpha Spec, ThIso by ALP , Calculated Results — 8/1/2006 6:20:05 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/01/06	TH-228	R	**0.505554**		1.00107E-02	0.090223	0.090223	1.00 SA	45%		0.27401		
				(0.232053)		(4.4769E-03)	(0.041087)	(0.041087)	(0.028284)					
	08/01/06	TH-229	R	**9.741932**		4.49479E-01	1.811402	1.811402	1.00 SA	45%				
				(0.908614)		(3.0149E-02)	(0.133098)	(0.133098)	(0.028284)					
	08/01/06	TH-230	R	**1.254025**		2.60278E-02	0.233172	0.233172	1.00 SA	45%		0.261416		
				(0.371181)		(7.2188E-03)	(0.067705)	(0.067705)	(0.028284)					
	08/01/06	TH-232	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	45%		0.261416		
				(0.118143)		(0.0000E+00)	(0.021967)	(0.021967)	(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	**H9F9L1AA**	**PCI/SA**		06/20/06 11:25	07/31/06 20:19			1	1.00 SA	
536403,P-0680					,J6G180200-13 v4.8.18		FILTER					THTF0736 Alq		0.082805 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	07/31/06 16:10	TH-228	5	1	ALP175	ED	N	N	2.9360E-01		N	35%	N		1.0000E+00	4.5045E-01	1.0419E+00	
			499.4666666	998.95			Y		(8.808E-03)			3%			(0.000E+00)	12.076558		
1	07/31/06 16:10	TH-229	210	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)	12.076558		
2	07/31/06 16:10	TH-230	27	0	ALP175	ED	N	N	2.9360E-01		N	35%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.808E-03)			3%			(0.000E+00)	12.076558		
3	07/31/06 16:10	TH-232	10	1	ALP175	ED	N	N	2.9360E-01		N	35%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.808E-03)			3%			(0.000E+00)	12.076558		

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
	08/01/06	TH-228	R	**0.496983**		9.00963E-03	0.087687	0.087687	1.00 SA	35%		0.662424		
				(0.258367)		(4.5875E-03)	(0.045307)	(0.045307)	(0.028284)			0.181673		
	08/01/06	TH-229	R	**7.753079**		4.18446E-01	1.425228	1.425228	1.00 SA	35%				
				(0.736299)		(2.9048E-02)	(0.107782)	(0.107782)	(0.028284)					
	08/01/06	TH-230	R	**2.844863**		5.40577E-02	0.522964	0.522964	1.00 SA	35%		0.28554		
				(0.623571)		(1.0403E-02)	(0.110623)	(0.110623)	(0.028284)					
	08/01/06	TH-232	R	**1.000971**		1.90203E-02	0.184006	0.184006	1.00 SA	35%		0.631983		
				(0.353303)		(6.4100E-03)	(0.064081)	(0.064081)	(0.028284)			0.173324		

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	**H9F9M1AA**	**PCI/SA**		06/20/06 10:10	07/31/06 20:19			1	1.00 SA	
536403,P-0681					,J6G180200-14 v4.8.18		FILTER					THTF0737 Alq		0.082103 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	07/31/06 16:10	TH-228	1	3	ALP176	ED	N	N	2.9146E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0419E+00	
			499.4666666	998.95			Y		(8.744E-03)			6%			(0.000E+00)	12.179752		

() - (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: 6200145 — Alpha Spec, ThIso by ALP , Calculated Results — 8/1/2006 6:20:05 AM

1	07/31/06 16:10	TH-229	548	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)	12.179752	
2	07/31/06 16:10	TH-230	9	1	ALP176	ED	N	N	2.9146E-01	N	93%	N	1.0000E+00	4.5045E-01	1.0000E+00
			499.4666666	998.95			Y		(8.744E-03)		6%		(0.000E+00)	12.179752	
3	07/31/06 16:10	TH-232	0	2	ALP176	ED	N	N	2.9146E-01	N	93%	N	1.0000E+00	4.5045E-01	1.0000E+00
			499.4666666	998.95			Y		(8.744E-03)		6%		(0.000E+00)	12.179752	

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
	08/01/06	TH-228	R	**-0.0212**	U4	-1.00102E-03	-0.003709	-0.003709	1.00 SA	93%		0.356395		
				(0.056125)		(2.6486E-03)	(0.009816)	(0.009816)	(0.028284)			0.120813		
	08/01/06	TH-229	R	**20.615155**		1.09517E+00	3.757522	3.757522	1.00 SA	93%				
				(1.60125)		(4.6890E-02)	(0.196442)	(0.196442)	(0.028284)					
	08/01/06	TH-230	R	**0.343842**		1.70182E-02	0.062672	0.062672	1.00 SA	93%		0.242632		
				(0.126826)		(6.0893E-03)	(0.022834)	(0.022834)	(0.028284)			0.066543		
	08/01/06	TH-232	R	**-0.040451**	U4	-2.00210E-03	-0.007373	-0.007373	1.00 SA	93%		0.297725		
				(0.028832)		(1.4157E-03)	(0.005238)	(0.005238)	(0.028284)			0.094106		

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	**H9F9N1AA**	**PCI/SA**		06/20/06 11:35	07/31/06 20:19			1	1.00 SA	
536403,P-0682					,J6G180200-15 v4.8.18		FILTER					THTF0738 Alq		0.083295 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	07/31/06 16:10	TH-228	1	1	ALP177	ED	N	N	2.6130E-01		N	24%	N		1.0000E+00	4.5045E-01	1.0419E+00	
			499.4666666	998.95			Y		(7.839E-03)			2%			(0.000E+00)	12.005517		
1	07/31/06 16:10	TH-229	125	0	ALP177	ED	Y	N	2.6130E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.839E-03)						(0.000E+00)	12.005517		
2	07/31/06 16:10	TH-230	4	0	ALP177	ED	N	N	2.6130E-01		N	24%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.839E-03)			2%			(0.000E+00)	12.005517		
3	07/31/06 16:10	TH-232	0	0	ALP177	ED	N	N	2.6130E-01		N	24%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.839E-03)			2%			(0.000E+00)	12.005517		

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
	08/01/06	TH-228	R	**0.091592**	U4	1.00108E-03	0.016256	0.016256	1.00 SA	24%		1.098718		
				(0.205091)		(2.2384E-03)	(0.036388)	(0.036388)	(0.028284)			0.301329		
	08/01/06	TH-229	R	**5.179519**		2.50267E-01	0.957772	0.957772	1.00 SA	24%				
				(0.572097)		(2.2385E-02)	(0.090356)	(0.090356)	(0.028284)					
	08/01/06	TH-230	R	**0.699054**		8.00854E-03	0.129266	0.129266	1.00 SA	24%		0.473609		
				(0.359309)		(4.0043E-03)	(0.066025)	(0.066025)	(0.028284)					
	08/01/06	TH-232	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	24%		0.473609		
				(0.214041)		(0.0000E+00)	(0.039579)	(0.039579)	(0.028284)					

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

RecCnt:16 RADCALC v4.8.18
STL Richland

Batch Nbr: 6200145 — Alpha Spec, ThIso by ALP , Calculated Results — 8/1/2006 6:20:05 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
16	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H9HX61AA**	**PCI/SA**	**B**	06/20/06 10:15	07/31/06 20:19			1	1.00 SA	
0,INTRA-LAB BLANK					,J6G190000-145		FILTER					THTF0739 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	07/31/06 16:10	TH-228	1	1	ALP178	ED	N	N	3.1338E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0419E+00	
			499.4666666	998.95			Y		(9.401E-03)			6%			(0.000E+00)	1.00		
1	07/31/06 16:10	TH-229	614	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)	1.00		
2	07/31/06 16:10	TH-230	6	1	ALP178	ED	N	N	3.1338E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(9.401E-03)			6%			(0.000E+00)	1.00		
3	07/31/06 16:10	TH-232	1	2	ALP178	ED	N	N	3.1338E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(9.401E-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
	08/01/06	TH-228	R	**0.001556**	U4	1.00108E-03	0.003316	0.003316	1.00 SA	97%		0.018667		
				(0.003482)		(2.2384E-03)	(0.007417)	(0.007417)	(0.017321)			0.00512		
	08/01/06	TH-229	R	**1.765556**		1.22831E+00	3.919538	3.919538	1.00 SA	97%				
				(0.128922)		(4.9621E-02)	(0.197227)	(0.197227)	(0.017321)					
	08/01/06	TH-230	R	**0.01633**		1.10118E-02	0.036253	0.036253	1.00 SA	97%		0.017809		
				(0.007553)		(5.0053E-03)	(0.016658)	(0.016658)	(0.017321)			0.004884		
	08/01/06	TH-232	R	**4.9537E-08**	U4	3.34040E-08	1.0997E-07	1.0997E-07	1.00 SA	97%		0.021853		
				(0.003636)		(2.4521E-03)	(0.008073)	(0.008073)	(0.017321)			0.006907		

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
17	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H9HX61AC**	**PCI/SA**	**S**	06/20/06 10:15	07/31/06 16:15		THSO0084	1	1.00 Sa	
0,INTRA-LAB CHECK					,J6G190000-145		FILTER					THSO0084 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
6	07/31/06 12:05	TH-229	346	1	ALP120	ED	Y	N	2.4073E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.05	1000.15			Y		(7.222E-03)						(0.000E+00)	1.00		
7	07/31/06 12:05	TH-230	373	0	ALP120	ED	N	N	2.4073E-01		N	71%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.05	1000.15			Y		(7.222E-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
	08/01/06	TH-229	R	**1.292849**		6.90931E-01	2.870127	2.870127	1.00 SA	71%				
				(0.105037)		(3.7212E-02)	(0.176941)	(0.176941)	(0.017321)					
	08/01/06	TH-230	R	**1.973829**		7.45925E-01	4.381904	4.381904	1.00 SA	71%	108%	0.014341		
				(0.209548)		(3.8623E-02)	(0.403292)	(0.403292)	(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:17 RADCALC v4.8.18
STL Richland

STL RICHLAND

SEVERN TRENT **STL**

THORIUM ISOTOPIC COUNTING REQUEST

1424

C.R. Technician CS
Date Counted 7/31/06
C.R. Analyst DD
Date Analyzed 7/31/06

Counting Time
Sample 500 Minutes

Background **See Alpha Analysis Report**

SOP's
Operating: RICHRD008
Review: RICHRD0016

BRC 6/20

6200145

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)		
H9F7N1AA		10		0	See Alpha Analysis Report for ROI Information			171	
H9F731AA		10		0	See Alpha Analysis Report for ROI Information			172	
H9F751AA		10		0	See Alpha Analysis Report for ROI Information			173	
H9F781AA		10		0	See Alpha Analysis Report for ROI Information			174	
H9F8F1AA		10		0	See Alpha Analysis Report for ROI Information			175	
H9F8L1AA		10		0	See Alpha Analysis Report for ROI Information			176	
H9F8W1AA		10		0	See Alpha Analysis Report for ROI Information			177	
H9F851AA		10		0	See Alpha Analysis Report for ROI Information			178	
		10		0	See Alpha Analysis Report for ROI Information				

Comments:

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

Approved by: DD

Date: 7/31/06

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

Sample Identity: H9F7N1AA

Detector: ALP171 1
Report Date: 31-Jul-06 03:35 PM
Acquire Date: 31-JUL-2006 06:04:58.15
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	5	6	0.004	5423.2	116.4	317	337
TH-229	533	4	1.063	4845.3	372.2	212	276
TH-230	6	1	0.011	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)

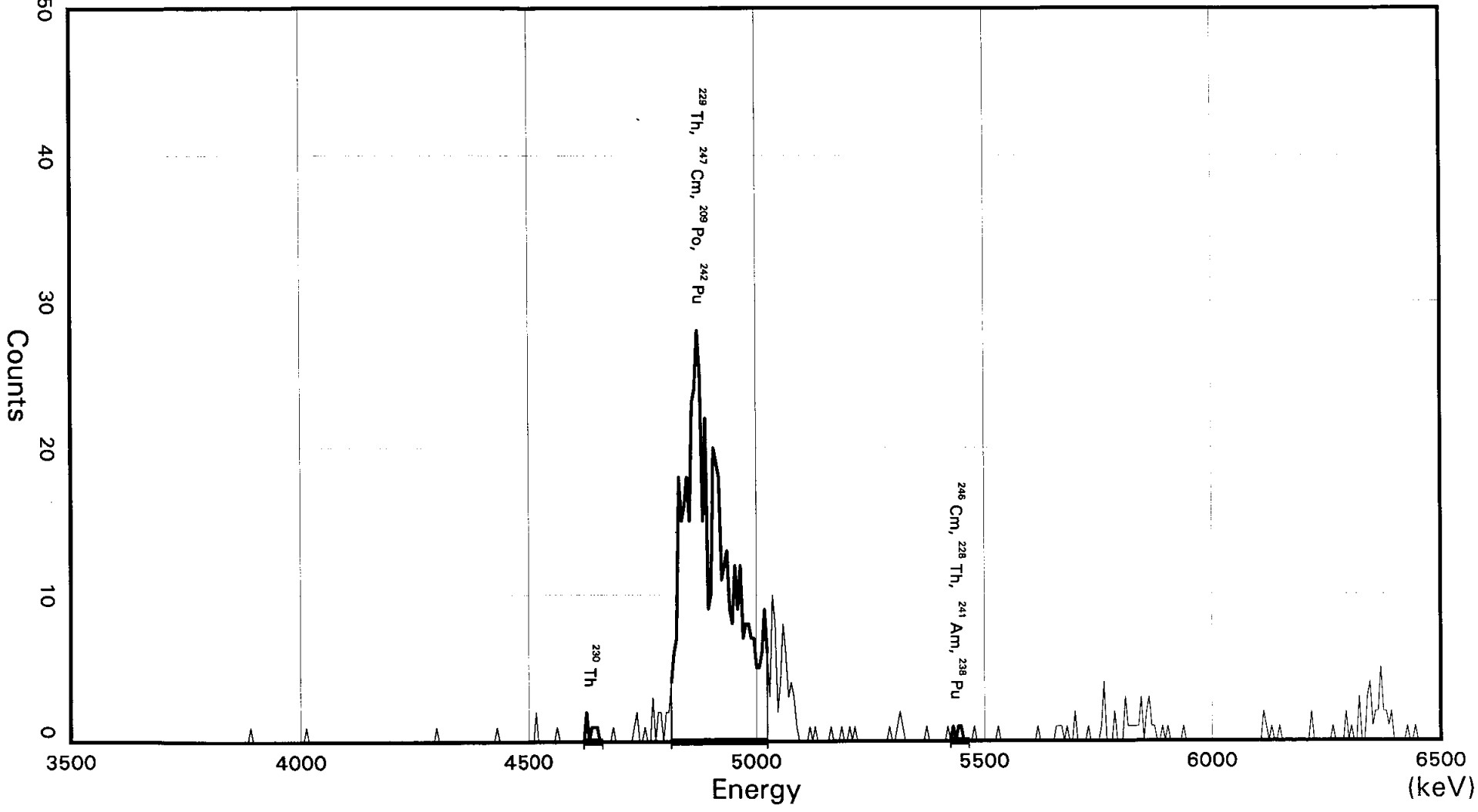
STL Richland WA.

TH BRC

Sample ID: H9F7N1AA

Detector ID: ALP171 1

Batch ID: 6200145



Acquisition Start: 31-JUL-2006 06:04:58.15

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 IDENTIITY: H9F7N1AA

TITLE : TH BRC

DETECTOR : ALP171 1
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9F7N1AA_310760604A.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 31-Jul-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 31-JUL-2006 06:04:58 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 Regions Report
(Version: 8-Oct-91)

Sample Identity: H9F7N1AA

Detector: ALP171 1
Report Date: 31-Jul-06 02:25 PM
Acquire Date: 31-JUL-2006 06:04:58.15
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	5147.2	209.5	273	309	0.00	0.00	M
PO-209	451	2	0	0.901	4915.5	209.4	227	263	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5336.7	209.5	306	342	0.00	0.00	M I
AC-227	4	10	7	-0.003	6070.3	209.7	432	468	0.00	0.00	S
TH-227	4	10	7	-0.003	6070.3	209.7	432	468	0.00	0.00	S
TH-228	4	3	0	0.005	5455.5	40.7	332	339	0.00	0.00	P
TH-229	451	2	0	0.901	4877.6	209.4	227	263	0.00	0.00	P
TH-230	4	1	0	0.007	4720.0	40.7	194	201	0.00	0.00	P
TH-232	1	2	0	0.000	4045.3	209.2	84	120	0.00	0.00	S
U-232	-9999	-9999	0	-10.010	5352.5	209.5	309	345	0.00	0.00	M I
U-234	-9999	-9999	0	-10.010	4806.9	209.4	215	251	0.00	0.00	S I
U-235	4	2	0	0.006	4430.1	209.3	150	186	0.00	0.00	S
PU-236	17	44	23	-0.011	5799.9	203.8	386	421	0.00	0.00	S
NP-237	-9999	-9999	0	-10.010	4820.3	209.4	217	253	0.00	0.00	S I
PU-238	4	3	0	0.005	5531.3	40.7	332	339	0.00	0.00	P
U-238	-9999	-9999	0	-10.010	4230.3	209.2	116	152	0.00	0.00	M
PU-239	-9999	-9999	0	-10.010	5188.9	209.5	281	317	0.00	0.00	M
AM-241	4	3	0	0.005	5517.9	40.7	332	339	0.00	0.00	P
AM-242M	-9999	-9999	0	-10.010	5239.1	209.5	289	325	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6145.0	209.7	445	481	0.00	0.00	M
PU-242	451	2	0	0.901	4932.8	209.4	227	263	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5307.6	209.5	301	337	0.00	0.00	M I
CM-244	12	36	23	-0.013	5837.1	209.7	392	428	0.00	0.00	S
CM-246	4	3	0	0.005	5418.8	40.7	332	339	0.00	0.00	P
CM-247	451	2	0	0.901	4902.7	209.4	227	263	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5110.9	209.5	267	303	0.00	0.00	M

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9F7N1AA
Detector: ALP171 1
Report Date: 31-Jul-06 02:25 PM
Acquire Date: 31-JUL-2006 06:04:58.15

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

VMS Peak Search Report V1.9 Generated 31-JUL-2006 14:25:31

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9F7N1AA_310760604A.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 06:04:58
Sample ID         : H9F7N1AA             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	4637.20	4	0	23.22	196.50	194	7	1.33E-04	50.0	
2	0	4877.59	451	0	98.69	237.84	227	36	1.50E-02	4.7	
3	0	5439.98	4	0	23.22	334.50	332	7	1.33E-04	50.0	

VMS Nuclide Identification Report V3.0 Generated 31-JUL-2006 14:25:34

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9F7N1AA_310760604A.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 06:04:58
Sample ID         : H9F7N1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP171 1             Detector geometry:
Elapsed live time: 0 08:19:28.00         Elapsed real time: 0 08:19:28.00   0.0%
Energy tolerance :    80.00 keV          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    70.00
```

Summary of Nuclide Activity

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

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
TH-228	1.91Y	1.04	0.000E+00	0.000E+00	0.000E+00	0.00	
TH-230	7.54E+04Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-246	8500.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			

Nuclide Type : AP

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

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

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

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

Configuration: $DISK1:[ALP171.SAMPLE]H9F7N1AA_310760604A.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4637.20	194	201	4	5	-0.50		
4877.58	227	263	451	466	-0.71		
5439.97	332	339	4	3	0.50		

End of Report

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

Sample Identity: H9F731AA

Detector: ALP171 2
Report Date: 31-Jul-06 03:46 PM
Acquire Date: 31-JUL-2006 06:04:58.15
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	6	-0.002	5423.2	112.8	320	340
TH-229	607	7	1.208	4845.3	378.1	215	282
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)

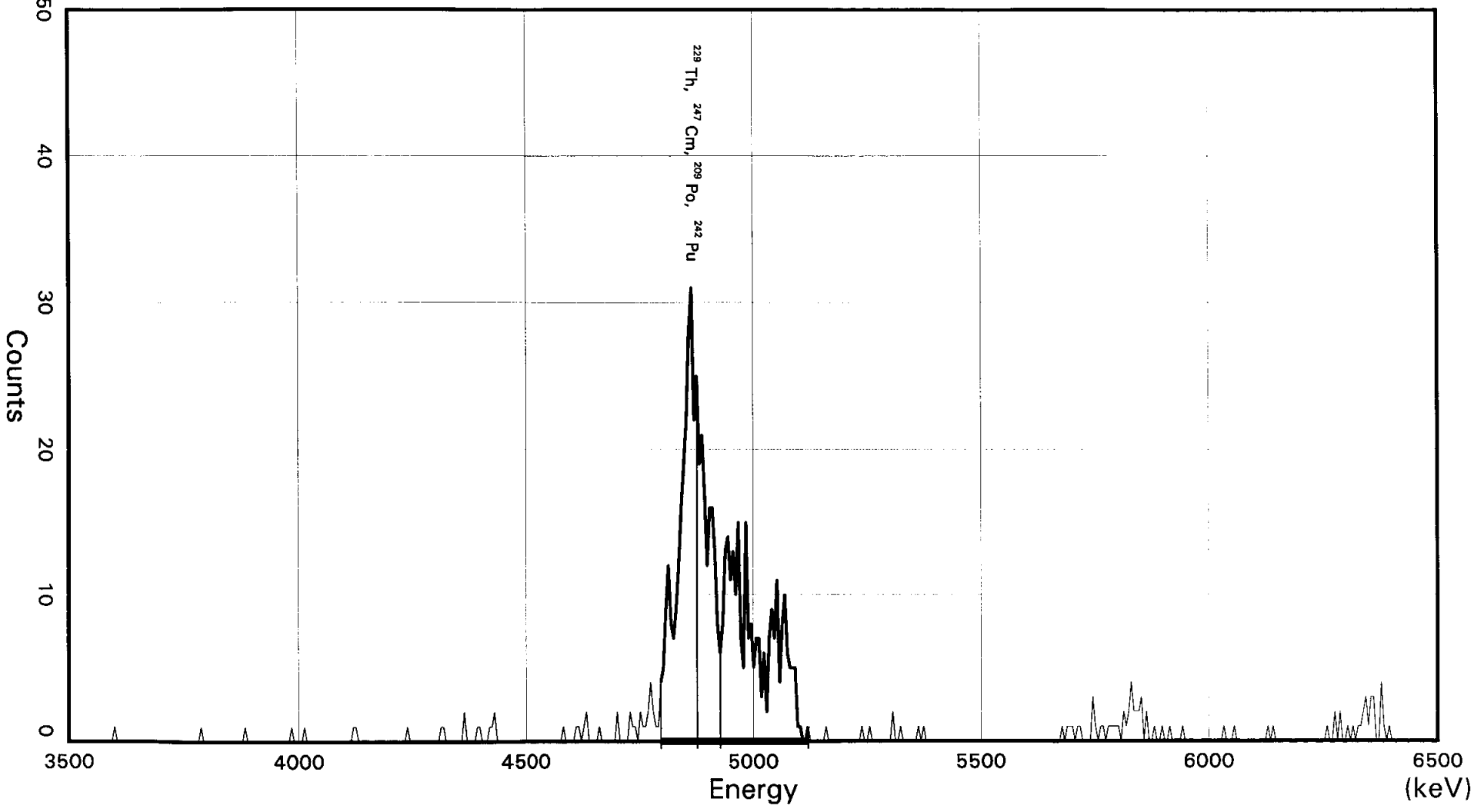
STL Richland WA.

TH BRC

Sample ID: H9F731AA

Detector ID: ALP171 2

Batch ID: 6200145



Acquisition Start: 31-JUL-2006 06:04:58.15

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:              H9F731AA


TITLE            : TH BRC

DETECTOR                    : ALP171 2
CONFIGURATION NAME          : $DISK1:[ALP171.SAMPLE]H9F731AA_310760604B.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 31-Jul-06              SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 31-JUL-2006 06:04:58   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: H9F731AA

Detector: ALP171 2
Report Date: 31-Jul-06 02:25 PM
Acquire Date: 31-JUL-2006 06:04:58.15
Tracer Nuclide: TH-229
High Counts Limit: 36
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Flags Key

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

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
PO-208	-9999	-9999	0	-10.010	5139.1	129.8	272	295	0.00	0.00	M
PO-209	442	3	0	0.882	4907.4	129.8	224	247	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5328.6	129.7	305	328	0.00	0.00	M
AC-227	2	2	0	0.002	6062.2	135.2	435	459	0.00	0.00	S
TH-227	2	2	0	0.002	6062.2	135.2	435	459	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5447.4	129.7	326	349	0.00	0.00	M
TH-229	442	3	0	0.882	4869.5	129.8	224	247	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4711.9	129.9	196	219	0.00	0.00	M
TH-232	2	0	0	0.004	4037.2	130.0	77	100	0.00	0.00	
U-232	-9999	-9999	0	-10.010	5344.4	129.7	308	331	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4798.8	129.8	211	234	0.00	0.00	M I
U-235	8	2	0	0.014	4422.0	129.9	145	168	0.00	0.00	
PU-236	17	35	25	-0.002	5791.8	129.6	388	411	0.00	0.00	S
NP-237	-9999	-9999	0	-10.010	4812.2	129.8	214	237	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.010	5523.2	129.7	340	363	0.00	0.00	M
U-238	1	2	0	0.000	4222.2	130.0	109	132	0.00	0.00	
PU-239	-9999	-9999	0	-10.010	5180.8	129.8	279	302	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5509.8	135.3	337	361	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5231.0	129.7	288	311	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6136.9	129.6	449	472	0.00	0.00	M
PU-242	442	3	0	0.882	4924.7	129.8	224	247	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5299.5	129.7	300	323	0.00	0.00	M
CM-244	16	35	25	-0.004	5829.0	129.6	394	417	0.00	0.00	S
CM-246	-9999	-9999	0	-10.010	5410.7	129.7	320	343	0.00	0.00	M
CM-247	442	3	0	0.882	4894.6	129.8	224	247	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5102.8	129.8	265	288	0.00	0.00	M

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9F731AA
Detector: ALP171 2
Report Date: 31-Jul-06 02:25 PM
Acquire Date: 31-JUL-2006 06:04:58.15

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

VMS Peak Search Report V1.9 Generated 31-JUL-2006 14:25:39

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9F731AA_310760604B.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 06:04:58
Sample ID         : H9F731AA             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	4869.49	442	0	62.22	236.71	224	23	1.47E-02	4.8	
2	0	4985.36	149	0	175.36	257.24	238	43	4.97E-03	8.2	

VMS Nuclide Identification Report V3.0 Generated 31-JUL-2006 14:25:43

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9F731AA_310760604B.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 06:04:58
Sample ID         : H9F731AA             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	
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]H9F731AA_310760604B.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4869.48	224	247	442	357	4.04		
4985.35	238	281	149	389	-19.66	153	-0.08

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

End of Report

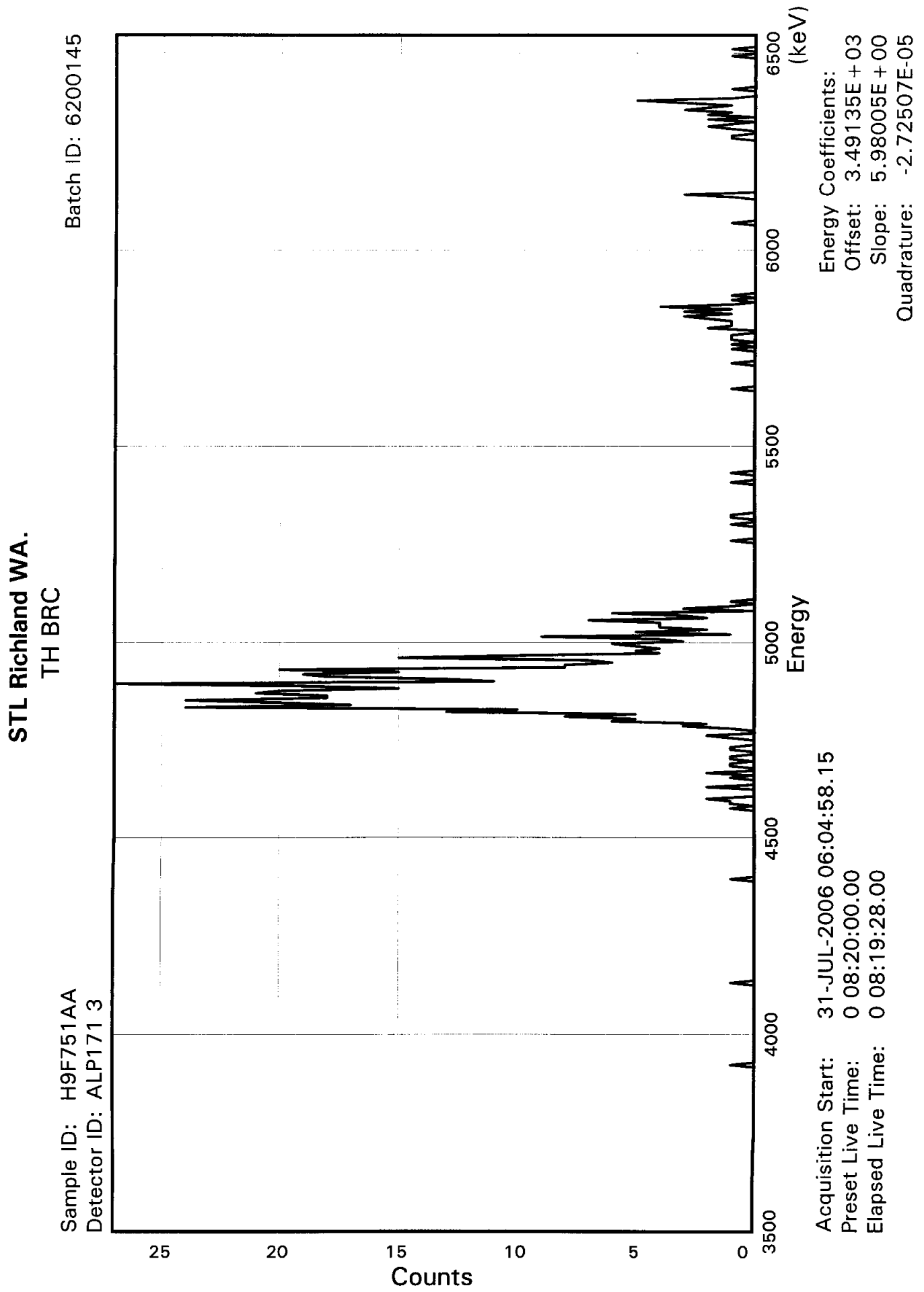
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H9F751AA

Detector: ALP171 3
Report Date: 31-Jul-06 03:47 PM
Acquire Date: 31-JUL-2006 06:04:58.15
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	119.3	309	329
TH-229	512	2	1.023	4845.3	358.0	211	271
TH-230	14	0	0.028	4687.7	143.3	181	205
TH-232	1	0	0.002	4013.0	125.5	71	92

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6200145
Sample ID: H9F751AA
Detector ID: ALP171 3
Counts
25
20
15
10
5
0
3500
4000
4500
5000
5500
6000
6500
Energy
(keV)
Acquisition Start: 31-JUL-2006 06:04:58.15
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: H9F751AA

TITLE : TH BRC

DETECTOR : ALP171 3
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9F751AA_310760604C.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 31-Jul-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 31-JUL-2006 06:04:58 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: H9F751AA
Detector: ALP171 3
Report Date: 31-Jul-06 02:25 PM
Acquire Date: 31-JUL-2006 06:04:58.15

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

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

VMS Peak Search Report V1.9 Generated 31-JUL-2006 14:25:46

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9F751AA_310760604C.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 06:04:58
Sample ID         : H9F751AA             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
No peaks were found
```

```
VMS Nuclide Identification Report V3.0 Generated 31-JUL-2006 14:25:47

Configuration     : $DISK1:[ALP171.SAMPLE]H9F751AA_310760604C.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 06:04:58
Sample ID         : H9F751AA             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

**** 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: 31-Jul-06  02:25 PM)

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

System Status Message:

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

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

Sample Identity: H9F781AA

Detector: ALP171 4
Report Date: 31-Jul-06 03:51 PM
Acquire Date: 31-JUL-2006 06:04:58.15
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	5	1	0.009	5423.2	133.5	307	331
TH-229	404	3	0.806	4845.3	344.2	203	265
TH-230	10	1	0.019	4687.7	138.7	175	200
TH-232	1	0	0.002	4013.0	110.6	53	73

End of Alpha Region Report
(Produced by ANAL Report)

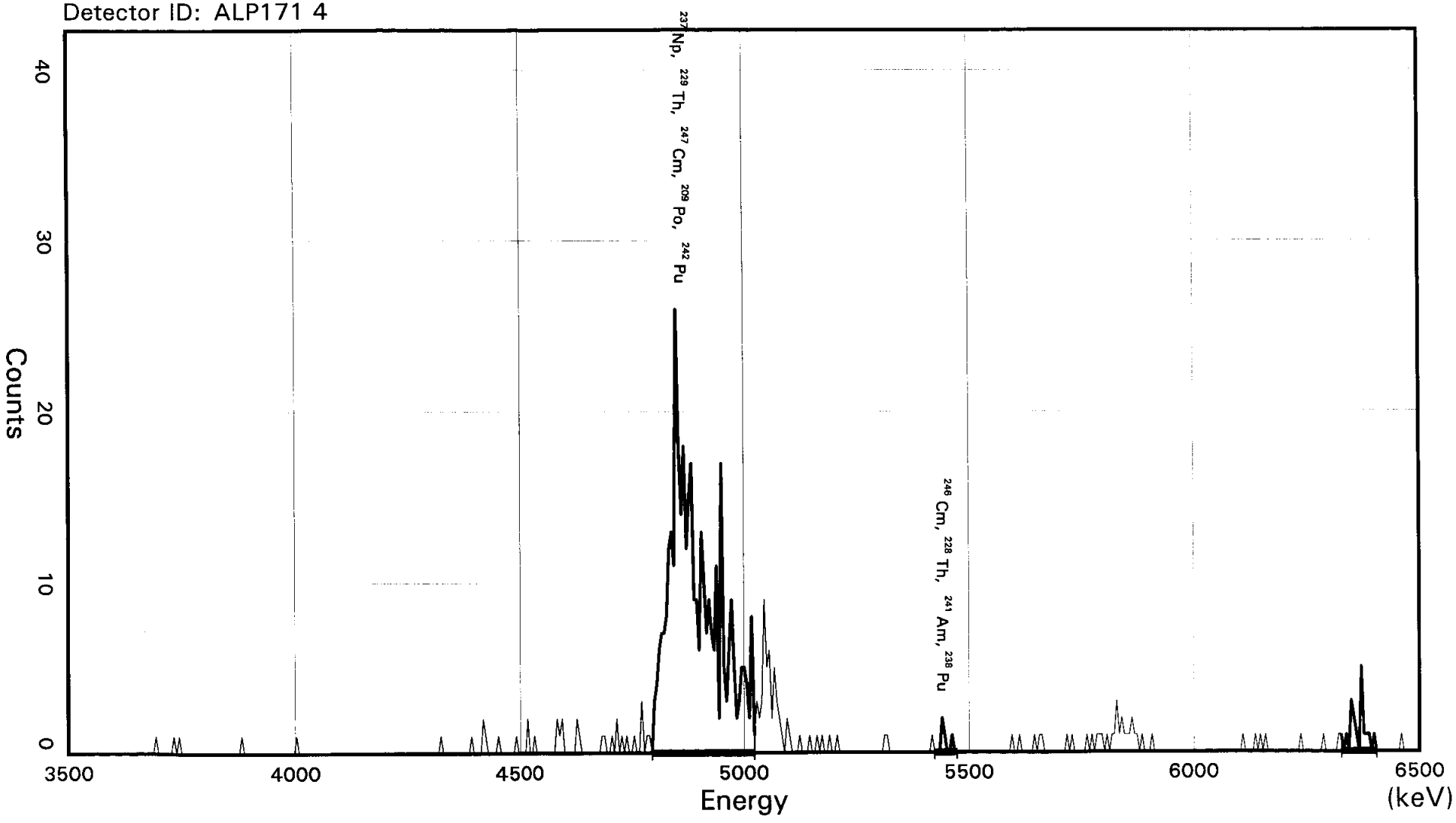
STL Richland WA.

TH BRC

Sample ID: H9F781AA

Detector ID: ALP171 4

Batch ID: 6200145



Acquisition Start: 31-JUL-2006 06:04:58.15

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: H9F781AA

TITLE : TH BRC

DETECTOR : ALP171 4
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9F781AA_310760604D.CN
F;1
ACQUIRE DATE of BACKGROUND: 08-JUL-2006 07:53:15

REPORT DATE : 31-Jul-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 31-JUL-2006 06:04:58 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: H9F781AA

Detector: ALP171 4
Report Date: 31-Jul-06 02:25 PM
Acquire Date: 31-JUL-2006 06:04:58.15
Tracer Nuclide: TH-229
High Counts Limit: 36
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Flags Key

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

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
PO-208	-9999	-9999	0	-10.010	5132.9	227.9	258	299	0.00	0.00	M
PO-209	362	1	0	0.724	4901.2	227.6	209	250	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5322.4	228.0	292	333	0.00	0.00	M I
AC-227	2	7	4	-0.003	6056.1	228.6	423	464	0.00	0.00	S
TH-227	2	7	4	-0.003	6056.1	228.6	423	464	0.00	0.00	S
TH-228	6	1	0	0.011	5441.2	50.1	322	331	0.00	0.00	P
TH-229	362	1	0	0.724	4863.3	227.6	209	250	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4705.7	227.5	181	222	0.00	0.00	S I
TH-232	1	0	0	0.002	4031.0	226.9	59	100	0.00	0.00	S
U-232	-9999	-9999	0	-10.010	5338.2	228.0	294	335	0.00	0.00	M I
U-234	-9999	-9999	0	-10.010	4792.6	227.6	196	237	0.00	0.00	S I
U-235	9	3	0	0.015	4415.8	227.2	128	169	0.00	0.00	S
PU-236	14	34	23	-0.007	5785.7	228.4	375	416	0.00	0.00	S
NP-237	362	1	0	0.724	4806.0	227.6	209	250	0.00	0.00	P
PU-238	6	1	0	0.011	5517.1	50.1	322	331	0.00	0.00	P
U-238	-9999	-9999	0	-10.010	4216.0	227.1	92	133	0.00	0.00	M
PU-239	-9999	-9999	0	-10.010	5174.6	227.9	265	306	0.00	0.00	M
AM-241	6	1	0	0.011	5503.6	50.1	322	331	0.00	0.00	P
AM-242M	-9999	-9999	0	-10.010	5224.8	227.9	274	315	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6130.8	228.7	437	478	0.00	0.00	M
PU-242	362	1	0	0.724	4918.5	227.6	209	250	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5293.3	228.0	286	327	0.00	0.00	M I
CM-244	12	29	23	-0.006	5822.9	222.9	382	422	0.00	0.00	S
CM-246	6	1	0	0.011	5404.5	50.1	322	331	0.00	0.00	P
CM-247	362	1	0	0.724	4888.4	227.6	209	250	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5096.6	227.8	251	292	0.00	0.00	M

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9F781AA
Detector: ALP171 4
Report Date: 31-Jul-06 02:25 PM
Acquire Date: 31-JUL-2006 06:04:58.15

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

VMS Peak Search Report V1.9 Generated 31-JUL-2006 14:25:49

Configuration : $DISK1:[ALP171.SAMPLE]H9F781AA_310760604D.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 06:04:58
Sample ID : H9F781AA 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	4863.34	362	0	66.30	221.25	209	41	1.21E-02	5.3	
2	0	5442.66	6	0	33.15	325.50	322	9	2.00E-04	40.8	
3	0	6360.75	17	0	55.25	490.25	484	14	5.67E-04	24.3	

VMS Nuclide Identification Report V3.0 Generated 31-JUL-2006 14:25:51

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9F781AA_310760604D.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 06:04:58
Sample ID         : H9F781AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP171 1             Detector geometry:
Elapsed live time: 0 08:19:28.00         Elapsed real time: 0 08:19:28.00   0.0%
Energy tolerance :    80.00 keV          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    70.00
```

Summary of Nuclide Activity

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

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
TH-228	1.91Y	1.04	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	
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	
AM-241	432.20Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-247	1.56E+07Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

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

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

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

Configuration: $DISK1:[ALP171.SAMPLE]H9F781AA_310760604D.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4863.34	209	250	362	355	0.37		
5442.66	322	331	6	4	0.82		
6360.74	484	498	17	17	0.00		

End of Report

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

Sample Identity: H9F8F1AA

Detector: ALP171 5
Report Date: 31-Jul-06 04:05 PM
Acquire Date: 31-JUL-2006 06:04:58.15
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	9	1	0.017	5423.2	118.0	301	321
TH-229	617	2	1.233	4845.3	378.0	201	265
TH-230	17	0	0.034	4687.7	147.8	171	196
TH-232	4	1	0.007	4013.0	136.2	62	85

End of Alpha Region Report
(Produced by ANAL Report)

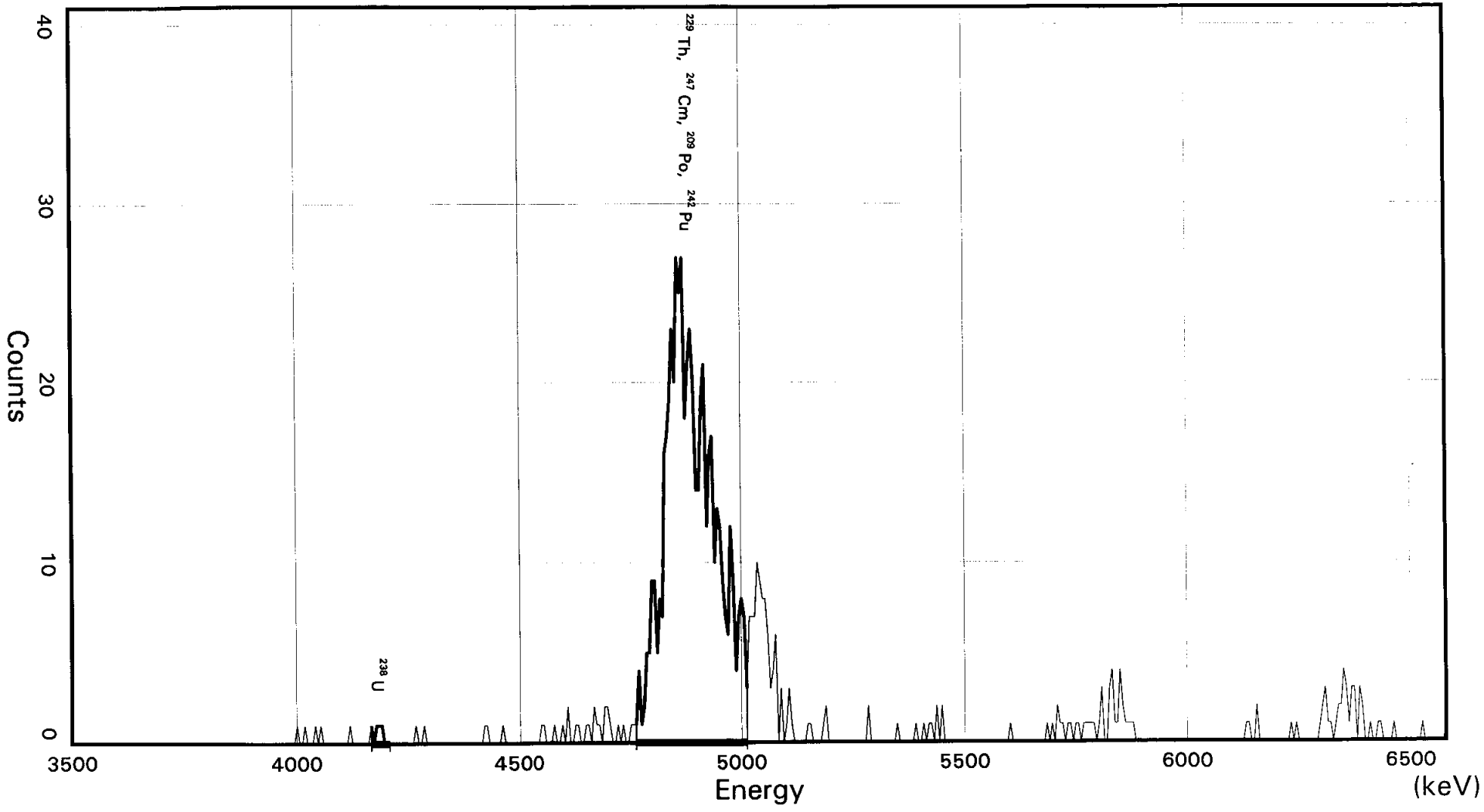
STL Richland WA.

TH BRC

Sample ID: H9F8F1AA

Detector ID: ALP171 5

Batch ID: 6200145



Acquisition Start: 31-JUL-2006 06:04:58.15

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 IDENTITY: H9F8F1AA

TITLE : TH BRC

DETECTOR : ALP171 5
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9F8F1AA_310760604E.CN
F;1
ACQUIRE DATE of BACKGROUND: 08-JUL-2006 07:53:15

REPORT DATE : 31-Jul-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 31-JUL-2006 06:04:58 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: H9F8F1AA

Detector: ALP171 5
Report Date: 31-Jul-06 02:25 PM
Acquire Date: 31-JUL-2006 06:04:58.15
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	5151.5	247.9	250	292	0.00	0.00	M
PO-209	534	2	0	1.067	4919.8	248.1	204	246	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5341.0	247.8	282	324	0.00	0.00	M
AC-227	-9999	-9999	0	-10.010	6074.6	247.3	406	448	0.00	0.00	M
TH-227	-9999	-9999	0	-10.010	6074.6	247.3	406	448	0.00	0.00	M
TH-228	-9999	-9999	0	-10.010	5459.8	247.7	302	344	0.00	0.00	M
TH-229	534	2	0	1.067	4881.9	248.1	204	246	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4724.3	248.2	177	219	0.00	0.00	M I
TH-232	-9999	-9999	0	-10.010	4049.6	248.7	63	105	0.00	0.00	I
U-232	-9999	-9999	0	-10.010	5356.8	247.8	284	326	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4811.2	248.2	192	234	0.00	0.00	M I
U-235	5	2	0	0.008	4434.4	248.4	128	170	0.00	0.00	
PU-236	22	37	32	0.008	5804.3	247.5	360	402	0.00	0.00	S
NP-237	-9999	-9999	0	-10.010	4824.6	248.2	194	236	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.010	5535.7	247.7	315	357	0.00	0.00	M
U-238	4	0	0	0.008	4234.6	41.4	103	110	0.00	0.00	P
PU-239	-9999	-9999	0	-10.010	5193.2	247.9	257	299	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5522.2	253.6	312	355	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5243.4	247.9	265	307	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6149.4	247.2	419	461	0.00	0.00	M
PU-242	534	2	0	1.067	4937.1	248.1	204	246	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5311.9	247.8	277	319	0.00	0.00	M
CM-244	-9999	-9999	0	-10.010	5841.5	247.5	367	409	0.00	0.00	M
CM-246	-9999	-9999	0	-10.010	5423.1	247.7	296	338	0.00	0.00	M
CM-247	534	2	0	1.067	4907.0	248.1	204	246	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5115.2	253.9	243	286	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: H9F8F1AA
Detector: ALP171 5
Report Date: 31-Jul-06 02:25 PM
Acquire Date: 31-JUL-2006 06:04:58.15

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

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

VMS Peak Search Report V1.9 Generated 31-JUL-2006 14:25:54

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9F8F1AA_310760604E.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 06:04:58
Sample ID         : H9F8F1AA             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	4181.42	4	0	23.72	105.50	103	7	1.33E-04	50.0	
2	0	4881.94	534	0	118.58	223.97	204	42	1.78E-02	4.3	

VMS Nuclide Identification Report V3.0 Generated 31-JUL-2006 14:25:55

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9F8F1AA_310760604E.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 06:04:58
Sample ID         : H9F8F1AA             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	
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			

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]H9F8F1AA_310760604E.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4181.41	103	110	4	4	0.00		
4881.93	204	246	534	532	0.09		

End of Report

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

Sample Identity: H9F8L1AA

Detector: ALP171 6
Report Date: 31-Jul-06 04:06 PM
Acquire Date: 31-JUL-2006 06:04:58.15
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	5	3	0.007	5423.2	120.8	322	342
TH-229	506	2	1.011	4845.3	405.1	226	293
TH-230	10	1	0.019	4687.7	127.1	199	220
TH-232	5	2	0.008	4013.0	121.2	89	109

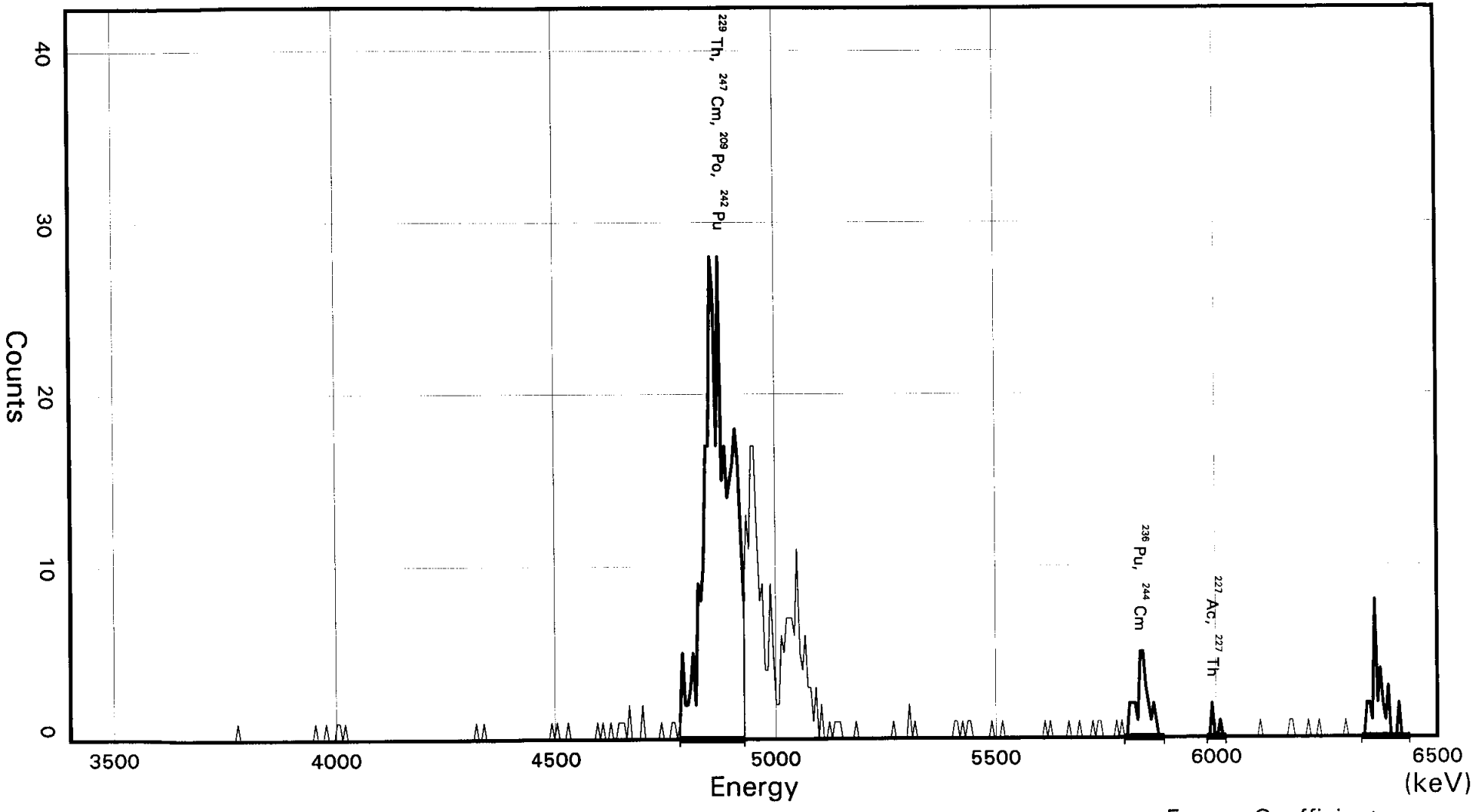
End of Alpha Region Report
(Produced by ANAL Report)

STL Richland WA.

TH BRC

Sample ID: H9F8L1AA
Detector ID: ALP171 6

Batch ID: 6200145



Acquisition Start: 31-JUL-2006 06:04:58.15
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: H9F8L1AA

TITLE : TH BRC

DETECTOR : ALP171 6
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9F8L1AA_310760604F.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 31-Jul-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 31-JUL-2006 06:04:58 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: H9F8L1AA

Detector: ALP171 6
Report Date: 31-Jul-06 03:32 PM
Acquire Date: 31-JUL-2006 06:04:58.15
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	5149.6	145.1	276	300	0.00	0.00	M
PO-209	338	1	0	0.676	4917.9	145.2	231	255	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5339.1	145.0	307	331	0.00	0.00	M
AC-227	4	4	1	0.003	6072.7	150.7	428	453	0.00	0.00	S
TH-227	4	4	1	0.003	6072.7	150.7	428	453	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5457.9	144.9	327	351	0.00	0.00	M
TH-229	338	1	0	0.676	4880.0	145.2	231	255	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4722.4	145.2	205	229	0.00	0.00	M
TH-232	5	3	0	0.007	4047.7	145.5	94	118	0.00	0.00	
U-232	-9999	-9999	0	-10.010	5354.9	145.0	310	334	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4809.3	145.2	219	243	0.00	0.00	M I
U-235	1	1	0	0.001	4432.5	145.3	157	181	0.00	0.00	
PU-236	26	74	0	-0.022	5802.4	90.5	398	413	0.00	0.00	P
NP-237	-9999	-9999	0	-10.010	4822.7	145.2	222	246	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.010	5533.7	144.9	339	363	0.00	0.00	M
U-238	0	0	0	0.000	4232.7	145.4	124	148	0.00	0.00	
PU-239	-9999	-9999	0	-10.010	5191.3	145.0	282	306	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5520.3	144.9	337	361	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5241.5	145.0	291	315	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6147.4	144.7	441	465	0.00	0.00	M
PU-242	338	1	0	0.676	4935.2	145.2	231	255	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5310.0	145.0	302	326	0.00	0.00	M
CM-244	26	74	0	-0.022	5839.5	90.5	398	413	0.00	0.00	P
CM-246	-9999	-9999	0	-10.010	5421.2	145.0	321	345	0.00	0.00	M
CM-247	338	1	0	0.676	4905.1	145.2	231	255	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5113.3	145.1	270	294	0.00	0.00	M

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9F8L1AA
Detector: ALP171 6
Report Date: 31-Jul-06 03:32 PM
Acquire Date: 31-JUL-2006 06:04:58.15

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

Cnt	F	Chn
2		501
0		502
0		503
0		504
0		505
0		506
0		507
0		508
0		509
0		510
0		511
0		512

VMS Peak Search Report V1.9 Generated 31-JUL-2006 15:32:25

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9F8L1AA_310760604F.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 06:04:58
Sample ID         : H9F8L1AA             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	4879.99	338	0	84.99	246.97	231	24	1.13E-02	5.4	
2	0	5830.31	26	0	30.35	404.29	398	15	8.68E-04	19.6	
3	0	5994.42	4	0	24.28	431.50	429	7	1.33E-04	50.0	
4	0	6360.23	27	0	30.35	492.19	487	18	9.01E-04	19.2	

VMS Nuclide Identification Report V3.0 Generated 31-JUL-2006 15:32:28

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9F8L1AA_310760604F.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 06:04:58
Sample ID         : H9F8L1AA             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]H9F8L1AA_310760604F.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4879.99	231	255	338	311	1.47		
5830.31	398	413	26	26	0.00		
5994.41	429	436	4	3	0.50		
6360.23	487	505	27	27	0.00		

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

End of Report

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

Sample Identity: H9F8L1AA

Detector: ALP171 6
Report Date: 31-Jul-06 03:54 PM
Acquire Date: 31-JUL-2006 06:04:58.15
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	5	3	0.007	5423.2	120.8	322	342
TH-229	506	2	1.011	4845.3	399.1	226	292
TH-230	10	1	0.019	4687.7	127.1	199	220
TH-232	5	2	0.008	4013.0	121.2	89	109

End of Alpha Region Report
(Produced by ANAL Report)

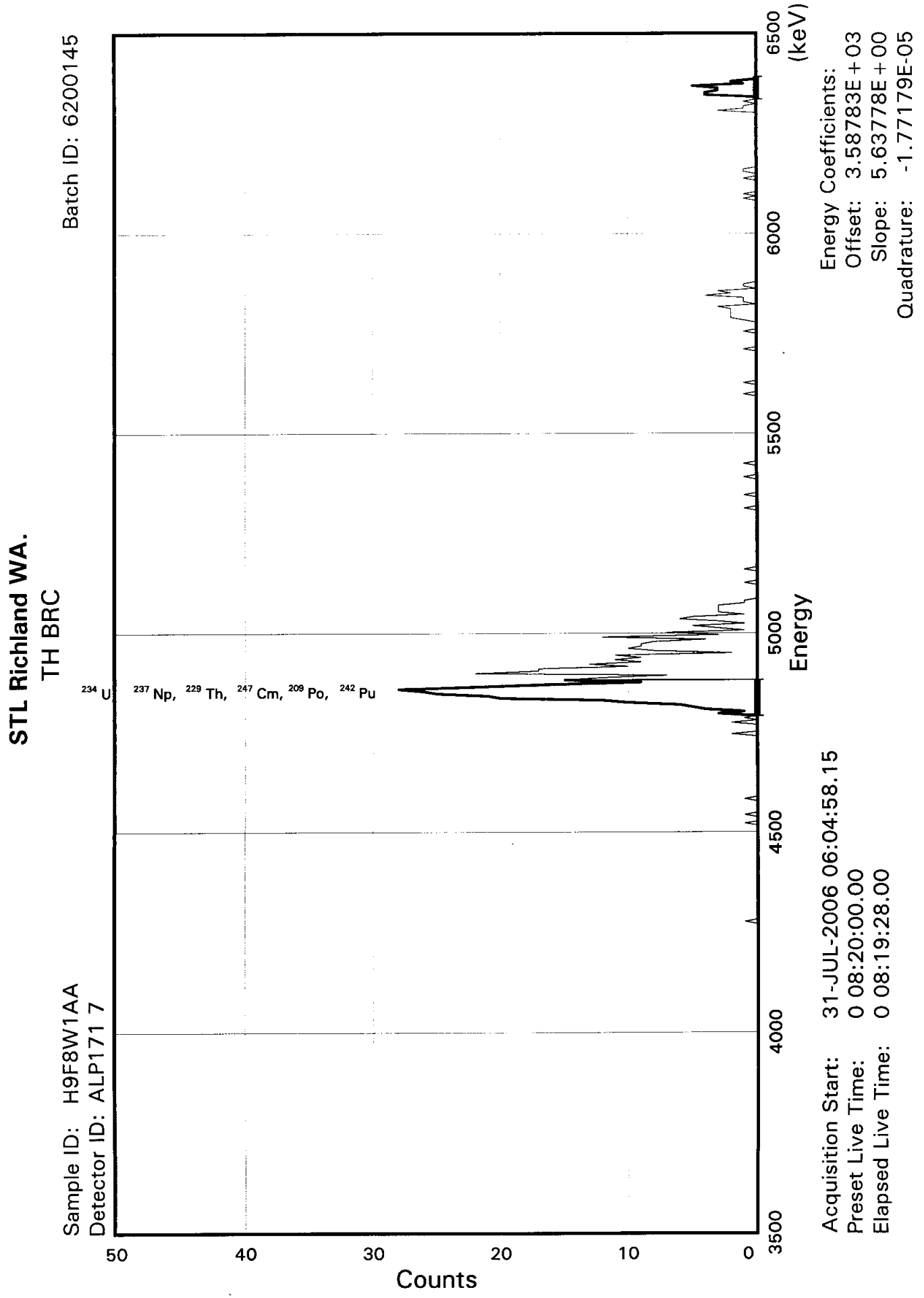
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H9F8W1AA

Detector: ALP171 7
Report Date: 31-Jul-06 03:55 PM
Acquire Date: 31-JUL-2006 06:04:58.15
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	112.5	311	331
TH-229	475	0	0.951	4845.3	326.5	208	266
TH-230	0	0	0.000	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: 6200145
Sample ID: H9F8W1AA
Detector ID: ALP171 7
234 U
237 Np, 229 Th, 247 Cm, 209 Po, 242 Pu
Counts
50
40
30
20
10
0
Energy
3500
4000
4500
5000
5500
6000
6500
(keV)
Acquisition Start: 31-JUL-2006 06:04:58.15
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: H9F8W1AA

TITLE : TH BRC

DETECTOR : ALP171 7
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9F8W1AA_310760604G.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 31-Jul-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 31-JUL-2006 06:04:58 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: H9F8W1AA

Detector: ALP171 7
Report Date: 31-Jul-06 03:24 PM
Acquire Date: 31-JUL-2006 06:04:58.15
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	5123.0	90.1	262	278	0.00	0.00	M
PO-209	244	0	0	0.489	4891.3	90.1	214	230	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5312.5	90.0	296	312	0.00	0.00	M
AC-227	0	0	0	0.000	6046.2	90.0	426	442	0.00	0.00	S
TH-227	0	0	0	0.000	6046.2	90.0	426	442	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5431.3	90.0	317	333	0.00	0.00	M
TH-229	244	0	0	0.489	4853.4	90.1	214	230	0.00	0.00	P
TH-230	0	0	0	0.000	4695.8	90.1	186	202	0.00	0.00	
TH-232	0	0	0	0.000	4021.1	90.2	66	82	0.00	0.00	
U-232	-9999	-9999	0	-10.010	5328.3	90.0	298	314	0.00	0.00	M
U-234	244	0	0	0.489	4782.7	90.1	214	230	0.00	0.00	P
U-235	0	0	0	0.000	4405.9	90.1	135	151	0.00	0.00	
PU-236	5	9	10	0.001	5775.8	90.0	378	394	0.00	0.00	S
NP-237	244	0	0	0.489	4796.1	90.1	214	230	0.00	0.00	P
PU-238	-9999	-9999	0	-10.010	5507.2	90.0	330	346	0.00	0.00	M
U-238	0	0	0	0.000	4206.1	90.1	99	115	0.00	0.00	
PU-239	-9999	-9999	0	-10.010	5164.7	90.0	269	285	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5493.7	90.0	328	344	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5214.9	90.0	278	294	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6120.9	90.0	439	455	0.00	0.00	M
PU-242	244	0	0	0.489	4908.6	90.1	214	230	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5283.4	90.0	290	306	0.00	0.00	M
CM-244	17	33	10	0.001	5813.0	90.0	385	401	0.00	0.00	S
CM-246	-9999	-9999	0	-10.010	5394.6	90.0	310	326	0.00	0.00	M
CM-247	244	0	0	0.489	4878.5	90.1	214	230	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5086.7	90.1	255	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: H9F8W1AA
Detector: ALP171 7
Report Date: 31-Jul-06 03:24 PM
Acquire Date: 31-JUL-2006 06:04:58.15

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

VMS Peak Search Report V1.9 Generated 31-JUL-2006 15:24:07

Configuration	: $DISK1:[ALP171.SAMPLE]H9F8W1AA_310760604G.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: TH BRC		
Sample date	: 20-JUN-2006 12:00:00	Acquisition date	: 31-JUL-2006 06:04:58
Sample ID	: H9F8W1AA	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	4853.45	244	0	45.10	224.65	214	16	8.14E-03	6.4	
2	0	6355.46	21	0	33.83	491.67	488	10	7.01E-04	21.8	

VMS Nuclide Identification Report V3.0 Generated 31-JUL-2006 15:24:09

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9F8W1AA_310760604G.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 06:04:58
Sample ID         : H9F8W1AA             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	
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: $DISK1:[ALP171.SAMPLE]H9F8W1AA_310760604G.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4853.44	214	230	244	223	1.34		
6355.45	488	498	21	22	-0.22		

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

End of Report

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

Sample Identity: H9F851AA

Detector: ALP171 8
Report Date: 31-Jul-06 03:56 PM
Acquire Date: 31-JUL-2006 06:04:58.15
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	1	1	0.001	5423.2	117.6	307	327
TH-229	614	1	1.228	4845.3	347.3	208	267
TH-230	1	1	0.001	4687.7	117.8	182	202
TH-232	2	2	0.002	4013.0	117.9	67	87

End of Alpha Region Report
(Produced by ANAL Report)

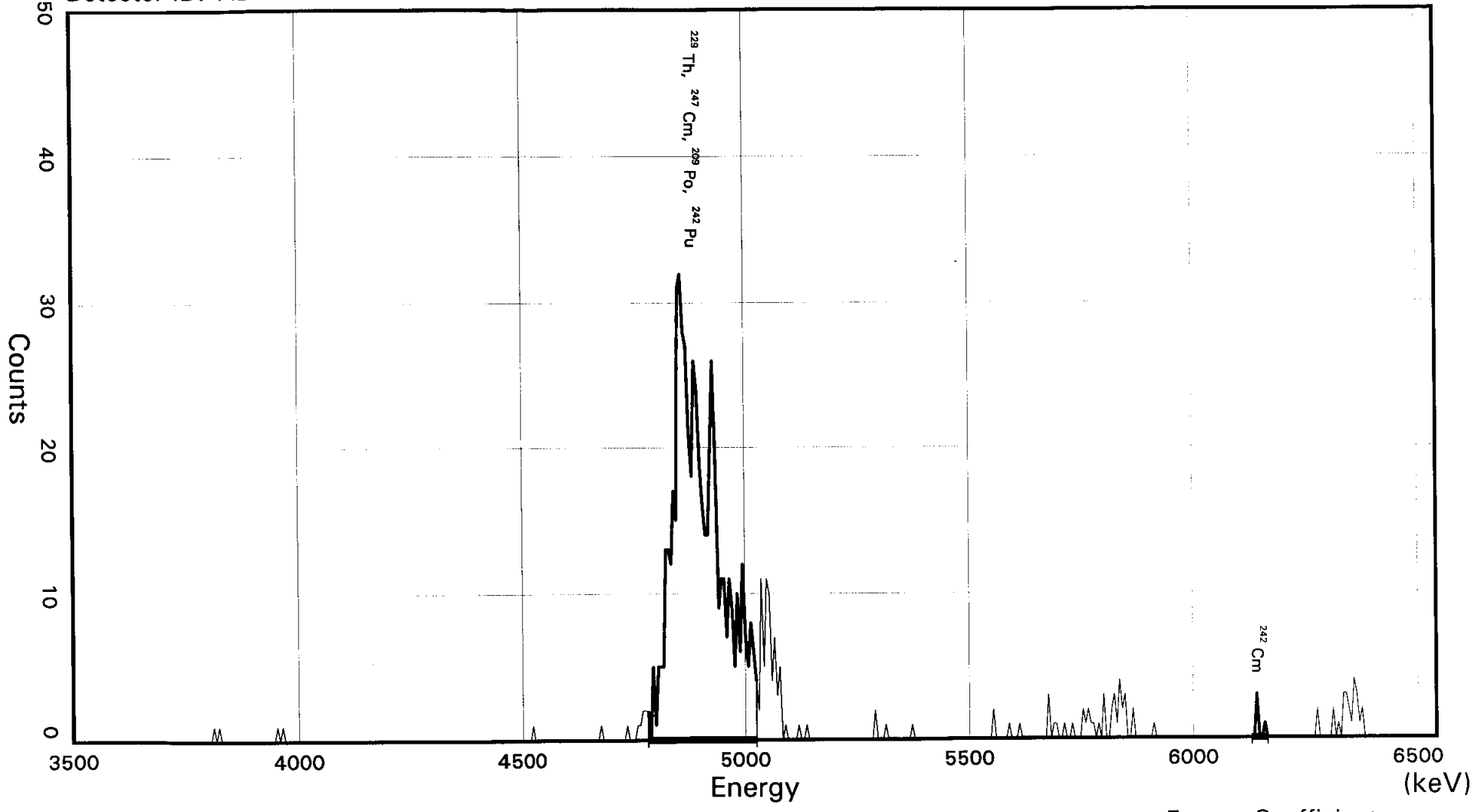
STL Richland WA.

TH BRC

Sample ID: H9F851AA

Detector ID: ALP171 8

Batch ID: 6200145



Acquisition Start: 31-JUL-2006 06:04:58.15

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: H9F851AA

TITLE : TH BRC

DETECTOR : ALP171 8
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9F851AA_310760604H.CN
F;1
ACQUIRE DATE of BACKGROUND: 09-JUL-2006 10:13:03

REPORT DATE : 31-Jul-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 31-JUL-2006 06:04:58 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: H9F851AA

Detector: ALP171 8
Report Date: 31-Jul-06 02:26 PM
Acquire Date: 31-JUL-2006 06:04:58.15
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	5155.9	241.2	259	300	0.00	0.00	M
PO-209	553	1	0	1.106	4924.2	241.3	213	254	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5345.4	241.2	291	332	0.00	0.00	M
AC-227	-9999	-9999	0	-10.010	6079.0	240.9	416	457	0.00	0.00	S I
TH-227	-9999	-9999	0	-10.010	6079.0	240.9	416	457	0.00	0.00	S I
TH-228	-9999	-9999	0	-10.010	5464.2	241.1	311	352	0.00	0.00	M
TH-229	553	1	0	1.106	4886.3	241.3	213	254	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4728.7	241.4	186	227	0.00	0.00	M I
TH-232	2	3	0	0.002	4054.0	241.7	72	113	0.00	0.00	S
U-232	-9999	-9999	0	-10.010	5361.2	241.2	294	335	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4815.6	241.4	201	242	0.00	0.00	M I
U-235	1	3	0	-0.001	4438.8	241.5	137	178	0.00	0.00	S
PU-236	17	32	29	0.002	5808.7	241.0	370	411	0.00	0.00	S
NP-237	-9999	-9999	0	-10.010	4829.0	241.4	203	244	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.010	5540.0	241.1	324	365	0.00	0.00	M
U-238	-9999	-9999	0	-10.010	4239.0	241.6	103	144	0.00	0.00	M
PU-239	-9999	-9999	0	-10.010	5197.6	241.2	266	307	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5526.6	241.1	322	363	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5247.8	241.2	274	315	0.00	0.00	M
CM-242	4	7	0	0.001	6153.7	35.3	442	448	0.00	0.00	P
PU-242	553	1	0	1.106	4941.5	241.3	213	254	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5316.3	241.2	286	327	0.00	0.00	M
CM-244	-9999	-9999	0	-10.010	5845.8	241.0	376	417	0.00	0.00	M
CM-246	-9999	-9999	0	-10.010	5427.5	241.1	305	346	0.00	0.00	M
CM-247	553	1	0	1.106	4911.4	241.3	213	254	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5119.6	241.3	253	294	0.00	0.00	M

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9F851AA
Detector: ALP171 8
Report Date: 31-Jul-06 02:26 PM
Acquire Date: 31-JUL-2006 06:04:58.15

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

Cnt	F	Chn
0		501
0		502
0		503
0		504
0		505
0		506
0		507
0		508
0		509
0		510
0		511
0		512

VMS Peak Search Report V1.9 Generated 31-JUL-2006 14:26:00

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9F851AA_310760604H.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 06:04:58
Sample ID         : H9F851AA             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	4886.30	553	0	100.28	230.52	213	41	1.85E-02	4.3	
2	0	6144.70	4	0	23.60	444.50	442	6	1.33E-04	50.0	

VMS Nuclide Identification Report V3.0 Generated 31-JUL-2006 14:26:02

Configuration	: $DISK1:[ALP171.SAMPLE]H9F851AA_310760604H.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: TH BRC		
Sample date	: 20-JUN-2006 12:00:00	Acquisition date	: 31-JUL-2006 06:04:58
Sample ID	: H9F851AA	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	
CM-242	162.80D	1.19	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]H9F851AA_310760604H.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4886.30	213	254	553	549	0.17		
6144.69	442	448	4	4	0.00		

End of Report

SEVERN TRENT STL

THORIUM ISOTOPIC COUNTING REQUEST

8/1/06
0030

C.R. Technician GD
Date Counted 7/31/06
C.R. Analyst CS
Date Analyzed 8/1/06

Counting Time
Sample 5W Minutes
Background See Alpha Analysis Report

SOP's
Operating: RICHRD008
Review: RICHRD0016

BRC 6/20 6 200 145

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)		
H9F89IAA		10		0	See Alpha Analysis Report for ROI Information			171	
H9F9AIAA		10		0	See Alpha Analysis Report for ROI Information			172	
H9F9FIAA		10		0	See Alpha Analysis Report for ROI Information			173	
H9F9JIAA		10		0	See Alpha Analysis Report for ROI Information			174	
H9F9LIAA		10		0	See Alpha Analysis Report for ROI Information			175	
H9F9MIAA		10		0	See Alpha Analysis Report for ROI Information			176	
H9F9NIAA		10		0	See Alpha Analysis Report for ROI Information			177	
H9HX6IAA		10		0	See Alpha Analysis Report for ROI Information			178	
		10		0	See Alpha Analysis Report for ROI Information				

Comments:

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

Approved by: CS

Date: 8/1/06

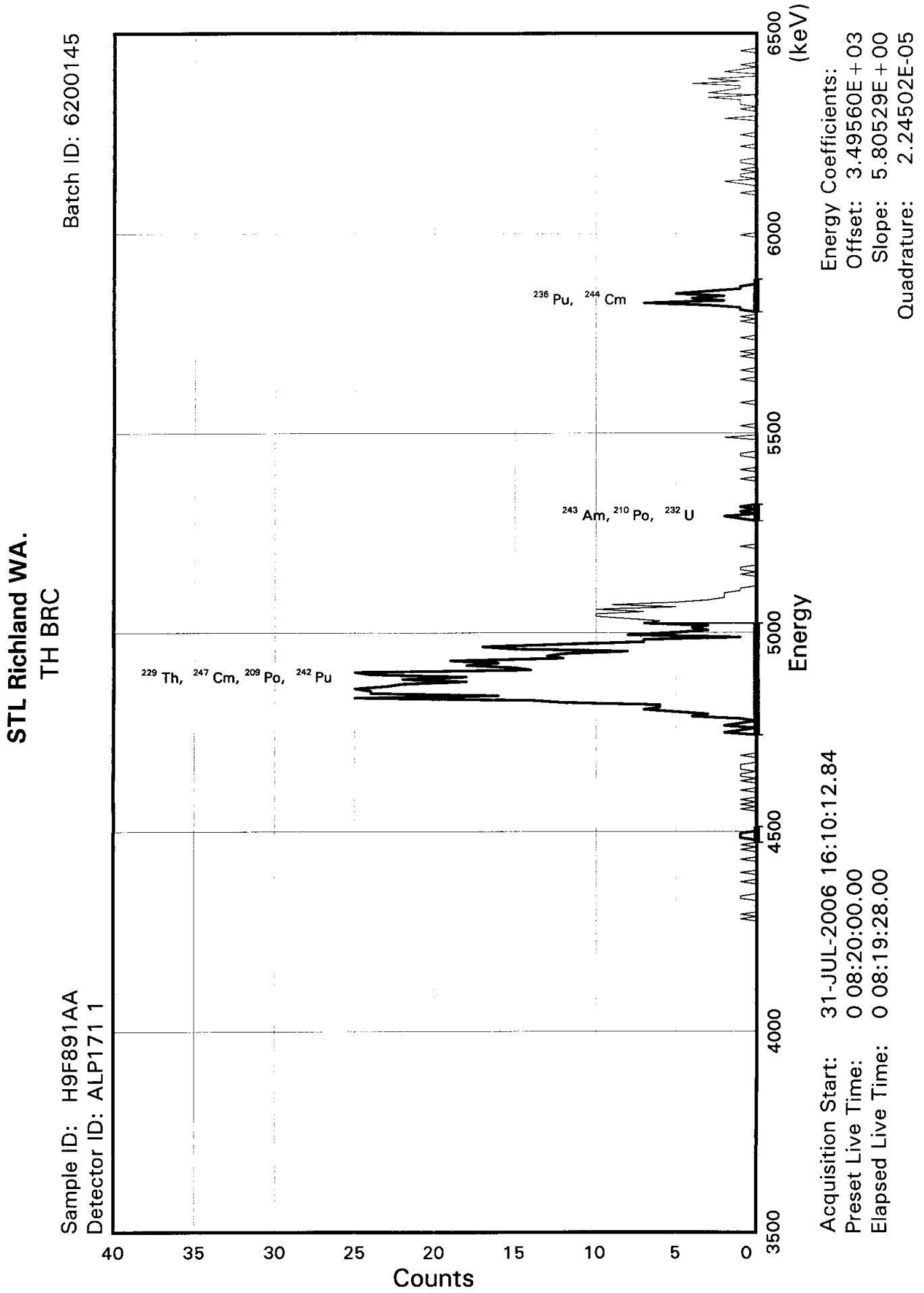
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H9F891AA

Detector: ALP171 1
Report Date: 01-Aug-06 05:26 AM
Acquire Date: 31-JUL-2006 16:10:12.84
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	6	0.002	5423.2	116.4	317	337
TH-229	625	4	1.247	4845.3	360.6	217	279
TH-230	8	1	0.015	4687.7	116.3	190	210
TH-232	0	0	0.000	4013.0	116.2	74	94

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6200145
Sample ID: H9F891AA
Detector ID: ALP171 1
229 Th, 247 Cm, 209 Po, 242 Pu
243 Am, 210 Po, 232 U
236 Pu, 244 Cm
Counts
Energy
(keV)
Acquisition Start: 31-JUL-2006 16:10:12.84
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 IDENTIITY: H9F891AA

TITLE : TH BRC

DETECTOR : ALP171 1
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9F891AA_310761610A.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 01-Aug-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 31-JUL-2006 16:10:12 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 Regions Report
(Version: 8-Oct-91)

Sample Identity: H9F891AA

Detector: ALP171 1
Report Date: 01-Aug-06 12:30 AM
Acquire Date: 31-JUL-2006 16:10:12.84
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	5160.1	279.3	261	309	0.00	0.00	M I
PO-209	534	4	0	1.065	4928.4	279.2	215	263	0.00	0.00	P
PO-210	4	2	0	0.006	5349.5	40.7	307	314	0.00	0.00	P
AC-227	6	8	10	0.005	6083.2	279.6	420	468	0.00	0.00	S
TH-227	6	8	10	0.005	6083.2	279.6	420	468	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5468.4	279.4	314	362	0.00	0.00	M
TH-229	534	4	0	1.065	4890.5	279.2	215	263	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4732.9	279.1	188	236	0.00	0.00	M I
TH-232	0	1	0	-0.001	4058.2	278.9	72	120	0.00	0.00	S
U-232	4	2	0	0.006	5365.3	40.7	307	314	0.00	0.00	P
U-234	-9999	-9999	0	-10.010	4819.8	279.1	203	251	0.00	0.00	M I
U-235	11	2	3	0.019	4443.0	279.0	138	186	0.00	0.00	S
PU-236	31	60	0	0.002	5812.8	81.5	397	411	0.00	0.00	P
NP-237	-9999	-9999	0	-10.010	4833.2	279.1	205	253	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.010	5544.2	279.4	327	375	0.00	0.00	M
U-238	-9999	-9999	0	-10.010	4243.2	278.9	104	152	0.00	0.00	M
PU-239	-9999	-9999	0	-10.010	5201.8	279.3	269	317	0.00	0.00	M I
AM-241	-9999	-9999	0	-10.010	5530.8	279.4	325	373	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5252.0	279.3	277	325	0.00	0.00	M I
CM-242	-9999	-9999	0	-10.010	6157.9	279.6	433	481	0.00	0.00	M
PU-242	534	4	0	1.065	4945.7	279.2	215	263	0.00	0.00	P
AM-243	4	2	0	0.006	5320.5	40.7	307	314	0.00	0.00	P
CM-244	31	60	0	0.002	5850.0	81.5	397	411	0.00	0.00	P
CM-246	-9999	-9999	0	-10.010	5431.7	279.4	308	356	0.00	0.00	M I
CM-247	534	4	0	1.065	4915.6	279.2	215	263	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5123.8	279.3	255	303	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: H9F891AA
Detector: ALP171 1
Report Date: 01-Aug-06 12:30 AM
Acquire Date: 31-JUL-2006 16:10:12.84

Flags Key

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

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

VMS Peak Search Report V1.9 Generated 1-AUG-2006 00:30:45

Configuration : $DISK1:[ALP171.SAMPLE]H9F891AA_310761610A.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 16:10:12
Sample ID : H9F891AA 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	4486.05	4	0	23.22	170.50	168	7	1.33E-04	50.0	
2	0	4890.46	534	0	145.13	240.05	215	48	1.78E-02	4.3	
3	0	5294.49	4	0	23.22	309.50	307	7	1.33E-04	50.0	
4	0	5836.62	31	0	46.44	402.63	397	14	1.03E-03	18.0	

VMS Nuclide Identification Report V3.0 Generated 1-AUG-2006 00:30:49

Configuration	: $DISK1:[ALP171.SAMPLE]H9F891AA_310761610A.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: TH BRC		
Sample date	: 20-JUN-2006 12:00:00	Acquisition date	: 31-JUL-2006 16:10:12
Sample ID	: H9F891AA	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	1.23	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	
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	
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]H9F891AA_310761610A.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4486.05	168	175	4	3	0.50		
4890.45	215	263	534	546	-0.52		
5294.48	307	314	4	5	-0.50		
5836.61	397	411	31	30	0.18		

End of Report

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

Sample Identity: H9F9A1AA

Detector: ALP171 2
Report Date: 01-Aug-06 05:26 AM
Acquire Date: 31-JUL-2006 16:10:12.84
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	7	6	0.008	5423.2	112.8	320	340
TH-229	614	6	1.223	4845.3	361.2	217	281
TH-230	14	1	0.027	4687.7	112.9	190	210
TH-232	1	2	0.000	4013.0	113.1	70	90

End of Alpha Region Report
(Produced by ANAL Report)

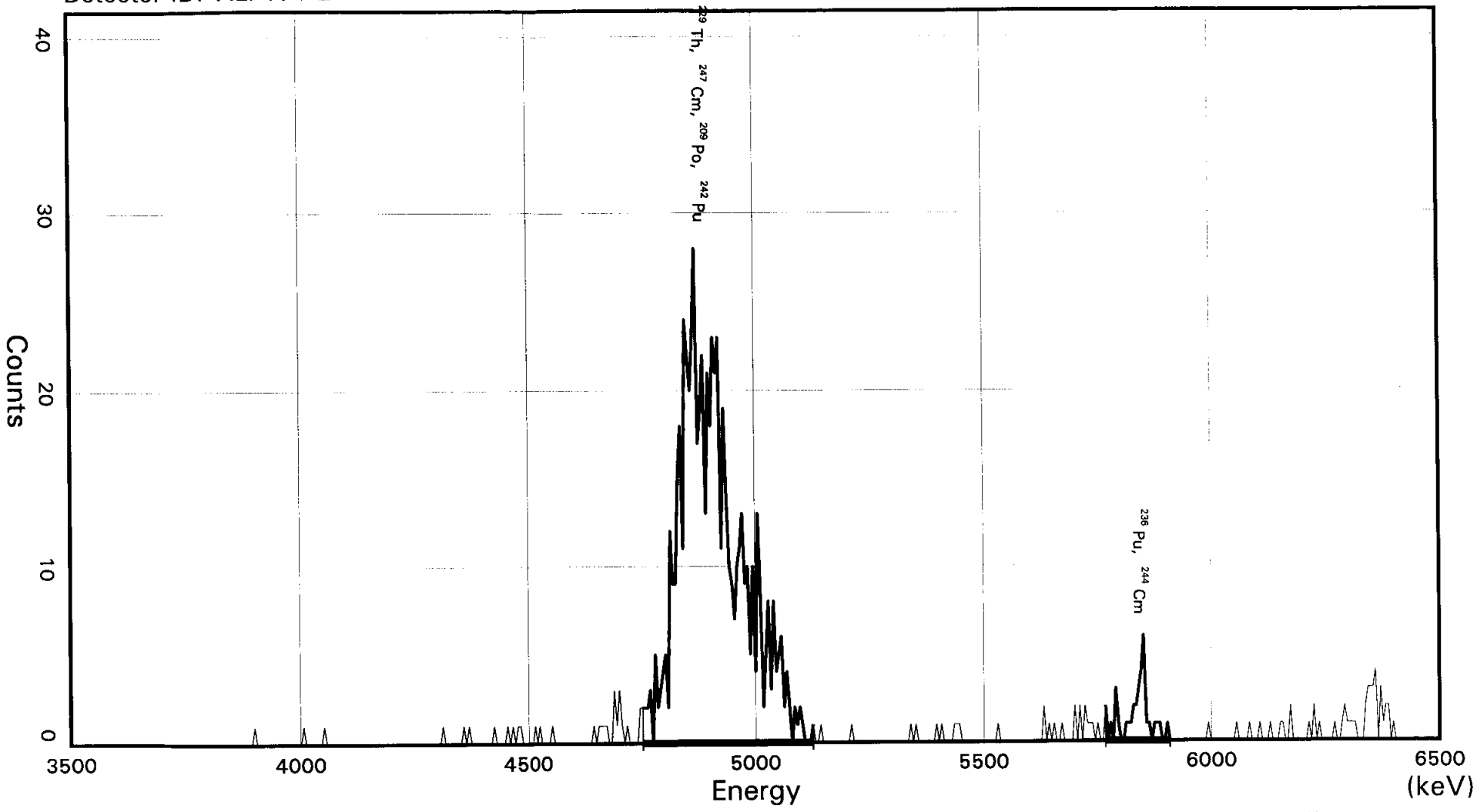
STL Richland WA.

TH BRC

Sample ID: H9F9A1AA

Detector ID: ALP171 2

Batch ID: 6200145



Acquisition Start: 31-JUL-2006 16:10:12.84

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: H9F9A1AA

TITLE : TH BRC

DETECTOR : ALP171 2
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9F9A1AA_310761610B.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 01-Aug-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 31-JUL-2006 16:10:12 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: H9F9A1AA

Detector: ALP171 2
Report Date: 01-Aug-06 12:30 AM
Acquire Date: 31-JUL-2006 16:10:12.84
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	5154.2	372.3	264	330	0.00	0.00	M I
PO-209	617	6	0	1.229	4922.5	372.5	216	282	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5343.7	372.2	297	363	0.00	0.00	M
AC-227	11	16	20	0.006	6077.3	377.4	427	494	0.00	0.00	S
TH-227	11	16	20	0.006	6077.3	377.4	427	494	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5462.5	372.1	318	384	0.00	0.00	M
TH-229	617	6	0	1.229	4884.6	372.5	216	282	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4727.0	372.6	188	254	0.00	0.00	M I
TH-232	2	3	0	0.001	4052.3	373.0	69	135	0.00	0.00	S
U-232	-9999	-9999	0	-10.010	5359.5	372.2	300	366	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4813.9	372.5	203	269	0.00	0.00	M I
U-235	-9999	-9999	0	-10.010	4437.1	372.8	137	203	0.00	0.00	M
PU-236	33	59	0	0.007	5807.0	140.9	396	421	0.00	0.00	P
NP-237	-9999	-9999	0	-10.010	4827.3	372.5	206	272	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.010	5538.4	372.1	332	398	0.00	0.00	M I
U-238	-9999	-9999	0	-10.010	4237.3	372.9	101	167	0.00	0.00	M
PU-239	-9999	-9999	0	-10.010	5195.9	372.3	271	337	0.00	0.00	M I
AM-241	-9999	-9999	0	-10.010	5524.9	377.7	329	396	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5246.1	372.3	280	346	0.00	0.00	M I
CM-242	-9999	-9999	0	-10.010	6152.1	371.7	441	507	0.00	0.00	M
PU-242	617	6	0	1.229	4939.8	372.5	216	282	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5314.6	372.2	292	358	0.00	0.00	M
CM-244	33	59	0	0.007	5844.2	140.9	396	421	0.00	0.00	P
CM-246	-9999	-9999	0	-10.010	5425.8	372.2	312	378	0.00	0.00	M
CM-247	617	6	0	1.229	4909.7	372.5	216	282	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5117.9	372.4	257	323	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: H9F9A1AA
Detector: ALP171 2
Report Date: 01-Aug-06 12:30 AM
Acquire Date: 31-JUL-2006 16:10:12.84

Flags Key

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

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

VMS Peak Search Report V1.9 Generated 1-AUG-2006 00:30:53

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9F9A1AA_310761610B.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 16:10:12
Sample ID         : H9F9A1AA             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	4884.64	617	0	113.13	239.39	216	66	2.06E-02	4.0	
2	0	5844.99	33	0	33.94	409.67	396	25	1.10E-03	17.4	

VMS Nuclide Identification Report V3.0 Generated 1-AUG-2006 00:30:56

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9F9A1AA_310761610B.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 16:10:12
Sample ID         : H9F9A1AA             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	
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]H9F9A1AA_310761610B.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4884.63	216	282	617	617	0.00		
5844.99	396	421	33	33	0.00		

End of Report

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

Sample Identity: H9F9F1AA

Detector: ALP171 3
Report Date: 01-Aug-06 05:26 AM
Acquire Date: 31-JUL-2006 16:10:12.84
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	1	1	0.001	5423.2	119.3	309	329
TH-229	561	2	1.121	4845.3	352.0	212	271
TH-230	11	0	0.022	4687.7	119.4	185	205
TH-232	1	0	0.002	4013.0	119.5	72	92

End of Alpha Region Report
(Produced by ANAL Report)

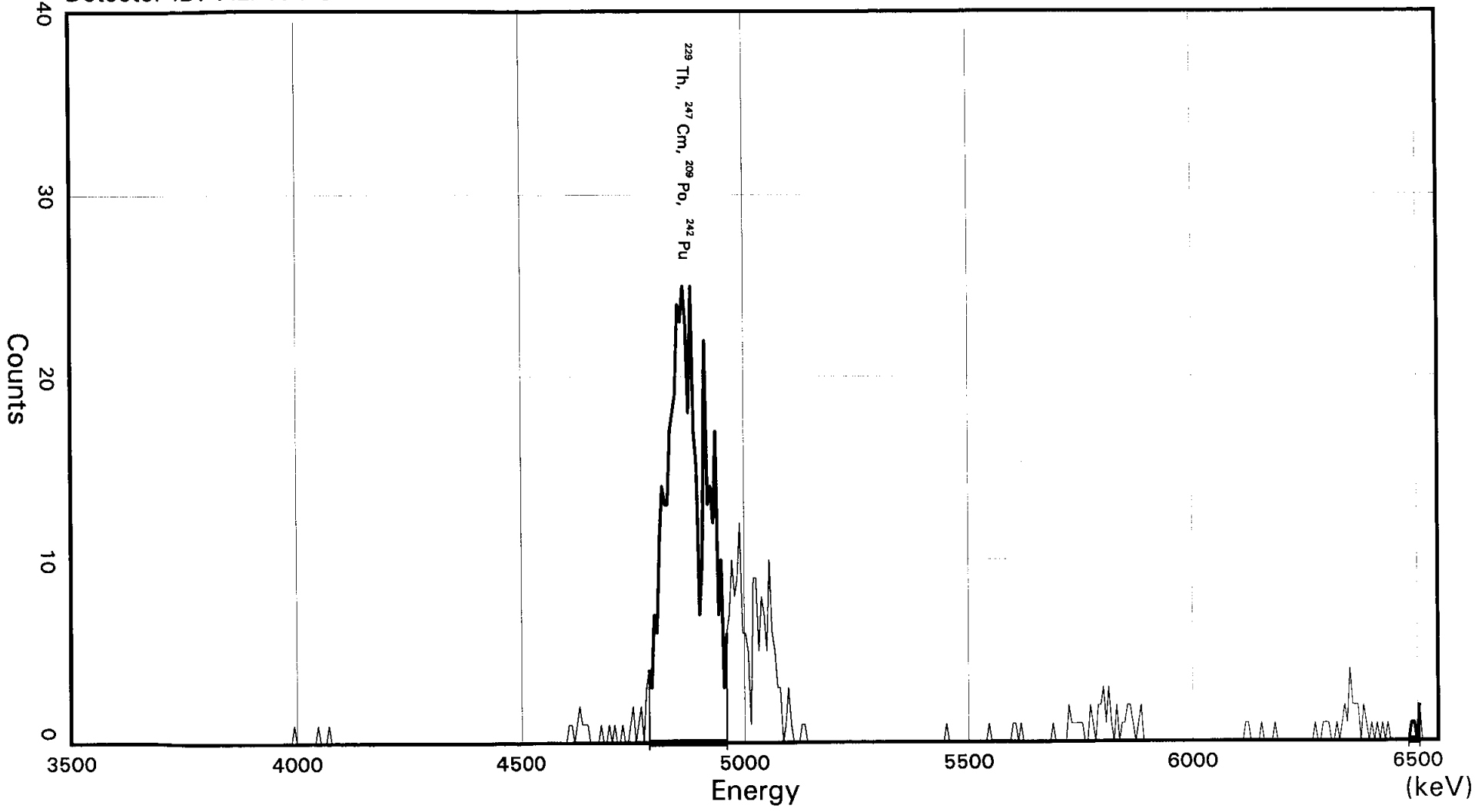
STL Richland WA.

TH BRC

Sample ID: H9F9F1AA

Detector ID: ALP171 3

Batch ID: 6200145



Acquisition Start: 31-JUL-2006 16:10:12.84

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: H9F9F1AA

TITLE : TH BRC

DETECTOR : ALP171 3
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9F9F1AA_310761610C.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 01-Aug-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 31-JUL-2006 16:10:12 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 Regions Report
(Version: 8-Oct-91)

Sample Identity: H9F9F1AA

Detector: ALP171 3
Report Date: 01-Aug-06 12:31 AM
Acquire Date: 31-JUL-2006 16:10:12.84
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	5142.3	173.0	262	291	0.00	0.00	M
PO-209	421	1	0	0.842	4910.6	173.1	217	246	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5331.8	172.9	294	323	0.00	0.00	M
AC-227	2	3	3	0.001	6065.4	172.7	417	446	0.00	0.00	S
TH-227	2	3	3	0.001	6065.4	172.7	417	446	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5450.6	172.9	314	343	0.00	0.00	M
TH-229	421	1	0	0.842	4872.7	173.1	217	246	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4715.1	173.1	191	220	0.00	0.00	M I
TH-232	3	1	0	0.005	4040.4	173.3	78	107	0.00	0.00	
U-232	-9999	-9999	0	-10.010	5347.6	172.9	297	326	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4802.0	173.1	205	234	0.00	0.00	M I
U-235	0	2	0	-0.002	4425.2	173.2	142	171	0.00	0.00	
PU-236	20	33	29	0.007	5795.1	172.8	372	401	0.00	0.00	S
NP-237	-9999	-9999	0	-10.010	4815.4	173.1	207	236	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.010	5526.4	172.9	327	356	0.00	0.00	M
U-238	0	1	0	-0.001	4225.4	173.2	109	138	0.00	0.00	
PU-239	-9999	-9999	0	-10.010	5184.0	173.0	269	298	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5513.0	172.9	324	353	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5234.2	173.0	278	307	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6140.1	172.7	430	459	0.00	0.00	M
PU-242	421	1	0	0.842	4927.9	173.1	217	246	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5302.7	172.9	289	318	0.00	0.00	M
CM-244	15	29	29	0.001	5832.2	172.8	378	407	0.00	0.00	S
CM-246	-9999	-9999	0	-10.010	5413.9	172.9	308	337	0.00	0.00	M
CM-247	421	1	0	0.842	4897.8	173.1	217	246	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5106.0	173.0	256	285	0.00	0.00	M

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9F9F1AA
Detector: ALP171 3
Report Date: 01-Aug-06 12:31 AM
Acquire Date: 31-JUL-2006 16:10:12.84

Flags Key

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

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0	+	101	0	+	151	0	+	201	12		251	0	@	301	0	@	351	2	@	401	1	-	451	0		501
		2	0		52	0	+	102	0	+	152	1	+	202	6		252	0	@	302	0	@	352	0	-	402	0	-	452	1		502
0		3	0		53	0	+	103	0	+	153	0	+	203	6		253	0	@	303	1	@	353	0	-	403	0	-	453	1		503
0		4	0		54	0	+	104	0	+	154	1	+	204	5		254	0	@	304	1	+	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	2		505
0		6	0		56	0	+	106	0	+	156	0	@	206	9	+	256	0	@	306	1	+	356	0	-	406	0	-	456	0		506
0		7	0		57	0	+	107	0	+	157	1	-	207	9	+	257	0	@	307	0		357	0	-	407	0	-	457	0		507
0		8	0		58	0		108	0	+	158	0	@	208	5	+	258	0	-	308	0		358	0		408	0	-	458	0		508
0		9	0		59	0	+	109	0	+	159	0	@	209	8	+	259	0	@	309	0		359	0		409	0	-	459	0		509
0		10	0		60	0	+	110	0	+	160	1	@	210	7	+	260	0	@	310	0		360	0		410	0		460	0		510
0		11	0		61	0	+	111	0	+	161	2	@	211	5	+	261	0	@	311	0		361	0		411	0		461	0		511
0		12	0		62	0	+	112	0	+	162	0	@	212	10	@	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	0		463			
0		14	0		64	0	+	114	0	+	164	2	@	214	5	@	264	0	@	314	0		364	0		414	0		464			
0		15	0		65	0	+	115	0	+	165	0	@	215	3	@	265	0	@	315	0		365	0		415	0		465			
0		16	0		66	0	+	116	0	+	166	3	@	216	3	@	266	0	@	316	0		366	0		416	1		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	3	@	218	1	@	268	0	@	318	1		368	0	@	418	0		468			
0		19	0		69	0	+	119	0	+	169	7	@	219	3	@	269	0	@	319	0		369	0	@	419	1		469			
0		20	0		70	0	+	120	0	+	170	6	@	220	1	@	270	0	@	320	0		370	0	@	420	1		470			
0		21	0		71	0	+	121	0	+	171	11	@	221	0	@	271	0	@	321	0		371	0	@	421	1		471			
0		22	0		72	0	+	122	0		172	14	@	222	0	@	272	0	@	322	0	+	372	0	@	422	0		472			
0		23	0		73	0	+	123	0		173	13	@	223	0	@	273	0	@	323	0	+	373	0	@	423	0		473			
0		24	0		74	0	+	124	0		174	13	@	224	1	@	274	0	@	324	2	+	374	0	@	424	1		474			
0		25	0		75	0	+	125	0		175	17	@	225	1	@	275	0	@	325	1	+	375	0	@	425	0		475			
0		26	0		76	0	+	126	0		176	18	@	226	0	@	276	0	@	326	1	+	376	0	@	426	1		476			
0		27	0		77	0	+	127	0		177	19	@	227	0	@	277	0	@	327	1	+	377	0	@	427	2		477			
0		28	0	+	78	0	+	128	0		178	24	@	228	0	@	278	1	@	328	1	@	378	0	@	428	1		478			
0		29	0	+	79	0	+	129	0		179	23	@	229	0	@	279	0	@	329	1	@	379	0	@	429	4		479			
0		30	0	+	80	0	+	130	0		180	25	@	230	0	@	280	0	@	330	0	@	380	0	-	430	2		480			
0		31	0	+	81	0	+	131	0		181	23	@	231	0	@	281	0	@	331	0	@	381	0	@	431	2		481			
0		32	0	+	82	0	+	132	0		182	18	@	232	0	@	282	0	@	332	2	@	382	0	@	432	2		482			
0		33	0	+	83	0	+	133	0		183	25	@	233	0	@	283	0	@	333	1	@	383	0	@	433	0		483			
0		34	1	+	84	0	+	134	0		184	17	@	234	0	@	284	0	@	334	0	@	384	0	@	434	2		484			
0		35	0	+	85	0	+	135	0		185	15	@	235	0	@	285	0	@	335	2	@	385	0	@	435	1		485			
0		36	0	+	86	0	+	136	0		186	7	@	236	0	@	286	0	@	336	2	@	386	0	@	436	0		486			
0		37	0	+	87	0	+	137	1		187	10	@	237	0	@	287	0	@	337	3	@	387	0	@	437	1		487			
0		38	0	+	88	0	+	138	1		188	22	@	238	0	@	288	0	@	338	1	@	388	0	@	438	0		488			
0		39	0	+	89	0		139	0		189	13	@	239	0	-	289	0	@	339	3	@	389	0	@	439	1		489			
0		40	0	+	90	0		140	1		190	14	@	240	0	@	290	0	@	340	1	@	390	1	@	440	0		490			
0		41	0	+	91	0		141	2	+	191	12	@	241	0	@	291	0	@	341	0	@	391	1	@	441	1		491			
0		42	0	+	92	0	+	142	1	+	192	17	@	242	0	@	292	0	@	342	2	@	392	0	@	442	0		492			
0		43	1	+	93	0	+	143	1	+	193	7	@	243	0	@	293	0	@	343	0	@	393	0	@	443	1		493			
0		44	0	+	94	0	+	144	1	+	194	10	@	244	0	@	294	1	@	344	1	@	394	0	@	444	0		494			
0		45	0	+	95	0	+	145	0	+	195	3	@	245	0	@	295	0	@	345	1	@	395	0	@	445	0		495			
0		46	0	+	96	0	+	146	0	+	196	6		246	0	@	296	0	@	346	2	@	396	1	@	446	0		496			
0		47	1	+	97	0	+	147	0	+	197	7		247	0	@	297	0	@	347	2	@	397	0	-	447	0		497			
0		48	0	+	98	0	+	148	0	+	198	10		248	0	@	298	0	@	348	1	@	398	0	-	448	0		498			
0		49	0	+	99	0	+	149	1	+	199	8		249	0	@	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 1-AUG-2006 00:31:00

Configuration : $DISK1:[ALP171.SAMPLE]H9F9F1AA_310761610C.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 16:10:12
Sample ID : H9F9F1AA 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	4872.71	421	0	119.60	231.24	217	29	1.40E-02	4.9	
2	0	6495.40	4	0	23.92	503.50	501	4	1.33E-04	50.0	

VMS Nuclide Identification Report V3.0 Generated 1-AUG-2006 00:31:02

Configuration : $DISK1:[ALP171.SAMPLE]H9F9F1AA_310761610C.CNF;1
Analyses by : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title : TH BRC
Sample date : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 16:10:12
Sample ID : H9F9F1AA 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	
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]H9F9F1AA_310761610C.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4872.70	217	246	421	416	0.24		
6495.39	501	505	4	4	0.00		

End of Report

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

Sample Identity: H9F9J1AA

Detector: ALP171 4
Report Date: 01-Aug-06 05:27 AM
Acquire Date: 31-JUL-2006 16:10:12.84
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	5	0	0.010	5423.2	111.2	307	327
TH-229	226	3	0.449	4845.3	344.2	203	265
TH-230	13	0	0.026	4687.7	110.9	175	195
TH-232	0	0	0.000	4013.0	110.6	53	73

End of Alpha Region Report
(Produced by ANAL Report)

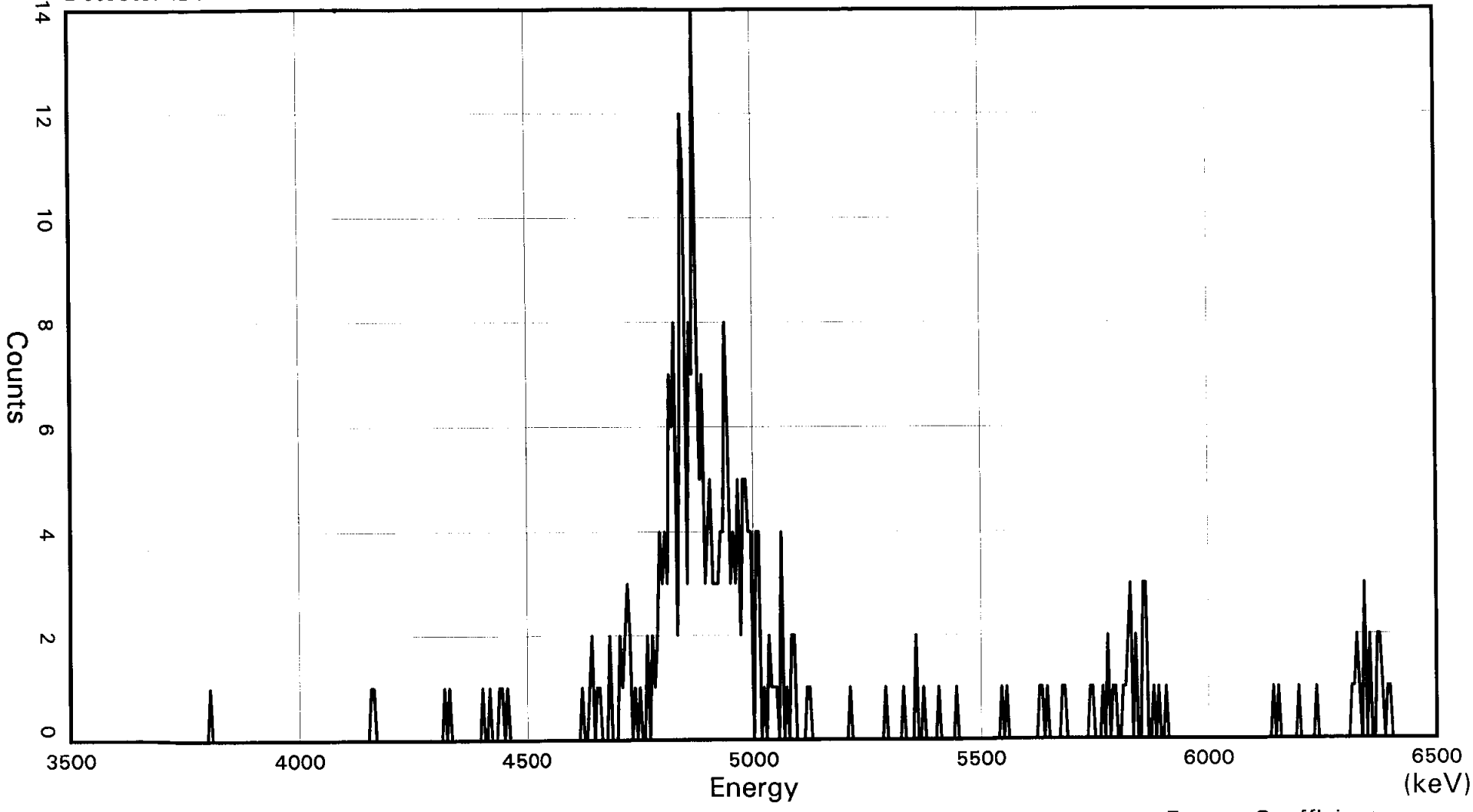
STL Richland WA.

TH BRC

Sample ID: H9F9J1AA

Detector ID: ALP171 4

Batch ID: 6200145



Acquisition Start: 31-JUL-2006 16:10:12.84

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: H9F9J1AA

TITLE : TH BRC

DETECTOR : ALP171 4
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9F9J1AA_310761610D.CNF;1
ACQUIRE DATE of BACKGROUND: 08-JUL-2006 07:53:15

REPORT DATE : 01-Aug-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 31-JUL-2006 16:10:12 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 Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 29-Jun-92)

Sample Identity: H9F9J1AA
Detector: ALP171 4
Report Date: 01-Aug-06 12:31 AM
Acquire Date: 31-JUL-2006 16:10:12.84

Flags Key

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

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

0 50 0 100 0 150 0 200 1 250 0 300 0 350 3 400 0 450 0 500

```
VMS Peak Search Report V1.9 Generated  1-AUG-2006 00:31:05

Configuration     : $DISK1:[ALP171.SAMPLE]H9F9J1AA_310761610D.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 16:10:12
Sample ID         : H9F9J1AA             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
No peaks were found
```

VMS Nuclide Identification Report V3.0 Generated 1-AUG-2006 00:31:06

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9F9J1AA_310761610D.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 16:10:12
Sample ID         : H9F9J1AA             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

**** 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: 01-Aug-06  12:31 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: H9F9L1AA

Detector: ALP171 5
Report Date: 01-Aug-06 05:27 AM
Acquire Date: 31-JUL-2006 16:10:12.84
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	5	1	0.009	5423.2	118.0	301	321
TH-229	210	2	0.418	4845.3	348.5	203	262
TH-230	27	0	0.054	4687.7	118.2	176	196
TH-232	10	1	0.019	4013.0	118.4	62	82

End of Alpha Region Report
(Produced by ANAL Report)

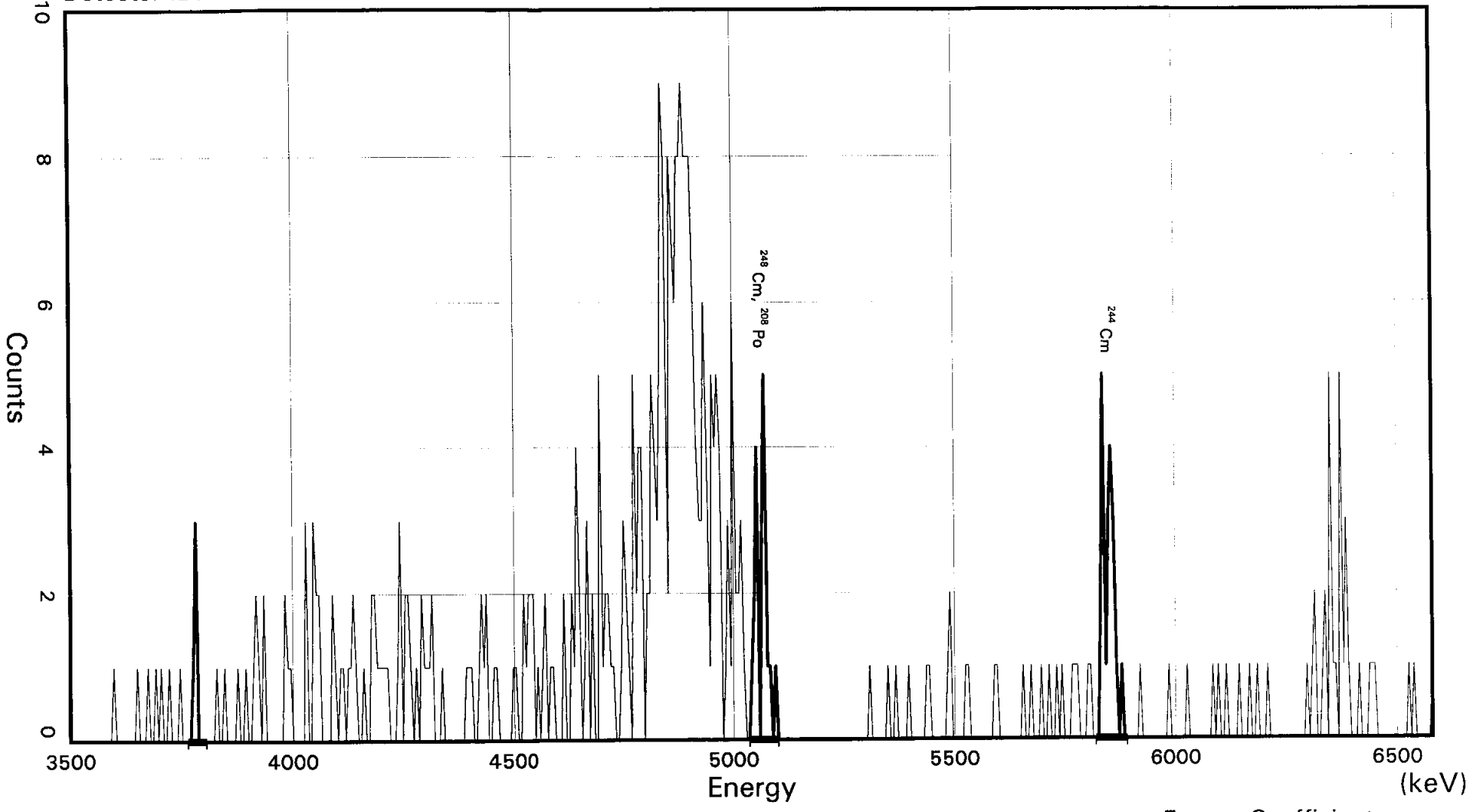
STL Richland WA.

TH BRC

Sample ID: H9F9L1AA

Detector ID: ALP171 5

Batch ID: 6200145



Acquisition Start: 31-JUL-2006 16:10:12.84

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: H9F9L1AA

TITLE : TH BRC

DETECTOR : ALP171 5
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9F9L1AA_310761610E.CN
F;1
ACQUIRE DATE of BACKGROUND: 08-JUL-2006 07:53:15

REPORT DATE : 01-Aug-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 31-JUL-2006 16:10:12 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 Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 29-Jun-92)

Sample Identity: H9F9L1AA
Detector: ALP171 5
Report Date: 01-Aug-06 12:31 AM
Acquire Date: 31-JUL-2006 16:10:12.84

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

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	1		201	1		251	0		301	0		351	0		401	0		451	0		501
		2	0		52	1		102	1		152	3		202	2		252	0		302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	1		153	2		203	4		253	1		303	0		353	0		403	0		453	1		503
0		4	1		54	0		104	0		154	1		204	0		254	0		304	0		354	0		404	0		454	0		504
0		5	0		55	2		105	0		155	0		205	3		255	0		305	1		355	0		405	0		455	1		505
0		6	0		56	2		106	0		156	5		206	5		256	1		306	0		356	0		406	0		456	0		506
1		7	1		57	1		107	0		157	2		207	1		257	0		307	0		357	0		407	0		457	0		507
0		8	0		58	1		108	0		158	4		208	1		258	0		308	1		358	0		408	0		458	0		508
0		9	0		59	1		109	1		159	4		209	0		259	0		309	0		359	0		409	0		459	0		509
0		10	1		60	1		110	1		160	0		210	1		260	0		310	0		360	0		410	0		460	0		510
0		11	2		61	1		111	0		161	2		211	0		261	1		311	0		361	1		411	0		461	0		511
0		12	1		62	0		112	0		162	2		212	0		262	0		312	1		362	0		412	0		462	1		512
0		13	0		63	0		113	2		163	5		213	0		263	0		313	0		363	0		413	0		463			
0		14	2		64	0		114	1		164	4		214	0		264	0		314	0		364	0		414	1		464			
0		15	0		65	1		115	2		165	3		215	0		265	0		315	1		365	0		415	0		465			
1		16	0		66	3		116	2		166	5		216	0		266	0		316	0		366	0		416	1		466			
0		17	0		67	0		117	2		167	9		217	0		267	0		317	0		367	0		417	2		467			
0		18	0		68	2		118	0		168	8		218	0		268	1		318	1		368	1		418	0		468			
0		19	0		69	2		119	1		169	2		219	0		269	1		319	0		369	0		419	0		469			
1		20	0		70	1		120	0		170	8		220	0		270	0		320	1		370	0		420	1		470			
0		21	0		71	0		121	1		171	7		221	0		271	0		321	0		371	0		421	2		471			
0		22	2		72	1		122	2		172	6		222	0		272	0		322	0		372	0		422	0		472			
1		23	1		73	0		123	0		173	8		223	0		273	0		323	0		373	0		423	5		473			
0		24	1		74	2		124	1		174	8		224	0		274	0		324	1		374	0		424	1		474			
1		25	0		75	1		125	1		175	9		225	0		275	0		325	1		375	0		425	1		475			
0		26	0		76	1		126	0		176	8		226	0		276	1		326	1		376	0		426	0		476			
0		27	0		77	1		127	0		177	8		227	0		277	2		327	0		377	0		427	5		477			
1		28	0		78	2		128	0		178	8		228	0		278	0		328	0		378	1		428	1		478			
0		29	0		79	0		129	2		179	6		229	0		279	0		329	0		379	0		429	3		479			
0		30	3		80	0		130	0		180	4		230	0		280	0		330	1		380	1		430	1		480			
0		31	0		81	0		131	0		181	3		231	0		281	0		331	1		381	0		431	0		481			
1		32	0		82	1		132	2		182	3		232	0		282	0		332	0		382	0		432	0		482			
0		33	3		83	0		133	1		183	6		233	0		283	1		333	0		383	1		433	0		483			
0		34	2		84	0		134	4		184	4		234	0		284	1		334	0		384	0		434	1		484			
0		35	2		85	0		135	2		185	1		235	0		285	0		335	2		385	0		435	0		485			
0		36	0		86	0		136	0		186	5		236	0		286	0		336	5		386	0		436	0		486			
1		37	0		87	0		137	1		187	4		237	0		287	0		337	1		387	0		437	0		487			
3		38	0		88	0		138	3		188	5		238	0		288	0		338	3		388	1		438	1		488			
0		39	0		89	0		139	0		189	4		239	0		289	0		339	4		389	0		439	1		489			
0		40	2		90	0		140	2		190	0		240	0		290	0		340	3		390	0		440	1		490			
0		41	1		91	1		141	0		191	1		241	0		291	0		341	1		391	0		441	0		491			
0		42	0		92	1		142	0		192	3		242	0		292	0		342	0		392	1		442	0		492			
0		43	1		93	1		143	5		193	1		243	0		293	0		343	1		393	0		443	0		493			
0		44	1		94	0		144	1		194	6		244	0		294	1		344	0		394	0		444	0		494			
0		45	0		95	0		145	2		195	2		245	0		295	1		345	0		395	1		445	0		495			
1		46	1		96	1		146	2		196	2		246	1		296	0		346	0		396	0		446	0		496			
0		47	1		97	2		147	1		197	3		247	0		297	0		347	0		397	0		447	0		497			
0		48	2		98	1		148	1		198	1		248	0		298	0		348	0		398	0		448	0		498			
1		49	1		99	2		149	0		199	0		249	0		299	0		349	0		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 1-AUG-2006 00:31:08

Configuration : $DISK1:[ALP171.SAMPLE]H9F9L1AA_310761610E.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 16:10:12
Sample ID : H9F9L1AA 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	3778.70	4	0	23.72	37.50	35	7	1.33E-04	50.0	
2	0	5062.86	17	0	35.58	254.60	250	11	5.67E-04	24.3	
3	0	5849.67	21	0	41.50	388.00	383	12	7.01E-04	21.8	

VMS Nuclide Identification Report V3.0 Generated 1-AUG-2006 00:31:10

Configuration : $DISK1:[ALP171.SAMPLE]H9F9L1AA_310761610E.CNF;1
Analyses by : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title : TH BRC
Sample date : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 16:10:12
Sample ID : H9F9L1AA Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP171 1 Detector geometry:
Elapsed live time: 0 08:19:28.00 Elapsed real time: 0 08:19:28.00 0.0%
Energy tolerance : 80.00 keV Half life ratio : 1.00
Errors propagated: No Systematic Error : 0.00 %
Efficiency type : Spline Efficiencies at : Peak Energy
Abundance limit : 70.00

Summary of Nuclide Activity

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

Nuclide Type : NP

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

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
CM-244	18.10Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-248	3.39E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

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

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

```
  Error Report  (Date: 01-Aug-06  12:31 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
```

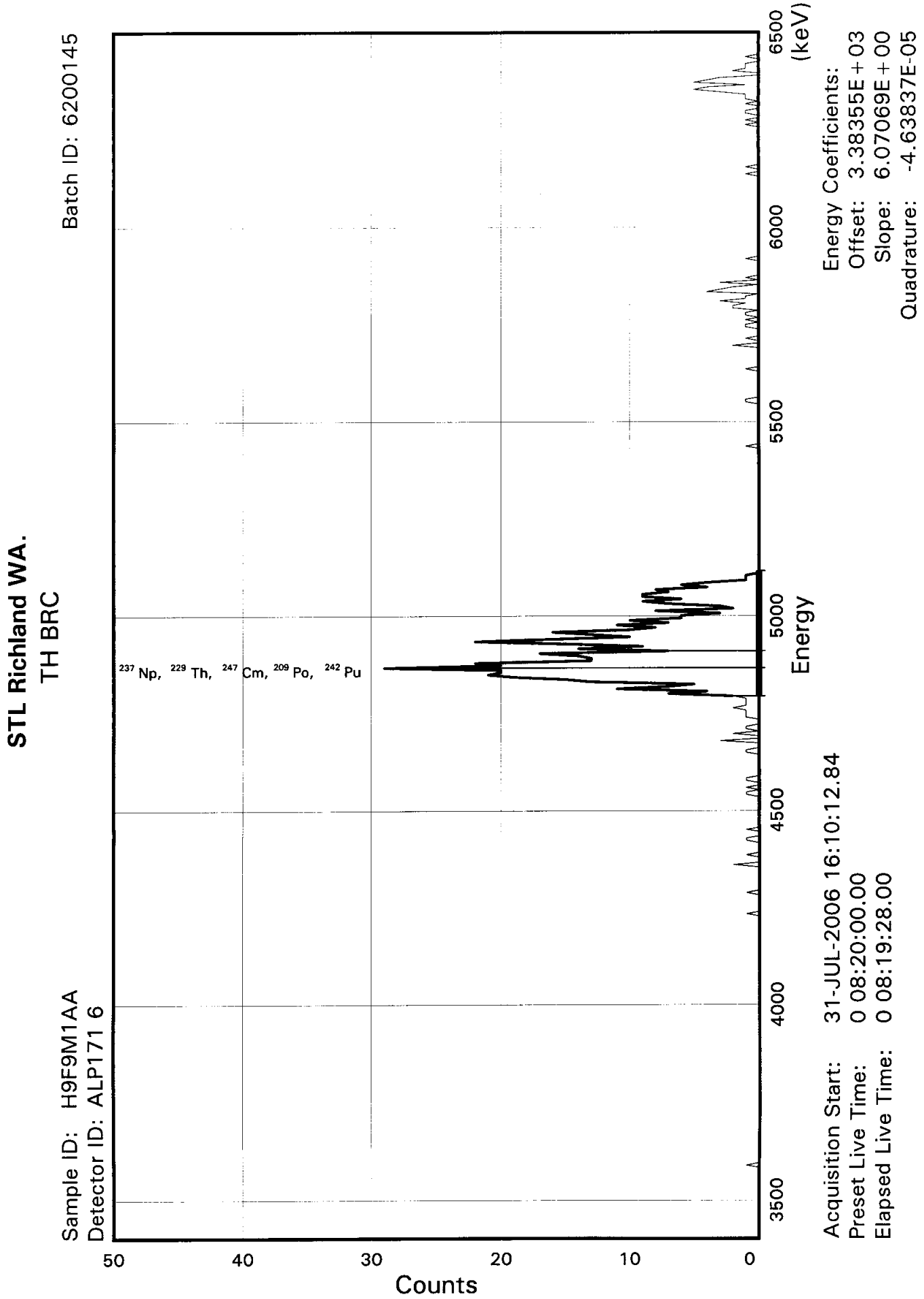
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H9F9M1AA

Detector: ALP171 6
Report Date: 01-Aug-06 05:27 AM
Acquire Date: 31-JUL-2006 16:10:12.84
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	1	3	-0.001	5423.2	120.8	322	342
TH-229	548	2	1.095	4845.3	368.9	226	287
TH-230	9	1	0.017	4687.7	121.0	200	220
TH-232	0	2	-0.002	4013.0	121.2	89	109

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6200145
Sample ID: H9F9M1AA
Detector ID: ALP171 6
237 Np, 229 Th, 247 Cm, 209 Po, 242 Pu
Counts
50
40
30
20
10
0
Energy
3500
4000
4500
5000
5500
6000
6500
(keV)
Acquisition Start: 31-JUL-2006 16:10:12.84
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: H9F9M1AA

TITLE : TH BRC

DETECTOR : ALP171 6
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9F9M1AA_310761610F.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 01-Aug-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 31-JUL-2006 16:10:12 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: H9F9M1AA

Detector: ALP171 6
Report Date: 01-Aug-06 12:31 AM
Acquire Date: 31-JUL-2006 16:10:12.84
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	5129.4	114.8	278	297	0.00	0.00	M
PO-209	386	1	0	0.772	4897.7	114.9	233	252	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5318.8	114.8	309	328	0.00	0.00	M
AC-227	0	4	0	-0.004	6052.5	120.6	430	450	0.00	0.00	S
TH-227	0	4	0	-0.004	6052.5	120.6	430	450	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5437.7	114.7	329	348	0.00	0.00	M
TH-229	386	1	0	0.772	4859.8	114.9	233	252	0.00	0.00	P
TH-230	11	1	3	0.020	4702.2	115.0	207	226	0.00	0.00	S
TH-232	0	3	0	-0.003	4027.5	115.2	96	115	0.00	0.00	
U-232	-9999	-9999	0	-10.010	5334.6	114.8	312	331	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4789.1	114.9	221	240	0.00	0.00	S I
U-235	6	1	0	0.011	4412.3	115.0	159	178	0.00	0.00	
PU-236	11	20	17	0.002	5782.1	114.6	386	405	0.00	0.00	S
NP-237	386	1	0	0.772	4802.5	114.9	233	252	0.00	0.00	P
PU-238	-9999	-9999	0	-10.010	5513.5	114.7	341	360	0.00	0.00	M
U-238	1	0	0	0.002	4212.5	115.1	126	145	0.00	0.00	
PU-239	-9999	-9999	0	-10.010	5171.1	114.8	284	303	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5500.1	114.7	339	358	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5221.3	114.8	293	312	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6127.2	114.5	443	462	0.00	0.00	M
PU-242	386	1	0	0.772	4915.0	114.9	233	252	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5289.8	114.8	304	323	0.00	0.00	M
CM-244	18	63	17	-0.028	5819.3	114.6	392	411	0.00	0.00	S
CM-246	-9999	-9999	0	-10.010	5401.0	114.8	323	342	0.00	0.00	M
CM-247	386	1	0	0.772	4884.9	114.9	233	252	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5093.1	114.8	272	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: H9F9M1AA
Detector: ALP171 6
Report Date: 01-Aug-06 12:31 AM
Acquire Date: 31-JUL-2006 16:10:12.84

Flags Key

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

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

Cnt	F	Chn	Cnt	F	Chn
0	-	451	1		501
0	-	452	1		502
0	-	453	0		503
0	-	454	0		504
1	-	455	1		505
0	-	456	0		506
0	-	457	0		507
1	-	458	0		508
0	-	459	0		509
0	-	460	0		510
0	-	461	0		511
0	-	462	0		512
0		463			
0		464			
0		465			
0		466			
0		467			
0		468			
0		469			
0		470			
0		471			
0		472			
0		473			
0		474			
0		475			
1		476			
0		477			
1		478			
0		479			
0		480			
1		481			
1		482			
0		483			
0		484			
1		485			
0		486			
1		487			
1		488			
1		489			
3		490			
5		491			
4		492			
1		493			
5		494			
4		495			
3		496			
0		497			
0		498			
2		499			
1		500			

VMS Peak Search Report V1.9 Generated 1-AUG-2006 00:31:12

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9F9M1AA_310761610F.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 16:10:12
Sample ID         : H9F9M1AA             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	4859.77	386	0	48.57	243.62	233	19	1.29E-02	5.1	
2	0	4962.11	153	0	200.33	260.55	245	41	5.11E-03	8.1	

VMS Nuclide Identification Report V3.0 Generated 1-AUG-2006 00:31:14

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9F9M1AA_310761610F.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 16:10:12
Sample ID         : H9F9M1AA             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]H9F9M1AA_310761610F.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4859.76	233	252	386	279	5.45		
4962.11	245	286	153	396	-19.65	135	-0.04

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

End of Report

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

Sample Identity: H9F9N1AA

Detector: ALP171 7
Report Date: 01-Aug-06 05:27 AM
Acquire Date: 31-JUL-2006 16:10:12.84
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	1	1	0.001	5423.2	112.5	311	331
TH-229	125	0	0.250	4845.3	343.4	208	269
TH-230	4	0	0.008	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)

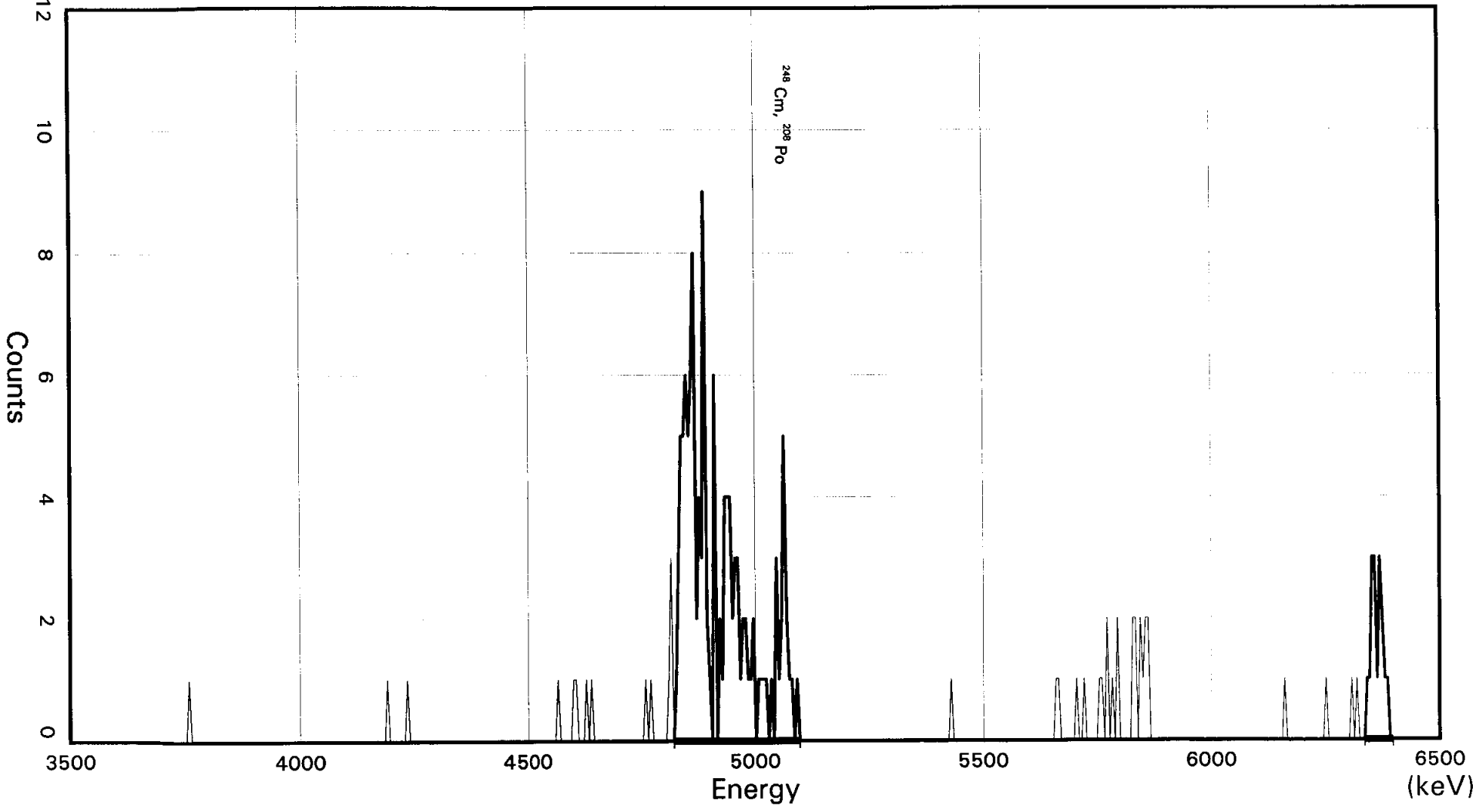
STL Richland WA.

TH BRC

Sample ID: H9F9N1AA

Detector ID: ALP171 7

Batch ID: 6200145



Acquisition Start: 31-JUL-2006 16:10:12.84

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: H9F9N1AA

TITLE : TH BRC

DETECTOR : ALP171 7
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9F9N1AA_310761610G.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 01-Aug-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 31-JUL-2006 16:10:12 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 Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 29-Jun-92)

Sample Identity: H9F9N1AA
Detector: ALP171 7
Report Date: 01-Aug-06 12:31 AM
Acquire Date: 31-JUL-2006 16:10:12.84

Flags Key

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

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

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
0		451	0		501																					
0		452	0		502																					
0		453	0		503																					
0		454	0		504																					
0		455	0		505																					
0		456	0		506																					
1		457	0		507																					
0		458	0		508																					
0		459	0		509																					
0		460	0		510																					
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0 50 0 100 0 150 0 200 2 250 0 300 0 350 0 400 0 450 0 500

VMS Peak Search Report V1.9 Generated 1-AUG-2006 00:31:16

Configuration : $DISK1:[ALP171.SAMPLE]H9F9N1AA_310761610G.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 16:10:12
Sample ID : H9F9N1AA 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	5063.71	120	0	28.19	262.00	219	49	4.00E-03	9.1	
2	0	6362.95	17	0	39.46	493.00	488	11	5.67E-04	24.3	

VMS Nuclide Identification Report V3.0 Generated 1-AUG-2006 00:31:18

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9F9N1AA_310761610G.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 16:10:12
Sample ID         : H9F9N1AA             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-208	2.90Y	1.03	0.000E+00	0.000E+00	0.000E+00	0.00	
		Total Activity :	0.000E+00	0.000E+00			

Nuclide Type : AP

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

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

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

```
  Error Report  (Date: 01-Aug-06  12:31 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: H9HX61AA

Detector: ALP171 8
Report Date: 01-Aug-06 05:28 AM
Acquire Date: 31-JUL-2006 16:10:12.84
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	1	1	0.001	5423.2	117.6	307	327
TH-229	614	1	1.228	4845.3	370.8	209	272
TH-230	6	1	0.011	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)

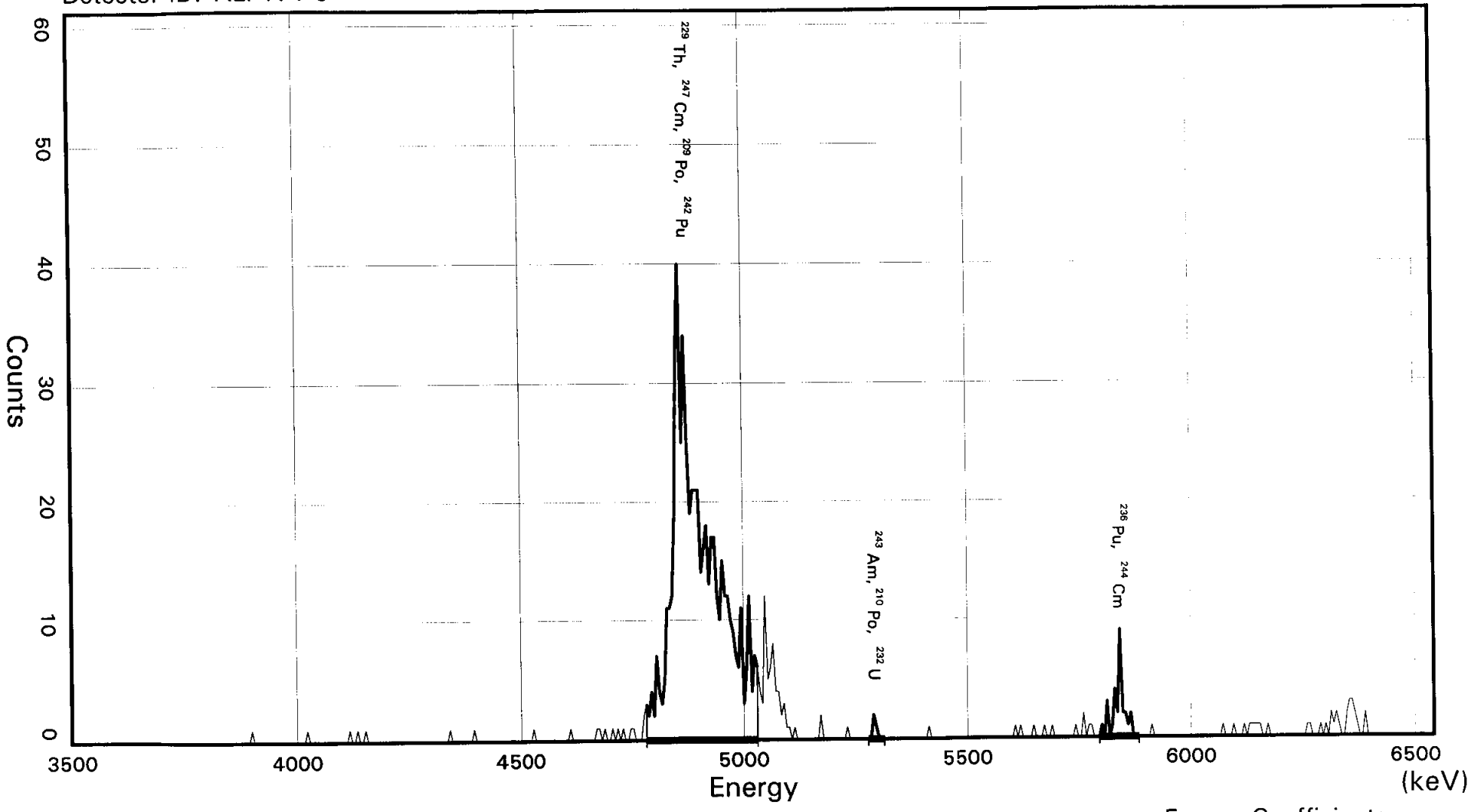
STL Richland WA.

TH BRC

Sample ID: H9HX61AA

Detector ID: ALP171 8

Batch ID: 6200145



Acquisition Start: 31-JUL-2006 16:10:12.84

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: H9HX61AA

TITLE : TH BRC

DETECTOR : ALP171 8
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9HX61AA_310761610H.CN
F;1
ACQUIRE DATE of BACKGROUND: 09-JUL-2006 10:13:03

REPORT DATE : 01-Aug-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 31-JUL-2006 16:10:12 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: H9HX61AA

Detector: ALP171 8
Report Date: 01-Aug-06 12:31 AM
Acquire Date: 31-JUL-2006 16:10:12.84
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	5143.9	247.1	259	301	0.00	0.00	M I
PO-209	561	1	0	1.122	4912.2	247.2	213	255	0.00	0.00	P
PO-210	4	0	0	0.008	5333.4	35.3	297	303	0.00	0.00	P
AC-227	5	8	9	0.001	6067.0	246.8	416	458	0.00	0.00	S
TH-227	5	8	9	0.001	6067.0	246.8	416	458	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5452.2	247.0	311	353	0.00	0.00	M
TH-229	561	1	0	1.122	4874.3	247.2	213	255	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4716.7	247.3	186	228	0.00	0.00	M I
TH-232	3	3	2	0.004	4042.0	247.5	72	114	0.00	0.00	S
U-232	4	0	0	0.008	5349.2	35.3	297	303	0.00	0.00	P
U-234	-9999	-9999	0	-10.010	4803.6	247.3	201	243	0.00	0.00	M I
U-235	3	3	1	0.002	4426.8	247.4	137	179	0.00	0.00	S
PU-236	28	54	0	0.002	5796.7	88.2	385	400	0.00	0.00	P
NP-237	-9999	-9999	0	-10.010	4817.0	247.3	203	245	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.010	5528.0	247.0	324	366	0.00	0.00	M
U-238	-9999	-9999	0	-10.010	4227.0	247.5	103	145	0.00	0.00	M
PU-239	-9999	-9999	0	-10.010	5185.6	247.1	266	308	0.00	0.00	M I
AM-241	-9999	-9999	0	-10.010	5514.6	247.0	322	364	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5235.8	247.1	274	316	0.00	0.00	M I
CM-242	-9999	-9999	0	-10.010	6141.7	252.6	428	471	0.00	0.00	M
PU-242	561	1	0	1.122	4929.5	247.2	213	255	0.00	0.00	P
AM-243	4	0	0	0.008	5304.3	35.3	297	303	0.00	0.00	P
CM-244	28	54	0	0.002	5833.8	88.2	385	400	0.00	0.00	P
CM-246	-9999	-9999	0	-10.010	5415.5	247.0	305	347	0.00	0.00	M
CM-247	561	1	0	1.122	4899.4	247.2	213	255	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5107.6	247.1	253	295	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: H9HX61AA
Detector: ALP171 8
Report Date: 01-Aug-06 12:31 AM
Acquire Date: 31-JUL-2006 16:10:12.84

Flags Key

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

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

VMS Peak Search Report V1.9 Generated 1-AUG-2006 00:31:20

Configuration : $DISK1:[ALP171.SAMPLE]H9HX61AA_310761610H.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 16:10:12
Sample ID : H9HX61AA 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	4874.29	561	0	64.89	228.48	213	42	1.87E-02	4.2	
2	0	5292.22	4	0	23.60	299.50	297	6	1.33E-04	50.0	
3	0	5841.75	28	0	29.49	392.95	385	15	9.34E-04	18.9	

VMS Nuclide Identification Report V3.0 Generated 1-AUG-2006 00:31:22

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9HX61AA_310761610H.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 16:10:12
Sample ID         : H9HX61AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP171 1             Detector geometry:
Elapsed live time: 0 08:19:28.00         Elapsed real time: 0 08:19:28.00   0.0%
Energy tolerance :    80.00 keV          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    70.00
```

Summary of Nuclide Activity

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

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PO-210	138.38D	1.23	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	
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	
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]H9HX61AA_310761610H.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4874.29	213	255	561	558	0.13		
5292.21	297	303	4	3	0.50		
5841.75	385	400	28	27	0.19		

End of Report

STL RICHLAND

SEVERN TRENT **STL**

THORIUM ISOTOPIC COUNTING REQUEST 2025

C.R. Technician CB
Date Counted 7/31/06
C.R. Analyst CH
Date Analyzed 7/31/06

Counting Time
Sample 500 Minutes

Background **See Alpha Analysis Report** BRC

SOP's
Operating: RICHRD008
Review: RICHRD0016 4/20

620014/5

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)		
1791X61AC		10		0	See Alpha Analysis Report for ROI Information			120	
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				

Comments:

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

Approved by: CKD

Date: 7/31/06

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

Sample Identity: H9HX61AC

Detector: ALP120 1
Report Date: 31-Jul-06 08:33 PM
Acquire Date: 31-JUL-2006 12:05:36.76
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	162.7	331	353
TH-229	346	1	0.691	4845.3	398.9	253	307
TH-230	373	0	0.746	4687.7	192.0	226	252
TH-232	0	0	0.000	4013.0	147.5	140	160

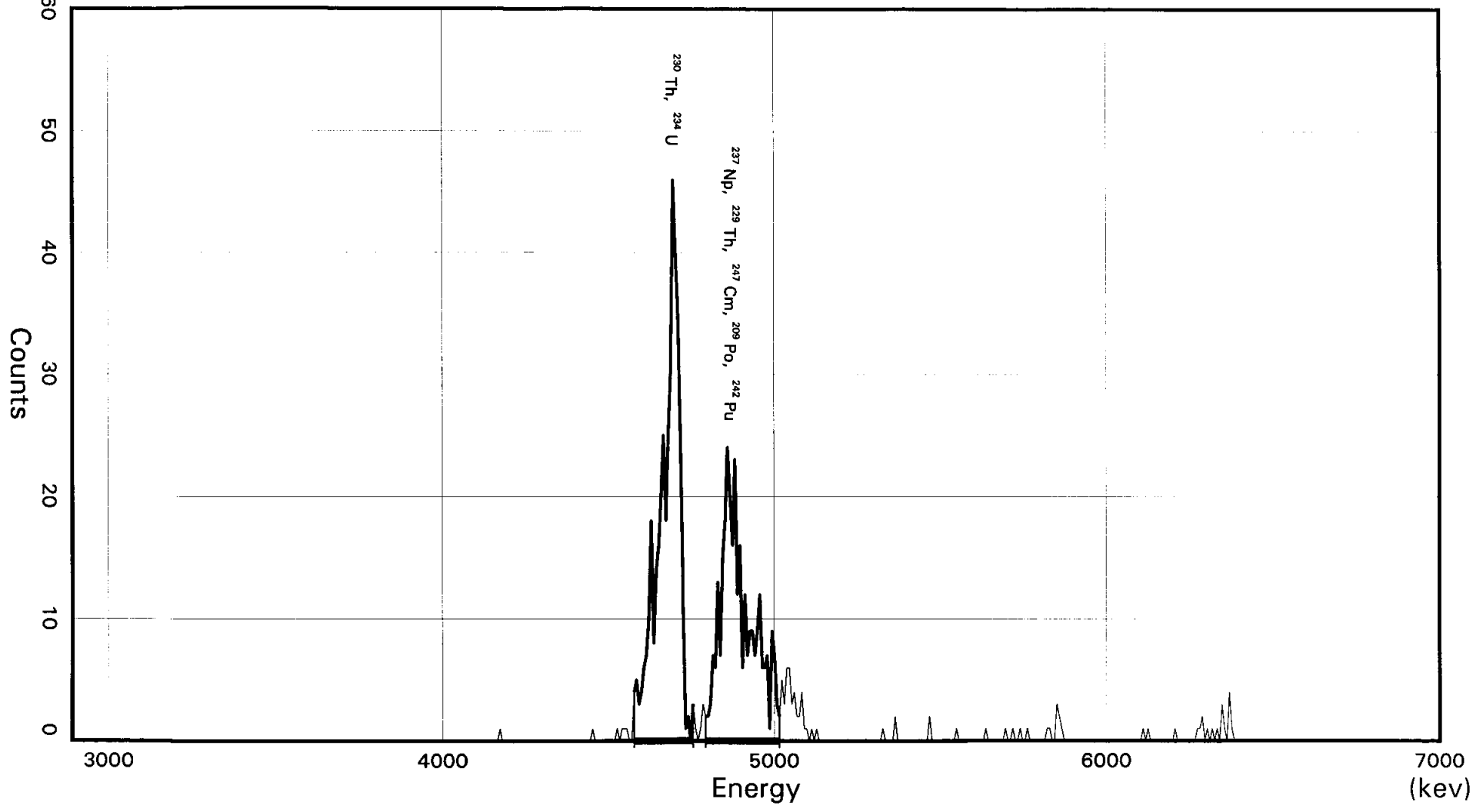
End of Alpha Region Report
(Produced by ANAL Report)

STL Richland WA.

TH BRC

Sample ID: H9HX61AC
Detector ID: ALP120 1

Batch ID: 6200145



Acquisition Start: 31-JUL-2006 12:05:36.76
Preset Live Time: 0 08:20:00.00
Elapsed Live Time: 0 08:20:03.00

Energy Coefficients:
Offset: 2.87004E+03
Slope: 7.35695E+00
Quadrature: 5.42554E-05

SAMPLE IDENTIITY: H9HX61AC

TITLE : TH BRC

DETECTOR : ALP120 1
CONFIGURATION NAME : RDND06$DKA100:[ALP120.SAMPLE]H9HX61AC_310761
205.CNF;1
ACQUIRE DATE of BACKGROUND: 23-JUL-2006 06:44:58

REPORT DATE : 31-Jul-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 31-JUL-2006 12:05:36 CALIB DATE : 22-JUL-2006 23:05:18

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

OFFSET : 2870.04 keV CONSTANT FWHM : 9.00000 Channels
SLOPE : 7.35695 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 5.425540E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H9HX61AC

Detector: ALP120 1
Report Date: 31-Jul-06 08:25 PM
Acquire Date: 31-JUL-2006 12:05:36.76
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	5140.1	221.7	297	327	0.00	0.00	M
PO-209	297	0	0	0.594	4908.4	221.6	261	291	0.00	0.00	P
PO-210	-9999	-9999	0	-9.998	5329.6	221.8	323	353	0.00	0.00	M
AC-227	2	5	3	-0.002	6063.3	222.1	422	452	0.00	0.00	S
TH-227	2	5	3	-0.002	6063.3	222.1	422	452	0.00	0.00	S
TH-228	-9999	-9999	0	-9.998	5448.4	221.9	339	369	0.00	0.00	M
TH-229	297	0	0	0.594	4870.5	221.6	261	291	0.00	0.00	P
TH-230	375	0	0	0.750	4712.9	177.2	232	256	0.00	0.00	P
TH-232	1	0	1	0.001	4038.2	221.2	148	178	0.00	0.00	S
U-232	-9999	-9999	0	-9.998	5345.4	221.8	325	355	0.00	0.00	M
U-234	375	0	0	0.750	4799.8	177.2	232	256	0.00	0.00	P
U-235	5	0	0	0.010	4423.0	221.4	200	230	0.00	0.00	S
PU-236	7	17	9	-0.004	5792.9	222.0	386	416	0.00	0.00	S
NP-237	297	0	0	0.594	4813.2	221.6	261	291	0.00	0.00	P
PU-238	-9999	-9999	0	-9.998	5524.3	221.9	349	379	0.00	0.00	M
U-238	-9999	-9999	0	-9.998	4223.2	221.3	173	203	0.00	0.00	M
PU-239	-9999	-9999	0	-9.998	5181.8	221.7	303	333	0.00	0.00	M
AM-241	-9999	-9999	0	-9.998	5510.8	221.9	348	378	0.00	0.00	M
AM-242M	-9999	-9999	0	-9.998	5232.0	221.8	310	340	0.00	0.00	M
CM-242	-9999	-9999	0	-9.998	6138.0	222.2	432	462	0.00	0.00	M
PU-242	297	0	0	0.594	4925.7	221.6	261	291	0.00	0.00	P
AM-243	-9999	-9999	0	-9.998	5300.5	221.8	319	349	0.00	0.00	M
CM-244	5	14	9	-0.005	5830.1	222.0	391	421	0.00	0.00	S
CM-246	-9999	-9999	0	-9.998	5411.7	221.8	334	364	0.00	0.00	M
CM-247	297	0	0	0.594	4895.6	221.6	261	291	0.00	0.00	P
CM-248	-9999	-9999	0	-9.998	5103.8	221.7	293	323	0.00	0.00	M

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9HX61AC
Detector: ALP120 1
Report Date: 31-Jul-06 08:25 PM
Acquire Date: 31-JUL-2006 12:05:36.76

Flags Key

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

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

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

VMS Peak Search Report V1.9 Generated 31-JUL-2006 20:25:41

```
Configuration     : RDND06$DKA100:[ALP120.SAMPLE]H9HX61AC_310761205.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 12:05:36
Sample ID         : H9HX61AC             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP120               Detector geometry:
Elapsed live time: 0 08:20:03.00         Elapsed real time: 0 08:20:03.00   0.0%
Start energy      :  2892.11 kev         End energy       :  6651.02 kev
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4695.85	375	0	58.86	247.72	232	24	1.25E-02	5.2	
2	0	4870.54	297	0	73.57	271.38	261	30	9.90E-03	5.8	

VMS Nuclide Identification Report V3.1 Generated 31-JUL-2006 20:25:42

```
Configuration     : RDND06$DKA100:[ALP120.SAMPLE]H9HX61AC_310761205.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : TH BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 12:05:36
Sample ID         : H9HX61AC             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP120               Detector geometry:
Elapsed live time: 0 08:20:03.00         Elapsed real time: 0 08:20:03.00   0.0%
Energy tolerance :   100.00 kev          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :     0.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                2
 Number of unidentified lines                     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	
TH-230	7.54E+04Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
U-234	2.45E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
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]H9HX61AC_310761205.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4695.85	232	256	375	376	-0.05		
4870.54	261	291	297	296	0.06		

End of Report

URANIUM ISOTOPIC

SAMPLE AND QC DATA

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

7/31/2006 3:16:11 PM

Lot No., Due Date: J6G180200; 08/15/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6200142; RUSIO Ulso by ALP

SDG, Matrix: 32138; 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** 7/31/06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6 200142

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: 8-2-06

7/26/2006 1:46:43 PM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell , Brown & Caldwell

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

Pipet #: _____

AnalyDueDate: 08/14/2006

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech: 7-29-06 [illegible]

Batch: 6200142 FILTER pCi/sampl PM, Quote: SA , 63174

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 H9F7N-1-AG J6G180200-1-SAMP 06/20/2006 10:15	0.833sa,g	502.14sa,g	37.51g,in	0.0622g	UITC16017 07/14/06,pd 01/20/04,r	200				
		AmtRec: FILTER	#Containers: 1					Scr:	Alpha:	Beta:
2 H9F73-1-AG J6G180200-2-SAMP 06/20/2006 10:25	0.833sa,g	501.63sa,g	37.54g,in	0.0623g	UITC16018 07/14/06,pd 01/20/04,r					
		AmtRec: FILTER	#Containers: 1					Scr:	Alpha:	Beta:
3 H9F75-1-AG J6G180200-3-SAMP 06/20/2006 10:40	0.833sa,g	506.26sa,g	37.62g,in	0.0619g	UITC16019 07/14/06,pd 01/20/04,r					
		AmtRec: FILTER	#Containers: 1					Scr:	Alpha:	Beta:
4 H9F78-1-AG J6G180200-4-SAMP 06/20/2006 11:00	0.833sa,g	509.29sa,g	37.51g,in	0.0614g	UITC16020 07/14/06,pd 01/20/04,r					
		AmtRec: FILTER	#Containers: 1					Scr:	Alpha:	Beta:
5 H9F8F-1-AG J6G180200-5-SAMP 06/20/2006 11:15	0.833sa,g	502.26sa,g	37.55g,in	0.0623g	UITC16021 07/14/06,pd 01/20/04,r					
		AmtRec: FILTER	#Containers: 1					Scr:	Alpha:	Beta:
6 H9F8L-1-AG J6G180200-6-SAMP 06/20/2006 11:30	0.833sa,g	506.78sa,g	37.51g,in	0.0617g	UITC16022 07/14/06,pd 01/20/04,r					
		AmtRec: FILTER	#Containers: 1					Scr:	Alpha:	Beta:
7 H9F8W-1-AG J6G180200-7-SAMP 06/20/2006 11:20	0.833sa,g	501.33sa,g	37.56g,in	0.0624g	UITC16023 07/14/06,pd 01/20/04,r					
		AmtRec: FILTER	#Containers: 1					Scr:	Alpha:	Beta:

STL RICHLAND

7/26/2006 1:46:43 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: 08/14/2006

Sep1 DT/Tm Tech:

Batch: 6200142 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 **8 H9F85-1-AG** J6G180200-8-SAMP 06/20/2006 10:05	0.833sa,g	500.08sa,g	37.60g,in	0.0626g	UITC16024 07/14/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
9 **9 H9F89-1-AG** J6G180200-9-SAMP 06/20/2006 10:20	0.833sa,g	501.72sa,g	37.72g,in	0.0626g	UITC16025 07/14/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
10 **10 H9F9A-1-AG** J6G180200-10-SAMP 06/20/2006 10:35	0.833sa,g	505.38sa,g	37.59g,in	0.062g	UITC16026 07/14/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
11 **11 H9F9F-1-AG** J6G180200-11-SAMP 06/20/2006 10:55	0.833sa,g	502.51sa,g	37.63g,in	0.0624g	UITC16027 07/14/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
12 **12 H9F9J-1-AG** J6G180200-12-SAMP 06/20/2006 11:10	0.833sa,g	502.25sa,g	37.58g,in	0.0623g	UITC16028 07/14/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
13 **13 H9F9L-1-AG** J6G180200-13-SAMP 06/20/2006 11:25	0.833sa,g	504.90sa,g	37.63g,in	0.0621g	UITC16029 07/14/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
14 **14 H9F9M-1-AG** J6G180200-14-SAMP 06/20/2006 10:10	0.833sa,g	508.91sa,g	37.65g,in	0.0616g	UITC16030 07/14/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:

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STL RICHLAND

7/26/2006 1:46:44 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: 08/14/2006

Sep1 DT/Tm Tech:

Batch: 6200142 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:
83 15H9F9N-1-AG J6G180200-15-SAMP 06/20/2006 11:35	0.833sa,g	503.53sa,g	37.60g,in	0.0622g	UITC16031 07/14/06,pd 01/20/04,r					
		AmtRec: FILTER	#Containers: 1					Scr:	Alpha:	Beta:
84 16H9HX0-1-AA-B J6G190000-142-BLK 06/20/2006 10:15			1.00sa,in	1.00sa	UITC16032 07/14/06,pd 01/20/04,r					
		AmtRec:	#Containers: 1					Scr:	Alpha:	Beta:
85 17H9HX0-1-AC-C J6G190000-142-LCS 06/20/2006 10:15			1.00sa,in	1.00sa	UISF0462 06/15/06,pd 01/20/04,r					
		AmtRec:	#Containers: 1					Scr:	Alpha:	Beta:

Comments:

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

H9F7N1AG-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:

H9HX01AA-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:

H9HX01AC-LCS:

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

H9F7N1AG-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H9HX01AA-BLK:

7/31/2006 3:11:06 PM

ICOC Fraction Transfer/Status Report

ByDate: 7/31/2005, 8/5/2006, Batch: '6200142', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6200142						
AC		**CalcC**	**HansenM**	7/20/2006 1:21:12 PM		
SC			wagarr	IsBatched	7/19/2006 8:00:26 AM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	7/20/2006 1:21:12 PM	RICH-RC-5016 REVISION 5
SC			HansenM	Prep2C	7/27/2006 7:12:16 AM	RICH-RC-5016 REVISION 5
SC			AndersonE	Sep1C	7/28/2006 1:38:39 PM	RICH-RC-5067 REV6
SC			FABREM	Sep2C	7/29/2006 11:58:56 AM	RICH-RC-5039 REV 6
SC			StringerR	InCnt1	7/29/2006 12:29:40 PM	RICH-RD-0008 REVISION 4
SC			BlackCL	CalcC	7/31/2006 6:55:03 AM	RICH-RD-0008 REVISION 4
AC			**HansenM**	7/27/2006 7:12:16		
AC			**AndersonE**	7/28/2006 1:38:39 PM		
AC			**FABREM**	7/29/2006 11:58:56		
AC			**StringerR**	7/29/2006 12:29:40		
AC			**BlackCL**	7/31/2006 6:55:03		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 6

ICOCFractions v4.8.18

7/31/2006 3:11:06 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
32138	**9H9F7310**			**J6G1802002**	000503	FILTER	7/18/2006 10:00:00	6/20/2006 10:25:00 AM				
U-234	7YSR	0		7/29/2006 3:15:06 PM	**1.9955E-01**	1.411E-01	1.42E-01	2.704E-01	PCI/SA	1.05	1.0E+0	3.234E-2
U-235	7YSR	0		7/29/2006 3:15:06 PM	**-5.9866E-02**	3.456E-02	3.489E-02	6.298E-01	PCI/SA	1.05	1.0E+0	3.234E-2
U-238	7YSR	0		7/29/2006 3:15:06 PM	**3.9907E-02**	1.056E-01	1.056E-01	6.298E-01	PCI/SA	1.05	1.0E+0	3.234E-2
32138	**9H9F7510**			**J6G1802003**	000504	FILTER	7/18/2006 10:00:00	6/20/2006 10:40:00 AM				
U-234	7YSR	0		7/29/2006 3:15:24 PM	**-2.2612E-02**	1.257E-01	1.258E-01	8.812E-01	PCI/SA	0.856	1.0E+0	3.19E-2
U-235	7YSR	0		7/29/2006 3:15:24 PM	**-6.7763E-02**	3.912E-02	3.951E-02	7.127E-01	PCI/SA	0.856	1.0E+0	3.19E-2
U-238	7YSR	0		7/29/2006 3:15:24 PM	**-2.4464E-05**	1.237E-01	1.237E-01	8.311E-01	PCI/SA	0.856	1.0E+0	3.19E-2
32138	**9H9F7810**			**J6G1802004**	000505	FILTER	7/18/2006 10:00:00	6/20/2006 11:00:00 AM				
U-234	7YSR	0		7/29/2006 3:15:51 PM	**5.1406E-06**	1.127E-01	1.127E-01	7.569E-01	PCI/SA	0.94	1.0E+0	3.135E-2
U-235	7YSR	0		7/29/2006 3:15:51 PM	**-2.0567E-02**	2.057E-02	2.063E-02	4.926E-01	PCI/SA	0.94	1.0E+0	3.135E-2
U-238	7YSR	0		7/29/2006 3:15:51 PM	**-1.234E-01**	5.038E-02	5.135E-02	8.026E-01	PCI/SA	0.94	1.0E+0	3.135E-2
32138	**9H9F7N10**			**J6G1802001**	000502	FILTER	7/18/2006 10:00:00	6/20/2006 10:15:00 AM				
U-234	7YSR	0		7/29/2006 3:14:32 PM	**1.6003E-01**	1.442E-01	1.448E-01	5.652E-01	PCI/SA	0.989	1.0E+0	3.223E-2
U-235	7YSR	0		7/29/2006 3:14:32 PM	**-4.0009E-02**	2.829E-02	2.847E-02	5.652E-01	PCI/SA	0.989	1.0E+0	3.223E-2
U-238	7YSR	0		7/29/2006 3:14:32 PM	**4.0004E-02**	1.059E-01	1.059E-01	6.313E-01	PCI/SA	0.989	1.0E+0	3.223E-2
32138	**9H9F8510**			**J6G1802008**	P-0675	FILTER	7/18/2006 10:00:00	6/20/2006 10:05:00 AM				
U-234	7YSR	0		7/29/2006 3:17:03 PM	**0.0E+00**	0.0E+00	1.156E-01	2.557E-01	PCI/SA	0.976	1.0E+0	3.263E-2
U-235	7YSR	0		7/29/2006 3:17:03 PM	**-1.8874E-02**	1.887E-02	1.893E-02	4.519E-01	PCI/SA	0.976	1.0E+0	3.263E-2
U-238	7YSR	0		7/29/2006 3:17:03 PM	**7.5476E-02**	9.622E-02	9.641E-02	4.519E-01	PCI/SA	0.976	1.0E+0	3.263E-2
32138	**9H9F8910**			**J6G1802009**	P-0676	FILTER	7/18/2006 10:00:00	6/20/2006 10:20:00 AM				
U-234	7YSR	0		7/29/2006 3:17:19 PM	**-1.9614E-02**	1.961E-02	1.968E-02	4.696E-01	PCI/SA	1.022	1.0E+0	3.263E-2
U-235	7YSR	0		7/29/2006 3:17:19 PM	**9.8048E-02**	9.805E-02	9.836E-02	2.657E-01	PCI/SA	1.022	1.0E+0	3.263E-2
U-238	7YSR	0		7/29/2006 3:17:19 PM	**5.882E-02**	1.019E-01	1.02E-01	5.541E-01	PCI/SA	1.022	1.0E+0	3.263E-2
32138	**9H9F8F10**			**J6G1802005**	000506	FILTER	7/18/2006 10:00:00	6/20/2006 11:15:00 AM				
U-234	7YSR	0		7/29/2006 3:16:16 PM	**3.9574E-01**	1.979E-01	2.004E-01	2.681E-01	PCI/SA	0.932	1.0E+0	3.228E-2
U-235	7YSR	0		7/29/2006 3:16:16 PM	**5.9365E-02**	1.028E-01	1.029E-01	5.591E-01	PCI/SA	0.932	1.0E+0	3.228E-2
U-238	7YSR	0		7/29/2006 3:16:16 PM	**1.4444E+00**	3.842E-01	4.014E-01	5.591E-01	PCI/SA	0.932	1.0E+0	3.228E-2
32138	**9H9F8L10**			**J6G1802006**	000507	FILTER	7/18/2006 10:00:00	6/20/2006 11:30:00 AM				
U-234	7YSR	0		7/29/2006 3:16:34 PM	**2.0801E-01**	1.471E-01	1.48E-01	2.818E-01	PCI/SA	0.934	1.0E+0	3.166E-2
U-235	7YSR	0		7/29/2006 3:16:34 PM	**-2.0799E-02**	2.08E-02	2.087E-02	4.981E-01	PCI/SA	0.934	1.0E+0	3.166E-2
U-238	7YSR	0		7/29/2006 3:16:34 PM	**-4.1598E-02**	2.941E-02	2.961E-02	5.877E-01	PCI/SA	0.934	1.0E+0	3.166E-2
32138	**9H9F8W10**			**J6G1802007**	000508	FILTER	7/18/2006 10:00:00	6/20/2006 11:20:00 AM				
U-234	7YSR	0		7/29/2006 3:16:46 PM	**-1.9868E-02**	1.987E-02	1.993E-02	4.758E-01	PCI/SA	1.032	1.0E+0	3.241E-2
U-235	7YSR	0		7/29/2006 3:16:46 PM	**0.0E+00**	0.0E+00	1.217E-01	2.692E-01	PCI/SA	1.032	1.0E+0	3.241E-2
U-238	7YSR	0		7/29/2006 3:16:46 PM	**-1.9868E-02**	1.987E-02	1.993E-02	4.758E-01	PCI/SA	1.032	1.0E+0	3.241E-2
32138	**9H9F9A10**			**J6G18020010**	P-0677	FILTER	7/18/2006 10:00:00	6/20/2006 10:35:00 AM				
U-234	7YSR	0		7/29/2006 3:17:44 PM	**-2.0197E-02**	2.02E-02	2.026E-02	4.838E-01	PCI/SA	0.975	1.0E+0	3.196E-2
U-235	7YSR	0		7/29/2006 3:17:44 PM	**0.0E+00**	0.0E+00	1.237E-01	2.737E-01	PCI/SA	0.975	1.0E+0	3.196E-2
U-238	7YSR	0		7/29/2006 3:17:44 PM	**8.081E-02**	1.03E-01	1.032E-01	4.838E-01	PCI/SA	0.975	1.0E+0	3.196E-2
32138	**9H9F9F10**			**J6G18020011**	P-0678	FILTER	7/18/2006 10:00:00	6/20/2006 10:55:00 AM				
U-234	7YSR	0		7/29/2006 3:18:06 PM	**0.0E+00**	0.0E+00	1.139E-01	2.521E-01	PCI/SA	0.948	1.0E+0	3.238E-2
U-235	7YSR	0		7/29/2006 3:18:06 PM	**7.4404E-02**	9.485E-02	9.504E-02	4.455E-01	PCI/SA	0.948	1.0E+0	3.238E-2
U-238	7YSR	0		7/29/2006 3:18:06 PM	**-1.8606E-02**	1.861E-02	1.867E-02	4.455E-01	PCI/SA	0.948	1.0E+0	3.238E-2
32138	**9H9F9J10**			**J6G18020012**	P-0679	FILTER	7/18/2006 10:00:00	6/20/2006 11:10:00 AM				
U-234	7YSR	0		7/29/2006 3:18:29 PM	**1.0176E-01**	1.018E-01	1.021E-01	2.758E-01	PCI/SA	0.967	1.0E+0	3.233E-2
U-235	7YSR	0		7/29/2006 3:18:29 PM	**0.0E+00**	0.0E+00	1.246E-01	2.758E-01	PCI/SA	0.967	1.0E+0	3.233E-2
U-238	7YSR	0		7/29/2006 3:18:29 PM	**-2.0348E-02**	2.035E-02	2.041E-02	4.874E-01	PCI/SA	0.967	1.0E+0	3.233E-2
32138	**9H9F9L10**			**J6G18020013**	P-0680	FILTER	7/18/2006 10:00:00	6/20/2006 11:25:00 AM				
U-234	7YSR	0		7/29/2006 3:19:10 PM	**8.3601E-02**	1.002E-01	1.004E-01	4.548E-01	PCI/SA	0.974	1.0E+0	3.208E-2
U-235	7YSR	0		7/29/2006 3:19:10 PM	**-2.3887E-02**	1.379E-02	1.392E-02	4.964E-01	PCI/SA	0.974	1.0E+0	3.208E-2
U-238	7YSR	0		7/29/2006 3:19:10 PM	**-4.7774E-02**	1.95E-02	1.988E-02	5.904E-01	PCI/SA	0.974	1.0E+0	3.208E-2

6200142, **Samples Inserted | Updated | NotUpdated => 17 | 0 | 0,
**Results Inserted | ReTestInserted | Updated | NotInserted => 50 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H9HX01AA=> , mat:FILTER | Air *wo:H9HX01AA=> , mat:FILTER | Air *wo:H9HX01AC=> , mat:FILTER | Air *wo:H9HX01AC=> , 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	
32138	**9H9F9M10**			**J6G18020014**	P-0681	FILTER	7/18/2006 10:00:00	6/20/2006 10:10:00 AM					
U-234	7YSR	0		7/29/2006 3:19:32 PM	**-5.5451E-02**	2.264E-02	2.309E-02	6.85E-01	PCI/SA		0.866	1.0E+0	3.163E-2
U-235	7YSR	0		7/29/2006 3:19:32 PM	**8.7737E-02**	1.166E-01	1.168E-01	5.76E-01	PCI/SA		0.866	1.0E+0	3.163E-2
U-238	7YSR	0		7/29/2006 3:19:32 PM	**-4.6209E-02**	2.067E-02	2.101E-02	6.526E-01	PCI/SA		0.866	1.0E+0	3.163E-2
32138	**9H9F9N10**			**J6G18020015**	P-0682	FILTER	7/18/2006 10:00:00	6/20/2006 11:35:00 AM					
U-234	7YSR	0		7/29/2006 3:20:17 PM	**9.146E-02**	1.215E-01	1.217E-01	6.004E-01	PCI/SA		0.865	1.0E+0	3.22E-2
U-235	7YSR	0		7/29/2006 3:20:17 PM	**-1.9262E-02**	1.362E-02	1.371E-02	5.5E-01	PCI/SA		0.865	1.0E+0	3.22E-2
U-238	7YSR	0		7/29/2006 3:20:17 PM	**-1.9262E-02**	1.362E-02	1.371E-02	5.5E-01	PCI/SA		0.865	1.0E+0	3.22E-2
32138	**H9HX01AB**			**J6G190000142**	INTRA-LAB BLANK	FILTER	7/18/2006 10:00:00	6/20/2006 10:15:00 AM					
U-234	7YSR	0	B	7/29/2006 3:20:49 PM	**-3.4604E-03**	1.413E-03	1.439E-03	4.276E-02	PCI/SA		0.897	1.0E+0	1.0E+0
U-235	7YSR	0	B	7/29/2006 3:20:49 PM	**-5.7673E-04**	5.767E-04	5.785E-04	2.901E-02	PCI/SA		0.897	1.0E+0	1.0E+0
U-238	7YSR	0	B	7/29/2006 3:20:49 PM	**-1.1535E-03**	8.156E-04	8.206E-04	3.294E-02	PCI/SA		0.897	1.0E+0	1.0E+0
32138	**H9HX01CS**			**J6G190000142**	INTRA-LAB CHECK	FILTER	7/18/2006 10:00:00	6/20/2006 10:15:00 AM					
U-234	7YSR	0	S	7/29/2006 3:21:09 PM	**9.1103E-01**	9.172E-02	1.18E-01	4.212E-02	PCI/SA	9.6687E-01	0.945	1.0E+0	1.0E+0
U-238	7YSR	0	S	7/29/2006 3:21:09 PM	**8.0964E-01**	8.647E-02	1.088E-01	4.212E-02	PCI/SA	1.0126E+00	0.945	1.0E+0	1.0E+0

6200142, **Samples Inserted | Updated | NotUpdated => 17 | 0 | 0,
**Results Inserted | ReTestInserted | Updated | NotInserted => 50 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H9HX01AA=> , mat:FILTER | Air *wo:H9HX01AA=> , mat:FILTER | Air *wo:H9HX01AC=> , mat:FILTER | Air *wo:H9HX01AC=> , mat:FILTER | Air.

Batch Nbr: 6200142

Alpha Spec, Ulso by ALP , Results

7/31/2006 6:48:57 AM

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	MLcC	MDC	QC	Yield	RYld
Ulso by ALP				Richland Standard AlpIso Wo Blk Subt.										
Calc	SR	FILTER	H9F7N1AG	U-234	1.60E-01	(1.45E-01)	U4	PCI/SA	R	1.47E-01	5.65E-01		99%	
Calc	SR	FILTER	H9F7N1AG	U-235	-4.00E-02	(2.85E-02)	U4	PCI/SA	R	1.47E-01	5.65E-01		99%	
Calc	SR	FILTER	H9F7N1AG	U-238	4.00E-02	(1.06E-01)	U4	PCI/SA	R	1.80E-01	6.31E-01		99%	
Calc	SR	FILTER	H9F731AG	U-234	2.00E-01	(1.42E-01)	U4	PCI/SA	R		2.70E-01		105%	
Calc	SR	FILTER	H9F731AG	U-235	-5.99E-02	(3.49E-02)	U4	PCI/SA	R	1.80E-01	6.30E-01		105%	
Calc	SR	FILTER	H9F731AG	U-238	3.99E-02	(1.06E-01)	U4	PCI/SA	R	1.80E-01	6.30E-01		105%	
Calc	SR	FILTER	H9F751AG	U-234	-2.26E-02	(1.26E-01)	U4	PCI/SA	R	2.88E-01	8.81E-01		86%	
Calc	SR	FILTER	H9F751AG	U-235	-6.78E-02	(3.95E-02)	U4	PCI/SA	R	2.03E-01	7.13E-01		86%	
Calc	SR	FILTER	H9F751AG	U-238	-2.45E-05	(1.24E-01)	U4	PCI/SA	R	2.63E-01	8.31E-01		86%	
Calc	SR	FILTER	H9F781AG	U-234	5.14E-06	(1.13E-01)	U4	PCI/SA	R	2.39E-01	7.57E-01		94%	
Calc	SR	FILTER	H9F781AG	U-235	-2.06E-02	(2.06E-02)	U4	PCI/SA	R	1.07E-01	4.93E-01		94%	
Calc	SR	FILTER	H9F781AG	U-238	-1.23E-01	(5.14E-02)	U4	PCI/SA	R	2.62E-01	8.03E-01		94%	
Calc	SR	FILTER	H9F8F1AG	U-234	3.96E-01	(2.00E-01)		PCI/SA	R		2.68E-01		93%	
Calc	SR	FILTER	H9F8F1AG	U-235	5.94E-02	(1.03E-01)	U4	PCI/SA	R	1.46E-01	5.59E-01		93%	
Calc	SR	FILTER	H9F8F1AG	U-238	1.44E+00	(4.01E-01)		PCI/SA	R	1.46E-01	5.59E-01		93%	
Calc	SR	FILTER	H9F8L1AG	U-234	2.08E-01	(1.48E-01)	U4	PCI/SA	R		2.82E-01		93%	
Calc	SR	FILTER	H9F8L1AG	U-235	-2.08E-02	(2.09E-02)	U4	PCI/SA	R	1.08E-01	4.98E-01		93%	
Calc	SR	FILTER	H9F8L1AG	U-238	-4.16E-02	(2.96E-02)	U4	PCI/SA	R	1.53E-01	5.88E-01		93%	
Calc	SR	FILTER	H9F8W1AG	U-234	-1.99E-02	(1.99E-02)	U4	PCI/SA	R	1.03E-01	4.76E-01		103%	
Calc	SR	FILTER	H9F8W1AG	U-235	0.00E+00	(1.22E-01)	U4	PCI/SA	R		2.69E-01		103%	
Calc	SR	FILTER	H9F8W1AG	U-238	-1.99E-02	(1.99E-02)	U4	PCI/SA	R	1.03E-01	4.76E-01		103%	
Calc	SR	FILTER	H9F851AG	U-234	0.00E+00	(1.16E-01)	U4	PCI/SA	R		2.56E-01		98%	
Calc	SR	FILTER	H9F851AG	U-235	-1.89E-02	(1.89E-02)	U4	PCI/SA	R	9.82E-02	4.52E-01		98%	
Calc	SR	FILTER	H9F851AG	U-238	7.55E-02	(9.64E-02)	U4	PCI/SA	R	9.82E-02	4.52E-01		98%	
Calc	SR	FILTER	H9F891AG	U-234	-1.96E-02	(1.97E-02)	U4	PCI/SA	R	1.02E-01	4.70E-01		102%	
Calc	SR	FILTER	H9F891AG	U-235	9.80E-02	(9.84E-02)	U4	PCI/SA	R		2.66E-01		102%	
Calc	SR	FILTER	H9F891AG	U-238	5.88E-02	(1.02E-01)	U4	PCI/SA	R	1.44E-01	5.54E-01		102%	
Calc	SR	FILTER	H9F9A1AG	U-234	-2.02E-02	(2.03E-02)	U4	PCI/SA	R	1.05E-01	4.84E-01		97%	
Calc	SR	FILTER	H9F9A1AG	U-235	0.00E+00	(1.24E-01)	U4	PCI/SA	R		2.74E-01		97%	
Calc	SR	FILTER	H9F9A1AG	U-238	8.08E-02	(1.03E-01)	U4	PCI/SA	R	1.05E-01	4.84E-01		97%	
Calc	SR	FILTER	H9F9F1AG	U-234	0.00E+00	(1.14E-01)	U4	PCI/SA	R		2.52E-01		95%	
Calc	SR	FILTER	H9F9F1AG	U-235	7.44E-02	(9.50E-02)	U4	PCI/SA	R	9.68E-02	4.45E-01		95%	
Calc	SR	FILTER	H9F9F1AG	U-238	-1.86E-02	(1.87E-02)	U4	PCI/SA	R	9.68E-02	4.45E-01		95%	
Calc	SR	FILTER	H9F9J1AG	U-234	1.02E-01	(1.02E-01)	U4	PCI/SA	R		2.76E-01		97%	
Calc	SR	FILTER	H9F9J1AG	U-235	0.00E+00	(1.25E-01)	U4	PCI/SA	R		2.76E-01		97%	
Calc	SR	FILTER	H9F9J1AG	U-238	-2.03E-02	(2.04E-02)	U4	PCI/SA	R	1.06E-01	4.87E-01		97%	
Calc	SR	FILTER	H9F9L1AG	U-234	8.36E-02	(1.00E-01)	U4	PCI/SA	R	9.26E-02	4.55E-01		97%	

() - (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: 6200142

Alpha Spec, Ulso by ALP , Results

7/31/2006 6:48:57 AM

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Calc	SR	FILTER	**H9F9L1AG**	U-235	**-2.39E-02**	**(1.39E-02)**	**U4**	PCI/SA	R	1.13E-01	4.96E-01		97%	
Calc	SR	FILTER	**H9F9L1AG**	U-238	**-4.78E-02**	**(1.99E-02)**	**U4**	PCI/SA	R	1.60E-01	5.90E-01		97%	
Calc	SR	FILTER	**H9F9M1AG**	U-234	**-5.55E-02**	**(2.31E-02)**	**U4**	PCI/SA	R	1.86E-01	6.85E-01		87%	
Calc	SR	FILTER	**H9F9M1AG**	U-235	**8.77E-02**	**(1.17E-01)**	**U4**	PCI/SA	R	1.32E-01	5.76E-01		87%	
Calc	SR	FILTER	**H9F9M1AG**	U-238	**-4.62E-02**	**(2.10E-02)**	**U4**	PCI/SA	R	1.70E-01	6.53E-01		87%	
Calc	SR	FILTER	**H9F9N1AG**	U-234	**9.15E-02**	**(1.22E-01)**	**U4**	PCI/SA	R	1.37E-01	6.00E-01		86%	
Calc	SR	FILTER	**H9F9N1AG**	U-235	**-1.93E-02**	**(1.37E-02)**	**U4**	PCI/SA	R	1.12E-01	5.50E-01		86%	
Calc	SR	FILTER	**H9F9N1AG**	U-238	**-1.93E-02**	**(1.37E-02)**	**U4**	PCI/SA	R	1.12E-01	5.50E-01		86%	
Calc	SR	FILTER	**H9HX01AA**	U-234	**-3.46E-03**	**(1.44E-03)**	**U4**	PCI/SA	R	1.16E-02	4.28E-02	**B**	90%	
Calc	SR	FILTER	**H9HX01AA**	U-235	**-5.77E-04**	**(5.79E-04)**	**U4**	PCI/SA	R	4.74E-03	2.90E-02	**B**	90%	
Calc	SR	FILTER	**H9HX01AA**	U-238	**-1.15E-03**	**(8.21E-04)**	**U4**	PCI/SA	R	6.71E-03	3.29E-02	**B**	90%	
Calc	SR	FILTER	**H9HX01AC**	U-234	**9.11E-01**	**(1.18E-01)**		PCI/SA	R	8.58E-03	4.21E-02	**S**	95%	94%
Calc	SR	FILTER	**H9HX01AC**	U-235	**5.38E-02**	**(2.30E-02)**		PCI/SA	R	8.58E-03	4.21E-02	**S**	95%	122%
Calc	SR	FILTER	**H9HX01AC**	U-238	**8.10E-01**	**(1.09E-01)**		PCI/SA	R	8.58E-03	4.21E-02	**S**	95%	80%

Plinderson R
7.31.06
1.31.31

() - (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:68
RADCALC v4.8.18
STL Richland

Batch Nbr: 6200142

Alpha Spec, UIso by ALP , Calculated Results

Detailed Report

7/31/2006 6:48:58 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
1	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H9F7N1AG**	**PCI/SA**		06/20/06 10:15	07/29/06 15:14			1	1.00 SA	
536403,000502					,J6G180200-1 v4.8.18		FILTER					UITC16017 Alq		0.062225 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	07/29/06 13:34	U-232	728	3	ALP1	ED	Y	N	3.6576E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	1000.1166			Y		(1.097E-02)						(0.000E+00)	16.070624		
1	07/29/06 13:34	U-234	2	2	ALP1	ED	N	N	3.6576E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	1000.1166			Y		(1.097E-02)			5%			(0.000E+00)	16.070624		
2	07/29/06 13:34	U-235	0	2	ALP1	ED	N	N	3.6576E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	1000.1166			Y		(1.097E-02)			5%			(0.000E+00)	16.070624		
3	07/29/06 13:34	U-238	1	3	ALP1	ED	N	N	3.6576E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	1000.1166			Y		(1.097E-02)			5%			(0.000E+00)	16.070624		

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
	07/31/06	U-232	R	**71.969546**		3.63639E+00	9.941901	9.941901	1.00 SA	99%				
				(5.374212)		(1.3490E-01)	(0.474315)	(0.474315)	(0.028284)					
	07/31/06	U-234	R	**0.160028**	**U4**	7.99857E-03	0.022106	0.022106	1.00 SA	99%		0.565204		
				(0.144823)		(7.2099E-03)	(0.019966)	(0.019966)	(0.028284)			0.147164		
	07/31/06	U-235	R	**-0.040009**	**U4**	-1.99977E-03	-0.005527	-0.005527	1.00 SA	99%		0.565204		
				(0.028474)		(1.4140E-03)	(0.003921)	(0.003921)	(0.028284)			0.147164		
	07/31/06	U-238	R	**0.040004**	**U4**	1.99952E-03	0.005526	0.005526	1.00 SA	99%		0.631314		
				(0.105899)		(5.2906E-03)	(0.014626)	(0.014626)	(0.028284)			0.180239		

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	**H9F731AG**	**PCI/SA**		06/20/06 10:25	07/29/06 15:15			1	1.00 SA	
536403,000503					,J6G180200-2 v4.8.18		FILTER					UITC16018 Alq		0.062338 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	07/29/06 13:35	U-232	769	15	ALP2	ED	Y	N	3.6206E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	1000.1333			Y		(1.086E-02)						(0.000E+00)	16.041473		
1	07/29/06 13:35	U-234	2	0	ALP2	ED	N	N	3.6206E-01		N	105%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	1000.1333			Y		(1.086E-02)			5%			(0.000E+00)	16.041473		
2	07/29/06 13:35	U-235	0	3	ALP2	ED	N	N	3.6206E-01		N	105%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	1000.1333			Y		(1.086E-02)			5%			(0.000E+00)	16.041473		
3	07/29/06 13:35	U-238	1	3	ALP2	ED	N	N	3.6206E-01		N	105%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	1000.1333			Y		(1.086E-02)			5%			(0.000E+00)	16.041473		

() - (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: 6200142 — Alpha Spec, UIso by ALP , Calculated Results — 7/31/2006 6:48:58 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
	07/31/06	U-232	R	**76.425949**		3.82936E+00	10.576696	10.576696	1.00 SA	105%				
				(5.673884)		(1.3869E-01)	(0.497399)	(0.497399)	(0.028284)					
	07/31/06	U-234	R	**0.199546**	U4	9.99833E-03	0.027615	0.027615	1.00 SA	105%		0.270384		
				(0.142002)		(7.0699E-03)	(0.019588)	(0.019588)	(0.028284)					
	07/31/06	U-235	R	**-0.059866**	U4	-2.99960E-03	-0.008285	-0.008285	1.00 SA	105%		0.629759		
				(0.034894)		(1.7318E-03)	(0.004806)	(0.004806)	(0.028284)			0.179794		
	07/31/06	U-238	R	**0.039907**	U4	1.99957E-03	0.005523	0.005523	1.00 SA	105%		0.629759		
				(0.105638)		(5.2906E-03)	(0.014616)	(0.014616)	(0.028284)			0.179794		

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	**H9F751AG**	**PCI/SA**		06/20/06 10:40	07/29/06 15:15			1	1.00 SA	
536403,000504					,J6G180200-3 v4.8.18		FILTER					UITC16019 Alq		0.0619 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	07/29/06 13:35	U-232	650	7	ALP3	ED	Y	N	3.7651E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.0333			Y		(1.130E-02)						(0.000E+00)	16.155106		
1	07/29/06 13:35	U-234	1	6	ALP3	ED	N	N	3.7651E-01		N	86%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.0333			Y		(1.130E-02)			4%			(0.000E+00)	16.155106		
2	07/29/06 13:35	U-235	0	3	ALP3	ED	N	N	3.7651E-01		N	86%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.0333			Y		(1.130E-02)			4%			(0.000E+00)	16.155106		
3	07/29/06 13:35	U-238	1	5	ALP3	ED	N	N	3.7651E-01		N	86%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.0333			Y		(1.130E-02)			4%			(0.000E+00)	16.155106		

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
	07/31/06	U-232	R	**62.664657**		3.24219E+00	8.611251	8.611251	1.00 SA	86%				
				(4.750038)		(1.2747E-01)	(0.425868)	(0.425868)	(0.028284)					
	07/31/06	U-234	R	**-0.022612**	U4	-1.00105E-03	-0.003107	-0.003107	1.00 SA	86%		0.881221		
				(0.125754)		(5.5666E-03)	(0.01728)	(0.01728)	(0.028284)			0.287783		
	07/31/06	U-235	R	**-0.067763**	U4	-2.99990E-03	-0.009312	-0.009312	1.00 SA	86%		0.712741		
				(0.039511)		(1.7320E-03)	(0.005403)	(0.005403)	(0.028284)			0.203493		
	07/31/06	U-238	R	**-2.4464E-05**	U4	-1.08303E-06	-3.3618E-06	-3.3618E-06	1.00 SA	86%		0.831102		
				(0.123695)		(5.4761E-03)	(0.016998)	(0.016998)	(0.028284)			0.262709		

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	**H9F781AG**	**PCI/SA**		06/20/06 11:00	07/29/06 15:15			1	1.00 SA	
536403,000505					,J6G180200-4 v4.8.18		FILTER					UITC16020 Alq		0.061352 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	07/29/06 13:35	U-232	719	4	ALP4	ED	Y	N	3.7951E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.3			Y		(1.139E-02)						(0.000E+00)	16.299455		

() - (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: 6200142 — Alpha Spec, UIso by ALP , Calculated Results — 7/31/2006 6:48:58 AM

1	07/29/06 13:35	U-234	1	5	ALP4	ED	N	N	3.7951E-01	N	94%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.05	1000.3			Y		(1.139E-02)		5%		(0.000E+00)	16.299455	
2	07/29/06 13:35	U-235	0	1	ALP4	ED	N	N	3.7951E-01	N	94%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.05	1000.3			Y		(1.139E-02)		5%		(0.000E+00)	16.299455	
3	07/29/06 13:35	U-238	0	6	ALP4	ED	N	N	3.7951E-01	N	94%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.05	1000.3			Y		(1.139E-02)		5%		(0.000E+00)	16.299455	

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
	07/31/06	U-232	R	**69.455583**		3.59010E+00	9.459921	9.459921	1.00 SA	94%				
				(5.194902)		(1.3405E-01)	(0.453112)	(0.453112)	(0.028284)					
	07/31/06	U-234	R	**5.1406E-06**	U4	2.49863E-07	7.0015E-07	7.0015E-07	1.00 SA	94%		0.756908		
				(0.112657)		(5.4758E-03)	(0.015344)	(0.015344)	(0.028284)			0.239245		
	07/31/06	U-235	R	**-0.020567**	U4	-9.99700E-04	-0.002801	-0.002801	1.00 SA	94%		0.492563		
				(0.020634)		(9.9970E-04)	(0.002806)	(0.002806)	(0.028284)			0.106993		
	07/31/06	U-238	R	**-0.123405**	U4	-5.99820E-03	-0.016808	-0.016808	1.00 SA	94%		0.80255		
				(0.051352)		(2.4488E-03)	(0.006927)	(0.006927)	(0.028284)			0.262079		

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	**H9F8F1AG**	**PCI/SA**		06/20/06 11:15	07/29/06 15:16			1	1.00 SA	
536403,000506					,J6G180200-5 v4.8.18		FILTER					UITC16021 Alq		0.062277 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	07/29/06 13:36	U-232	741	14	ALP5	ED	Y	N	3.9200E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.2			Y		(1.176E-02)						(0.000E+00)	16.057342		
1	07/29/06 13:36	U-234	4	0	ALP5	ED	N	N	3.9200E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.2			Y		(1.176E-02)			4%			(0.000E+00)	16.057342		
2	07/29/06 13:36	U-235	1	2	ALP5	ED	N	N	3.9200E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.2			Y		(1.176E-02)			4%			(0.000E+00)	16.057342		
3	07/29/06 13:36	U-238	15	2	ALP5	ED	N	N	3.9200E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.2			Y		(1.176E-02)			4%			(0.000E+00)	16.057342		

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
	07/31/06	U-232	R	**68.098688**		3.69069E+00	9.414961	9.414961	1.00 SA	93%				
				(5.078177)		(1.3615E-01)	(0.447662)	(0.447662)	(0.028284)					
	07/31/06	U-234	R	**0.395738**		1.99983E-02	0.054713	0.054713	1.00 SA	93%		0.268113		
				(0.20041)		(9.9992E-03)	(0.027529)	(0.027529)	(0.028284)					
	07/31/06	U-235	R	**0.059365**	U4	2.99998E-03	0.008208	0.008208	1.00 SA	93%		0.559054		
				(0.102926)		(5.1957E-03)	(0.014222)	(0.014222)	(0.028284)			0.145557		
	07/31/06	U-238	R	**1.444448**		7.29942E-02	0.199702	0.199702	1.00 SA	93%		0.559054		
				(0.401352)		(1.9415E-02)	(0.05429)	(0.05429)	(0.028284)			0.145557		

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

RecCnt:6 RADCALC v4.8.18 STL Richland

Batch Nbr: 6200142 — Alpha Spec, UIso by ALP , Calculated Results — 7/31/2006 6:48:58 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	**H9F8L1AG**	**PCI/SA**		06/20/06 11:30	07/29/06 15:16			1	1.00 SA	
536403,000507					,J6G180200-6 v4.8.18		FILTER					UITC16022 Alq		0.061656 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	07/29/06 13:36	U-232	707	5	ALP6	ED	Y	N	3.7594E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.1666			Y		(1.128E-02)						(0.000E+00)	16.219124		
1	07/29/06 13:36	U-234	2	0	ALP6	ED	N	N	3.7594E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.1666			Y		(1.128E-02)			4%			(0.000E+00)	16.219124		
2	07/29/06 13:36	U-235	0	1	ALP6	ED	N	N	3.7594E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.1666			Y		(1.128E-02)			4%			(0.000E+00)	16.219124		
3	07/29/06 13:36	U-238	0	2	ALP6	ED	N	N	3.7594E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.1666			Y		(1.128E-02)			4%			(0.000E+00)	16.219124		

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
	07/31/06	U-232	R	**68.595274**		3.52971E+00	9.389019	9.389019	1.00 SA	93%				
				(5.141827)		(1.3296E-01)	(0.452122)	(0.452122)	(0.028284)					
	07/31/06	U-234	R	**0.208005**	**U4**	9.99917E-03	0.028471	0.028471	1.00 SA	93%		0.281847		
				(0.148038)		(7.0705E-03)	(0.020197)	(0.020197)	(0.028284)					
	07/31/06	U-235	R	**-0.020799**	**U4**	-9.99833E-04	-0.002847	-0.002847	1.00 SA	93%		0.498116		
				(0.020866)		(9.9983E-04)	(0.002851)	(0.002851)	(0.028284)			0.108199		
	07/31/06	U-238	R	**-0.041598**	**U4**	-1.99967E-03	-0.005694	-0.005694	1.00 SA	93%		0.587697		
				(0.029605)		(1.4140E-03)	(0.004039)	(0.004039)	(0.028284)			0.153016		

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	**H9F8W1AG**	**PCI/SA**		06/20/06 11:20	07/29/06 15:16			1	1.00 SA	
536403,000508					,J6G180200-7 v4.8.18		FILTER					UITC16023 Alq		0.062409 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	07/29/06 13:36	U-232	755	3	ALP7	ED	Y	N	3.6324E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	1000.1166			Y		(1.090E-02)						(0.000E+00)	16.023342		
1	07/29/06 13:36	U-234	0	1	ALP7	ED	N	N	3.6324E-01		N	103%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	1000.1166			Y		(1.090E-02)			5%			(0.000E+00)	16.023342		
2	07/29/06 13:36	U-235	0	0	ALP7	ED	N	N	3.6324E-01		N	103%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	1000.1166			Y		(1.090E-02)			5%			(0.000E+00)	16.023342		
3	07/29/06 13:36	U-238	0	1	ALP7	ED	N	N	3.6324E-01		N	103%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	1000.1166			Y		(1.090E-02)			5%			(0.000E+00)	16.023342		

() - (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: 6200142 — Alpha Spec, UIso by ALP , Calculated Results — 7/31/2006 6:48:58 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
	07/31/06	U-232	R	**74.938536**		3.77137E+00	10.382585	10.382585	1.00 SA	103%				
				(5.571125)		(1.3737E-01)	(0.489946)	(0.489946)	(0.028284)					
	07/31/06	U-234	R	**-0.019868**	**U4**	-9.99883E-04	-0.002753	-0.002753	1.00 SA	103%		0.475776		
				(0.019932)		(9.9988E-04)	(0.002757)	(0.002757)	(0.028284)			0.10335		
	07/31/06	U-235	R	**0.00E00**	**U4**	0.00000E+00	0.00E00	0.00E00	1.00 SA	103%		0.269199		
				(0.12166)		(0.0000E+00)	(0.016856)	(0.016856)	(0.028284)					
	07/31/06	U-238	R	**-0.019868**	**U4**	-9.99883E-04	-0.002753	-0.002753	1.00 SA	103%		0.475776		
				(0.019932)		(9.9988E-04)	(0.002757)	(0.002757)	(0.028284)			0.10335		

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	**H9F851AG**	**PCI/SA**		06/20/06 10:05	07/29/06 15:17			1	1.00 SA	
536403,P-0675					,J6G180200-8 v4.8.18		FILTER					UITC16024 Alq		0.062632 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	07/29/06 13:37	U-232	768	5	ALP8	ED	Y	N	3.9047E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	1000.2166			Y		(1.171E-02)						(0.000E+00)	15.966387		
1	07/29/06 13:37	U-234	0	0	ALP8	ED	N	N	3.9047E-01		N	98%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	1000.2166			Y		(1.171E-02)			5%			(0.000E+00)	15.966387		
2	07/29/06 13:37	U-235	0	1	ALP8	ED	N	N	3.9047E-01		N	98%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	1000.2166			Y		(1.171E-02)			5%			(0.000E+00)	15.966387		
3	07/29/06 13:37	U-238	1	1	ALP8	ED	N	N	3.9047E-01		N	98%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	1000.2166			Y		(1.171E-02)			5%			(0.000E+00)	15.966387		

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
	07/31/06	U-232	R	**70.6069**		3.83340E+00	9.817342	9.817342	1.00 SA	98%				
				(5.239118)		(1.3852E-01)	(0.461083)	(0.461083)	(0.028284)					
	07/31/06	U-234	R	**0.00E00**	**U4**	0.00000E+00	0.00E00	0.00E00	1.00 SA	98%		0.255688		
				(0.115554)		(0.0000E+00)	(0.016067)	(0.016067)	(0.028284)					
	07/31/06	U-235	R	**-0.018874**	**U4**	-9.99783E-04	-0.002624	-0.002624	1.00 SA	98%		0.451911		
				(0.018934)		(9.9978E-04)	(0.002628)	(0.002628)	(0.028284)			0.09817		
	07/31/06	U-238	R	**0.075476**	**U4**	3.99813E-03	0.010494	0.010494	1.00 SA	98%		0.451911		
				(0.096408)		(5.0969E-03)	(0.013391)	(0.013391)	(0.028284)			0.09817		

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	**H9F891AG**	**PCI/SA**		06/20/06 10:20	07/29/06 15:17			1	1.00 SA	
536403,P-0676					,J6G180200-9 v4.8.18		FILTER					UITC16025 Alq		0.062626 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	07/29/06 13:37	U-232	759	4	ALP9	ED	Y	N	3.6670E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.0333			Y		(1.100E-02)						(0.000E+00)	15.967787		

() - (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: 6200142 — Alpha Spec, Uiso by ALP , Calculated Results — 7/31/2006 6:48:59 AM

1	07/29/06 13:37	U-234	0	1	ALP9	ED	N	N	3.6670E-01	N	102%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.05	1000.0333			Y		(1.100E-02)		5%		(0.000E+00)	15.967787	
2	07/29/06 13:37	U-235	1	0	ALP9	ED	N	N	3.6670E-01	N	102%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.05	1000.0333			Y		(1.100E-02)		5%		(0.000E+00)	15.967787	
3	07/29/06 13:37	U-238	1	2	ALP9	ED	N	N	3.6670E-01	N	102%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.05	1000.0333			Y		(1.100E-02)		5%		(0.000E+00)	15.967787	

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
	07/31/06	U-232	R	**74.339833**		3.79005E+00	10.335471	10.335471	1.00 SA	102%				
				(5.523497)		(1.3773E-01)	(0.487039)	(0.487039)	(0.028284)					
	07/31/06	U-234	R	**-0.019614**	**U4**	-9.99967E-04	-0.002727	-0.002727	1.00 SA	102%		0.469626		
				(0.019677)		(9.9997E-04)	(0.002731)	(0.002731)	(0.028284)			0.102019		
	07/31/06	U-235	R	**0.098048**	**U4**	4.99875E-03	0.013632	0.013632	1.00 SA	102%		0.26571		
				(0.098362)		(4.9988E-03)	(0.013653)	(0.013653)	(0.028284)					
	07/31/06	U-238	R	**0.05882**	**U4**	2.99882E-03	0.008178	0.008178	1.00 SA	102%		0.554091		
				(0.102005)		(5.1949E-03)	(0.014174)	(0.014174)	(0.028284)			0.144277		

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	**H9F9A1AG**	**PCI/SA**		06/20/06 10:35	07/29/06 15:17			1	1.00 SA	
536403,P-0677					,J6G180200-10 v4.8.18		FILTER					UITC16026 Alq		0.061958 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	07/29/06 13:37	U-232	723	3	ALP10	ED	Y	N	3.6914E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.3166			Y		(1.107E-02)						(0.000E+00)	16.139896		
1	07/29/06 13:37	U-234	0	1	ALP10	ED	N	N	3.6914E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.3166			Y		(1.107E-02)			5%			(0.000E+00)	16.139896		
2	07/29/06 13:37	U-235	0	0	ALP10	ED	N	N	3.6914E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.3166			Y		(1.107E-02)			5%			(0.000E+00)	16.139896		
3	07/29/06 13:37	U-238	1	1	ALP10	ED	N	N	3.6914E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.3166			Y		(1.107E-02)			5%			(0.000E+00)	16.139896		

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
	07/31/06	U-232	R	**71.132481**		3.61170E+00	9.784095	9.784095	1.00 SA	97%				
				(5.316245)		(1.3444E-01)	(0.467763)	(0.467763)	(0.028284)					
	07/31/06	U-234	R	**-0.020197**	**U4**	-9.99683E-04	-0.002778	-0.002778	1.00 SA	97%		0.483753		
				(0.020262)		(9.9968E-04)	(0.002782)	(0.002782)	(0.028284)			0.105074		
	07/31/06	U-235	R	**0.00E00**	**U4**	0.00000E+00	0.00E00	0.00E00	1.00 SA	97%		0.273729		
				(0.123708)		(0.0000E+00)	(0.017016)	(0.017016)	(0.028284)					
	07/31/06	U-238	R	**0.08081**	**U4**	3.99990E-03	0.011115	0.011115	1.00 SA	97%		0.483753		
				(0.103212)		(5.0985E-03)	(0.014182)	(0.014182)	(0.028284)			0.105074		

() - (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: 6200142 — Alpha Spec, UIso by ALP , Calculated Results — 7/31/2006 6:48:59 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	**H9F9F1AG**	**PCI/SA**		06/20/06 10:55	07/29/06 15:18			1	1.00 SA	
536403,P-0678					,J6G180200-11 v4.8.18		FILTER					UITC16027 Alq		0.062378 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	07/29/06 13:38	U-232	782	7	ALP11	ED	Y	N	4.0933E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.2833			Y		(1.228E-02)						(0.000E+00)	16.03118		
1	07/29/06 13:38	U-234	0	0	ALP11	ED	N	N	4.0933E-01		N	95%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.2833			Y		(1.228E-02)			4%			(0.000E+00)	16.03118		
2	07/29/06 13:38	U-235	1	1	ALP11	ED	N	N	4.0933E-01		N	95%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.2833			Y		(1.228E-02)			4%			(0.000E+00)	16.03118		
3	07/29/06 13:38	U-238	0	1	ALP11	ED	N	N	4.0933E-01		N	95%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.2833			Y		(1.228E-02)			4%			(0.000E+00)	16.03118		

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
	07/31/06	U-232	R	**68.820344**		3.90105E+00	9.53026	9.53026	1.00 SA	95%				
				(5.096342)		(1.3978E-01)	(0.445362)	(0.445362)	(0.028284)					
	07/31/06	U-234	R	**0.00E00**	**U4**	0.00000E+00	0.00E00	0.00E00	1.00 SA	95%		0.252056		
				(0.113913)		(0.0000E+00)	(0.015775)	(0.015775)	(0.028284)					
	07/31/06	U-235	R	**0.074404**	**U4**	3.99778E-03	0.010303	0.010303	1.00 SA	95%		0.445494		
				(0.095038)		(5.0965E-03)	(0.013148)	(0.013148)	(0.028284)			0.096777		
	07/31/06	U-238	R	**-0.018606**	**U4**	-9.99717E-04	-0.002577	-0.002577	1.00 SA	95%		0.445494		
				(0.018665)		(9.9972E-04)	(0.002581)	(0.002581)	(0.028284)			0.096777		

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	**H9F9J1AG**	**PCI/SA**		06/20/06 11:10	07/29/06 15:18			1	1.00 SA	
536403,P-0679					,J6G180200-12 v4.8.18		FILTER					UITC16028 Alq		0.062328 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	07/29/06 13:38	U-232	716	5	ALP12	ED	Y	N	3.6724E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200	1000.2333			Y		(1.102E-02)						(0.000E+00)	16.044204		
1	07/29/06 13:38	U-234	1	0	ALP12	ED	N	N	3.6724E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200	1000.2333			Y		(1.102E-02)			5%			(0.000E+00)	16.044204		
2	07/29/06 13:38	U-235	0	0	ALP12	ED	N	N	3.6724E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200	1000.2333			Y		(1.102E-02)			5%			(0.000E+00)	16.044204		
3	07/29/06 13:38	U-238	0	1	ALP12	ED	N	N	3.6724E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200	1000.2333			Y		(1.102E-02)			5%			(0.000E+00)	16.044204		

() - (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: 6200142 — Alpha Spec, UIso by ALP , Calculated Results — 7/31/2006 6:48:59 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
	07/31/06	U-232	R	**70.353967**		3.57500E+00	9.734728	9.734728	1.00 SA	97%				
				(5.265254)		(1.3381E-01)	(0.466957)	(0.466957)	(0.028284)					
	07/31/06	U-234	R	**0.101764**	U4	5.00000E-03	0.014081	0.014081	1.00 SA	97%		0.275781		
				(0.102094)		(5.0000E-03)	(0.014103)	(0.014103)	(0.028284)					
	07/31/06	U-235	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	97%		0.275781		
				(0.124635)		(0.0000E+00)	(0.017245)	(0.017245)	(0.028284)					
	07/31/06	U-238	R	**-0.020348**	U4	-9.99767E-04	-0.002816	-0.002816	1.00 SA	97%		0.487379		
				(0.020414)		(9.9977E-04)	(0.00282)	(0.00282)	(0.028284)			0.105862		

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	**H9F9L1AG**	**PCI/SA**		06/20/06 11:25	07/29/06 15:19			1	1.00 SA	
536403,P-0680					,J6G180200-13 v4.8.18		FILTER					UITC16029 Alq		0.062083 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	07/29/06 13:39	U-232	734	29	ALP69	ED	Y	N	3.7411E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	2500.1			Y		(1.122E-02)						(0.000E+00)	16.107426		
1	07/29/06 13:39	U-234	1	2	ALP69	ED	N	N	3.7411E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	2500.1			Y		(1.122E-02)			5%			(0.000E+00)	16.107426		
2	07/29/06 13:39	U-235	0	3	ALP69	ED	N	N	3.7411E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	2500.1			Y		(1.122E-02)			5%			(0.000E+00)	16.107426		
3	07/29/06 13:39	U-238	0	6	ALP69	ED	N	N	3.7411E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	2500.1			Y		(1.122E-02)			5%			(0.000E+00)	16.107426		

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
	07/31/06	U-232	R	**70.945792**		3.65809E+00	9.778087	9.778087	1.00 SA	97%				
				(5.295522)		(1.3547E-01)	(0.466016)	(0.466016)	(0.028284)					
	07/31/06	U-234	R	**0.083601**	U4	4.19962E-03	0.011522	0.011522	1.00 SA	97%		0.454835		
				(0.100386)		(5.0315E-03)	(0.01382)	(0.01382)	(0.028284)			0.092616		
	07/31/06	U-235	R	**-0.023887**	U4	-1.19995E-03	-0.003292	-0.003292	1.00 SA	97%		0.496439		
				(0.013924)		(6.9279E-04)	(0.00191)	(0.00191)	(0.028284)			0.11343		
	07/31/06	U-238	R	**-0.047774**	U4	-2.39990E-03	-0.006584	-0.006584	1.00 SA	97%		0.590352		
				(0.019879)		(9.7976E-04)	(0.002714)	(0.002714)	(0.028284)			0.160415		

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	**H9F9M1AG**	**PCI/SA**		06/20/06 10:10	07/29/06 15:19			1	1.00 SA	
536403,P-0681					,J6G180200-14 v4.8.18		FILTER					UITC16030 Alq		0.061627 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	07/29/06 13:39	U-232	639	30	ALP71	ED	Y	N	3.6536E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	2500.1666			Y		(1.096E-02)						(0.000E+00)	16.22673		

() - (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: 6200142 — Alpha Spec, UIso by ALP , Calculated Results — 7/31/2006 6:48:59 AM

1	07/29/06 13:39	U-234	0	6	ALP71	ED	N	N	3.6536E-01	N	87%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.1166666	2500.1666			Y		(1.096E-02)		4%		(0.000E+00)	16.22673	
2	07/29/06 13:39	U-235	1	3	ALP71	ED	N	N	3.6536E-01	N	87%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.1166666	2500.1666			Y		(1.096E-02)		4%		(0.000E+00)	16.22673	
3	07/29/06 13:39	U-238	0	5	ALP71	ED	N	N	3.6536E-01	N	87%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.1166666	2500.1666			Y		(1.096E-02)		4%		(0.000E+00)	16.22673	

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
	07/31/06	U-232	R	**63.640696**		3.18114E+00	8.706775	8.706775	1.00 SA	87%				
				(4.837215)		(1.2634E-01)	(0.433353)	(0.433353)	(0.028284)					
	07/31/06	U-234	R	**-0.055451**	**U4**	-2.39984E-03	-0.007586	-0.007586	1.00 SA	87%		0.684974		
				(0.023087)		(9.7973E-04)	(0.003128)	(0.003128)	(0.028284)			0.186146		
	07/31/06	U-235	R	**0.087737**	**U4**	3.79717E-03	0.012003	0.012003	1.00 SA	87%		0.575997		
				(0.116787)		(5.0449E-03)	(0.015963)	(0.015963)	(0.028284)			0.131625		
	07/31/06	U-238	R	**-0.046209**	**U4**	-1.99987E-03	-0.006322	-0.006322	1.00 SA	87%		0.652556		
				(0.021007)		(8.9437E-04)	(0.002851)	(0.002851)	(0.028284)			0.169927		

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	**H9F9N1AG**	**PCI/SA**		06/20/06 11:35	07/29/06 15:20			1	1.00 SA	
536403,P-0682					,J6G180200-15 v4.8.18		FILTER					UITC16031 Alq		0.062202 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	07/29/06 13:40	U-232	609	24	ALP83	ED	Y	N	3.4771E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	2500.1333			Y		(1.043E-02)						(0.000E+00)	16.076537		
1	07/29/06 13:40	U-234	1	3	ALP83	ED	N	N	3.4771E-01		N	86%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	2500.1333			Y		(1.043E-02)			4%			(0.000E+00)	16.076537		
2	07/29/06 13:40	U-235	0	2	ALP83	ED	N	N	3.4771E-01		N	86%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	2500.1333			Y		(1.043E-02)			4%			(0.000E+00)	16.076537		
3	07/29/06 13:40	U-238	0	2	ALP83	ED	N	N	3.4771E-01		N	86%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	2500.1333			Y		(1.043E-02)			4%			(0.000E+00)	16.076537		

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
	07/31/06	U-232	R	**63.197337**		3.03439E+00	8.726894	8.726894	1.00 SA	86%				
				(4.834848)		(1.2336E-01)	(0.440934)	(0.440934)	(0.028284)					
	07/31/06	U-234	R	**0.09146**	**U4**	3.79840E-03	0.01263	0.01263	1.00 SA	86%		0.600364		
				(0.121736)		(5.0461E-03)	(0.016795)	(0.016795)	(0.028284)			0.137185		
	07/31/06	U-235	R	**-0.019262**	**U4**	-7.99957E-04	-0.00266	-0.00266	1.00 SA	86%		0.550046		
				(0.013712)		(5.6566E-04)	(0.001887)	(0.001887)	(0.028284)			0.112011		
	07/31/06	U-238	R	**-0.019262**	**U4**	-7.99957E-04	-0.00266	-0.00266	1.00 SA	86%		0.550046		
				(0.013712)		(5.6566E-04)	(0.001887)	(0.001887)	(0.028284)			0.112011		

() - (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: 6200142 — Alpha Spec, UIso by ALP , Calculated Results — 7/31/2006 6:48:59 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	**H9HX01AA**	**PCI/SA**	**B**	06/20/06 10:15	07/29/06 15:20			1	1.00 SA	
0,INTRA-LAB BLANK					,J6G190000-142		FILTER					UITC16032 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	07/29/06 13:40	U-232	633	22	ALP84	ED	Y	N	3.4843E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	2500.0833			Y		(1.045E-02)						(0.000E+00)	1.00		
1	07/29/06 13:40	U-234	0	6	ALP84	ED	N	N	3.4843E-01		N	90%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	2500.0833			Y		(1.045E-02)			4%			(0.000E+00)	1.00		
2	07/29/06 13:40	U-235	0	1	ALP84	ED	N	N	3.4843E-01		N	90%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	2500.0833			Y		(1.045E-02)			4%			(0.000E+00)	1.00		
3	07/29/06 13:40	U-238	0	2	ALP84	ED	N	N	3.4843E-01		N	90%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	2500.0833			Y		(1.045E-02)			4%			(0.000E+00)	1.00		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/31/06	U-232	R	**4.079627**		3.15567E+00	9.056781	9.056781	1.00 SA	90%				
				(0.296692)		(1.2579E-01)	(0.451838)	(0.451838)	(0.017321)					
	07/31/06	U-234	R	**-0.00346**	**U4**	-2.39992E-03	-0.007682	-0.007682	1.00 SA	90%		0.042757		
				(0.001439)		(9.7976E-04)	(0.003168)	(0.003168)	(0.017321)			0.011619		
	07/31/06	U-235	R	**-0.000577**	**U4**	-3.99987E-04	-0.00128	-0.00128	1.00 SA	90%		0.029015		
				(0.000579)		(3.9999E-04)	(0.001283)	(0.001283)	(0.017321)			0.004743		
	07/31/06	U-238	R	**-0.001153**	**U4**	-7.99973E-04	-0.002561	-0.002561	1.00 SA	90%		0.032942		
				(0.000821)		(5.6567E-04)	(0.001817)	(0.001817)	(0.017321)			0.006708		

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
17	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H9HX01AC**	**PCI/SA**	**S**	06/20/06 10:15	07/29/06 15:21		UISF0462	1	1.00 SA	
0,INTRA-LAB CHECK					,J6G190000-142		FILTER					UISF0462 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	07/29/06 13:41	U-232	498	64	ALP85	ED	Y	N	2.5840E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	2500.05			Y		(7.752E-03)						(0.000E+00)	1.00		
1	07/29/06 13:41	U-234	99	2	ALP85	ED	N	N	2.5840E-01		N	95%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	2500.05			Y		(7.752E-03)			5%			(0.000E+00)	1.00		
2	07/29/06 13:41	U-235	6	2	ALP85	ED	N	N	2.5840E-01		N	95%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	2500.05			Y		(7.752E-03)			5%			(0.000E+00)	1.00		
3	07/29/06 13:41	U-238	88	2	ALP85	ED	N	N	2.5840E-01		N	95%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	2500.05			Y		(7.752E-03)			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:17 RADCALC v4.8.18 STL Richland

Batch Nbr: 6200142

Alpha Spec, UIso by ALP , Calculated Results

7/31/2006 6:48:59 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
	07/31/06	U-232	R	**4.295322**		2.46399E+00	9.535624	9.535624	1.00 SA	95%				
				(0.325756)		(1.1161E-01)	(0.518063)	(0.518063)	(0.017321)					
	07/31/06	U-234	R	**0.911034**		4.94118E-01	2.022497	2.022497	1.00 SA	95%	94%	0.042124		
				(0.118037)		(4.9744E-02)	(0.239192)	(0.239192)	(0.017321)			0.008578		
	07/31/06	U-235	R	**0.053829**		2.91950E-02	0.1195	0.1195	1.00 SA	95%	122%	0.042124		
				(0.023024)		(1.2258E-02)	(0.050721)	(0.050721)	(0.017321)			0.008578		
	07/31/06	U-238	R	**0.809644**		4.39127E-01	1.797411	1.797411	1.00 SA	95%	80%	0.042124		
				(0.108801)		(4.6900E-02)	(0.222026)	(0.222026)	(0.017321)			0.008578		

() - (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:17

RADCALC v4.8.18

STL Richland

STL RICHLAND

SEVERN TRENT STL

URANIUM ISOTOPIC COUNTING REQUEST

1700
7/29/06 K

C.R. Technician _____

Date Counted 7/29/06

Counting Time
Sample 200 Minutes
Background See Alpha Regions Report
8/20/06

SOP's
Operating: RICHRD008
Review: RICHRD0016

U BRC 6200142

WorkOrder #	U-232 (5320 KeV) Tracer	TOTAL COUNTS U-238 (4196 KeV)	U-235 (4396 KeV)	U-234 (4776 KeV)	Det #	Comments/Edits
H9F7N1AG	See Counting Room Printout for ROI information				1	
H9F731AG	See Counting Room Printout for ROI information				2	
H9F751AG	See Counting Room Printout for ROI information				3	
H9F781AG	See Counting Room Printout for ROI information				4	
H9F8F1AG	See Counting Room Printout for ROI information				5	
H9F8L1AG	See Counting Room Printout for ROI information				6	
H9F8W1AG	See Counting Room Printout for ROI information				7	
H9F851AG	See Counting Room Printout for ROI information				8	
	See Counting Room Printout for ROI information					

Comments:

284

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

Approved by: S

Date: 7/31/06

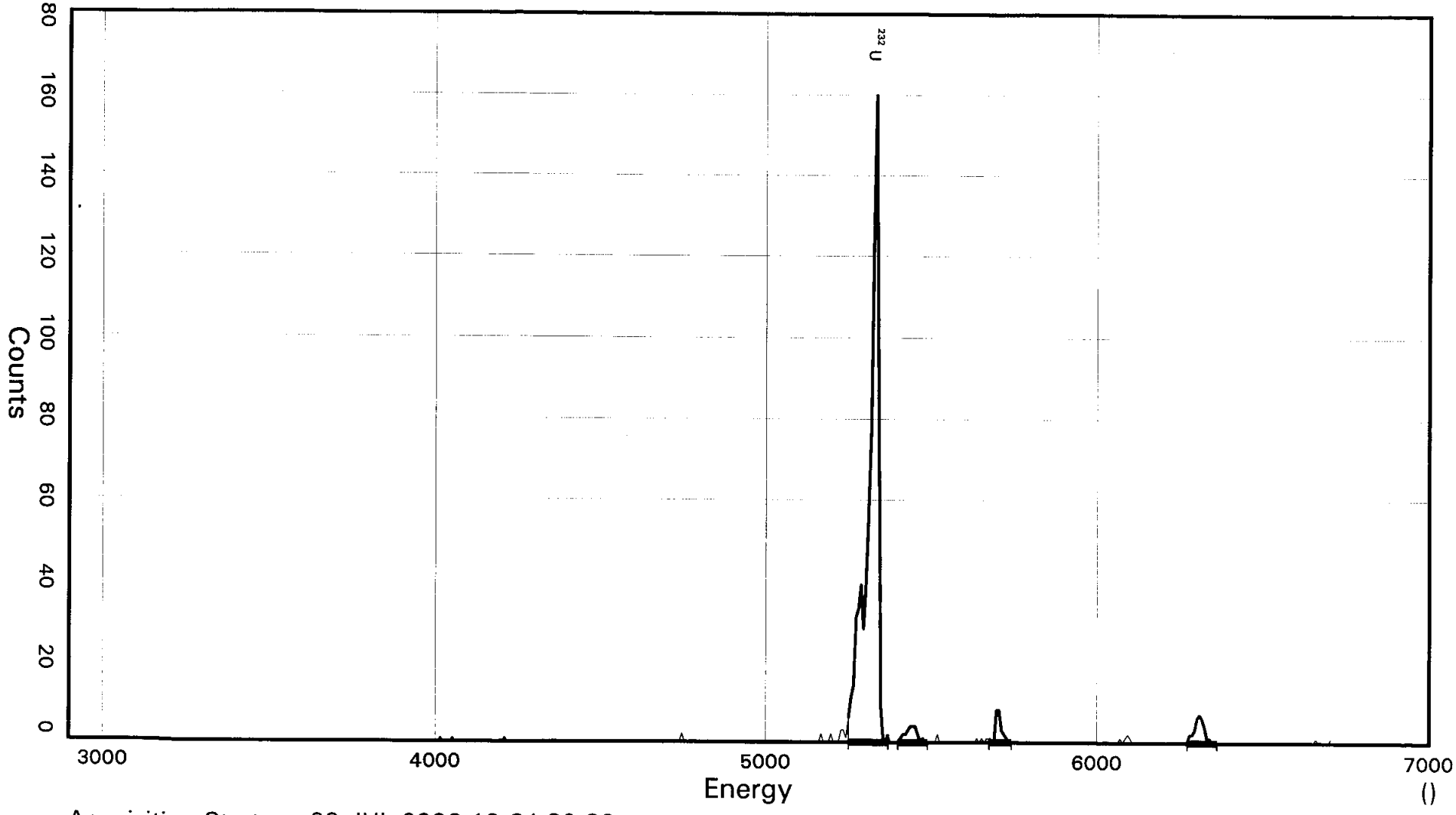
STL Richland WA.

U BRC

Sample ID: H9F7N1AG

Detector ID: ALP1 1

Batch ID: 6200142



Acquisition Start: 29-JUL-2006 13:34:30.80

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:02.00

Energy Coefficients:

Offset: 2.87647E+03

Slope: 7.49971E+00

Quadrature: -4.75056E-05

SAMPLE IDENTIITY: H9F7N1AG

TITLE : U BRC

DETECTOR : ALP1 1
CONFIGURATION NAME : $DISK1:[ALP1.SAMPLE]H9F7N1AG_290761334.CNF;1

ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:56:57

REPORT DATE : 29-Jul-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 29-JUL-2006 13:34:30 CALIB DATE : 06-JUL-2006 01:18:50

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

OFFSET : 2876.47 keV CONSTANT FWHM : 8.50000 Channels
SLOPE : 7.49971 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : -.475056E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H9F7N1AG

Detector: ALP1 1
Report Date: 29-Jul-06 04:54 PM
Acquire Date: 29-JUL-2006 13:34:30.80
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	728	3	0	3.636	5324.2	119.5	317	333	0.00	0.00	P
U-234	2	2	0	0.008	4778.6	119.6	244	260	0.00	0.00	
U-235	0	2	0	-0.002	4401.8	119.7	194	210	0.00	0.00	
U-238	1	3	0	0.002	4202.0	119.7	167	183	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9F7N1AG
Detector: ALP1 1
Report Date: 29-Jul-06 04:54 PM
Acquire Date: 29-JUL-2006 13:34:30.80

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	0		301	0		351	0		401	0		451	0		501
		2	0		52	0		102	1		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	2		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	0	+	254	0		304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0	+	255	0		305	0		355	0		405	2		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	2		306	0		356	0		406	2		456	1		506
0		7	0		57	0		107	1		157	0	+	207	0	+	257	0		307	0		357	0		407	3		457	0		507
0		8	0		58	0		108	0		158	0	+	208	0	+	258	0		308	0		358	0		408	6		458	0		508
0		9	0		59	0		109	0		159	0	+	209	0	+	259	0		309	0		359	0		409	7		459	0		509
0		10	0		60	0		110	0		160	0	+	210	0	+	260	2		310	0		360	0		410	6		460	0		510
0		11	0		61	0		111	0		161	0		211	0		261	0		311	0		361	0		411	4		461	0		511
0		12	0		62	0		112	0		162	0		212	0		262	0		312	0		362	0		412	1		462	1		512
0		13	0		63	0		113	0		163	0		213	0		263	0		313	0		363	0		413	1		463			
0		14	0		64	0		114	0		164	0		214	0		264	3		314	0		364	0		414	0		464			
0		15	0		65	0		115	0		165	0		215	0		265	3		315	0		365	0		415	0		465			
0		16	0		66	0		116	0		166	0		216	0		266	1		316	0		366	0		416	0		466			
0		17	0		67	0		117	0	+	167	0		217	0		267	6	+	317	0		367	0		417	0		467			
0		18	0		68	0		118	0	+	168	0		218	0		268	11	+	318	0		368	0		418	0		468			
0		19	0		69	0		119	0	+	169	0		219	0		269	14	+	319	1		369	0		419	0		469			
0		20	0		70	0		120	0	+	170	0		220	0		270	31	+	320	0		370	0		420	0		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	33	+	321	1		371	0		421	0		471			
0		22	0		72	0		122	0	+	172	0		222	0		272	39	+	322	0		372	0		422	0		472			
0		23	0		73	0		123	0	+	173	0		223	0		273	28	+	323	1		373	0		423	0		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	40	+	324	1		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	58	+	325	0		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	0		276	77	+	326	0		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	125	+	327	8		377	1		427	0		477			
0		28	0		78	0		128	1	+	178	0		228	0		278	160	+	328	8		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	80	+	329	3		379	1		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	9	+	330	2		380	2		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	1	+	331	1		381	1		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	0	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	2		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	0		337	0		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	0		288	1		338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	0		289	2		339	0		389	0		439	0		489			
0		40	0		90	0		140	0		190	0		240	0		290	2		340	0		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	0		291	3		341	0		391	0		441	0		491			
0		42	0		92	0		142	0		192	0		242	0		292	4		342	0		392	0		442	0		492			
0		43	0		93	0		143	0		193	0		243	0		293	4		343	0		393	0		443	0		493			
0		44	0		94	0		144	0	+	194	0	+	244	0		294	4		344	0		394	0		444	0		494			
0		45	0		95	0		145	0	+	195	0	+	245	0		295	2		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	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	2	+	250	0		300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 29-JUL-2006 16:54:47

Configuration : $DISK1:[ALP1.SAMPLE]H9F7N1AG_290761334.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 20-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 13:34:30
Sample ID : H9F7N1AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP1 Detector geometry:
Elapsed live time: 0 03:20:02.00 Elapsed real time: 0 03:20:02.00 0.0%
Start energy : 2898.97 End energy : 6703.87
Sensitivity : 4.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5324.20	728	0	37.50	327.05	317	16	6.07E-02	3.7	
2	0	5434.57	22	0	45.00	341.83	337	12	1.83E-03	21.3	
3	0	5704.95	23	0	37.50	378.05	374	9	1.92E-03	20.9	
4	0	6306.35	31	0	45.00	458.67	454	12	2.58E-03	18.0	

VMS Nuclide Identification Report V3.0 Generated 29-JUL-2006 16:54:50

Configuration	: $DISK1:[ALP1.SAMPLE]H9F7N1AG_290761334.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 20-JUN-2006 12:00:00	Acquisition date	: 29-JUL-2006 13:34:30
Sample ID	: H9F7N1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP1	Detector geometry	:
Elapsed live time	: 0 03:20:02.00	Elapsed real time	: 0 03:20:02.00 0.0%
Energy tolerance	: 40.00	Half life ratio	: 1.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Spline	Efficiencies at	: Peak Energy
Abundance limit	: 60.00		

Summary of Nuclide Activity

Total number of lines in spectrum	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: $DISK1:[ALP1.SAMPLE]H9F7N1AG_290761334.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5324.20	317	333	728	714	0.52		
5434.57	337	349	22	23	-0.21		
5704.94	374	383	23	23	0.00		
6306.34	454	466	31	32	-0.18		

End of Report

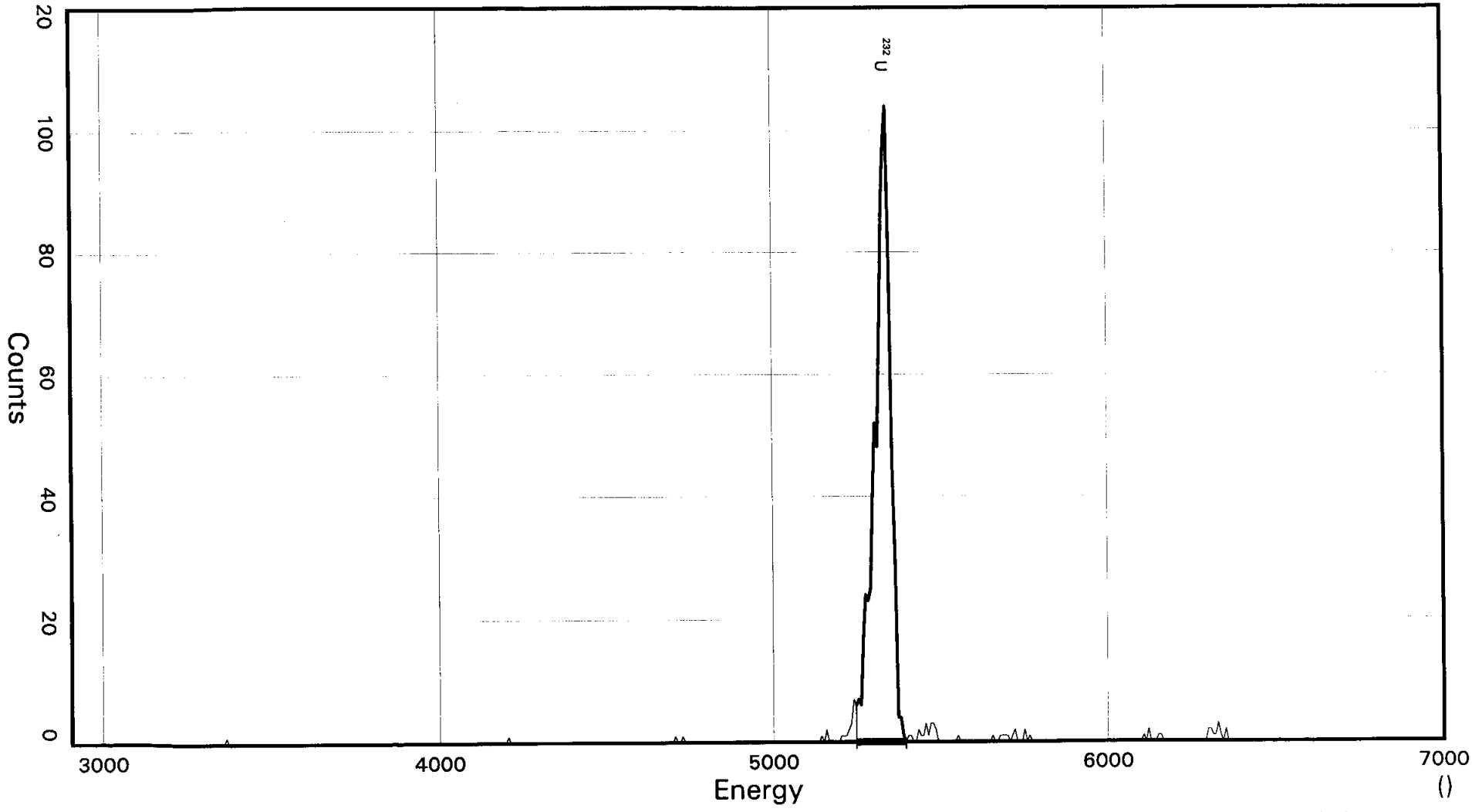
STL Richland WA.

U BRC

Sample ID: H9F731AG

Detector ID: ALP2 1

Batch ID: 6200142



Acquisition Start: 29-JUL-2006 13:35:04.62

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:02.00

Energy Coefficients:

Offset: 2.88585E+03

Slope: 7.35469E+00

Quadrature: 6.81728E-05

SAMPLE IDENTIITY: H9F731AG

TITLE : U BRC

DETECTOR : ALP2 1
CONFIGURATION NAME : $DISK1:[ALP2.SAMPLE]H9F731AG_290761335.CNF;1

ACQUIRE DATE of BACKGROUND: 08-JUL-2006 07:51:36

REPORT DATE : 29-Jul-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 29-JUL-2006 13:35:04 CALIB DATE : 08-JUL-2006 03:11:43

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

OFFSET : 2885.85 keV CONSTANT FWHM : 10.00000 Channels
SLOPE : 7.35469 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : 6.817280E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H9F731AG

Detector: ALP2 1
Report Date: 29-Jul-06 05:27 PM
Acquire Date: 29-JUL-2006 13:35:04.62
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	769	15	0	3.829	5335.0	148.0	320	340	0.00	0.00	P
U-234	2	0	0	0.010	4789.4	147.8	246	266	0.00	0.00	
U-235	0	3	0	-0.003	4412.6	147.7	195	215	0.00	0.00	
U-238	1	3	0	0.002	4212.8	147.6	168	188	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9F731AG
Detector: ALP2 1
Report Date: 29-Jul-06 05:27 PM
Acquire Date: 29-JUL-2006 13:35:04.62

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	0	+	251	0		301	3		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	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	1		306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0	+	207	0	+	257	0		307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0	+	208	0	+	258	2		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	1		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0	+	212	0	+	262	0		312	0		362	0		412	2		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	1		464			
0		15	1		65	0		115	0		165	0	+	215	0	+	265	1		315	0		365	0		415	1		465			
0		16	0		66	0		116	0		166	0		216	0	+	266	1		316	0		366	0		416	3		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	3		318	0		368	0		418	0		468			
0		19	0		69	0		119	0	+	169	0		219	0		269	7		319	0		369	0		419	2		469			
0		20	0		70	0		120	0	+	170	0		220	0		270	6	+	320	0		370	0		420	0		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	7	+	321	0		371	0		421	0		471			
0		22	0		72	0		122	0	+	172	0		222	0		272	6	+	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	0		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	24	+	324	0		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	23	+	325	1		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	0		276	25	+	326	0		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	40	+	327	0		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	52	+	328	1		378	0		428	0		478			
0		29	0		79	0		129	1	+	179	0		229	0		279	48	+	329	1		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	68	+	330	1		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	88	+	331	1		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	98	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	104	+	333	1		383	0		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	77	+	334	2		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	45	+	335	0		385	0		435	0		485			
0		36	0		86	0		136	0	+	186	0		236	0		286	29	+	336	0		386	1		436	0		486			
0		37	0		87	0		137	0	+	187	0		237	0		287	4	+	337	0		387	0		437	0		487			
0		38	0		88	0		138	0	+	188	0		238	0		288	4	+	338	2		388	2		438	0		488			
0		39	0		89	0		139	0		189	0		239	0		289	1	+	339	0		389	0		439	0		489			
0		40	0		90	0		140	0		190	0		240	0		290	0		340	1		390	0		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	1		342	0		392	1		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	0		344	0		394	0		444	0		494			
0		45	0		95	0		145	0	+	195	0		245	0		295	2		345	0		395	0		445	0		495			
0		46	0		96	0		146	0	+	196	0	+	246	0		296	1		346	0		396	0		446	0		496			
0		47	0		97	0		147	0	+	197	1	+	247	0		297	1		347	0		397	0		447	0		497			
0		48	0		98	0		148	0	+	198	0	+	248	0		298	3		348	0		398	0		448	0		498			
0		49	0		99	0		149	0	+	199	0	+	249	0		299	1		349	0		399	0		449	0		499			
0		50	0		100	0		150	0	+	200	1	+	250	0		300	3		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 29-JUL-2006 17:27:10

Configuration	: $DISK1:[ALP2.SAMPLE]H9F731AG_290761335.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: U BRC		
Sample date	: 20-JUN-2006 12:00:00	Acquisition date	: 29-JUL-2006 13:35:04
Sample ID	: H9F731AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP2	Detector geometry	:
Elapsed live time	: 0 03:20:02.00	Elapsed real time	: 0 03:51:49.00 14%
Start energy	: 2907.92	End energy	: 6669.33
Sensitivity	: 4.00	Sum Sensitivity	: 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5335.00	769	0	51.48	331.98	320	20	6.41E-02	3.6	

VMS Nuclide Identification Report V3.0 Generated 29-JUL-2006 17:27:12

Configuration : $DISK1:[ALP2.SAMPLE]H9F731AG_290761335.CNF;1
Analyses by : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title : U BRC
Sample date : 20-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 13:35:04
Sample ID : H9F731AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP2 Detector geometry:
Elapsed live time: 0 03:20:02.00 Elapsed real time: 0 03:51:49.00 14%
Energy tolerance : 40.00 Half life ratio : 1.00
Errors propagated: No Systematic Error : 0.00 %
Efficiency type : Spline Efficiencies at : Peak Energy
Abundance limit : 60.00

Summary of Nuclide Activity

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

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

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

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

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

Configuration: $DISK1:[ALP2.SAMPLE]H9F731AG_290761335.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5335.00	320	340	769	766	0.11		

End of Report

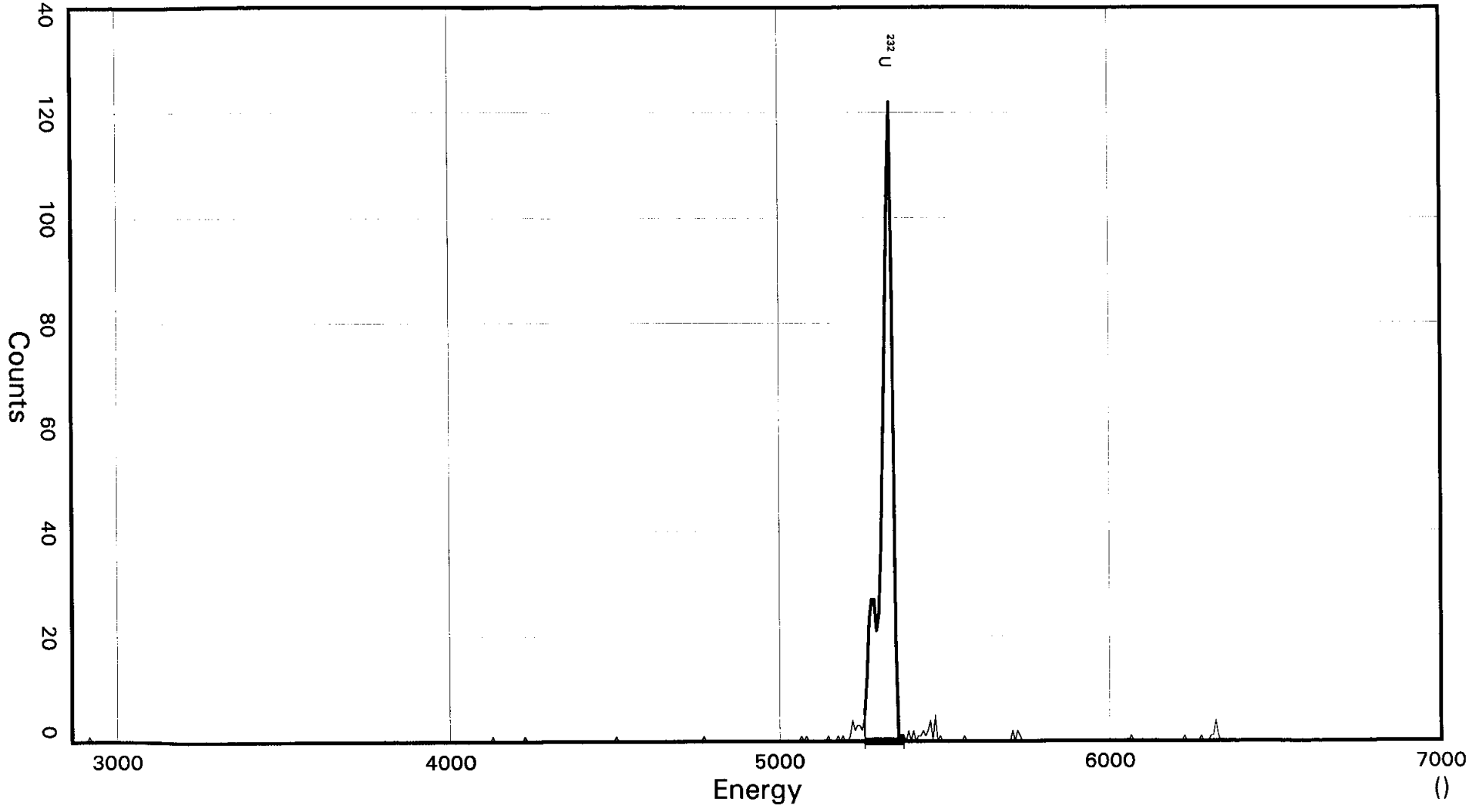
STL Richland WA.

U BRC

Sample ID: H9F751AG

Detector ID: ALP3 1

Batch ID: 6200142



Acquisition Start: 29-JUL-2006 13:35:22.85

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:03.00

Energy Coefficients:

Offset: 2.84210E+03

Slope: 7.41508E+00

Quadrature: -9.63550E-05

SAMPLE IDENTIITY: H9F751AG

TITLE : U BRC

DETECTOR : ALP3 1
CONFIGURATION NAME : $DISK1:[ALP3.SAMPLE]H9F751AG_290761335.CNF;1

ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:01

REPORT DATE : 29-Jul-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 29-JUL-2006 13:35:22 CALIB DATE : 06-JUL-2006 01:19:25

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

OFFSET : 2842.10 keV CONSTANT FWHM : 8.50000 Channels
SLOPE : 7.41508 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : -.963550E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H9F751AG

Detector: ALP3 1
Report Date: 29-Jul-06 04:55 PM
Acquire Date: 29-JUL-2006 13:35:22.85
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

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

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	650	7	0	3.242	5330.2	117.6	327	343	0.00	0.00	P
U-234	1	6	0	-0.001	4784.6	117.8	253	269	0.00	0.00	
U-235	0	3	0	-0.003	4407.8	118.0	202	218	0.00	0.00	
U-238	1	5	0	0.000	4208.0	118.1	175	191	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9F751AG
Detector: ALP3 1
Report Date: 29-Jul-06 04:55 PM
Acquire Date: 29-JUL-2006 13:35:22.85

Flags Key

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

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0		201	0		251	1		301	2		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	2		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	0	+	254	0		304	4		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0	+	255	0		305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	0		306	5		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0	+	207	0	+	257	0		307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0	+	208	0	+	258	0		308	1		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	0	+	209	0	+	259	0		309	0		359	0		409	1		459	0		509
1		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	1	+	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	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	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	1		368	0		418	0		468			
0		19	0		69	0		119	0		169	0		219	0	+	269	0		319	0		369	0		419	0		469			
0		20	0		70	0		120	0		170	0		220	0		270	0		320	0		370	0		420	1		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	4		322	0		372	0		422	4		472			
0		23	0		73	0		123	0		173	0		223	0		273	2		323	0		373	0		423	1		473			
0		24	0		74	0		124	1		174	0		224	0		274	3		324	0		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	1		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	12	+	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	27	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	27	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	21	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	24	+	333	0		383	0		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	37	+	334	0		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	60	+	335	0		385	0		435	0		485			
0		36	0		86	0		136	0	+	186	0		236	0		286	85	+	336	0		386	0		436	0		486			
0		37	0		87	0		137	1	+	187	0		237	0		287	106	+	337	0		387	1		437	0		487			
0		38	0		88	0		138	0	+	188	0		238	0		288	122	+	338	2		388	0		438	0		488			
0		39	0		89	0		139	0	+	189	0		239	0		289	72	+	339	0		389	0		439	0		489			
0		40	0		90	0		140	0	+	190	0		240	0		290	19	+	340	2		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	0		292	1	+	342	0		392	0		442	0		492			
0		43	0		93	0		143	0		193	0		243	0		293	1		343	0		393	0		443	0		493			
0		44	0		94	0		144	0		194	0		244	0		294	0		344	0		394	0		444	0		494			
0		45	0		95	0		145	0		195	0		245	0		295	2		345	0		395	0		445	0		495			
0		46	0		96	0		146	0		196	0		246	0		296	0		346	0		396	0		446	0		496			
0		47	0		97	0		147	0		197	0		247	0		297	2		347	0		397	0		447	0		497			
0		48	0		98	0		148	0		198	0		248	0		298	0		348	0		398	0		448	0		498			
0		49	0		99	0		149	0		199	0		249	0		299	1		349	0		399	0		449	0		499			
0		50	0		100	0		150	0		200	0		250	0		300	1		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 29-JUL-2006 16:55:44

```
Configuration     : $DISK1:[ALP3.SAMPLE]H9F751AG_290761335.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 13:35:22
Sample ID         : H9F751AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP3                 Detector geometry:
Elapsed live time: 0 03:20:03.00         Elapsed real time: 0 03:20:05.00   0.0%
Start energy      :  2864.35             End energy       :  6613.36
Sensitivity       :     4.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5330.20	650	0	37.08	337.02	327	16	5.42E-02	3.9	

VMS Nuclide Identification Report V3.0 Generated 29-JUL-2006 16:55:45

Configuration	: $DISK1:[ALP3.SAMPLE]H9F751AG_290761335.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 20-JUN-2006 12:00:00	Acquisition date	: 29-JUL-2006 13:35:22
Sample ID	: H9F751AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP3	Detector geometry	:
Elapsed live time	: 0 03:20:03.00	Elapsed real time	: 0 03:20:05.00 0.0%
Energy tolerance	: 40.00	Half life ratio	: 1.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Spline	Efficiencies at	: Peak Energy
Abundance limit	: 60.00		

Summary of Nuclide Activity

Total number of lines in spectrum	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:[ALP3.SAMPLE]H9F751AG_290761335.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5330.20	327	343	650	642	0.31		

End of Report

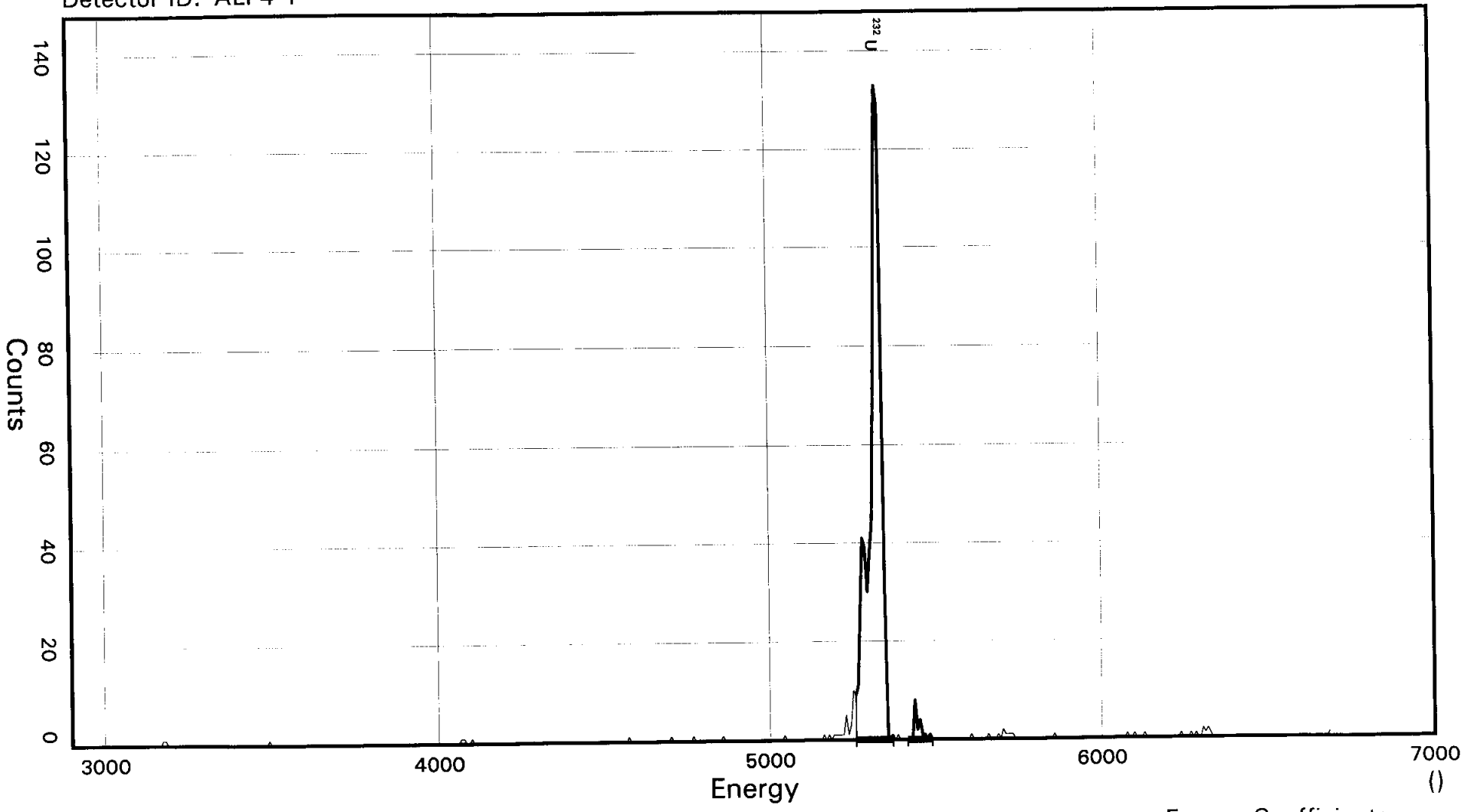
STL Richland WA.

U BRC

Sample ID: H9F781AG

Detector ID: ALP4 1

Batch ID: 6200142



Acquisition Start: 29-JUL-2006 13:35:49.53

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:03.00

Energy Coefficients:

Offset: 2.87930E+03

Slope: 7.56500E+00

Quadrature: -2.63100E-04

SAMPLE IDENTIITY: H9F781AG

TITLE : U BRC

DETECTOR : ALP4 1
CONFIGURATION NAME : $DISK1:[ALP4.SAMPLE]H9F781AG_290761335.CNF;1

ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:04

REPORT DATE : 29-Jul-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 29-JUL-2006 13:35:49 CALIB DATE : 06-JUL-2006 01:19:39

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

OFFSET : 2879.30 keV CONSTANT FWHM : 7.50000 Channels
SLOPE : 7.56500 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : -.263100E-03 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H9F781AG

Detector: ALP4 1
Report Date: 29-Jul-06 04:56 PM
Acquire Date: 29-JUL-2006 13:35:49.53
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	719	4	0	3.590	5329.4	110.9	318	333	0.00	0.00	P
U-234	1	5	0	0.000	4783.8	111.5	244	259	0.00	0.00	
U-235	0	1	0	-0.001	4407.0	111.9	194	209	0.00	0.00	
U-238	0	6	0	-0.006	4207.2	112.1	167	182	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9F781AG
Detector: ALP4 1
Report Date: 29-Jul-06 04:56 PM
Acquire Date: 29-JUL-2006 13:35:49.53

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	1	+	252	0		302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0	+	203	0	+	253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	0	+	254	0		304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0	+	255	1		305	0		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	0	+	207	0	+	257	1		307	0		357	0		407	1		457	0		507
0		8	0		58	0		108	1		158	0	+	208	0	+	258	0		308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	1		159	0	+	209	0	+	259	1		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	0		210	0		260	1		310	0		360	0		410	2		460	0		510
0		11	0		61	0		111	0		161	0		211	0		261	1		311	0		361	0		411	1		461	0		511
0		12	0		62	0		112	1		162	0		212	0		262	1		312	0		362	0		412	2		462	1		512
0		13	0		63	0		113	0		163	0		213	0		263	1		313	0		363	0		413	1		463			
0		14	0		64	0		114	0		164	0		214	1		264	5		314	0		364	0		414	0		464			
0		15	0		65	0		115	0		165	0		215	0		265	1		315	1		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	10		317	0		367	0		417	0		467			
0		18	0		68	0		118	0	+	168	0		218	0		268	9	+	318	0		368	0		418	0		468			
0		19	0		69	0		119	0	+	169	0		219	0		269	11	+	319	0		369	0		419	0		469			
0		20	0		70	0		120	0	+	170	0		220	0		270	26	+	320	0		370	0		420	0		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	41	+	321	0		371	0		421	0		471			
0		22	0		72	0		122	0	+	172	0		222	0		272	39	+	322	1		372	0		422	0		472			
0		23	0		73	0		123	0	+	173	0		223	0		273	30	+	323	0		373	0		423	0		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	38	+	324	0		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	44	+	325	0		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	1		226	0		276	69	+	326	1		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	104	+	327	0		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	133	+	328	2		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	129	+	329	1		379	1		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	32	+	330	1		380	0		430	0		480			
0		31	1		81	0		131	0	+	181	0		231	0		281	1	+	331	1		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	0	+	332	1		382	1		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	1		335	0		385	0		435	0		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	0		237	0		287	0		337	0		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	0		288	0		338	0		388	0		438	0		488			
1		39	0		89	0		139	0		189	0		239	1		289	0		339	0		389	0		439	0		489			
1		40	0		90	0		140	0		190	0		240	0		290	0		340	0		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	0		291	0		341	0		391	0		441	0		491			
0		42	0		92	0		142	0		192	0		242	0		292	8		342	0		392	0		442	0		492			
0		43	0		93	0		143	0		193	1		243	0		293	2		343	0		393	0		443	0		493			
0		44	0		94	0		144	0	+	194	0	+	244	0		294	4		344	0		394	0		444	0		494			
0		45	0		95	0		145	0	+	195	0	+	245	0		295	1		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	0		347	0		397	0		447	0		497			
0		48	0		98	0		148	0	+	198	0	+	248	0		298	1		348	0		398	0		448	0		498			
0		49	0		99	0		149	0	+	199	0	+	249	0		299	0		349	1		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 29-JUL-2006 16:56:09

Configuration	: $DISK1:[ALP4.SAMPLE]H9F781AG_290761335.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: U BRC		
Sample date	: 20-JUN-2006 12:00:00	Acquisition date	: 29-JUL-2006 13:35:49
Sample ID	: H9F781AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP4	Detector geometry	:
Elapsed live time	: 0 03:20:03.00	Elapsed real time	: 0 03:20:03.00 0.0%
Start energy	: 2901.99	End energy	: 6683.60
Sensitivity	: 4.00	Sum Sensitivity	: 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5329.37	719	0	30.26	327.60	318	15	5.99E-02	3.7	
2	0	5440.30	16	0	30.26	342.62	339	10	1.33E-03	25.0	

VMS Nuclide Identification Report V3.0 Generated 29-JUL-2006 16:56:11

Configuration	: $DISK1:[ALP4.SAMPLE]H9F781AG_290761335.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 20-JUN-2006 12:00:00	Acquisition date	: 29-JUL-2006 13:35:49
Sample ID	: H9F781AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP4	Detector geometry	:
Elapsed live time	: 0 03:20:03.00	Elapsed real time	: 0 03:20:03.00 0.0%
Energy tolerance	: 40.00	Half life ratio	: 1.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Spline	Efficiencies at	: Peak Energy
Abundance limit	: 60.00		

Summary of Nuclide Activity

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

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			
Grand Total Activity :			0.000E+00	0.000E+00			

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

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

Configuration: $DISK1:[ALP4.SAMPLE]H9F781AG_290761335.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5329.37	318	333	719	707	0.45		
5440.29	339	349	16	17	-0.25		

End of Report

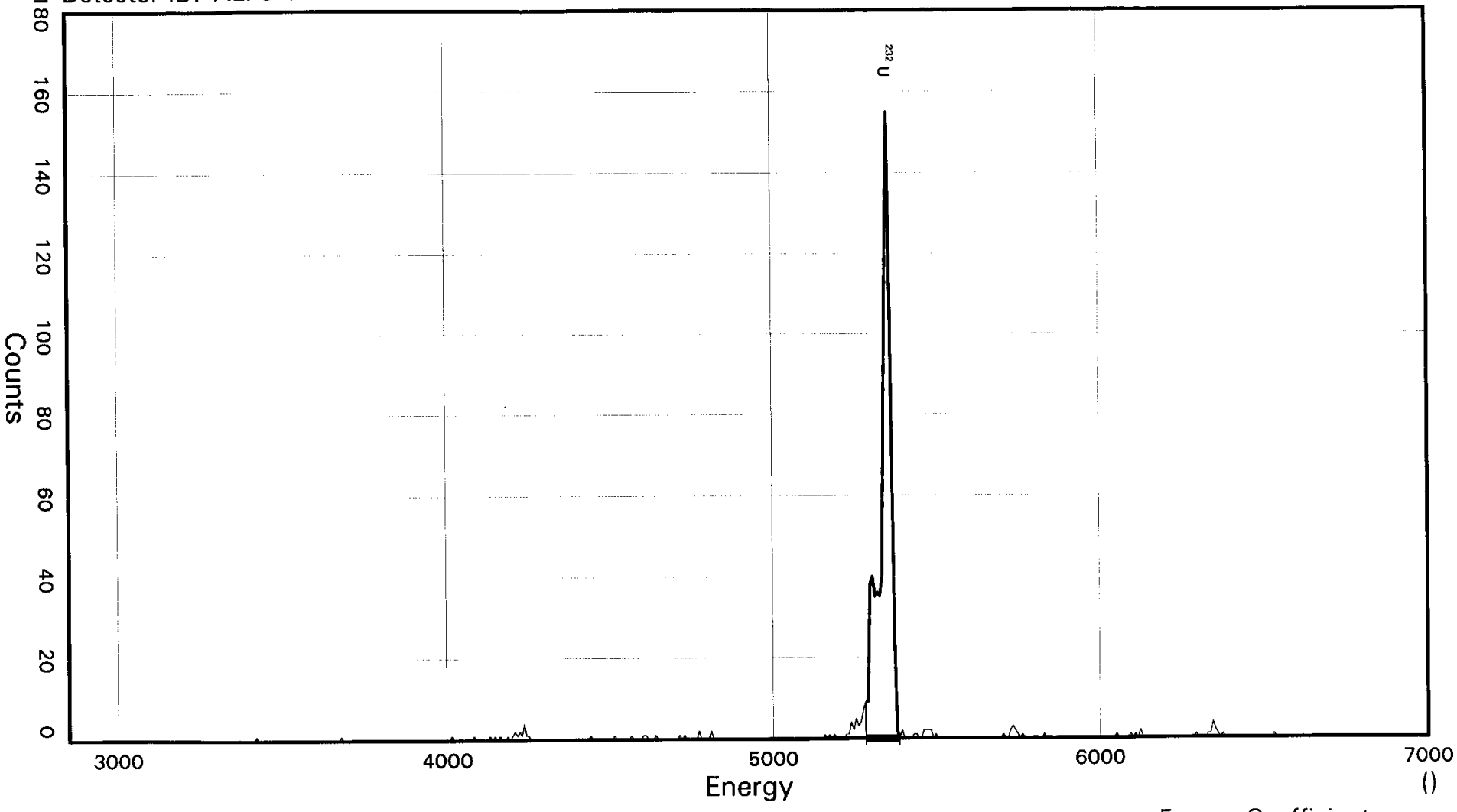
STL Richland WA.

U BRC

Sample ID: H9F8F1AG

Detector ID: ALP5 1

Batch ID: 6200142



Acquisition Start: 29-JUL-2006 13:36:15.67

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:01.00

Energy Coefficients:

Offset: 2.82947E+03

Slope: 7.36520E+00

Quadrature: 1.24622E-05

SAMPLE IDENTIITY: H9F8F1AG

TITLE : U BRC

DETECTOR : ALP5 1
CONFIGURATION NAME : $DISK1:[ALP5.SAMPLE]H9F8F1AG_290761336.CNF;1

ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:10

REPORT DATE : 29-Jul-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 29-JUL-2006 13:36:15 CALIB DATE : 06-JUL-2006 01:19:33

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

OFFSET : 2829.47 keV CONSTANT FWHM : 7.16667 Channels
SLOPE : 7.36520 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : 1.246220E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H9F8F1AG

Detector: ALP5 1
Report Date: 29-Jul-06 04:56 PM
Acquire Date: 29-JUL-2006 13:36:15.67
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	741	14	0	3.691	5353.8	103.2	333	347	0.00	0.00	P
U-234	4	0	0	0.020	4808.2	103.2	259	273	0.00	0.00	
U-235	1	2	0	0.003	4431.4	103.2	208	222	0.00	0.00	
U-238	15	2	0	0.073	4231.6	103.2	181	195	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9F8F1AG
Detector: ALP5 1
Report Date: 29-Jul-06 04:56 PM
Acquire Date: 29-JUL-2006 13:36:15.67

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	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	1		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	1		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	2		357	1		407	0		457	0		507
0		8	0		58	0		108	0		158	0	+	208	1		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	2		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	0	+	210	0	+	260	0		310	2		360	0		410	0		460	0		510
0		11	0		61	0		111	1		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	1		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0	+	213	0	+	263	0		313	0		363	0		413	0		463			
0		14	0		64	0		114	0		164	0	+	214	2	+	264	0		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	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	1		318	0		368	0		418	0		468			
0		19	0		69	0		119	0		169	1	+	219	2	+	269	0		319	0		369	0		419	0		469			
0		20	0		70	0		120	1		170	0	+	220	0	+	270	1		320	0		370	0		420	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	0	+	222	0	+	272	0		322	0		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	1		325	0		375	0		425	1		475			
0		26	0		76	0		126	0		176	0		226	0		276	1		326	0		376	0		426	1		476			
0		27	0		77	0		127	1		177	0		227	0		277	4		327	0		377	0		427	4		477			
0		28	0		78	0		128	0		178	0		228	0		278	2		328	0		378	0		428	2		478			
0		29	0		79	0		129	1		179	1		229	0		279	5		329	0		379	0		429	1		479			
0		30	1		80	0		130	0		180	0		230	0		280	3		330	0		380	0		430	0		480			
0		31	0		81	0		131	1	+	181	0		231	0		281	4		331	0		381	0		431	1		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	7		332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	9	+	333	0		383	0		433	0		483			
0		34	0		84	0		134	1	+	184	0		234	0		284	9	+	334	0		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	38	+	335	0		385	0		435	0		485			
0		36	0		86	0		136	1	+	186	1		236	0		286	40	+	336	0		386	0		436	0		486			
0		37	0		87	0		137	2	+	187	0		237	0		287	35	+	337	0		387	1		437	0		487			
0		38	0		88	0		138	1	+	188	0		238	0		288	36	+	338	0		388	0		438	0		488			
0		39	0		89	0		139	2	+	189	0		239	0		289	35	+	339	0		389	0		439	0		489			
0		40	0		90	0		140	1	+	190	0		240	0		290	40	+	340	1		390	0		440	0		490			
0		41	0		91	0		141	4	+	191	1		241	0		291	80	+	341	0		391	0		441	0		491			
0		42	0		92	0		142	1	+	192	1		242	0		292	124	+	342	0		392	0		442	0		492			
0		43	0		93	0		143	1	+	193	0		243	0		293	155	+	343	2		393	1		443	0		493			
0		44	0		94	0		144	0	+	194	0		244	0		294	99	+	344	3		394	0		444	0		494			
0		45	0		95	0		145	0	+	195	0		245	0		295	31	+	345	2		395	1		445	0		495			
0		46	0		96	0		146	0		196	1		246	0		296	2	+	346	1		396	0		446	0		496			
0		47	0		97	0		147	0		197	0		247	0		297	0		347	0		397	2		447	0		497			
0		48	0		98	0		148	0		198	0		248	0		298	2		348	1		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 29-JUL-2006 16:56:32

Configuration : $DISK1:[ALP5.SAMPLE]H9F8F1AG_290761336.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 20-JUN-2006 12:00:00
Sample ID : H9F8F1AG
Sample type : disk
Detector name : ALP5
Elapsed live time: 0 03:20:01.00
Start energy : 2851.57
Sensitivity : 4.00

Acquisition date : 29-JUL-2006 13:36:15
Sample quantity : 0.00000E+00 SAMPLE
Sample geometry :
Detector geometry:
Elapsed real time: 0 03:20:01.00 0.0%
End energy : 6603.72
Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5353.79	741	0	29.46	342.54	333	14	6.17E-02	3.7	

VMS Nuclide Identification Report V3.0 Generated 29-JUL-2006 16:56:33

Configuration : $DISK1:[ALP5.SAMPLE]H9F8F1AG_290761336.CNF;1
Analyses by : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title : U BRC
Sample date : 20-JUN-2006 12:00:00
Sample ID : H9F8F1AG
Sample type : disk
Detector name : ALP5
Elapsed live time: 0 03:20:01.00
Energy tolerance : 40.00
Errors propagated: No
Efficiency type : Spline
Abundance limit : 60.00

Acquisition date : 29-JUL-2006 13:36:15
Sample quantity : 0.00000E+00 SAMPLE
Sample geometry :
Detector geometry:
Elapsed real time: 0 03:20:01.00 0.0%
Half life ratio : 1.00
Systematic Error : 0.00 %
Efficiencies at : Peak Energy

Summary of Nuclide Activity

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

Nuclide Type : 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
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

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

Configuration: $DISK1:[ALP5.SAMPLE]H9F8F1AG_290761336.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5353.78	333	347	741	733	0.29		

End of Report

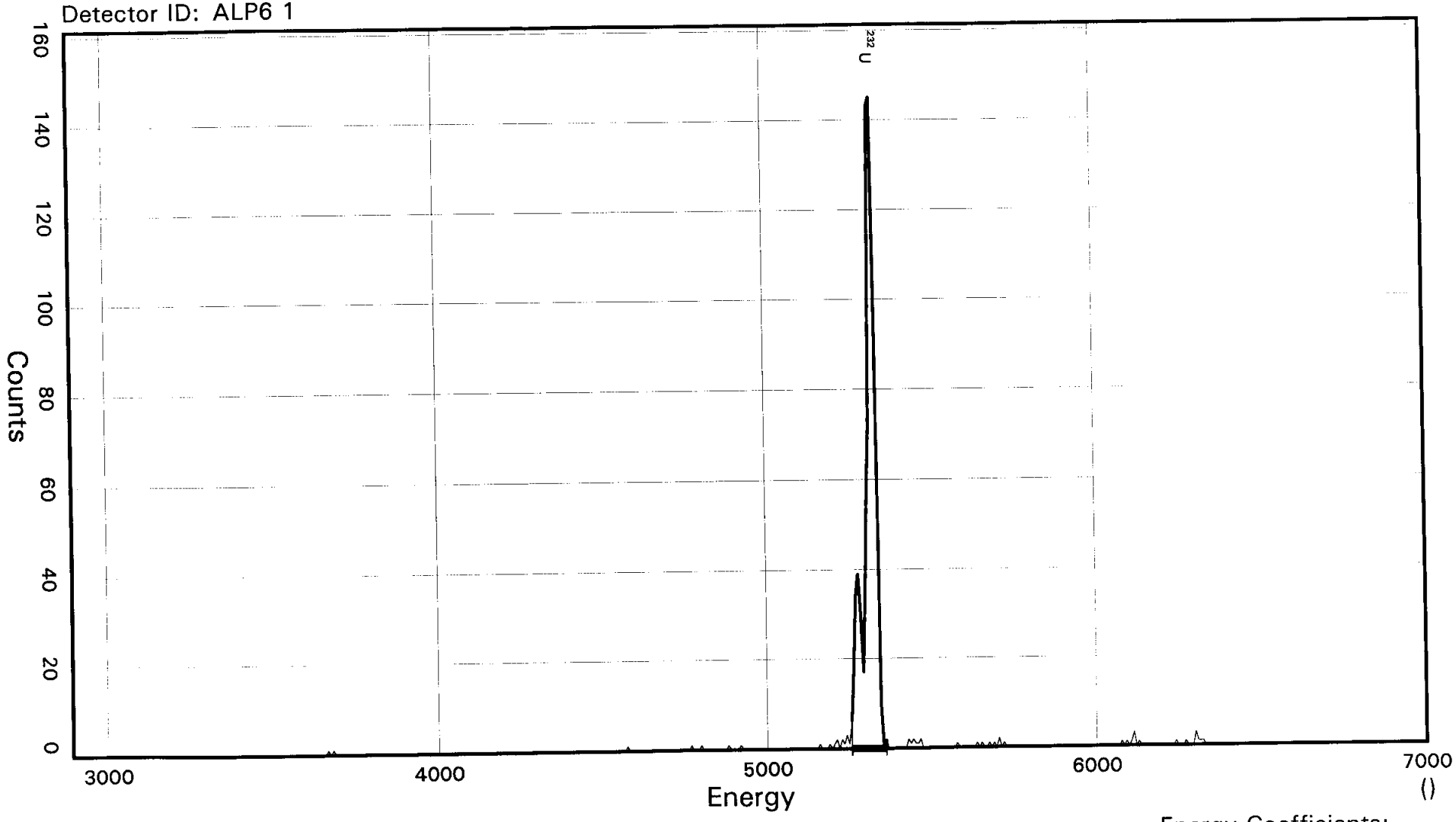
STL Richland WA.

U BRC

Sample ID: H9F8L1AG

Detector ID: ALP6 1

Batch ID: 6200142



Acquisition Start: 29-JUL-2006 13:36:33.33

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:01.00

Energy Coefficients:

Offset: 2.87271E+03

Slope: 7.47367E+00

Quadrature: -1.34779E-05

SAMPLE IDENTIITY: H9F8L1AG

TITLE : U BRC

DETECTOR : ALP6 1
CONFIGURATION NAME : $DISK1:[ALP6.SAMPLE]H9F8L1AG_290761336.CNF;1

ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:12

REPORT DATE : 29-Jul-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 29-JUL-2006 13:36:33 CALIB DATE : 06-JUL-2006 01:19:16

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

OFFSET : 2872.71 keV CONSTANT FWHM : 6.83333 Channels
SLOPE : 7.47367 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : -.134779E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H9F8L1AG

Detector: ALP6 1
Report Date: 29-Jul-06 04:56 PM
Acquire Date: 29-JUL-2006 13:36:33.33
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	707	5	0	3.530	5326.1	104.5	319	333	0.00	0.00	P
U-234	2	0	0	0.010	4780.5	104.5	246	260	0.00	0.00	
U-235	0	1	0	-0.001	4403.7	104.6	195	209	0.00	0.00	
U-238	0	2	0	-0.002	4203.9	104.6	169	183	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9F8L1AG
Detector: ALP6 1
Report Date: 29-Jul-06 04:56 PM
Acquire Date: 29-JUL-2006 13:36:33.33

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		0+	253		0	303		0	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		0	355		0	405		1	455		0	505
	0	6		0	56		1	106		0	156		0+	206		0+	256		1	306		0	356		0	406		0	456		0	506
	0	7		0	57		0	107		0	157		0+	207		0+	257		0	307		0	357		0	407		0	457		0	507
	0	8		0	58		1	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		0+	259		0	309		0	359		0	409		3	459		0	509
	0	10		0	60		0	110		0	160		0	210		0+	260		1	310		0	360		0	410		1	460		0	510
	0	11		0	61		0	111		0	161		0	211		0	261		0	311		0	361		0	411		1	461		0	511
	0	12		0	62		0	112		0	162		0	212		0	262		1	312		1	362		0	412		1	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		2	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		3	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		1	269		6+	319		0	369		0	419		0	469			
	0	20		0	70		0	120		0+	170		0	220		0	270		18+	320		1	370		0	420		0	470			
	0	21		0	71		0	121		0+	171		0	221		0	271		34+	321		0	371		0	421		0	471			
	0	22		0	72		0	122		0+	172		0	222		0	272		39+	322		1	372		0	422		0	472			
	0	23		0	73		0	123		0+	173		0	223		0	273		30+	323		0	373		0	423		0	473			
	0	24		0	74		0	124		0+	174		0	224		1	274		17+	324		0	374		0	424		0	474			
	0	25		0	75		0	125		0+	175		0	225		0	275		36+	325		1	375		0	425		0	475			
	0	26		0	76		0	126		0+	176		0	226		0	276		57+	326		0	376		0	426		0	476			
	0	27		0	77		0	127		0+	177		0	227		0	277		72+	327		1	377		0	427		0	477			
	0	28		0	78		0	128		0+	178		1	228		0	278		143+	328		0	378		0	428		0	478			
	0	29		0	79		0	129		0+	179		0	229		0	279		145+	329		2	379		1	429		0	479			
	0	30		0	80		0	130		0+	180		0	230		0	280		91+	330		0	380		0	430		0	480			
	0	31		0	81		0	131		0+	181		0	231		0	281		10+	331		1	381		1	431		0	481			
	0	32		0	82		0	132		0+	182		0	232		0	282		0+	332		0	382		0	432		0	482			
	0	33		0	83		0	133		0+	183		0	233		0	283		2	333		0	383		1	433		0	483			
	0	34		0	84		0	134		0	184		0	234		0	284		0	334		0	384		3	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		1	436		0	486			
	0	37		0	87		0	137		0	187		0	237		0	287		0	337		0	387		0	437		0	487			
	0	38		0	88		0	138		0	188		0	238		0	288		0	338		0	388		0	438		0	488			
	0	39		0	89		0	139		0	189		0	239		0	289		0	339		0	389		0	439		0	489			
	0	40		0	90		0	140		0	190		0	240		0	290		0	340		0	390		0	440		0	490			
	0	41		0	91		0	141		0	191		0	241		0	291		0	341		0	391		0	441		0	491			
	0	42		0	92		0	142		0	192		0	242		0	292		2	342		0	392		0	442		0	492			
	0	43		0	93		0	143		0	193		0	243		0	293		1	343		0	393		0	443		0	493			
	0	44		0	94		0	144		0	194		0	244		0	294		2	344		0	394		0	444		0	494			
	0	45		0	95		0	145		0+	195		0	245		0	295		1	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		2	347		0	397		0	447		0	497			
	0	48		0	98		0	148		0+	198		0+	248		0	298		0	348		0	398		0	448		0	498			
	0	49		0	99		0	149		0+	199		0+	249		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 29-JUL-2006 16:56:51

Configuration : $DISK1:[ALP6.SAMPLE]H9F8L1AG_290761336.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 20-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 13:36:33
Sample ID : H9F8L1AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP6 Detector geometry:
Elapsed live time: 0 03:20:01.00 Elapsed real time: 0 03:20:02.00 0.0%
Start energy : 2895.13 End energy : 6695.69
Sensitivity : 4.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5326.08	707	0	29.89	328.46	319	14	5.89E-02	3.8	

VMS Nuclide Identification Report V3.0 Generated 29-JUL-2006 16:56:53

Configuration : $DISK1:[ALP6.SAMPLE]H9F8L1AG_290761336.CNF;1
Analyses by : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title : U BRC
Sample date : 20-JUN-2006 12:00:00
Sample ID : H9F8L1AG
Sample type : disk
Detector name : ALP6
Elapsed live time: 0 03:20:01.00
Energy tolerance : 40.00
Errors propagated: No
Efficiency type : Spline
Abundance limit : 60.00

Acquisition date : 29-JUL-2006 13:36:33
Sample quantity : 0.00000E+00 SAMPLE
Sample geometry :
Detector geometry:
Elapsed real time: 0 03:20:02.00 0.0%
Half life ratio : 1.00
Systematic Error : 0.00 %
Efficiencies at : Peak Energy

Summary of Nuclide Activity

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

Nuclide Type : 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
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

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

Configuration: $DISK1:[ALP6.SAMPLE]H9F8L1AG_290761336.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5326.07	319	333	707	700	0.26		

End of Report

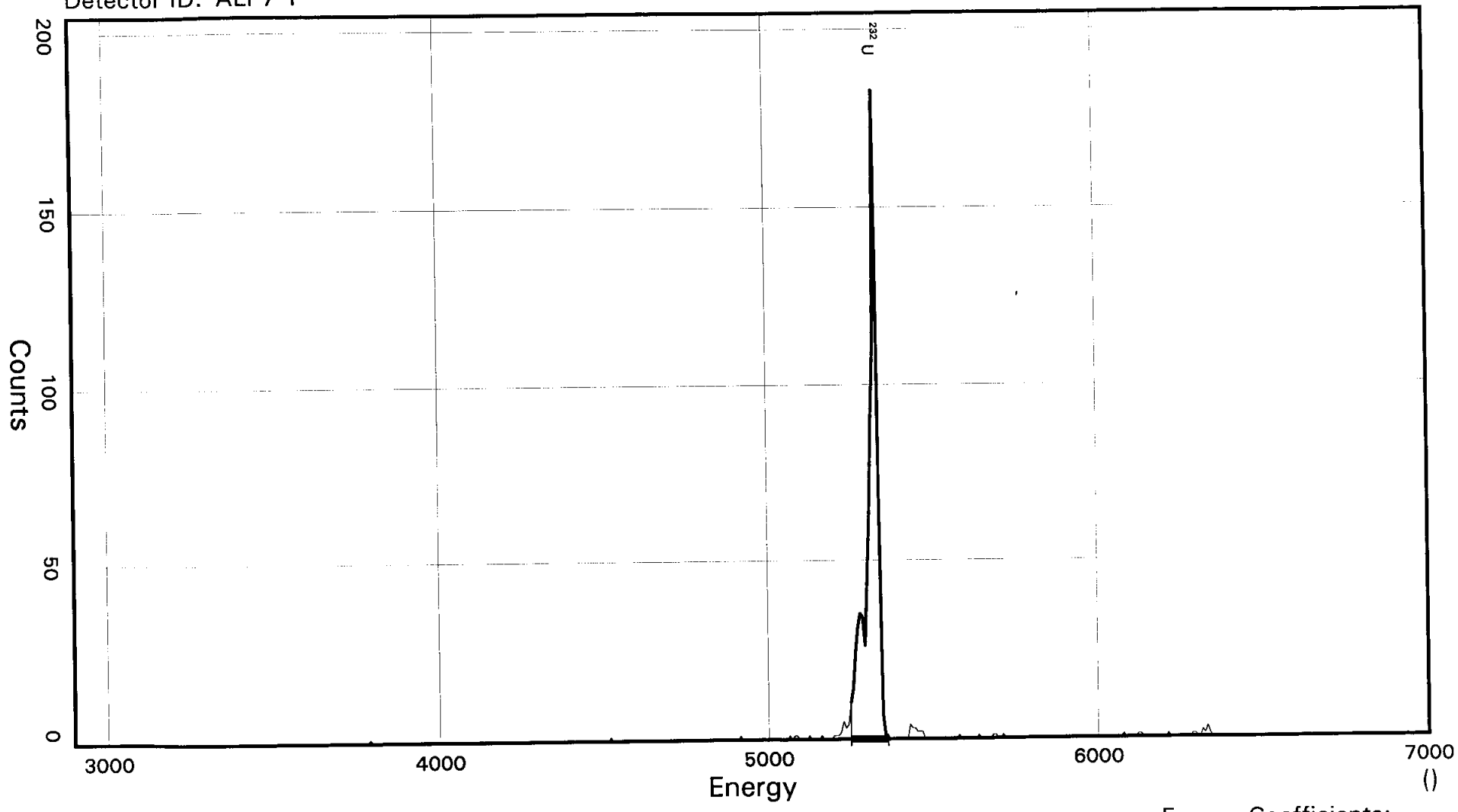
STL Richland WA.

U BRC

Sample ID: H9F8W1AG

Detector ID: ALP7 1

Batch ID: 6200142



Acquisition Start: 29-JUL-2006 13:36:45.06

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:02.00

Energy Coefficients:

Offset: 2.87750E+03

Slope: 7.33452E+00

Quadrature: 1.65007E-04

SAMPLE IDENTIITY: H9F8W1AG

TITLE : U BRC

DETECTOR : ALP7 1
CONFIGURATION NAME : $DISK1:[ALP7.SAMPLE]H9F8W1AG_290761336.CNF;1

ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:16

REPORT DATE : 29-Jul-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 29-JUL-2006 13:36:45 CALIB DATE : 06-JUL-2006 01:19:10

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

OFFSET : 2877.50 keV CONSTANT FWHM : 6.66667 Channels
SLOPE : 7.33452 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : 1.650070E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H9F8W1AG

Detector: ALP7 1
Report Date: 29-Jul-06 04:57 PM
Acquire Date: 29-JUL-2006 13:36:45.06
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	755	3	0	3.771	5326.6	111.6	321	336	0.00	0.00	P
U-234	0	1	0	-0.001	4781.0	111.3	248	263	0.00	0.00	
U-235	0	0	0	0.000	4404.2	111.0	197	212	0.00	0.00	
U-238	0	1	0	-0.001	4204.4	110.9	170	185	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9F8W1AG
Detector: ALP7 1
Report Date: 29-Jul-06 04:57 PM
Acquire Date: 29-JUL-2006 13:36:45.06

Flags Key

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

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0	+	201	0	+	251	0		301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0	+	202	0	+	252	0		302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0	+	203	0	+	253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	0	+	254	1		304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0	+	255	0		305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	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	1		460	0		510
0		11	0		61	0		111	0		161	0	+	211	0	+	261	0		311	0		361	0		411	1		461	0		511
0		12	0		62	0		112	0		162	0	+	212	0	+	262	0		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0		213	0	+	263	0		313	0		363	0		413	0		463			
0		14	0		64	0		114	0		164	0		214	0		264	1		314	0		364	0		414	2		464			
0		15	0		65	0		115	0		165	0		215	0		265	1		315	1		365	0		415	1		465			
0		16	0		66	0		116	0		166	0		216	0		266	1		316	0		366	0		416	3		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	5		318	0		368	0		418	0		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	4		320	0		370	0		420	0		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	10	+	321	0		371	0		421	0		471			
0		22	0		72	0		122	0	+	172	0		222	0		272	14	+	322	0		372	0		422	0		472			
0		23	0		73	0		123	0	+	173	1		223	0		273	24	+	323	1		373	0		423	0		473			
0		24	0		74	1		124	0	+	174	0		224	0		274	31	+	324	0		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	35	+	325	0		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	1		276	34	+	326	0		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	26	+	327	0		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	44	+	328	0		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	62	+	329	1		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	90	+	330	1		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	110	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	183	+	332	0		382	1		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	73	+	333	1		383	0		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	7	+	334	0		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	1	+	335	0		385	0		435	0		485			
0		36	0		86	0		136	0		186	0		236	0		286	1		336	0		386	0		436	0		486			
0		37	0		87	0		137	0		187	0		237	0		287	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	1		439	0		489			
0		40	0		90	0		140	0		190	0		240	0		290	0		340	0		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	0		291	0		341	0		391	0		441	0		491			
0		42	0		92	0		142	0		192	0		242	0		292	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	0		344	0		394	0		444	0		494			
0		45	0		95	0		145	0		195	0		245	0		295	4		345	0		395	0		445	0		495			
0		46	0		96	0		146	0		196	0		246	1		296	3		346	0		396	0		446	0		496			
0		47	0		97	0		147	0	+	197	0		247	0		297	3		347	0		397	0		447	0		497			
0		48	0		98	0		148	0	+	198	0	+	248	1		298	2		348	0		398	0		448	0		498			
0		49	0		99	0		149	0	+	199	0	+	249	1		299	2		349	0		399	0		449	0		499			
0		50	0		100	0		150	0	+	200	0	+	250	0		300	2		350	0		400	1		450	0		500			

VMS Peak Search Report V1.9 Generated 29-JUL-2006 16:57:03

Configuration	: $DISK1:[ALP7.SAMPLE]H9F8W1AG_290761336.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: U BRC		
Sample date	: 20-JUN-2006 12:00:00	Acquisition date	: 29-JUL-2006 13:36:45
Sample ID	: H9F8W1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP7	Detector geometry	:
Elapsed live time	: 0 03:20:02.00	Elapsed real time	: 0 03:20:02.00 0.0%
Start energy	: 2899.51	End energy	: 6676.03
Sensitivity	: 4.00	Sum Sensitivity	: 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5326.55	755	0	29.34	331.44	321	15	6.29E-02	3.6	

VMS Nuclide Identification Report V3.0 Generated 29-JUL-2006 16:57:05

Configuration : $DISK1:[ALP7.SAMPLE]H9F8W1AG_290761336.CNF;1
Analyses by : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title : U BRC
Sample date : 20-JUN-2006 12:00:00
Sample ID : H9F8W1AG
Sample type : disk
Detector name : ALP7
Elapsed live time: 0 03:20:02.00
Energy tolerance : 40.00
Errors propagated: No
Efficiency type : Spline
Abundance limit : 60.00

Acquisition date : 29-JUL-2006 13:36:45
Sample quantity : 0.00000E+00 SAMPLE
Sample geometry :
Detector geometry:
Elapsed real time: 0 03:20:02.00 0.0%
Half life ratio : 1.00
Systematic Error : 0.00 %
Efficiencies at : Peak Energy

Summary of Nuclide Activity

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

Nuclide Type : 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
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

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

Configuration: $DISK1:[ALP7.SAMPLE]H9F8W1AG_290761336.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5326.55	321	336	755	745	0.36		

End of Report

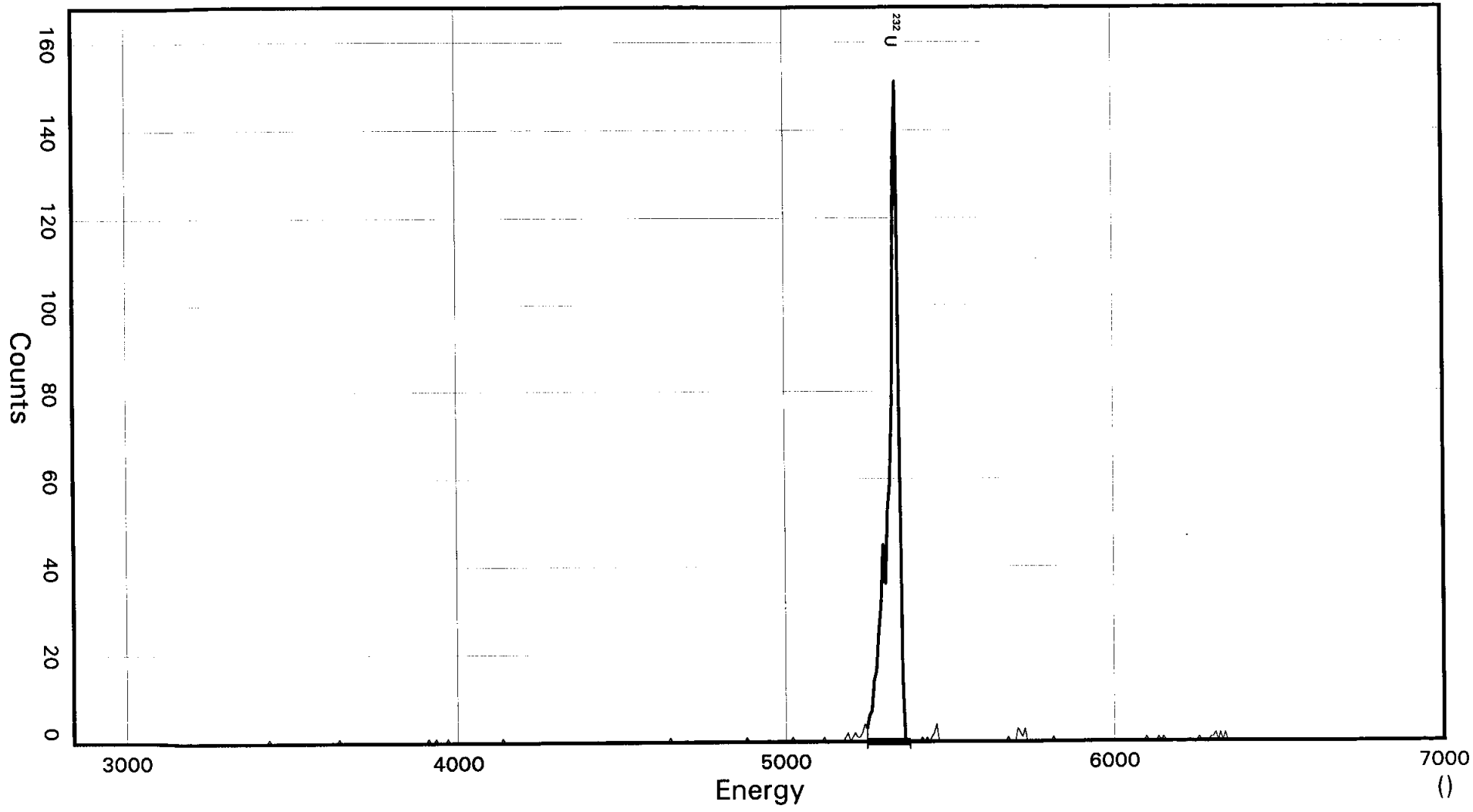
STL Richland WA.

U BRC

Sample ID: H9F851AG

Detector ID: ALP8 1

Batch ID: 6200142



Acquisition Start: 29-JUL-2006 13:37:00.86

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:05.00

Energy Coefficients:

Offset: 2.81875E+03

Slope: 7.34392E+00

Quadrature: -9.54142E-05

SAMPLE IDENTITY: H9F851AG

TITLE : U BRC

DETECTOR : ALP8 1
CONFIGURATION NAME : $DISK1:[ALP8.SAMPLE]H9F851AG_290761337.CNF;1

ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:00

REPORT DATE : 29-Jul-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 29-JUL-2006 13:37:00 CALIB DATE : 06-JUL-2006 01:19:45

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:05

OFFSET : 2818.75 keV CONSTANT FWHM : 8.66667 Channels
SLOPE : 7.34392 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : -.954142E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H9F851AG

Detector: ALP8 1
Report Date: 29-Jul-06 04:57 PM
Acquire Date: 29-JUL-2006 13:37:00.86
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

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

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	768	5	0	3.833	5334.0	131.0	332	350	0.00	0.00	P
U-234	0	0	0	0.000	4788.4	131.3	257	275	0.00	0.00	
U-235	0	1	0	-0.001	4411.6	124.2	206	223	0.00	0.00	
U-238	1	1	0	0.004	4211.8	131.5	178	196	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9F851AG
Detector: ALP8 1
Report Date: 29-Jul-06 04:57 PM
Acquire Date: 29-JUL-2006 13:37:00.86

Flags Key

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

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1		0	51		0	101		0	151		0	201		0	251		1	301		0	351		0	401		0	451		0	501
		2		0	52		0	102		1	152		0	202		0	252		0	302		0	352		0	402		0	452		0	502
	0	3		0	53		0	103		0	153		0	203		0	253		0	303		0	353		0	403		0	453		0	503
	0	4		0	54		0	104		0	154		0	204		0	254		0	304		0	354		0	404		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		0	306		0	356		0	406		1	456		0	506
	0	7		0	57		0	107		1	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		1	359		0	409		0	459		0	509
	0	10		0	60		0	110		0	160		0+	210		0+	260		0	310		2	360		1	410		0	460		0	510
	0	11		0	61		0	111		0	161		0+	211		0+	261		0	311		4	361		0	411		0	461		0	511
	0	12		0	62		1	112		0	162		0+	212		0+	262		0	312		0	362		0	412		0	462		0	512
	0	13		0	63		0	113		0	163		0+	213		0+	263		0	313		0	363		0	413		0	463			
	0	14		0	64		0	114		0	164		0+	214		0+	264		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		0	319		0	369		0	419		0	469			
	0	20		0	70		0	120		0	170		0+	220		0+	270		0	320		0	370		0	420		0	470			
	0	21		0	71		0	121		0	171		0+	221		0+	271		0	321		0	371		0	421		1	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		0+	273		1	323		0	373		0	423		0	473			
	0	24		0	74		0	124		0	174		0	224		0+	274		2	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		0	226		0	276		1	326		0	376		0	426		1	476			
	0	27		0	77		0	127		0	177		0	227		0	277		2	327		0	377		0	427		1	477			
	0	28		0	78		0	128		0+	178		0	228		0	278		1	328		0	378		0	428		2	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		1+	180		0	230		0	280		2	330		0	380		0	430		2	480			
	0	31		0	81		0	131		0+	181		0	231		0	281		4	331		0	381		0	431		0	481			
	0	32		0	82		0	132		0+	182		0	232		1	282		3+	332		0	382		0	432		2	482			
	0	33		1	83		0	133		0+	183		0	233		0	283		6+	333		0	383		0	433		0	483			
	0	34		0	84		0	134		0+	184		0	234		0	284		7+	334		0	384		0	434		0	484			
	0	35		0	85		0	135		0+	185		0	235		0	285		14+	335		0	385		0	435		0	485			
	0	36		0	86		0	136		0+	186		0	236		0	286		16+	336		0	386		0	436		0	486			
	0	37		0	87		0	137		0+	187		0	237		0	287		25+	337		0	387		0	437		0	487			
	0	38		0	88		0	138		0+	188		0	238		0	288		31+	338		0	388		0	438		0	488			
	0	39		0	89		0	139		0+	189		0	239		0	289		45+	339		0	389		0	439		0	489			
	0	40		0	90		0	140		0+	190		0	240		0	290		36+	340		0	390		0	440		0	490			
	0	41		0	91		0	141		0+	191		0	241		0	291		53+	341		1	391		0	441		0	491			
	0	42		0	92		0	142		0+	192		0	242		0	292		59+	342		0	392		0	442		0	492			
	0	43		0	93		0	143		0+	193		0	243		0	293		77+	343		0	393		0	443		0	493			
	0	44		0	94		0	144		0+	194		0	244		0	294		133+	344		0	394		0	444		0	494			
	0	45		0	95		0	145		0+	195		0	245		0	295		151+	345		3	395		0	445		0	495			
	0	46		0	96		0	146		0+	196		0	246		0	296		80+	346		2	396		0	446		0	496			
	0	47		0	97		0	147		0	197		0	247		0	297		15+	347		1	397		0	447		0	497			
	0	48		0	98		0	148		0	198		0	248		0	298		0+	348		3	398		0	448		0	498			
	0	49		0	99		1	149		0	199		0	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		0	400		0	450		0	500			

VMS Peak Search Report V1.9 Generated 29-JUL-2006 16:57:21

```
Configuration     : $DISK1:[ALP8.SAMPLE]H9F851AG_290761337.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 13:37:00
Sample ID         : H9F851AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP8                 Detector geometry:
Elapsed live time: 0 03:20:05.00         Elapsed real time: 0 03:20:05.00   0.0%
Start energy      :  2840.79             End energy       :  6553.83
Sensitivity       :     4.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5333.96	768	0	36.72	344.03	332	18	6.40E-02	3.6	

VMS Nuclide Identification Report V3.0 Generated 29-JUL-2006 16:57:23

```
Configuration     : $DISK1:[ALP8.SAMPLE]H9F851AG_290761337.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : U BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 13:37:00
Sample ID         : H9F851AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP8                 Detector geometry:
Elapsed live time: 0 03:20:05.00         Elapsed real time: 0 03:20:05.00   0.0%
Energy tolerance :    40.00              Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    60.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                 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:[ALP8.SAMPLE]H9F851AG_290761337.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5333.95	332	350	768	751	0.61		

End of Report

SEVERN TRENT STL

URANIUM ISOTOPIC COUNTING REQUEST

1700
7/29/06
R

STL RICHLAND

C.R. Technician RS

Date Counted 7/29/06

Counting Time
Sample 200 Minutes
Background See Alpha Regions Report 6/20/06

SOP's
Operating: RICHRD008
Review: RICHRD0016

4 BRC 6200142

WorkOrder #	U-232 (5320 KeV) Tracer	TOTAL COUNTS U-238 (4196 KeV)	U-235 (4396 KeV)	U-234 (4776 KeV)	Det #	Comments/Edits
H9F891AG	See Counting Room Printout for ROI information				9	
H9F9A1AG	See Counting Room Printout for ROI information				10	
H9F9F1AG	See Counting Room Printout for ROI information				11	
H9F9J1AG	See Counting Room Printout for ROI information				12	
H9F9L1AG	See Counting Room Printout for ROI information				69	
H9F9M1AG	See Counting Room Printout for ROI information				71	
H9F9N1AG	See Counting Room Printout for ROI information				83	
H9HX01AA	See Counting Room Printout for ROI information				84	
H9HX01AC	See Counting Room Printout for ROI information				85	

Comments:

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

Approved by: S

Date: 7/3/06

341

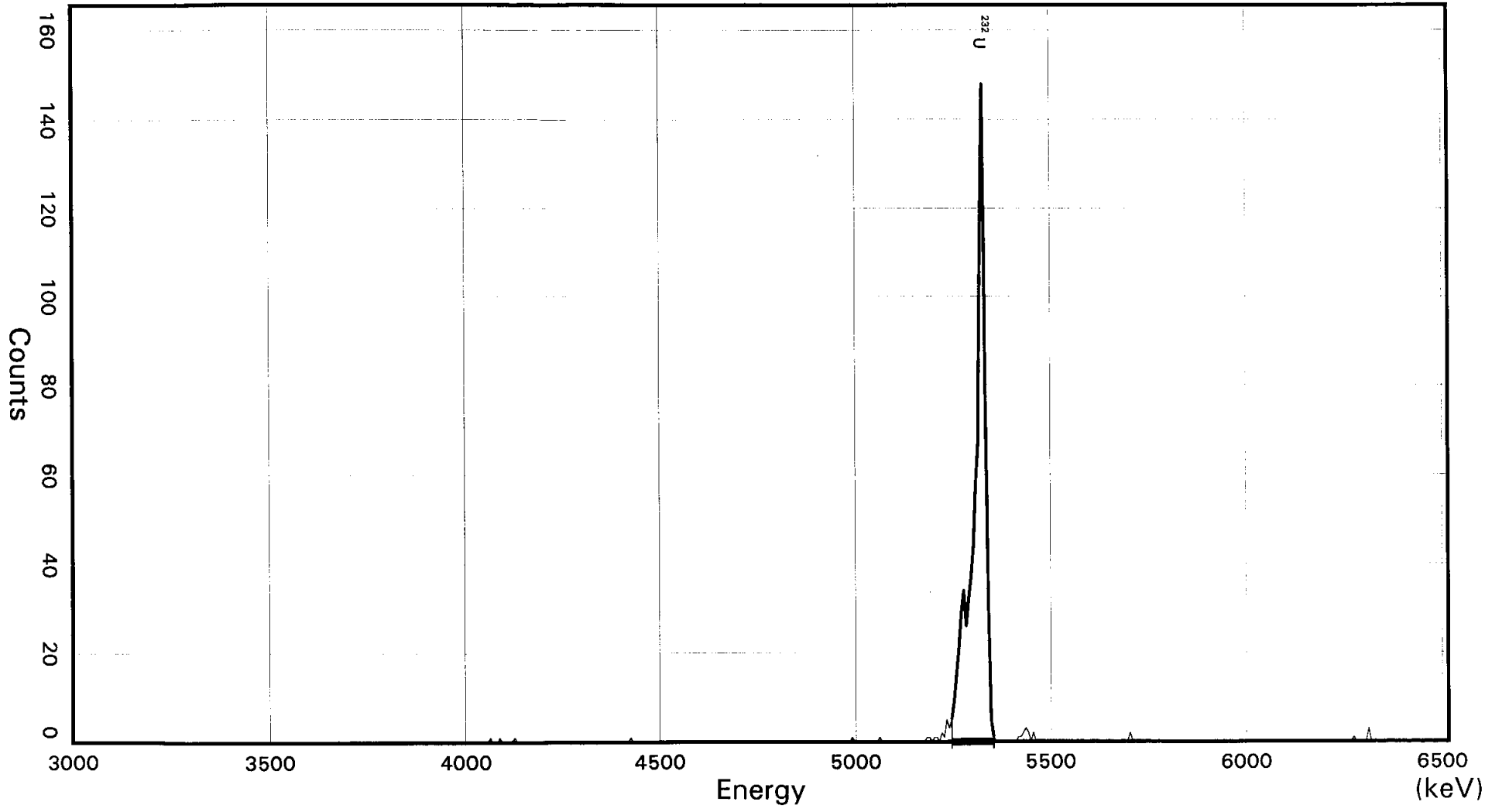
STL Richland WA.

U BRC

Sample ID: H9F891AG

Detector ID: ALP9 1

Batch ID: 6200142



Acquisition Start: 29-JUL-2006 13:37:17.09

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:03.00

Energy Coefficients:

Offset: 3.26156E+03

Slope: 6.36004E+00

Quadrature: -7.79160E-06

SAMPLE IDENTITY: H9F891AG

TITLE : U BRC

DETECTOR : ALP9 1
CONFIGURATION NAME : $DISK1:[ALP9.SAMPLE]H9F891AG_290761337.CNF;1

ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:23

REPORT DATE : 29-Jul-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 29-JUL-2006 13:37:17 CALIB DATE : 06-JUL-2006 01:19:57

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

OFFSET : 3261.56 keV CONSTANT FWHM : 5.83333 Channels
SLOPE : 6.36004 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : -.779160E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H9F891AG

Detector: ALP9 1
Report Date: 29-Jul-06 04:57 PM
Acquire Date: 29-JUL-2006 13:37:17.09
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	759	4	0	3.790	5325.0	108.0	312	329	0.00	0.00	P
U-234	0	1	0	-0.001	4779.4	108.1	226	243	0.00	0.00	
U-235	1	0	0	0.005	4402.6	108.1	167	184	0.00	0.00	
U-238	1	2	0	0.003	4202.8	108.1	135	152	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9F891AG
Detector: ALP9 1
Report Date: 29-Jul-06 04:57 PM
Acquire Date: 29-JUL-2006 13:37:17.09

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

VMS Peak Search Report V1.9 Generated 29-JUL-2006 16:57:37

```
Configuration     : $DISK1:[ALP9.SAMPLE]H9F891AG_290761337.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 13:37:17
Sample ID         : H9F891AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP9                 Detector geometry:
Elapsed live time: 0 03:20:03.00         Elapsed real time: 0 03:20:03.00   0.0%
Start energy      :  3280.64 keV         End energy       :  6515.86 keV
Sensitivity       :     4.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5325.00	759	0	25.44	324.57	312	17	6.32E-02	3.6	

VMS Nuclide Identification Report V3.0 Generated 29-JUL-2006 16:57:38

```
Configuration     : $DISK1:[ALP9.SAMPLE]H9F891AG_290761337.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : U BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 13:37:17
Sample ID         : H9F891AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP9                 Detector geometry:
Elapsed live time: 0 03:20:03.00         Elapsed real time: 0 03:20:03.00   0.0%
Energy tolerance :    40.00 keV          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    60.00
```

Summary of Nuclide Activity

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

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			
	Grand Total Activity :		0.000E+00	0.000E+00			

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

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

Configuration: $DISK1:[ALP9.SAMPLE]H9F891AG_290761337.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5324.99	312	329	759	759	0.00		

End of Report

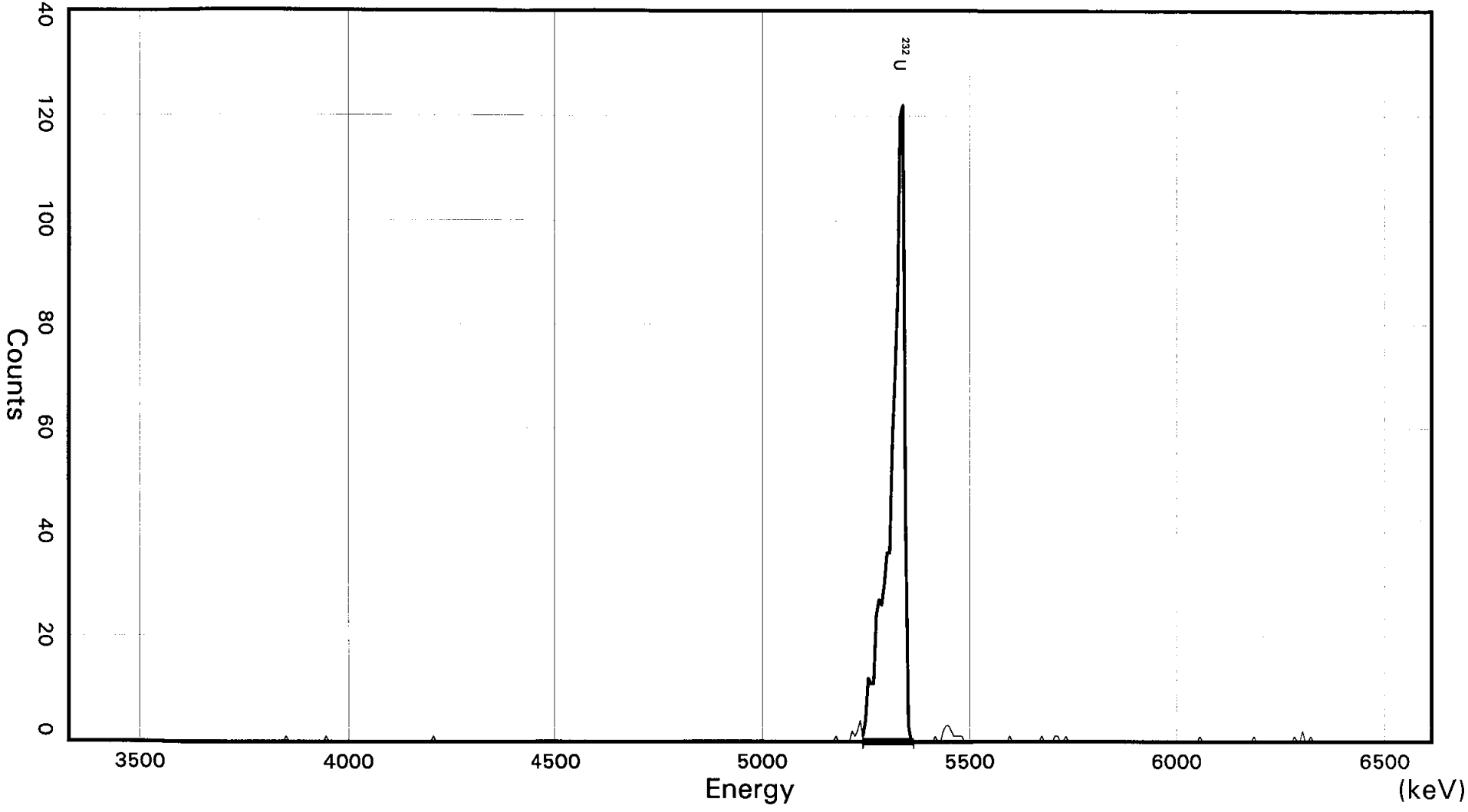
STL Richland WA.

U BRC

Sample ID: H9F9A1AG

Detector ID: ALP10 1

Batch ID: 6200142



Acquisition Start: 29-JUL-2006 13:37:43.59

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:01.00

Energy Coefficients:

Offset: 3.30961E+03

Slope: 6.42195E+00

Quadrature: 5.74933E-05

SAMPLE IDENTIITY: H9F9A1AG

TITLE : U BRC

DETECTOR : ALP10 1
CONFIGURATION NAME : $DISK1:[ALP10.SAMPLE]H9F9A1AG_290761337.CNF;
1
ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:25

REPORT DATE : 29-Jul-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 29-JUL-2006 13:37:43 CALIB DATE : 06-JUL-2006 01:19:51

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

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: H9F9A1AG

Detector: ALP10 1
Report Date: 29-Jul-06 04:58 PM
Acquire Date: 29-JUL-2006 13:37:43.59
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

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

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	723	3	0	3.612	5331.3	122.7	300	319	0.00	0.00	P
U-234	0	1	0	-0.001	4785.7	122.5	215	234	0.00	0.00	
U-235	0	0	0	0.000	4408.9	122.4	157	176	0.00	0.00	
U-238	1	1	0	0.004	4209.1	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: H9F9A1AG
Detector: ALP10 1
Report Date: 29-Jul-06 04:58 PM
Acquire Date: 29-JUL-2006 13:37:43.59

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		4+	301		0	351		0	401		0	451		0	501
		2		0	52		0	102		0	152		0	202		0	252		12+	302		0	352		0	402		0	452		0	502
	0	3		0	53		0	103		0	153		0	203		0	253		11+	303		0	353		0	403		0	453		0	503
	0	4		0	54		0	104		0	154		0	204		0	254		11+	304		0	354		0	404		0	454		0	504
	0	5		0	55		0	105		0	155		0	205		0	255		24+	305		1	355		0	405		0	455		0	505
	0	6		0	56		0	106		0	156		0	206		0	256		27+	306		0	356		0	406		0	456		0	506
	0	7		0	57		0	107		0+	157		0	207		0	257		26+	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		36+	309		0	359		0	409		0	459		0	509
	0	10		0	60		0	110		0+	160		0	210		0	260		36+	310		0	360		0	410		0	460		0	510
	0	11		0	61		0	111		0+	161		0	211		0	261		57+	311		0	361		0	411		1	461		0	511
	0	12		0	62		0	112		0+	162		0	212		0	262		70+	312		0	362		0	412		0	462		0	512
	0	13		0	63		0	113		0+	163		0	213		0	263		86+	313		0	363		0	413		0	463			
	0	14		0	64		0	114		0+	164		0	214		0	264		120+	314		0	364		0	414		2	464			
	0	15		0	65		0	115		0+	165		0+	215		0	265		122+	315		0	365		0	415		0	465			
	0	16		0	66		0	116		0+	166		0+	216		0	266		39+	316		0	366		0	416		0	466			
	0	17		0	67		0	117		0+	167		0+	217		0	267		3+	317		1	367		0	417		1	467			
	0	18		0	68		0	118		0+	168		0+	218		0	268		0+	318		0	368		0	418		0	468			
	0	19		0	69		0	119		0+	169		0+	219		0	269		0	319		0	369		0	419		0	469			
	0	20		0	70		0	120		0+	170		0+	220		0	270		0	320		0	370		0	420		0	470			
	0	21		0	71		0	121		0+	171		0+	221		0	271		0	321		0	371		0	421		0	471			
	0	22		0	72		0	122		0+	172		0+	222		0	272		0	322		1	372		0	422		0	472			
	0	23		0	73		0	123		0+	173		0+	223		0	273		0	323		1	373		0	423		0	473			
	0	24		0	74		0	124		0+	174		0+	224		0	274		0	324		0	374		0	424		0	474			
	0	25		0	75		0	125		0+	175		0+	225		0	275		0	325		0	375		0	425		0	475			
	0	26		0	76		0+	126		0+	176		0+	226		0	276		0	326		1	376		1	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		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		0	429		0	479			
	0	30		0	80		0+	130		0	180		0+	230		0	280		2	330		0	380		0	430		0	480			
	0	31		0	81		0+	131		0	181		0+	231		0	281		3	331		0	381		0	431		0	481			
	0	32		0	82		0+	132		0	182		0+	232		0	282		3	332		0	382		0	432		0	482			
	0	33		0	83		0+	133		0	183		0+	233		0	283		2	333		0	383		0	433		0	483			
	0	34		1	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		1	335		0	385		0	435		0	485			
	0	36		0	86		0+	136		0	186		0	236		0	286		1	336		0	386		0	436		0	486			
	0	37		0	87		0+	137		0	187		0	237		0	287		1	337		0	387		0	437		0	487			
	0	38		0	88		0+	138		0	188		0	238		0	288		0	338		0	388		0	438		0	488			
	0	39		0	89		1+	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		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		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		2	296		0	346		0	396		1	446		0	496			
	0	47		0	97		0	147		0	197		0	247		1	297		0	347		0	397		0	447		0	497			
	0	48		0	98		0	148		0	198		0	248		2	298		0	348		0	398		0	448		0	498			
	0	49		1	99		0	149		0	199		0	249		4	299		0	349		0	399		0	449		0	499			
	0	50		0	100		0	150		0	200		0	250		1+	300		0	350		0	400		0	450		0	500			

VMS Peak Search Report V1.9 Generated 29-JUL-2006 16:58:00

```
Configuration     : $DISK1:[ALP10.SAMPLE]H9F9A1AG_290761337.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 13:37:43
Sample ID         : H9F9A1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP10                Detector geometry:
Elapsed live time: 0 03:20:01.00         Elapsed real time: 0 03:20:01.00   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	5331.25	723	0	32.11	313.92	300	19	6.02E-02	3.7	

VMS Nuclide Identification Report V3.0 Generated 29-JUL-2006 16:58:02

```
Configuration     : $DISK1:[ALP10.SAMPLE]H9F9A1AG_290761337.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : U BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 13:37:43
Sample ID         : H9F9A1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP10                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:[ALP10.SAMPLE]H9F9A1AG_290761337.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5331.25	300	319	723	715	0.30		

End of Report

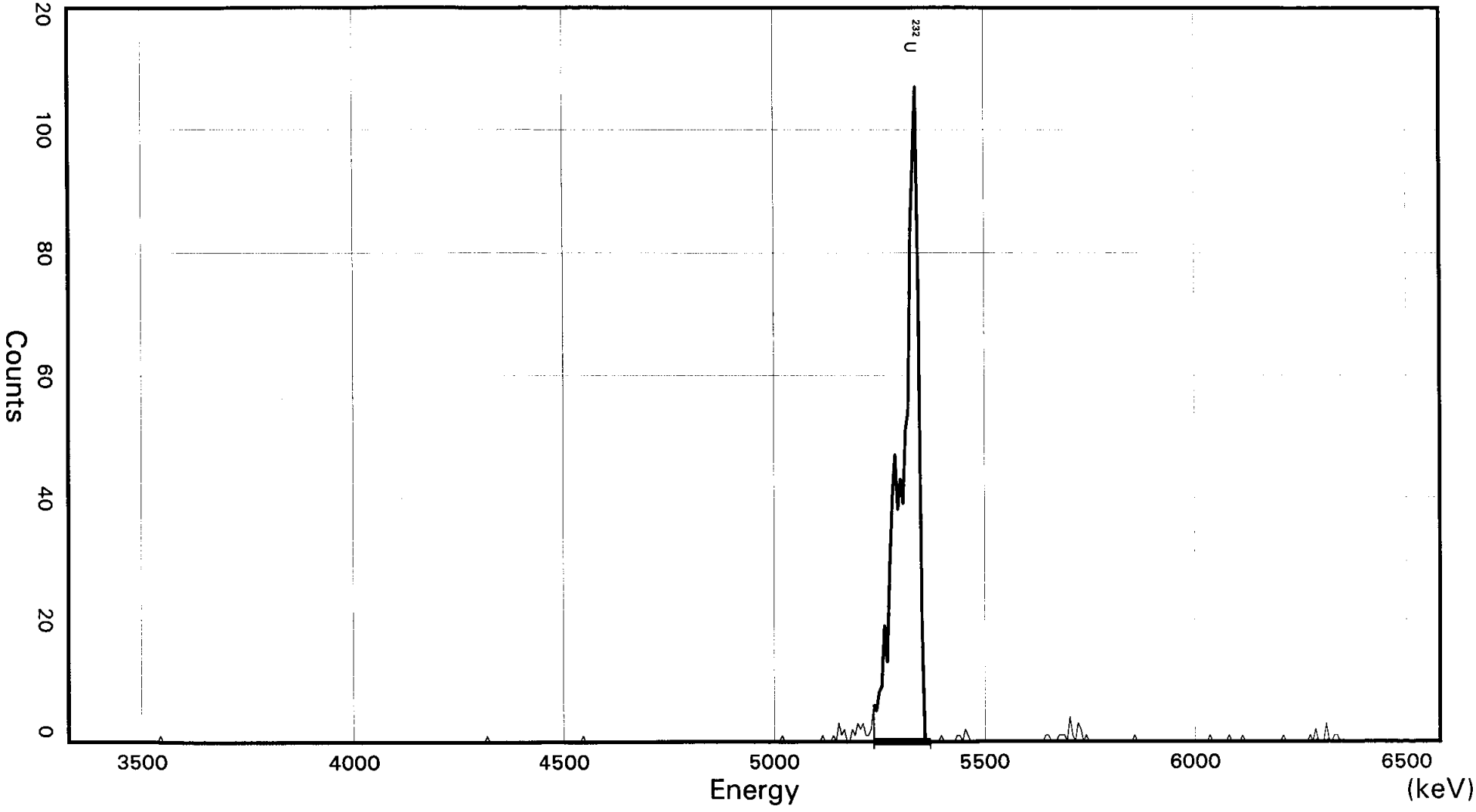
STL Richland WA.

U BRC

Sample ID: H9F9F1AG

Detector ID: ALP11 1

Batch ID: 6200142



Acquisition Start: 29-JUL-2006 13:38:02.66

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:06.00

Energy Coefficients:

Offset: 3.30819E+03

Slope: 6.37367E+00

Quadrature: 2.86048E-05

SAMPLE IDENTITY: H9F9F1AG

TITLE : U BRC

DETECTOR : ALP11 1
CONFIGURATION NAME : $DISK1:[ALP11.SAMPLE]H9F9F1AG_290761338.CNF;
1
ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:28

REPORT DATE : 29-Jul-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 29-JUL-2006 13:38:02 CALIB DATE : 06-JUL-2006 01:20:09

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

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: H9F9F1AG

Detector: ALP11 1
Report Date: 29-Jul-06 04:58 PM
Acquire Date: 29-JUL-2006 13:38:02.66
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	782	7	0	3.901	5329.2	134.2	302	323	0.00	0.00	P
U-234	0	0	0	0.000	4783.6	134.1	217	238	0.00	0.00	
U-235	1	1	0	0.004	4406.8	134.0	158	179	0.00	0.00	
U-238	0	1	0	-0.001	4207.0	134.0	126	147	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9F9F1AG
Detector: ALP11 1
Report Date: 29-Jul-06 04:58 PM
Acquire Date: 29-JUL-2006 13:38:02.66

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

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0		201	0		251	2		301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0		202	0		252	6	+	302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0		203	0		253	5	+	303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0		204	0		254	8	+	304	0		354	0		404	1		454	0		504
0		5	0		55	0		105	0		155	0		205	0		255	9	+	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	13	+	307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	1	+	158	0		208	0		258	29	+	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	0		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	38	+	311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0	+	162	0		212	0		262	43	+	312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0	+	163	0		213	0		263	39	+	313	0		363	0		413	0		463			
0		14	0		64	0		114	0	+	164	0		214	0		264	51	+	314	0		364	0		414	1		464			
0		15	0		65	0		115	0	+	165	0		215	0		265	54	+	315	0		365	0		415	0		465			
0		16	0		66	0		116	0	+	166	0		216	0		266	84	+	316	1		366	0		416	2		466			
0		17	0		67	0		117	0	+	167	0	+	217	0		267	95	+	317	1		367	0		417	0		467			
0		18	0		68	0		118	0	+	168	0	+	218	1		268	107	+	318	0		368	0		418	0		468			
0		19	0		69	0		119	0	+	169	0	+	219	0		269	69	+	319	0		369	0		419	0		469			
0		20	0		70	0		120	0	+	170	0	+	220	0		270	20	+	320	0		370	0		420	3		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	0		323	1		373	0		423	1		473			
0		24	0		74	0		124	0	+	174	0	+	224	0		274	0		324	0		374	0		424	1		474			
0		25	0		75	0		125	0	+	175	0	+	225	0		275	0		325	4		375	0		425	0		475			
0		26	0		76	0	+	126	0	+	176	0	+	226	0		276	0		326	1		376	0		426	0		476			
0		27	0		77	0	+	127	0	+	177	0	+	227	0		277	1		327	0		377	1		427	0		477			
0		28	0		78	0	+	128	0	+	178	0	+	228	0		278	0		328	3		378	0		428	0		478			
0		29	0		79	0	+	129	0	+	179	0	+	229	0		279	0		329	2		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	0	+	231	0		281	0		331	1		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	1		333	0		383	0		433	0		483			
0		34	0		84	0	+	134	0		184	0	+	234	0		284	1		334	0		384	1		434	0		484			
0		35	0		85	0	+	135	0		185	0	+	235	0		285	0		335	0		385	0		435	0		485			
0		36	0		86	0	+	136	0		186	0	+	236	0		286	2		336	0		386	0		436	0		486			
1		37	0		87	0	+	137	0		187	0	+	237	1		287	1		337	0		387	0		437	0		487			
0		38	0		88	0	+	138	0		188	0	+	238	0		288	0		338	0		388	0		438	0		488			
0		39	0		89	0	+	139	0		189	0		239	3		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	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	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	1		194	0		244	2		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	0		246	3		296	0		346	0		396	0		446	0		496			
0		47	0		97	0	+	147	0		197	0		247	2		297	0		347	0		397	0		447	0		497			
0		48	0		98	0		148	0		198	0		248	3		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	0		449	0		499			
0		50	0		100	0		150	0		200	0		250	1		300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 29-JUL-2006 16:58:24

```
Configuration     : $DISK1:[ALP11.SAMPLE]H9F9F1AG_290761338.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 13:38:02
Sample ID         : H9F9F1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP11                Detector geometry:
Elapsed live time: 0 03:20:06.00         Elapsed real time: 0 03:20:06.00   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	5329.20	782	0	38.24	316.64	302	21	6.51E-02	3.6	

VMS Nuclide Identification Report V3.0 Generated 29-JUL-2006 16:58:26

```
Configuration     : $DISK1:[ALP11.SAMPLE]H9F9F1AG_290761338.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : U BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 13:38:02
Sample ID         : H9F9F1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP11                Detector geometry:
Elapsed live time: 0 03:20:06.00         Elapsed real time: 0 03:20:06.00   0.0%
Energy tolerance :    40.00 keV          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    60.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                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]H9F9F1AG_290761338.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5329.20	302	323	782	776	0.21		

End of Report

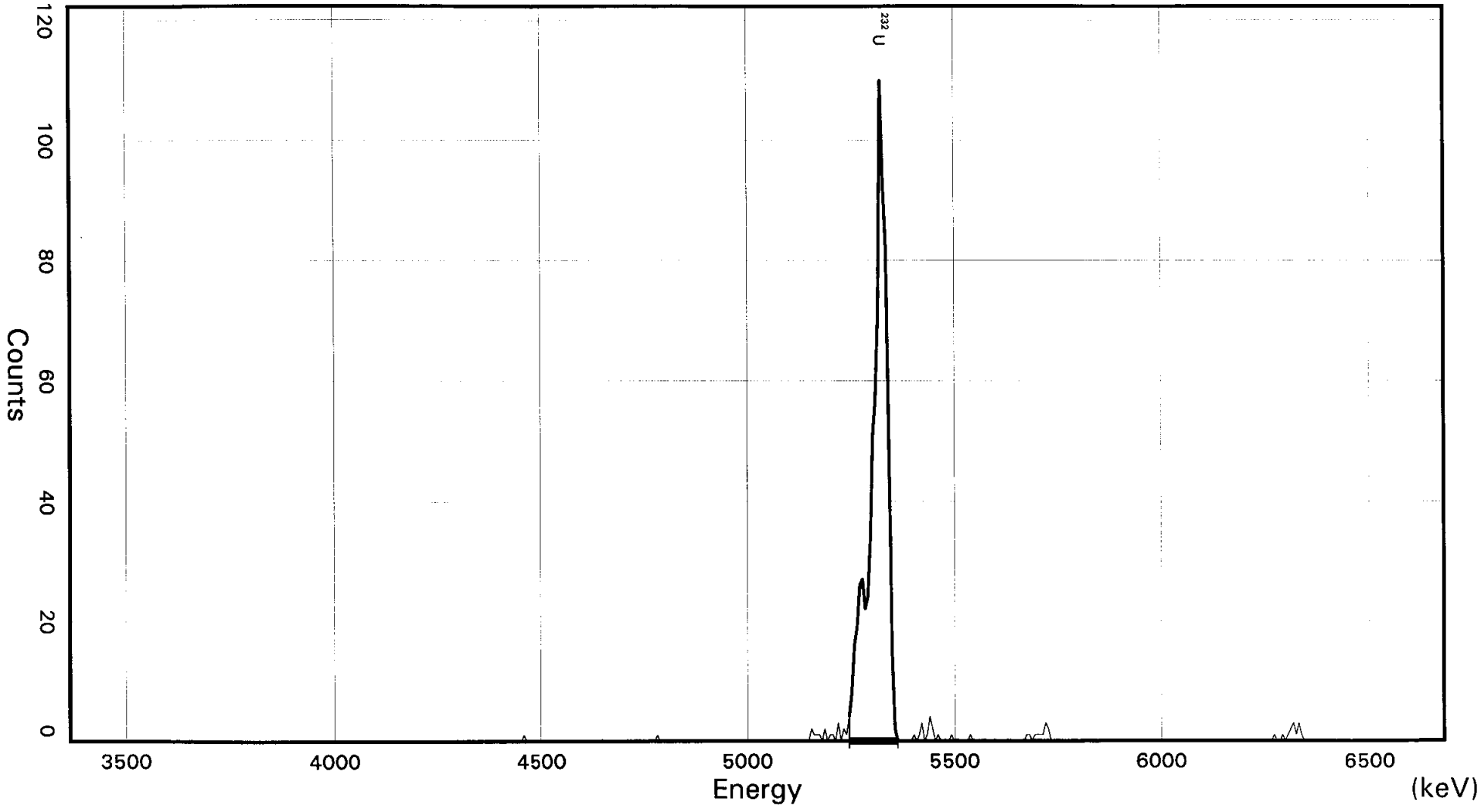
STL Richland WA.

U BRC

Sample ID: H9F9J1AG

Detector ID: ALP12 1

Batch ID: 6200142



Acquisition Start: 29-JUL-2006 13:38:28.64

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:00.00

Energy Coefficients:

Offset: 3.34637E+03

Slope: 6.53599E+00

Quadrature: -4.70662E-05

SAMPLE IDENTIITY: H9F9J1AG

TITLE : U BRC

DETECTOR : ALP12 1
CONFIGURATION NAME : $DISK1:[ALP12.SAMPLE]H9F9J1AG_290761338.CNF;
1
ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:31

REPORT DATE : 29-Jul-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 29-JUL-2006 13:38:28 CALIB DATE : 06-JUL-2006 01:20:03

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

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: H9F9J1AG

Detector: ALP12 1
Report Date: 29-Jul-06 04:58 PM
Acquire Date: 29-JUL-2006 13:38:28.64
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	716	5	0	3.575	5323.2	117.1	291	309	0.00	0.00	P
U-234	1	0	0	0.005	4777.6	117.3	207	225	0.00	0.00	
U-235	0	0	0	0.000	4400.8	117.4	149	167	0.00	0.00	
U-238	0	1	0	-0.001	4201.0	117.4	119	137	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9F9J1AG
Detector: ALP12 1
Report Date: 29-Jul-06 04:58 PM
Acquire Date: 29-JUL-2006 13:38:28.64

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
		1	0		51	0		101	0	+	151	0		201	0		251	57	+	301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0	+	152	0		202	0		252	72	+	302	0		352	0		402	1		452	0		502
0		3	0		53	0		103	0	+	153	0		203	0		253	110	+	303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0	+	154	0		204	0		254	93	+	304	0		354	0		404	1		454	0		504
0		5	0		55	0		105	0	+	155	0		205	0		255	82	+	305	0		355	0		405	2		455	0		505
0		6	0		56	0		106	0	+	156	0		206	0		256	50	+	306	0		356	0		406	3		456	0		506
0		7	0		57	0		107	0	+	157	0	+	207	0		257	15	+	307	1		357	0		407	1		457	0		507
0		8	0		58	0		108	0	+	158	0	+	208	0		258	2	+	308	1		358	0		408	3		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	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	0		312	1		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	3		364	0		414	0		464			
0		15	0		65	0		115	0	+	165	0	+	215	0		265	1		315	2		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	0		468			
0		19	0		69	0	+	119	0		169	0	+	219	0		269	0		319	0		369	0		419	0		469			
0		20	0		70	0	+	120	1		170	1	+	220	0		270	1		320	0		370	0		420	0		470			
0		21	0		71	0	+	121	0		171	0	+	221	0		271	4		321	0		371	0		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	0		273	0		323	0		373	0		423	0		473			
0		24	0		74	0	+	124	0		174	0	+	224	0		274	1		324	0		374	0		424	0		474			
0		25	0		75	0	+	125	0		175	0	+	225	0		275	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	2		277	0		327	0		377	0		427	0		477			
0		28	0		78	0	+	128	0		178	0		228	1		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	0		281	0		331	0		381	0		431	0		481			
0		32	0		82	0	+	132	0		182	0		232	2		282	0		332	0		382	0		432	0		482			
0		33	0		83	0	+	133	0		183	0		233	0		283	0		333	0		383	0		433	0		483			
0		34	0		84	0	+	134	0		184	0		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	1		336	0		386	0		436	0		486			
0		37	0		87	0	+	137	0		187	0		237	3		287	0		337	0		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	0		288	0		338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	2		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	4	+	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	16	+	293	0		343	0		393	0		443	0		493			
0		44	0		94	0		144	0		194	0		244	19	+	294	0		344	0		394	0		444	0		494			
0		45	0		95	0		145	0		195	0		245	26	+	295	0		345	0		395	0		445	0		495			
0		46	0		96	0		146	0		196	0		246	27	+	296	0		346	0		396	0		446	0		496			
0		47	0		97	0		147	0		197	0		247	22	+	297	0		347	0		397	0		447	0		497			
0		48	0		98	0		148	0		198	0		248	24	+	298	0		348	0		398	0		448	0		498			
0		49	0		99	0	+	149	0		199	0		249	34	+	299	0		349	0		399	1		449	0		499			
0		50	0		100	0	+	150	0		200	0		250	51	+	300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 29-JUL-2006 16:58:45

Configuration : $DISK1:[ALP12.SAMPLE]H9F9J1AG_290761338.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 20-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 13:38:28
Sample ID : H9F9J1AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP12 Detector geometry:
Elapsed live time: 0 03:20:00.00 Elapsed real time: 0 03:20:00.00 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	5323.16	716	0	32.68	303.11	291	18	5.97E-02	3.7	

VMS Nuclide Identification Report V3.0 Generated 29-JUL-2006 16:58:46

```
Configuration     : $DISK1:[ALP12.SAMPLE]H9F9J1AG_290761338.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : U BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 13:38:28
Sample ID         : H9F9J1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP12                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:[ALP12.SAMPLE]H9F9J1AG_290761338.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5323.16	291	309	716	712	0.15		

End of Report

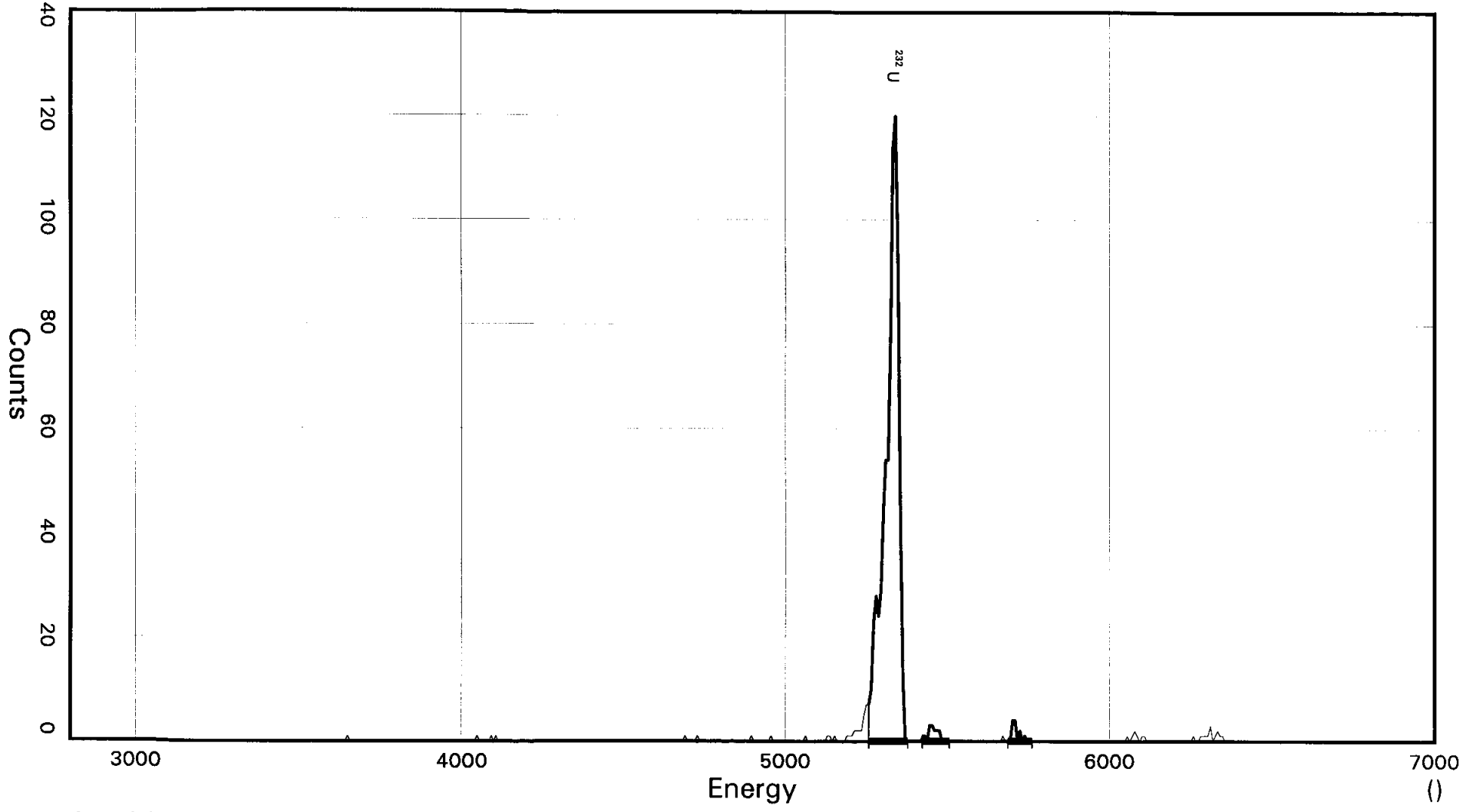
STL Richland WA.

U BRC

Sample ID: H9F9L1AG

Detector ID: ALP69 1

Batch ID: 6200142



Acquisition Start: 29-JUL-2006 13:39:09.63

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:01.00

Energy Coefficients:

Offset: 2.77736E+03

Slope: 7.50385E+00

Quadrature: 3.07924E-05

SAMPLE IDENTIITY: H9F9L1AG

TITLE : U BRC

DETECTOR : ALP69 1
CONFIGURATION NAME : RDND06$DKA100:[ALP69.SAMPLE]H9F9L1AG_2907613
39.CNF;1
ACQUIRE DATE of BACKGROUND: 22-JUL-2006 06:10:47

REPORT DATE : 29-Jul-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 29-JUL-2006 13:39:09 CALIB DATE : 22-JUL-2006 02:00:58

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

OFFSET : 2777.36 keV CONSTANT FWHM : 8.33333 Channels
SLOPE : 7.50385 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 3.079240E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H9F9L1AG

Detector: ALP69 1
Report Date: 29-Jul-06 04:59 PM
Acquire Date: 29-JUL-2006 13:39:09.63
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	734	29	0	3.658	5333.4	120.4	330	346	0.00	0.00	P
U-234	1	2	0	0.004	4787.8	120.3	257	273	0.00	0.00	
U-235	0	3	0	-0.001	4411.0	120.3	207	223	0.00	0.00	
U-238	0	6	0	-0.002	4211.2	120.2	181	197	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9F9L1AG
Detector: ALP69 1
Report Date: 29-Jul-06 04:59 PM
Acquire Date: 29-JUL-2006 13:39:09.63

Flags Key

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

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		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	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	1		304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0		205	1		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	3		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0	+	207	0	+	257	0		307	2		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0	+	208	0	+	258	0		308	2		358	0		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	1	+	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	1		313	0		363	0		413	1		463			
0		14	0		64	0		114	0		164	0	+	214	0	+	264	1		314	0		364	0		414	0		464			
0		15	0		65	0		115	0		165	0	+	215	0	+	265	0		315	0		365	0		415	0		465			
0		16	0		66	1		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	1		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	1		169	0	+	219	0	+	269	0		319	0		369	0		419	1		469			
0		20	0		70	0		120	0		170	0	+	220	0	+	270	0		320	0		370	0		420	3		470			
0		21	0		71	0		121	0		171	0	+	221	0	+	271	1		321	0		371	0		421	0		471			
0		22	0		72	0		122	0		172	0	+	222	0	+	272	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	2		473			
0		24	0		74	0		124	0		174	0		224	0		274	2		324	0		374	0		424	1		474			
0		25	0		75	0		125	1		175	0		225	0		275	2		325	0		375	0		425	1		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	1		177	0		227	0		277	2		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	7		329	0		379	0		429	0		479			
0		30	0		80	0		130	0		180	0		230	0		280	7	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	10	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	1		282	23	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	28	+	333	0		383	0		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	24	+	334	0		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	29	+	335	1		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	54	+	337	0		387	0		437	0		487			
0		38	0		88	0		138	0	+	188	0		238	0		288	54	+	338	0		388	1		438	0		488			
0		39	0		89	0		139	0	+	189	0		239	0		289	78	+	339	4		389	2		439	0		489			
0		40	0		90	0		140	0	+	190	0		240	1		290	114	+	340	4		390	1		440	0		490			
0		41	0		91	0		141	0	+	191	0		241	0		291	120	+	341	0		391	0		441	0		491			
0		42	0		92	0		142	0	+	192	0		242	0		292	92	+	342	2		392	1		442	0		492			
0		43	0		93	0		143	0	+	193	0		243	0		293	41	+	343	0		393	1		443	0		493			
0		44	0		94	0		144	0	+	194	0		244	0		294	12	+	344	1		394	0		444	0		494			
0		45	0		95	0		145	0	+	195	0		245	0		295	0	+	345	0		395	0		445	0		495			
0		46	0		96	0		146	0	+	196	0		246	0		296	0		346	0		396	0		446	0		496			
0		47	0		97	0		147	0	+	197	0		247	0		297	0		347	0		397	0		447	0		497			
0		48	0		98	0		148	0		198	0		248	0		298	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 29-JUL-2006 16:59:25

Configuration : RDND06$DKA100:[ALP69.SAMPLE]H9F9L1AG_290761339.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 20-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 13:39:09
Sample ID : H9F9L1AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP69 Detector geometry:
Elapsed live time: 0 03:20:01.00 Elapsed real time: 0 03:20:01.00 0.0%
Start energy : 2799.87 End energy : 6627.40
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5333.39	734	0	37.52	340.15	330	16	6.12E-02	3.7	
2	0	5453.31	14	0	37.52	356.09	352	11	1.17E-03	26.7	
3	0	5705.20	11	0	30.02	389.56	387	10	9.17E-04	30.2	

VMS Nuclide Identification Report V3.1 Generated 29-JUL-2006 16:59:27

Configuration : RDND06$DKA100:[ALP69.SAMPLE]H9F9L1AG_290761339.CNF;1
Analyses by : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title : U BRC
Sample date : 20-JUN-2006 12:00:00
Sample ID : H9F9L1AG
Sample type : disk
Detector name : ALP69
Elapsed live time: 0 03:20:01.00
Energy tolerance : 80.00
Errors propagated: No
Efficiency type : Spline
Abundance limit : 60.00

Acquisition date : 29-JUL-2006 13:39:09
Sample quantity : 0.00000E+00 SAMPLE
Sample geometry :
Detector geometry:
Elapsed real time: 0 03:20:01.00 0.0%
Half life ratio : 1.00
Systematic Error : 0.00 %
Efficiencies at : Peak Energy

Summary of Nuclide Activity

Total number of lines in spectrum	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
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

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

Configuration: RDND06$DKA100:[ALP69.SAMPLE]H9F9L1AG_290761339.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5333.38	330	346	734	730	0.15		
5453.31	352	363	14	14	0.00		
5705.19	387	397	11	11	0.00		

End of Report

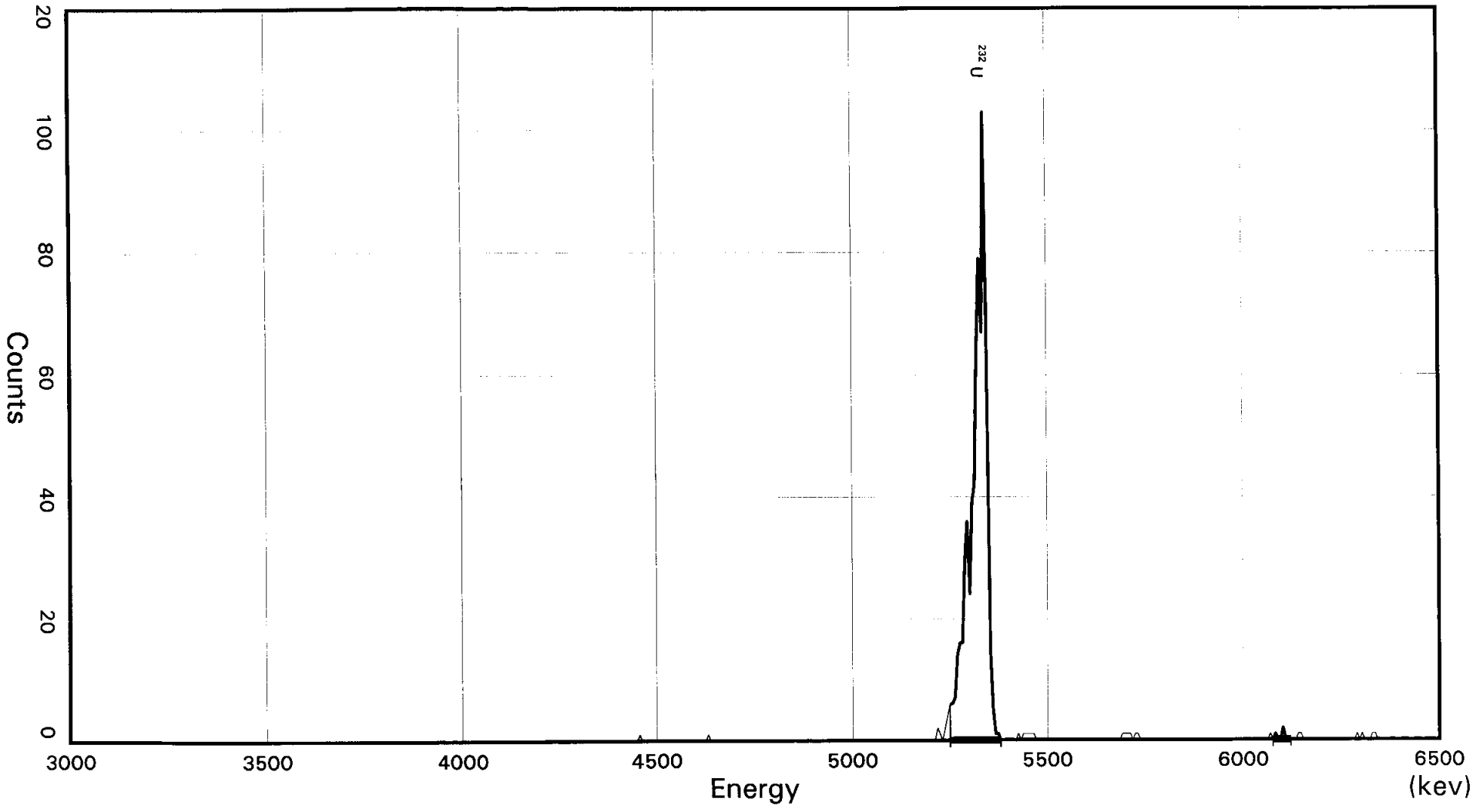
STL Richland WA.

U BRC

Sample ID: H9F9M1AG

Detector ID: ALP71 1

Batch ID: 6200142



Acquisition Start: 29-JUL-2006 13:39:28.83

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:07.00

Energy Coefficients:

Offset: 3.14400E+03

Slope: 6.49529E+00

Quadrature: 1.08093E-05

SAMPLE IDENTIITY: H9F9M1AG

TITLE : U BRC

DETECTOR : ALP71 1
CONFIGURATION NAME : RDND06$DKA100:[ALP71.SAMPLE]H9F9M1AG_2907613
39.CNF;1
ACQUIRE DATE of BACKGROUND: 23-JUL-2006 06:31:21

REPORT DATE : 29-Jul-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 29-JUL-2006 13:39:28 CALIB DATE : 21-JUL-2006 01:15:27

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

OFFSET : 3144.00 keV CONSTANT FWHM : 8.66667 Channels
SLOPE : 6.49529 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 1.080930E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H9F9M1AG

Detector: ALP71 1
Report Date: 29-Jul-06 04:59 PM
Acquire Date: 29-JUL-2006 13:39:28.83
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	639	30	0	3.181	5329.4	130.1	324	344	0.00	0.00	P
U-234	0	6	0	-0.002	4783.8	130.0	240	260	0.00	0.00	
U-235	1	3	0	0.004	4407.0	130.0	182	202	0.00	0.00	
U-238	0	5	0	-0.002	4207.2	130.0	151	171	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9F9M1AG
Detector: ALP71 1
Report Date: 29-Jul-06 04:59 PM
Acquire Date: 29-JUL-2006 13:39:28.83

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
		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	1	+	202	0	+	252	0		302	0		352	0		402	1		452	0		502
0		3	0		53	0		103	0	+	153	0		203	0	+	253	0		303	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	1		355	0		405	2		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	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	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	1		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	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	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	2		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	0		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	0		321	0		371	0		421	0		471			
0		22	0		72	0		122	0		172	0		222	0		272	2		322	0		372	0		422	0		472			
0		23	0		73	0		123	0		173	0		223	0		273	4		323	0		373	0		423	0		473			
0		24	0		74	0		124	0		174	0		224	0		274	6	+	324	0		374	0		424	0		474			
0		25	0		75	0		125	0		175	0		225	0		275	6	+	325	0		375	0		425	0		475			
0		26	0		76	0		126	0		176	0		226	0		276	7	+	326	0		376	0		426	0		476			
0		27	0		77	0		127	0		177	0		227	0		277	14	+	327	0		377	0		427	0		477			
0		28	0		78	0		128	0		178	0		228	0		278	16	+	328	0		378	0		428	0		478			
0		29	0		79	0		129	0		179	1		229	0		279	16	+	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	36	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	24	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	39	+	333	0		383	0		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	42	+	334	0		384	0		434	1		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	64	+	335	0		385	0		435	0		485			
0		36	0		86	0		136	0	+	186	0		236	0		286	79	+	336	0		386	0		436	1		486			
0		37	0		87	0		137	0	+	187	0		237	0		287	67	+	337	0		387	0		437	0		487			
0		38	0		88	0		138	0	+	188	0		238	0		288	103	+	338	0		388	0		438	0		488			
0		39	0		89	0		139	0	+	189	0		239	0		289	63	+	339	0		389	0		439	0		489			
0		40	0		90	0		140	0	+	190	0	+	240	0		290	15	+	340	0		390	0		440	1		490			
0		41	0		91	0		141	0	+	191	0	+	241	0		291	5	+	341	0		391	0		441	1		491			
0		42	0		92	0		142	0	+	192	0	+	242	0		292	1	+	342	1		392	0		442	0		492			
0		43	0		93	0		143	0	+	193	0	+	243	0		293	1	+	343	1		393	0		443	0		493			
0		44	0		94	0		144	0	+	194	0	+	244	0		294	0		344	1		394	0		444	0		494			
0		45	0		95	0		145	0	+	195	0	+	245	0		295	0		345	1		395	0		445	0		495			
0		46	0		96	0		146	0	+	196	0	+	246	0		296	0		346	0		396	0		446	0		496			
0		47	0		97	0		147	0	+	197	0	+	247	0		297	0		347	1		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	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	1		450	0		500			

VMS Peak Search Report V1.9 Generated 29-JUL-2006 16:59:50

Configuration : RDND06$DKA100:[ALP71.SAMPLE]H9F9M1AG_290761339.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 20-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 13:39:28
Sample ID : H9F9M1AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP71 Detector geometry:
Elapsed live time: 0 03:20:07.00 Elapsed real time: 0 03:20:07.00 0.0%
Start energy : 3163.49 kev End energy : 6472.43 kev
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5329.38	639	0	45.47	336.27	324	20	5.32E-02	4.0	
2	0	6091.84	4	0	25.98	453.50	451	7	3.33E-04	50.0	

VMS Nuclide Identification Report V3.1 Generated 29-JUL-2006 16:59:52

Configuration : RDND06$DKA100:[ALP71.SAMPLE]H9F9M1AG_290761339.CNF;1
Analyses by : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title : U BRC
Sample date : 20-JUN-2006 12:00:00
Sample ID : H9F9M1AG
Sample type : disk
Detector name : ALP71
Elapsed live time: 0 03:20:07.00
Energy tolerance : 80.00 kev
Errors propagated: No
Efficiency type : Spline
Abundance limit : 60.00

Acquisition date : 29-JUL-2006 13:39:28
Sample quantity : 0.00000E+00 SAMPLE
Sample geometry :
Detector geometry:
Elapsed real time: 0 03:20:07.00 0.0%
Half life ratio : 1.00
Systematic Error : 0.00 %
Efficiencies at : Peak Energy

Summary of Nuclide Activity

Total number of lines in spectrum	2	
Number of unidentified lines	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
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

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

Configuration: RDND06$DKA100:[ALP71.SAMPLE]H9F9M1AG_290761339.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5329.37	324	344	639	633	0.24		
6091.84	451	458	4	3	0.50		

End of Report

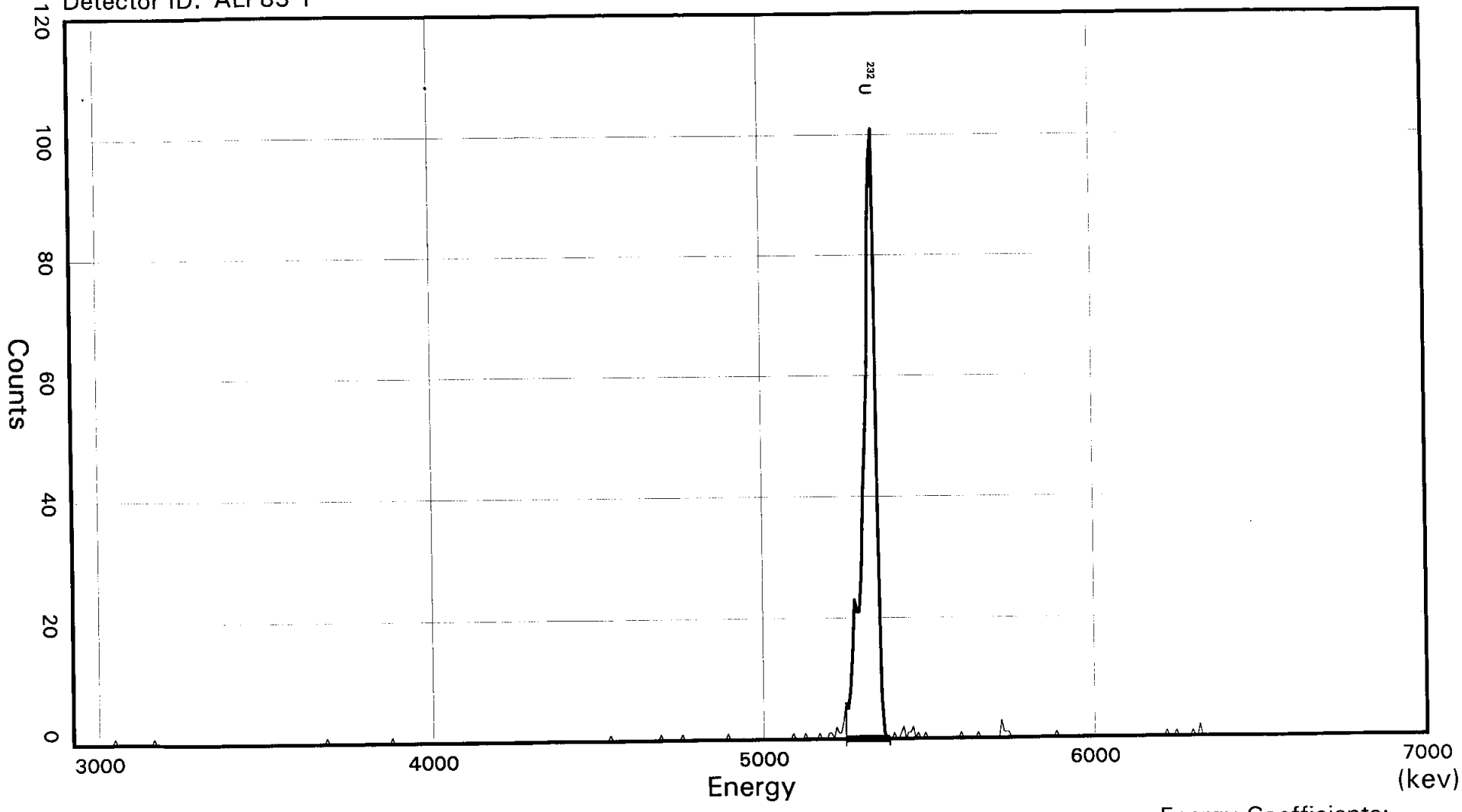
STL Richland WA.

U BRC

Sample ID: H9F9N1AG

Detector ID: ALP83 1

Batch ID: 6200142



Acquisition Start: 29-JUL-2006 13:40:15.34

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:04.00

Energy Coefficients:

Offset: 2.90101E+03

Slope: 7.29325E+00

Quadrature: -8.65879E-05

SAMPLE IDENTIITY: H9F9N1AG

TITLE : U BRC

DETECTOR : ALP83 1
CONFIGURATION NAME : RDND06$DKA100:[ALP83.SAMPLE]H9F9N1AG_2907613
40.CNF;1
ACQUIRE DATE of BACKGROUND: 21-JUL-2006 09:20:02

REPORT DATE : 29-Jul-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 29-JUL-2006 13:40:15 CALIB DATE : 21-JUL-2006 01:14:17

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:04

OFFSET : 2901.01 keV CONSTANT FWHM : 9.00000 Channels
SLOPE : 7.29325 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.865879E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H9F9N1AG

Detector: ALP83 1
Report Date: 29-Jul-06 05:00 PM
Acquire Date: 29-JUL-2006 13:40:15.34
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	609	24	0	3.034	5330.8	130.2	323	341	0.00	0.00	P
U-234	1	3	0	0.004	4785.3	130.5	248	266	0.00	0.00	
U-235	0	2	0	-0.001	4408.5	130.6	196	214	0.00	0.00	
U-238	0	2	0	-0.001	4208.7	130.7	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: H9F9N1AG
Detector: ALP83 1
Report Date: 29-Jul-06 05:00 PM
Acquire Date: 29-JUL-2006 13:40:15.34

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	1		301	2		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	1	+	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	0		406	0		456	0		506
0		7	0		57	1		107	0		157	0	+	207	0	+	257	0		307	0		357	0		407	1		457	0		507
0		8	0		58	0		108	0		158	0	+	208	0	+	258	0		308	0		358	0		408	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	1		411	1		461	0		511
0		12	0		62	0		112	0		162	0	+	212	0	+	262	1		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0	+	213	0	+	263	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	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	1		468			
0		19	0		69	0		119	0	+	169	0		219	0		269	2		319	0		369	0		419	0		469			
1		20	0		70	0		120	0	+	170	0		220	0		270	1		320	0		370	0		420	0		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	1		321	1		371	0		421	2		471			
0		22	0		72	0		122	0	+	172	0		222	0		272	3		322	0		372	0		422	0		472			
0		23	0		73	0		123	0	+	173	0		223	0		273	6	+	323	0		373	0		423	0		473			
0		24	0		74	0		124	0	+	174	0		224	1		274	5	+	324	0		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	1		225	0		275	8	+	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	23	+	327	0		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	21	+	328	1		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	21	+	329	0		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	27	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	41	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	49	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	60	+	333	0		383	0		433	0		483			
0		34	0		84	1		134	0	+	184	0		234	0		284	85	+	334	0		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	96	+	335	0		385	0		435	0		485			
1		36	0		86	0		136	0	+	186	0		236	0		286	101	+	336	0		386	0		436	0		486			
0		37	0		87	0		137	0		187	0		237	0		287	35	+	337	0		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	0		288	7	+	338	3		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	0		289	1	+	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	1		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	1		343	0		393	0		443	0		493			
0		44	0		94	0		144	0		194	0		244	0		294	0		344	0		394	0		444	0		494			
0		45	0		95	0		145	0		195	0		245	0		295	0		345	0		395	0		445	0		495			
0		46	0		96	0		146	0	+	196	1		246	0		296	1		346	0		396	0		446	0		496			
0		47	0		97	0		147	0	+	197	0		247	0		297	2		347	0		397	0		447	0		497			
0		48	0		98	0		148	0	+	198	0	+	248	0		298	0		348	0		398	0		448	0		498			
0		49	0		99	0		149	0	+	199	0	+	249	0		299	1		349	0		399	0		449	0		499			
0		50	0		100	0		150	0	+	200	0	+	250	0		300	1		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 29-JUL-2006 17:00:23

Configuration : RDND06$DKA100:[ALP83.SAMPLE]H9F9N1AG_290761340.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 20-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 13:40:15
Sample ID : H9F9N1AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP83 Detector geometry:
Elapsed live time: 0 03:20:04.00 Elapsed real time: 0 03:20:04.00 0.0%
Start energy : 2922.89 kev End energy : 6612.46 kev
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5330.84	609	0	43.76	334.49	323	18	5.07E-02	4.1	

VMS Nuclide Identification Report V3.1 Generated 29-JUL-2006 17:00:25

```
Configuration     : RDND06$DKA100:[ALP83.SAMPLE]H9F9N1AG_290761340.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : U BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 13:40:15
Sample ID         : H9F9N1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP83                Detector geometry:
Elapsed live time: 0 03:20:04.00         Elapsed real time: 0 03:20:04.00   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  :    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]H9F9N1AG_290761340.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5330.83	323	341	609	600	0.36		

End of Report

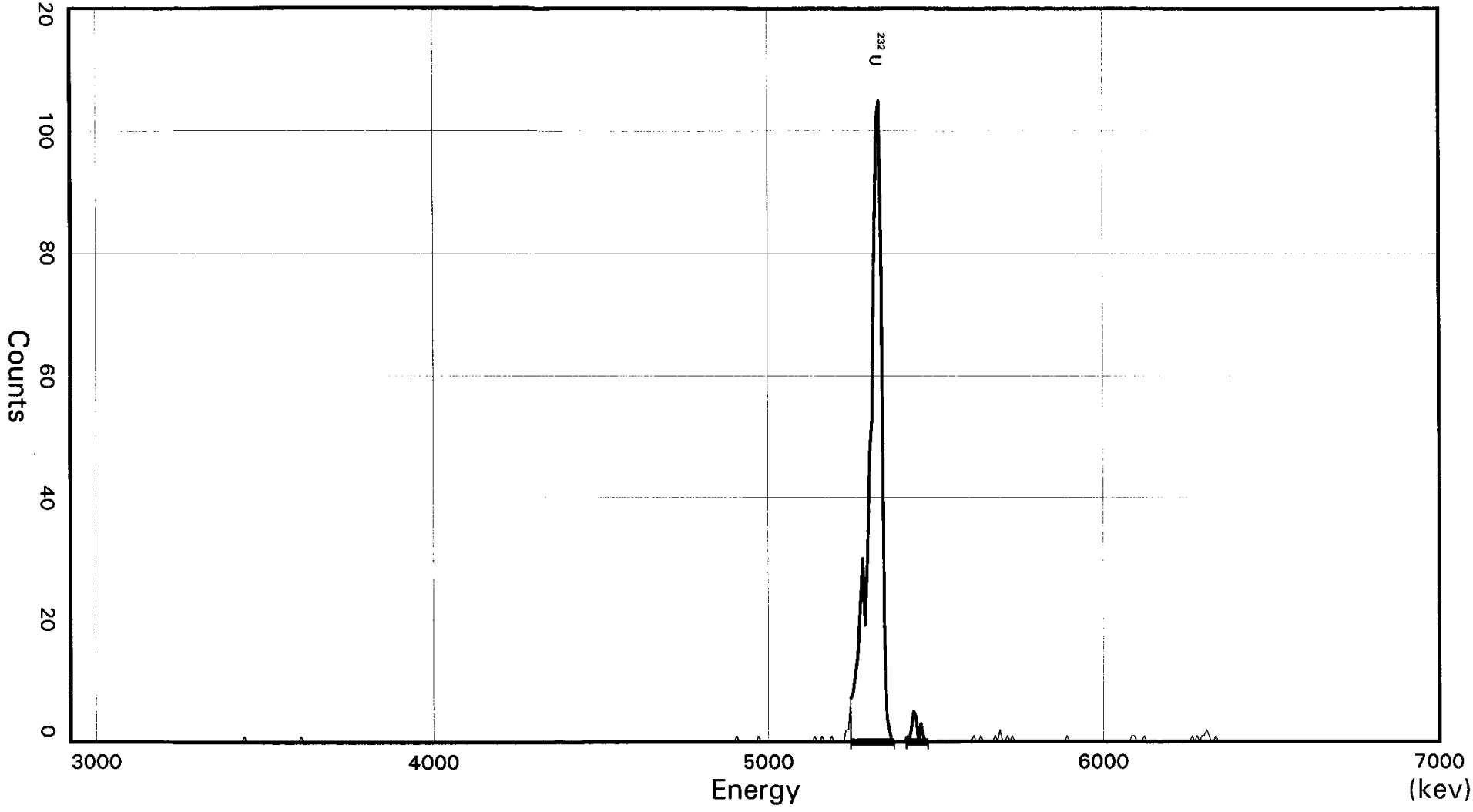
STL Richland WA.

U BRC

Sample ID: H9HX01AA

Detector ID: ALP84 1

Batch ID: 6200142



Acquisition Start: 29-JUL-2006 13:40:47.83

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:02.00

Energy Coefficients:

Offset: 2.90201E+03

Slope: 7.34585E+00

Quadrature: -2.19631E-04

SAMPLE IDENTIITY: H9HX01AA

TITLE : U BRC

DETECTOR : ALP84 1
CONFIGURATION NAME : RDND06$DKA100:[ALP84.SAMPLE]H9HX01AA_2907613
40.CNF;1
ACQUIRE DATE of BACKGROUND: 21-JUL-2006 09:20:05

REPORT DATE : 29-Jul-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 29-JUL-2006 13:40:47 CALIB DATE : 21-JUL-2006 01:14:12

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

OFFSET : 2902.01 keV CONSTANT FWHM : 4.75000 Channels
SLOPE : 7.34585 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.219631E-03 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H9HX01AA

Detector: ALP84 1
Report Date: 29-Jul-06 05:00 PM
Acquire Date: 29-JUL-2006 13:40:47.83
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	633	22	0	3.156	5324.6	129.6	322	340	0.00	0.00	P
U-234	0	6	0	-0.002	4779.1	130.2	246	264	0.00	0.00	
U-235	0	1	0	0.000	4402.3	130.6	194	212	0.00	0.00	
U-238	0	2	0	-0.001	4202.5	130.8	167	185	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9HX01AA
Detector: ALP84 1
Report Date: 29-Jul-06 05:00 PM
Acquire Date: 29-JUL-2006 13:40:47.83

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		0	301		3	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		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		1	307		0	357		0	407		0	457		0	507
	0	8		0	58		0	108		0	158		0	208		0	258		0	308		0	358		0	408		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		1	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		1	412		0	462		0	512
	0	13		0	63		0	113		0	163		0	213		0	263		0	313		0	363		0	413		0	463			
	0	14		0	64		0	114		0	164		0	214		0	264		1	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		0	316		0	366		0	416		1	466			
	0	17		0	67		0	117		0	167		0	217		0	267		0	317		0	367		0	417		0	467			
	0	18		0	68		0	118		0	168		0	218		0	268		0	318		0	368		0	418		1	468			
	0	19		0	69		0	119		0	169		0	219		0	269		0	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		2	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		7	322		0	372		0	422		0	472			
	0	23		1	73		0	123		0	173		0	223		0	273		8	323		1	373		0	423		0	473			
	0	24		0	74		0	124		0	174		0	224		0	274		11	324		0	374		0	424		1	474			
	0	25		0	75		0	125		0	175		0	225		1	275		14	325		0	375		0	425		0	475			
	0	26		0	76		0	126		0	176		0	226		0	276		22	326		1	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		19	328		0	378		0	428		0	478			
	0	29		0	79		0	129		0	179		0	229		0	279		30	329		0	379		0	429		0	479			
	0	30		0	80		0	130		0	180		0	230		0	280		47	330		0	380		0	430		0	480			
	0	31		0	81		0	131		0	181		0	231		0	281		53	331		0	381		0	431		0	481			
	0	32		0	82		0	132		0	182		0	232		0	282		82	332		1	382		0	432		0	482			
	0	33		0	83		0	133		0	183		0	233		0	283		102	333		0	383		0	433		0	483			
	0	34		0	84		0	134		0	184		0	234		1	284		105	334		2	384		0	434		0	484			
	0	35		0	85		0	135		0	185		0	235		0	285		76	335		0	385		0	435		0	485			
	0	36		0	86		0	136		0	186		0	236		0	286		20	336		0	386		0	436		0	486			
	0	37		0	87		0	137		0	187		0	237		0	287		4	337		1	387		0	437		0	487			
	0	38		0	88		0	138		0	188		0	238		0	288		2	338		0	388		0	438		0	488			
	0	39		0	89		0	139		0	189		0	239		0	289		0	339		1	389		1	439		0	489			
	0	40		0	90		0	140		0	190		0	240		0	290		0	340		0	390		1	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		0	344		0	394		1	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		1	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		2	347		0	397		0	447		0	497			
	0	48		0	98		0	148		0	198		0	248		0	298		5	348		0	398		0	448		0	498			
	0	49		0	99		0	149		0	199		0	249		0	299		4	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 29-JUL-2006 17:00:53

Configuration : RDND06$DKA100:[ALP84.SAMPLE]H9HX01AA_290761340.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 20-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 13:40:47
Sample ID : H9HX01AA Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP84 Detector geometry:
Elapsed live time: 0 03:20:02.00 Elapsed real time: 0 03:20:02.00 0.0%
Start energy : 2924.04 kev End energy : 6605.51 kev
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5324.63	633	0	36.73	333.11	322	18	5.27E-02	4.0	
2	0	5432.56	15	0	22.04	348.11	345	9	1.25E-03	25.8	

VMS Nuclide Identification Report V3.1 Generated 29-JUL-2006 17:00:54

```
Configuration     : RDND06$DKA100:[ALP84.SAMPLE]H9HX01AA_290761340.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : U BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 13:40:47
Sample ID         : H9HX01AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP84                Detector geometry:
Elapsed live time: 0 03:20:02.00         Elapsed real time: 0 03:20:02.00   0.0%
Energy tolerance :    80.00 kev          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    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]H9HX01AA_290761340.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5324.63	322	340	633	632	0.04		
5432.56	345	354	15	16	-0.26		

End of Report

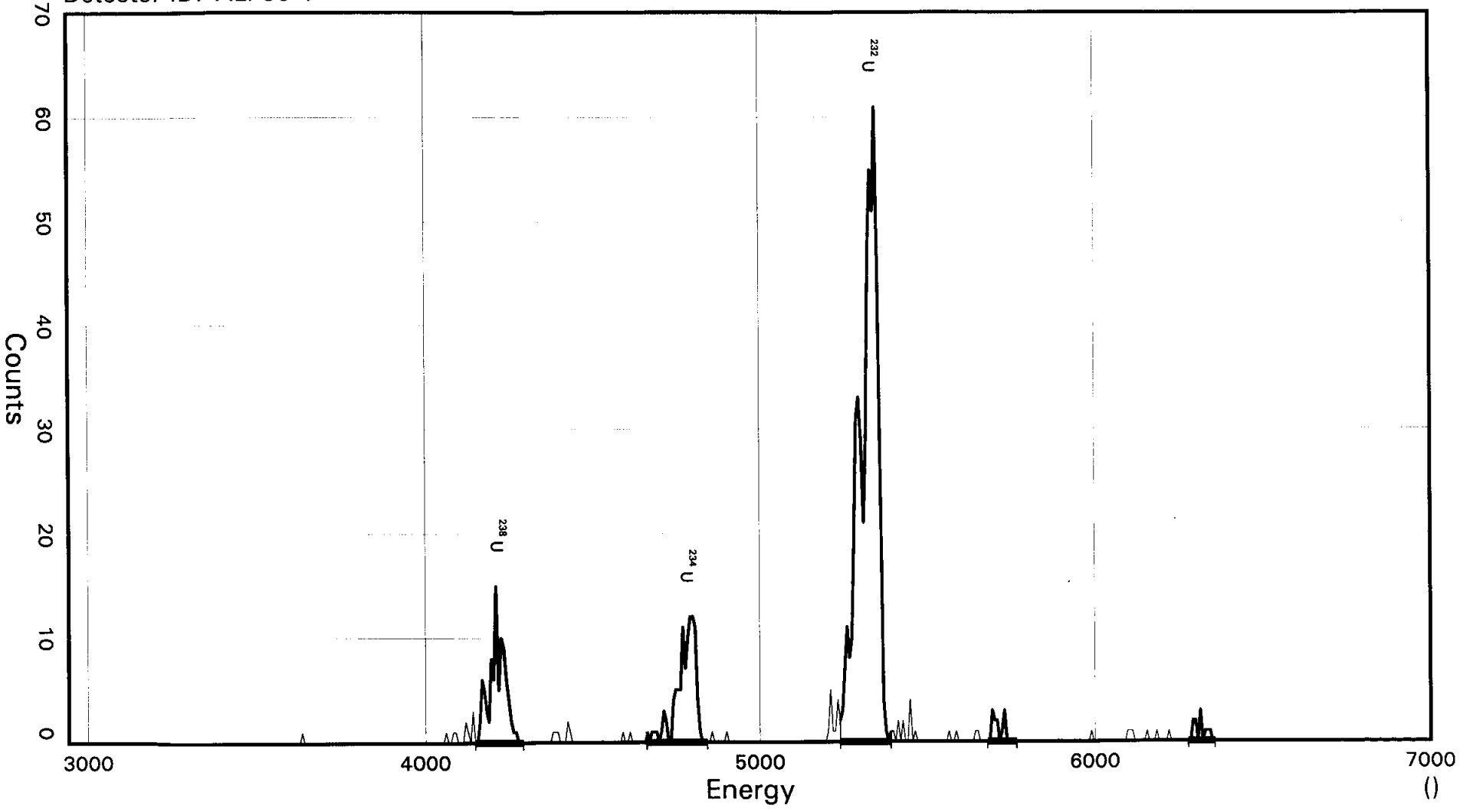
STL Richland WA.

U BRC

Sample ID: H9HX01AC

Detector ID: ALP85 1

Batch ID: 6200142



Acquisition Start: 29-JUL-2006 13:41:08.41

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:02.00

Energy Coefficients:

Offset: 2.92156E+03

Slope: 7.10750E+00

Quadrature: 1.43271E-04

SAMPLE IDENTIITY: H9HX01AC

TITLE : U BRC

DETECTOR : ALP85 1
CONFIGURATION NAME : RDND06$DKA100:[ALP85.SAMPLE]H9HX01AC_2907613
41.CNF;1
ACQUIRE DATE of BACKGROUND: 21-JUL-2006 09:20:08

REPORT DATE : 29-Jul-06 SAMPLE DATE: 20-JUN-2006 12:00:00
ACQUIRE DATE: 29-JUL-2006 13:41:08 CALIB DATE : 21-JUL-2006 01:14:34

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

OFFSET : 2921.56 keV CONSTANT FWHM : 10.16670 Channels
SLOPE : 7.10750 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 1.432710E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H9HX01AC

Detector: ALP85 1
Report Date: 29-Jul-06 05:01 PM
Acquire Date: 29-JUL-2006 13:41:08.41
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	498	64	0	2.464	5334.9	151.3	324	345	0.00	0.00	P
U-234	99	2	0	0.494	4789.3	179.5	244	269	0.00	0.00	P
U-235	6	2	0	0.029	4412.5	150.5	196	217	0.00	0.00	
U-238	88	2	0	0.439	4212.7	143.2	172	192	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9HX01AC
Detector: ALP85 1
Report Date: 29-Jul 06 05:01 PM
Acquire Date: 29-JUL-2006 13:41:08.41

Flags Key

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

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

VMS Peak Search Report V1.9 Generated 29-JUL-2006 17:01:13

Configuration : RDND06$DKA100:[ALP85.SAMPLE]H9HX01AC_290761341.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 20-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 13:41:08
Sample ID : H9HX01AC 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 : 2942.88 End energy : 6598.16
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4217.10	88	0	56.86	181.61	172	20	7.33E-03	10.7	
2	0	4785.28	99	0	56.86	260.85	244	25	8.25E-03	10.1	
3	0	5334.89	498	0	49.75	337.25	324	21	4.15E-02	4.5	
4	0	5703.93	11	0	35.54	388.43	385	12	9.17E-04	30.2	
5	0	6311.84	8	0	56.86	472.50	468	11	6.67E-04	35.4	

VMS Nuclide Identification Report V3.1 Generated 29-JUL-2006 17:01:15

```
Configuration     : RDND06$DKA100:[ALP85.SAMPLE]H9HX01AC_290761341.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : U BRC
Sample date       : 20-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 13:41:08
Sample ID         : H9HX01AC             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                5
 Number of unidentified lines                     2
 Number of lines tentatively identified by NID    3       60.00%
```

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:[ALP85.SAMPLE]H9HX01AC_290761341.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4217.09	172	192	88	85	0.32		
4785.27	244	269	99	97	0.20		
5334.88	324	345	498	494	0.18		
5703.92	385	397	11	11	0.00		
6311.83	468	479	8	10	-0.71		

End of Report

ALPHA

SAMPLE AND QC DATA

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

8/7/2006 2:32:37 PM

Lot No., Due Date: J6G180200; 08/15/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6200160; RALPHA-A Alpha by GPC-Am

SDG, Matrix: 32138; 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** 8-7-06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6200160

Review Item	Yes (√)	No (√)	N/A (√)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	/		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	/		
3. Are the correct isotopes reported?	/		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	/		
2. Does the blank result meet the Contract criteria?	/		
3. Is the blank result < the Contract Detection Limit?	/		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			/
5. Is the LCS recovery with contract acceptance criteria?	/		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	/		
8. Do the MS/MSD results and yields meet acceptance criteria?			/
9. Do the duplicate sample results and yields meet acceptance criteria?			/
C. Other			/
1. Are all Nonconformances included and noted?			
2. Are all required forms filled out?	/		
3. Was the correct methodology used?	/		
4. Was transcription checked?	/		
5. Were all calculations checked at a minimum frequency?	/		
6. Were units checked?	/		

Comments on any "No" response:

Second Level Review: Sheryl R Adam Date: 8-7-06

STL RICHLAND

7/27/2006 10:19:01 AM

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: 08/14/2006

Sep1 DT/Tm Tech:

Batch: 6200160 FILTER pCi/sampl PM, Quote: SA , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: HansenM

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 H9F7N-1-AE J6G180200-1-SAMP 06/20/2006 10:15	0.833sa,g	12.56g,in AmtRec: FILTER	#Containers: 1		16.0g	150	10A Scr:	1825 Alpha:	8/3/06 Beta:	
2 H9F73-1-AE J6G180200-2-SAMP 06/20/2006 10:25	0.833sa,g	12.61g,in AmtRec: FILTER	#Containers: 1		18.0g		10B Scr:	Alpha:	Beta:	
3 H9F75-1-AE J6G180200-3-SAMP 06/20/2006 10:40	0.833sa,g	12.57g,in AmtRec: FILTER	#Containers: 1		44.0g		10C Scr:	Alpha:	Beta:	
4 H9F78-1-AE J6G180200-4-SAMP 06/20/2006 11:00	0.833sa,g	12.54g,in AmtRec: FILTER	#Containers: 1		28.0g		10D Scr:	Alpha:	Beta:	
5 H9F8F-1-AE J6G180200-5-SAMP 06/20/2006 11:15	0.833sa,g	12.54g,in AmtRec: FILTER	#Containers: 1		38g		10E Scr:	Alpha:	Beta:	
6 H9F8L-1-AE J6G180200-6-SAMP 06/20/2006 11:30	0.833sa,g	12.62g,in AmtRec: FILTER	#Containers: 1		20.0g		10A Scr:	2110 Alpha:	Beta:	
7 H9F8W-1-AE J6G180200-7-SAMP 06/20/2006 11:20	0.833sa,g	12.59g,in AmtRec: FILTER	#Containers: 1		8.0g		10B Scr:	Alpha:	Beta:	

STL RICHLAND

7/27/2006 10:19:02 AM

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: 08/14/2006

Sep1 DT/Tm Tech:

Batch: 6200160 FILTER pCi/sampl PM, Quote: SA , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: HansenM

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 H9F85-1-AE J6G180200-8-SAMP 06/20/2006 10:05	0.833sa,g	12.68g,in	AmtRec: FILTER	#Containers: 1	15.0g		10C	2110	8/3/06	Scr: Alpha: Beta:
9 H9F89-1-AE J6G180200-9-SAMP 06/20/2006 10:20	0.833sa,g	12.66g,in	AmtRec: FILTER	#Containers: 1	15.0g		10D			Scr: Alpha: Beta:
10 H9F9A-1-AE J6G180200-10-SAMP 06/20/2006 10:35	0.833sa,g	12.50g,in	AmtRec: FILTER	#Containers: 1	14.0g		10E			Scr: Alpha: Beta:
11 H9F9F-1-AE J6G180200-11-SAMP 06/20/2006 10:55	0.833sa,g	12.62g,in	AmtRec: FILTER	#Containers: 1	14.0g		10A	0923	8/4/06	Scr: Alpha: Beta:
12 H9F9J-1-AE J6G180200-12-SAMP 06/20/2006 11:10	0.833sa,g	12.58g,in	AmtRec: FILTER	#Containers: 1	13.0g		10B			Scr: Alpha: Beta:
13 H9F9L-1-AE J6G180200-13-SAMP 06/20/2006 11:25	0.833sa,g	12.56g,in	AmtRec: FILTER	#Containers: 1	47.0g		10C			Scr: Alpha: Beta:
14 H9F9M-1-AE J6G180200-14-SAMP 06/20/2006 10:10	0.833sa,g	12.57g,in	AmtRec: FILTER	#Containers: 1	41.0g		10d			Scr: Alpha: Beta:

STL RICHLAND

7/27/2006 10:19:03 AM

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: 08/14/2006

Sep1 DT/Tm Tech:

Batch: 6200160 FILTER pCi/sampl PM, Quote: SA , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: HansenM

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
15H9F9N-1-AE J6G180200-15-SAMP 06/20/2006 11:35	0.833sa,g	12.66g,in			30.0g		10e	0923	8/4/06 r	
16H9H1M-1-AA-B J6G190000-160-BLK 06/20/2006 10:15		1.00sa,in			16.0g		10A	1211	8/4/06 r	
17H9H1M-1-AC-C J6G190000-160-LCS 06/20/2006 10:15		1.00sa,in	ASC0396 06/15/06,pd 02/09/06,r		25g		10B			

AmtRec: FILTER #Containers: 1 Scr: Alpha: Beta:

AmtRec: #Containers: 1 Scr: Alpha: Beta:

AmtRec: #Containers: 1 Scr: Alpha: Beta:

Comments:

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

H9F7N1AE-SAMP Constituent List:
  ALPHA       RDL:20          pCi/sam   LCL:        UCL:        RPD:
H9H1M1AA-BLK:
  ALPHA       RDL:20          pCi/sam   LCL:        UCL:        RPD:
H9H1M1AC-LCS:

H9F7N1AE-SAMP Calc Info:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
H9H1M1AA-BLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
H9H1M1AC-LCS:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```

8/7/2006 2:14:17 PM

ICOC Fraction Transfer/Status Report

ByDate: 8/7/2005, 8/12/2006, Batch: '6200160', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6200160						
AC		**CalcC**	**HansenM**	7/20/2006 1:21:28 PM		
SC			wagarr	IsBatched	7/19/2006 8:00:26 AM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	7/20/2006 1:21:28 PM	RICH-RC-5016 REVISION 5
SC			HoganS	Prep2C	8/3/2006 2:14:07 PM	RICH-RC-5014 REVISION 6
SC			HoganS	Prep2C	8/3/2006 2:14:07 PM	RICH-RC-5014 REVISION 6
SC			AntonsonL	Prep2C	8/3/2006 2:19:44 PM	RICHRC5014 REVISION 6
SC			DAWKINSO	InCnt1	8/3/2006 3:47:00 PM	RICH-RD-0003 REVISION 4
SC			StringerR	CalcC	8/4/2006 12:39:15 PM	RICH-RD-0003 REVISION 4
AC			**HoganS**	8/3/2006 2:14:07 PM		
AC			**AntonsonL**	8/3/2006 2:19:44 PM		
AC			**DAWKINSO**	8/3/2006 3:47:00 PM		
AC			**StringerR**	8/4/2006 12:39:15 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 5

ICOCFractions v4.8.18

8/7/2006 2:14:16 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
32138	**9H9F7310**			**J6G1802002**	000503	FILTER	7/18/2006 10:00:00	6/20/2006 10:25:00 AM				
ALPHA	BAS7		0	8/3/2006 5:10:27 PM	**4.4934E+00**	1.54E+00	1.609E+00	4.52E+00	PCI/SA	1.0	1.0E+0	2.094E-2
BETA	BDS8		0	8/2/2006 4:18:54 PM	**1.8657E+01**	1.625E+00	2.273E+00	4.628E+00	PCI/SA	1.0	1.0E+0	3.519E-2
TH-228	9NS1		0	7/31/2006 10:14:42	**-3.6608E-02**	6.849E-02	6.857E-02	3.941E-01	PCI/SA	1.001	1.0E+0	3.618E-2
TH-230	9NS1		0	7/31/2006 10:14:42	**2.6205E-01**	1.004E-01	1.03E-01	2.096E-01	PCI/SA	1.001	1.0E+0	3.618E-2
TH-232	9NS1		0	7/31/2006 10:14:42	**3.4941E-02**	5.525E-02	5.533E-02	2.572E-01	PCI/SA	1.001	1.0E+0	3.618E-2
U-234	7YSR		0	7/29/2006 3:15:06 PM	**1.9955E-01**	1.411E-01	1.42E-01	2.704E-01	PCI/SA	1.05	1.0E+0	3.234E-2
U-235	7YSR		0	7/29/2006 3:15:06 PM	**-5.9866E-02**	3.456E-02	3.489E-02	6.298E-01	PCI/SA	1.05	1.0E+0	3.234E-2
U-238	7YSR		0	7/29/2006 3:15:06 PM	**3.9907E-02**	1.056E-01	1.056E-01	6.298E-01	PCI/SA	1.05	1.0E+0	3.234E-2
32138	**9H9F7510**			**J6G1802003**	000504	FILTER	7/18/2006 10:00:00	6/20/2006 10:40:00 AM				
ALPHA	BAS7		0	8/3/2006 5:10:27 PM	**4.6957E+00**	1.695E+00	1.764E+00	5.273E+00	PCI/SA	1.0	1.0E+0	2.068E-2
BETA	BDS8		0	8/2/2006 4:18:54 PM	**1.8053E+01**	1.72E+00	2.119E+00	5.139E+00	PCI/SA	1.0	1.0E+0	3.438E-2
TH-228	9NS1		0	7/31/2006 10:14:42	**6.679E-02**	6.679E-02	6.706E-02	2.671E-01	PCI/SA	1.005	1.0E+0	3.364E-2
TH-230	9NS1		0	7/31/2006 10:14:42	**5.9495E-01**	1.59E-01	1.678E-01	1.152E-01	PCI/SA	1.005	1.0E+0	3.364E-2
TH-232	9NS1		0	7/31/2006 10:14:42	**4.2497E-02**	4.25E-02	4.267E-02	1.152E-01	PCI/SA	1.005	1.0E+0	3.364E-2
U-234	7YSR		0	7/29/2006 3:15:24 PM	**-2.2612E-02**	1.257E-01	1.258E-01	8.812E-01	PCI/SA	0.856	1.0E+0	3.19E-2
U-235	7YSR		0	7/29/2006 3:15:24 PM	**-6.7763E-02**	3.912E-02	3.951E-02	7.127E-01	PCI/SA	0.856	1.0E+0	3.19E-2
U-238	7YSR		0	7/29/2006 3:15:24 PM	**-2.4464E-05**	1.237E-01	1.237E-01	8.311E-01	PCI/SA	0.856	1.0E+0	3.19E-2
32138	**9H9F7810**			**J6G1802004**	000505	FILTER	7/18/2006 10:00:00	6/20/2006 11:00:00 AM				
ALPHA	BAS7		0	8/3/2006 5:10:27 PM	**4.3328E+00**	1.644E+00	1.703E+00	5.344E+00	PCI/SA	1.0	1.0E+0	2.051E-2
BETA	BDS8		0	8/2/2006 4:18:54 PM	**1.948E+01**	1.827E+00	2.283E+00	5.496E+00	PCI/SA	1.0	1.0E+0	3.181E-2
TH-228	9NS1		0	7/31/2006 10:14:42	**2.5373E-01**	1.292E-01	1.313E-01	3.382E-01	PCI/SA	0.804	1.0E+0	3.4E-2
TH-230	9NS1		0	7/31/2006 10:14:42	**5.1125E-01**	1.723E-01	1.788E-01	3.228E-01	PCI/SA	0.804	1.0E+0	3.4E-2
TH-232	9NS1		0	7/31/2006 10:14:42	**5.3816E-02**	5.382E-02	5.405E-02	1.458E-01	PCI/SA	0.804	1.0E+0	3.4E-2
U-234	7YSR		0	7/29/2006 3:15:51 PM	**5.1406E-06**	1.127E-01	1.127E-01	7.569E-01	PCI/SA	0.94	1.0E+0	3.135E-2
U-235	7YSR		0	7/29/2006 3:15:51 PM	**-2.0567E-02**	2.057E-02	2.063E-02	4.926E-01	PCI/SA	0.94	1.0E+0	3.135E-2
U-238	7YSR		0	7/29/2006 3:15:51 PM	**-1.234E-01**	5.038E-02	5.135E-02	8.026E-01	PCI/SA	0.94	1.0E+0	3.135E-2
32138	**9H9F7N10**			**J6G1802001**	000502	FILTER	7/18/2006 10:00:00	6/20/2006 10:15:00 AM				
ALPHA	BAS7		0	8/3/2006 5:10:27 PM	**2.8978E+00**	1.398E+00	1.431E+00	4.846E+00	PCI/SA	1.0	1.0E+0	2.084E-2
BETA	BDS8		0	8/2/2006 4:18:54 PM	**1.6424E+01**	1.733E+00	2.091E+00	5.465E+00	PCI/SA	1.0	1.0E+0	3.299E-2
TH-228	9NS1		0	7/31/2006 10:14:42	**8.4214E-02**	1.073E-01	1.076E-01	4.532E-01	PCI/SA	0.908	1.0E+0	3.5E-2
TH-230	9NS1		0	7/31/2006 10:14:42	**2.2102E-01**	1.005E-01	1.024E-01	2.41E-01	PCI/SA	0.908	1.0E+0	3.5E-2
TH-232	9NS1		0	7/31/2006 10:14:42	**4.0186E-02**	4.019E-02	4.035E-02	1.089E-01	PCI/SA	0.908	1.0E+0	3.5E-2
U-234	7YSR		0	7/29/2006 3:14:32 PM	**1.6003E-01**	1.442E-01	1.448E-01	5.652E-01	PCI/SA	0.989	1.0E+0	3.223E-2
U-235	7YSR		0	7/29/2006 3:14:32 PM	**-4.0009E-02**	2.829E-02	2.847E-02	5.652E-01	PCI/SA	0.989	1.0E+0	3.223E-2
U-238	7YSR		0	7/29/2006 3:14:32 PM	**4.0004E-02**	1.059E-01	1.059E-01	6.313E-01	PCI/SA	0.989	1.0E+0	3.223E-2
32138	**9H9F8510**			**J6G1802008**	P-0675	FILTER	7/18/2006 10:00:00	6/20/2006 10:05:00 AM				
ALPHA	BAS7		0	8/3/2006 8:17:32 PM	**1.2145E+00**	1.204E+00	1.211E+00	5.083E+00	PCI/SA	1.0	1.0E+0	2.112E-2
BETA	BDS8		0	8/2/2006 4:19:08 PM	**1.3235E+01**	1.707E+00	1.954E+00	5.741E+00	PCI/SA	1.0	1.0E+0	3.537E-2
TH-228	9NS1		0	7/31/2006 10:14:42	**1.8382E-02**	4.11E-02	4.114E-02	2.205E-01	PCI/SA	0.971	1.0E+0	3.449E-2
TH-230	9NS1		0	7/31/2006 10:14:42	**1.7544E-02**	3.923E-02	3.926E-02	2.105E-01	PCI/SA	0.971	1.0E+0	3.449E-2
TH-232	9NS1		0	7/31/2006 10:14:42	**3.5088E-02**	5.548E-02	5.556E-02	2.582E-01	PCI/SA	0.971	1.0E+0	3.449E-2
U-234	7YSR		0	7/29/2006 3:17:03 PM	**0.0E+00**	0.0E+00	1.156E-01	2.557E-01	PCI/SA	0.976	1.0E+0	3.263E-2
U-235	7YSR		0	7/29/2006 3:17:03 PM	**-1.8874E-02**	1.887E-02	1.893E-02	4.519E-01	PCI/SA	0.976	1.0E+0	3.263E-2
U-238	7YSR		0	7/29/2006 3:17:03 PM	**7.5476E-02**	9.622E-02	9.641E-02	4.519E-01	PCI/SA	0.976	1.0E+0	3.263E-2
32138	**9H9F8910**			**J6G1802009**	P-0676	FILTER	7/18/2006 10:00:00	6/20/2006 10:20:00 AM				
ALPHA	BAS7		0	8/3/2006 8:17:32 PM	**2.8114E+00**	1.434E+00	1.463E+00	5.18E+00	PCI/SA	1.0	1.0E+0	2.102E-2
BETA	BDS8		0	8/2/2006 4:19:38 PM	**1.4073E+01**	1.702E+00	1.99E+00	5.678E+00	PCI/SA	1.0	1.0E+0	3.401E-2
TH-228	9NS1		0	7/31/2006 8:19:57 PM	**3.8966E-02**	9.138E-02	9.144E-02	4.194E-01	PCI/SA	1.06	1.0E+0	3.341E-2
TH-230	9NS1		0	7/31/2006 8:19:57 PM	**2.7879E-01**	1.068E-01	1.096E-01	2.23E-01	PCI/SA	1.06	1.0E+0	3.341E-2
TH-232	9NS1		0	7/31/2006 8:19:57 PM	**0.0E+00**	0.0E+00	4.553E-02	1.007E-01	PCI/SA	1.06	1.0E+0	3.341E-2
U-234	7YSR		0	7/29/2006 3:17:19 PM	**-1.9614E-02**	1.961E-02	1.968E-02	4.696E-01	PCI/SA	1.022	1.0E+0	3.263E-2

6200160, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 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		7/29/2006 3:17:19 PM	**9.8048E-02**	9.805E-02	9.836E-02	2.657E-01	PCI/SA		1.022	1.0E+0	3.263E-2
U-238	7YSR	0		7/29/2006 3:17:19 PM	**5.882E-02**	1.019E-01	1.02E-01	5.541E-01	PCI/SA		1.022	1.0E+0	3.263E-2
32138	**9H9F8F10**			**J6G1802005**	000506	FILTER	7/18/2006 10:00:00	6/20/2006 11:15:00 AM					
ALPHA	BAS7	0		8/3/2006 5:10:27 PM	**4.6844E+00**	1.691E+00	1.758E+00	5.26E+00	PCI/SA		1.0	1.0E+0	2.08E-2
BETA	BDS8	0		8/2/2006 4:19:08 PM	**1.5794E+01**	1.736E+00	2.051E+00	5.479E+00	PCI/SA		1.0	1.0E+0	3.302E-2
TH-228	9NS1	0		7/31/2006 10:14:42	**3.2041E-01**	1.146E-01	1.181E-01	2.261E-01	PCI/SA		1.039	1.0E+0	3.538E-2
TH-230	9NS1	0		7/31/2006 10:14:42	**6.1162E-01**	1.483E-01	1.579E-01	9.75E-02	PCI/SA		1.039	1.0E+0	3.538E-2
TH-232	9NS1	0		7/31/2006 10:14:42	**1.2592E-01**	7.417E-02	7.5E-02	2.158E-01	PCI/SA		1.039	1.0E+0	3.538E-2
U-234	7YSR	0		7/29/2006 3:16:16 PM	**3.9574E-01**	1.979E-01	2.004E-01	2.681E-01	PCI/SA		0.932	1.0E+0	3.228E-2
U-235	7YSR	0		7/29/2006 3:16:16 PM	**5.9365E-02**	1.028E-01	1.029E-01	5.591E-01	PCI/SA		0.932	1.0E+0	3.228E-2
U-238	7YSR	0		7/29/2006 3:16:16 PM	**1.4444E+00**	3.842E-01	4.014E-01	5.591E-01	PCI/SA		0.932	1.0E+0	3.228E-2
32138	**9H9F8L10**			**J6G1802006**	000507	FILTER	7/18/2006 10:00:00	6/20/2006 11:30:00 AM					
ALPHA	BAS7	0		8/3/2006 8:17:32 PM	**7.7184E+00**	1.938E+00	2.098E+00	4.879E+00	PCI/SA		1.0	1.0E+0	2.074E-2
BETA	BDS8	0		8/2/2006 4:19:08 PM	**3.1016E+01**	2.05E+00	2.968E+00	5.356E+00	PCI/SA		1.0	1.0E+0	3.238E-2
TH-228	9NS1	0		7/31/2006 10:14:42	**1.6053E-01**	1.1E-01	1.109E-01	3.855E-01	PCI/SA		0.859	1.0E+0	3.227E-2
TH-230	9NS1	0		7/31/2006 10:14:42	**4.1587E-01**	1.401E-01	1.451E-01	2.626E-01	PCI/SA		0.859	1.0E+0	3.227E-2
TH-232	9NS1	0		7/31/2006 10:14:42	**1.751E-01**	1.027E-01	1.039E-01	3.222E-01	PCI/SA		0.859	1.0E+0	3.227E-2
U-234	7YSR	0		7/29/2006 3:16:34 PM	**2.0801E-01**	1.471E-01	1.48E-01	2.818E-01	PCI/SA		0.934	1.0E+0	3.166E-2
U-235	7YSR	0		7/29/2006 3:16:34 PM	**-2.0799E-02**	2.08E-02	2.087E-02	4.981E-01	PCI/SA		0.934	1.0E+0	3.166E-2
U-238	7YSR	0		7/29/2006 3:16:34 PM	**-4.1598E-02**	2.941E-02	2.961E-02	5.877E-01	PCI/SA		0.934	1.0E+0	3.166E-2
32138	**9H9F8W10**			**J6G1802007**	000508	FILTER	7/18/2006 10:00:00	6/20/2006 11:20:00 AM					
ALPHA	BAS7	0		8/3/2006 8:17:32 PM	**1.2533E+00**	1.095E+00	1.103E+00	4.503E+00	PCI/SA		1.0	1.0E+0	2.092E-2
BETA	BDS8	0		8/2/2006 4:19:08 PM	**2.8685E+00**	1.242E+00	1.269E+00	4.889E+00	PCI/SA		1.0	1.0E+0	3.371E-2
TH-228	9NS1	0		7/31/2006 10:14:42	**1.1977E-01**	8.637E-02	8.705E-02	2.874E-01	PCI/SA		0.902	1.0E+0	3.364E-2
TH-230	9NS1	0		7/31/2006 10:14:42	**0.0E+00**	0.0E+00	5.6E-02	1.239E-01	PCI/SA		0.902	1.0E+0	3.364E-2
TH-232	9NS1	0		7/31/2006 10:14:42	**0.0E+00**	0.0E+00	5.6E-02	1.239E-01	PCI/SA		0.902	1.0E+0	3.364E-2
U-234	7YSR	0		7/29/2006 3:16:46 PM	**-1.9868E-02**	1.987E-02	1.993E-02	4.758E-01	PCI/SA		1.032	1.0E+0	3.241E-2
U-235	7YSR	0		7/29/2006 3:16:46 PM	**0.0E+00**	0.0E+00	1.217E-01	2.692E-01	PCI/SA		1.032	1.0E+0	3.241E-2
U-238	7YSR	0		7/29/2006 3:16:46 PM	**-1.9868E-02**	1.987E-02	1.993E-02	4.758E-01	PCI/SA		1.032	1.0E+0	3.241E-2
32138	**9H9F9A10**			**J6G18020010**	P-0677	FILTER	7/18/2006 10:00:00	6/20/2006 10:35:00 AM					
ALPHA	BAS7	0		8/3/2006 8:17:32 PM	**1.2528E+00**	1.242E+00	1.249E+00	5.244E+00	PCI/SA		1.0	1.0E+0	2.06E-2
BETA	BDS8	0		8/2/2006 4:19:38 PM	**1.532E+01**	1.718E+00	2.03E+00	5.506E+00	PCI/SA		1.0	1.0E+0	3.248E-2
TH-228	9NS1	0		7/31/2006 8:19:57 PM	**1.5211E-01**	1.109E-01	1.117E-01	4.093E-01	PCI/SA		1.012	1.0E+0	3.301E-2
TH-230	9NS1	0		7/31/2006 8:19:57 PM	**4.8975E-01**	1.369E-01	1.436E-01	2.176E-01	PCI/SA		1.012	1.0E+0	3.301E-2
TH-232	9NS1	0		7/31/2006 8:19:57 PM	**6.0527E-07**	4.443E-02	4.443E-02	2.67E-01	PCI/SA		1.012	1.0E+0	3.301E-2
U-234	7YSR	0		7/29/2006 3:17:44 PM	**-2.0197E-02**	2.02E-02	2.026E-02	4.838E-01	PCI/SA		0.975	1.0E+0	3.196E-2
U-235	7YSR	0		7/29/2006 3:17:44 PM	**0.0E+00**	0.0E+00	1.237E-01	2.737E-01	PCI/SA		0.975	1.0E+0	3.196E-2
U-238	7YSR	0		7/29/2006 3:17:44 PM	**8.081E-02**	1.03E-01	1.032E-01	4.838E-01	PCI/SA		0.975	1.0E+0	3.196E-2
32138	**9H9F9F10**			**J6G18020011**	P-0678	FILTER	7/18/2006 10:00:00	6/20/2006 10:55:00 AM					
ALPHA	BAS7	0		8/4/2006 8:07:31 AM	**2.5909E+00**	1.463E+00	1.488E+00	5.446E+00	PCI/SA		1.0	1.0E+0	2.092E-2
BETA	BDS8	0		8/2/2006 4:19:38 PM	**1.7656E+01**	1.717E+00	2.095E+00	5.188E+00	PCI/SA		1.0	1.0E+0	3.467E-2
TH-228	9NS1	0		7/31/2006 8:19:57 PM	**2.2301E-02**	4.986E-02	4.99E-02	2.675E-01	PCI/SA		1.099	1.0E+0	3.353E-2
TH-230	9NS1	0		7/31/2006 8:19:57 PM	**4.6805E-01**	1.411E-01	1.472E-01	1.153E-01	PCI/SA		1.099	1.0E+0	3.353E-2
TH-232	9NS1	0		7/31/2006 8:19:57 PM	**4.255E-02**	4.255E-02	4.272E-02	1.153E-01	PCI/SA		1.099	1.0E+0	3.353E-2
U-234	7YSR	0		7/29/2006 3:18:06 PM	**0.0E+00**	0.0E+00	1.139E-01	2.521E-01	PCI/SA		0.948	1.0E+0	3.238E-2
U-235	7YSR	0		7/29/2006 3:18:06 PM	**7.4404E-02**	9.485E-02	9.504E-02	4.455E-01	PCI/SA		0.948	1.0E+0	3.238E-2
U-238	7YSR	0		7/29/2006 3:18:06 PM	**-1.8606E-02**	1.861E-02	1.867E-02	4.455E-01	PCI/SA		0.948	1.0E+0	3.238E-2
32138	**9H9F9J10**			**J6G18020012**	P-0679	FILTER	7/18/2006 10:00:00	6/20/2006 11:10:00 AM					
ALPHA	BAS7	0		8/4/2006 8:07:31 AM	**2.1953E+00**	1.397E+00	1.416E+00	5.371E+00	PCI/SA		1.0	1.0E+0	2.086E-2
BETA	BDS8	0		8/2/2006 4:19:33 PM	**2.0028E+01**	1.736E+00	2.212E+00	5.03E+00	PCI/SA		1.0	1.0E+0	3.405E-2
TH-228	9NS1	0		7/31/2006 8:19:57 PM	**5.0555E-01**	2.261E-01	2.321E-01	2.74E-01	PCI/SA		0.45	1.0E+0	3.376E-2
TH-230	9NS1	0		7/31/2006 8:19:57 PM	**1.254E+00**	3.478E-01	3.712E-01	2.614E-01	PCI/SA		0.45	1.0E+0	3.376E-2
TH-232	9NS1	0		7/31/2006 8:19:57 PM	**0.0E+00**	0.0E+00	1.181E-01	2.614E-01	PCI/SA		0.45	1.0E+0	3.376E-2
U-234	7YSR	0		7/29/2006 3:18:29 PM	**1.0176E-01**	1.018E-01	1.021E-01	2.758E-01	PCI/SA		0.967	1.0E+0	3.233E-2

6200160, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 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		7/29/2006 3:18:29 PM	**0.0E+00**	0.0E+00	1.246E-01	2.758E-01	PCI/SA		0.967	1.0E+0	3.233E-2
U-238	7YSR	0		7/29/2006 3:18:29 PM	**-2.0348E-02**	2.035E-02	2.041E-02	4.874E-01	PCI/SA		0.967	1.0E+0	3.233E-2
32138	**9H9F9L10**			**J6G18020013**	P-0680	FILTER	7/18/2006 10:00:00	6/20/2006 11:25:00 AM					
ALPHA	BAS7	0		8/4/2006 8:07:31 AM	**4.3518E+00**	1.706E+00	1.765E+00	5.595E+00	PCI/SA		1.0	1.0E+0	2.072E-2
BETA	BDS8	0		8/2/2006 4:19:33 PM	**1.4015E+01**	1.662E+00	1.919E+00	5.359E+00	PCI/SA		1.0	1.0E+0	3.274E-2
U-234	7YSR	0		7/29/2006 3:19:10 PM	**8.3601E-02**	1.002E-01	1.004E-01	4.548E-01	PCI/SA		0.974	1.0E+0	3.208E-2
U-235	7YSR	0		7/29/2006 3:19:10 PM	**-2.3887E-02**	1.379E-02	1.392E-02	4.964E-01	PCI/SA		0.974	1.0E+0	3.208E-2
U-238	7YSR	0		7/29/2006 3:19:10 PM	**-4.7774E-02**	1.95E-02	1.988E-02	5.904E-01	PCI/SA		0.974	1.0E+0	3.208E-2
32138	**9H9F9M10**			**J6G18020014**	P-0681	FILTER	7/18/2006 10:00:00	6/20/2006 10:10:00 AM					
ALPHA	BAS7	0		8/4/2006 8:07:31 AM	**4.1711E+00**	1.552E+00	1.61E+00	4.86E+00	PCI/SA		1.0	1.0E+0	2.057E-2
BETA	BDS8	0		8/2/2006 4:19:33 PM	**1.391E+01**	1.637E+00	1.902E+00	5.263E+00	PCI/SA		1.0	1.0E+0	3.302E-2
TH-228	9NS1	0		7/31/2006 8:19:57 PM	**-2.12E-02**	5.609E-02	5.613E-02	3.564E-01	PCI/SA		0.932	1.0E+0	3.21E-2
TH-230	9NS1	0		7/31/2006 8:19:57 PM	**3.4384E-01**	1.23E-01	1.268E-01	2.426E-01	PCI/SA		0.932	1.0E+0	3.21E-2
TH-232	9NS1	0		7/31/2006 8:19:57 PM	**-4.0451E-02**	2.86E-02	2.883E-02	2.977E-01	PCI/SA		0.932	1.0E+0	3.21E-2
U-234	7YSR	0		7/29/2006 3:19:32 PM	**-5.5451E-02**	2.264E-02	2.309E-02	6.85E-01	PCI/SA		0.866	1.0E+0	3.163E-2
U-235	7YSR	0		7/29/2006 3:19:32 PM	**8.7737E-02**	1.166E-01	1.168E-01	5.76E-01	PCI/SA		0.866	1.0E+0	3.163E-2
U-238	7YSR	0		7/29/2006 3:19:32 PM	**-4.6209E-02**	2.067E-02	2.101E-02	6.526E-01	PCI/SA		0.866	1.0E+0	3.163E-2
32138	**9H9F9N10**			**J6G18020015**	P-0682	FILTER	7/18/2006 10:00:00	6/20/2006 11:35:00 AM					
ALPHA	BAS7	0		8/4/2006 8:07:31 AM	**-7.5302E-01**	9.068E-01	9.101E-01	5.309E+00	PCI/SA		1.0	1.0E+0	2.094E-2
BETA	BDS8	0		8/2/2006 6:58:31 PM	**1.4714E-01**	1.296E+00	1.296E+00	5.478E+00	PCI/SA		1.0	1.0E+0	3.296E-2
TH-228	9NS1	0		7/31/2006 8:19:57 PM	**9.1592E-02**	2.048E-01	2.051E-01	1.099E+00	PCI/SA		0.237	1.0E+0	3.33E-2
TH-230	9NS1	0		7/31/2006 8:19:57 PM	**6.9905E-01**	3.495E-01	3.593E-01	4.736E-01	PCI/SA		0.237	1.0E+0	3.33E-2
TH-232	9NS1	0		7/31/2006 8:19:57 PM	**0.0E+00**	0.0E+00	2.14E-01	4.736E-01	PCI/SA		0.237	1.0E+0	3.33E-2
U-234	7YSR	0		7/29/2006 3:20:17 PM	**9.146E-02**	1.215E-01	1.217E-01	6.004E-01	PCI/SA		0.865	1.0E+0	3.22E-2
U-235	7YSR	0		7/29/2006 3:20:17 PM	**-1.9262E-02**	1.362E-02	1.371E-02	5.5E-01	PCI/SA		0.865	1.0E+0	3.22E-2
U-238	7YSR	0		7/29/2006 3:20:17 PM	**-1.9262E-02**	1.362E-02	1.371E-02	5.5E-01	PCI/SA		0.865	1.0E+0	3.22E-2
32138	**H9H1M1AB**			**J6G190000160**	INTRA-LAB BLANK	FILTER	7/18/2006 10:00:00	6/20/2006 10:15:00 AM					
ALPHA	BAS7	0	B	8/4/2006 10:54:31 AM	**2.3692E-02**	2.655E-02	2.666E-02	1.141E-01	PCI/SA		1.0	1.0E+0	1.0E+0
32138	**H9H1M1CS**			**J6G190000160**	INTRA-LAB CHECK	FILTER	7/18/2006 10:00:00	6/20/2006 10:15:00 AM					
ALPHA	BAS7	0	S	8/4/2006 10:54:31 AM	**2.4333E+00**	1.375E-01	2.829E-01	1.127E-01	PCI/SA	2.3781E+00	1.0	1.0E+0	1.0E+0

6200160, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => .

Batch Nbr: 6200160

Alpha Beta, Alpha by GPC-Am , Results

8/7/2006 10:55:45 AM

Summary Report

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	H9F7N1AE	ALPHA	2.90E+00	(1.43E+00)		PCI/SA	R	1.93E+00	4.85E+00		100%	
Calc	S7	FILTER	H9F731AE	ALPHA	4.49E+00	(1.61E+00)		PCI/SA	R	1.77E+00	4.52E+00		100%	
Calc	S7	FILTER	H9F751AE	ALPHA	4.70E+00	(1.76E+00)		PCI/SA	R	2.12E+00	5.27E+00		100%	
Calc	S7	FILTER	H9F781AE	ALPHA	4.33E+00	(1.70E+00)		PCI/SA	R	2.19E+00	5.34E+00		100%	
Calc	S7	FILTER	H9F8F1AE	ALPHA	4.68E+00	(1.76E+00)		PCI/SA	R	2.12E+00	5.26E+00		100%	
Calc	S7	FILTER	H9F8L1AE	ALPHA	7.72E+00	(2.10E+00)		PCI/SA	R	1.94E+00	4.88E+00		100%	
Calc	S7	FILTER	H9F8W1AE	ALPHA	1.25E+00	(1.10E+00)	U4	PCI/SA	R	1.77E+00	4.50E+00		100%	
Calc	S7	FILTER	H9F851AE	ALPHA	1.21E+00	(1.21E+00)	U4	PCI/SA	R	2.04E+00	5.08E+00		100%	
Calc	S7	FILTER	H9F891AE	ALPHA	2.81E+00	(1.46E+00)		PCI/SA	R	2.12E+00	5.18E+00		100%	
Calc	S7	FILTER	H9F9A1AE	ALPHA	1.25E+00	(1.25E+00)	U4	PCI/SA	R	2.11E+00	5.24E+00		100%	
Calc	S7	FILTER	H9F9F1AE	ALPHA	2.59E+00	(1.49E+00)		PCI/SA	R	2.23E+00	5.45E+00		100%	
Calc	S7	FILTER	H9F9J1AE	ALPHA	2.20E+00	(1.42E+00)	U4	PCI/SA	R	2.20E+00	5.37E+00		100%	
Calc	S7	FILTER	H9F9L1AE	ALPHA	4.35E+00	(1.77E+00)		PCI/SA	R	2.28E+00	5.59E+00		100%	
Calc	S7	FILTER	H9F9M1AE	ALPHA	4.17E+00	(1.61E+00)		PCI/SA	R	1.94E+00	4.86E+00		100%	
Calc	S7	FILTER	H9F9N1AE	ALPHA	-7.53E-01	(9.10E-01)	U4	PCI/SA	R	2.15E+00	5.31E+00		100%	
Calc	S7	FILTER	H9H1M1AA	ALPHA	2.37E-02	(2.67E-02)	U4	PCI/SA	R	4.67E-02	1.14E-01	B	100%	
Calc	S7	FILTER	H9H1M1AC	ALPHA	2.43E+00	(2.83E-01)		PCI/SA	R	4.62E-02	1.13E-01	S	100%	102%

CRDL met

P Anderson
8-7-06

() - (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:17
RADCALC v4.8.24
STL Richland

Batch Nbr: 6200160

Alpha Beta, Alpha by GPC-Am , Calculated Results
Detailed Report

8/7/2006 10:55:45 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
1	Calc	S7	FILTER	*STLE	GabWoBS	**H9F7N1AE**	**PCI/SA**		06/20/06 10:15	08/03/06 17:10	07/26/06 13:47		1	1.00 Sa	
536403,000502					,J6G180200-1 v4.8.24		FILTER			01.6	08/03/06 08:18			0.020836 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	08/03/06 18:25	ALPHA	13	17	GPC10A	1.5	N	N	3.9292E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.357E-02)	(0.000E+00)		8%			(0.000E+00)	47.994357		

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
	08/07/06	ALPHA	R	**2.897778**		5.26667E-02	0.134038	0.134038	1.00 Sa	100%		4.845957		
				(1.430541)		(2.5412E-02)	(0.065721)	(0.065721)	(0.028284)			1.927099		

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	**H9F731AE**	**PCI/SA**		06/20/06 10:25	08/03/06 17:10	07/26/06 13:47		1	1.00 Sa	
536403,000503					,J6G180200-2 v4.8.24		FILTER			01.8	08/03/06 08:18			0.02094 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	08/03/06 18:25	ALPHA	17	15	GPC10B	1.5	N	N	3.9895E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.339E-02)	(0.000E+00)		8%			(0.000E+00)	47.755502		

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
	08/07/06	ALPHA	R	**4.493379**		8.33333E-02	0.208883	0.208883	1.00 Sa	100%		4.52003		
				(1.609276)		(2.8558E-02)	(0.073842)	(0.073842)	(0.028284)			1.773986		

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	**H9F751AE**	**PCI/SA**		06/20/06 10:40	08/03/06 17:10	07/26/06 13:47		1	1.00 Sa	
536403,000504					,J6G180200-3 v4.8.24		FILTER			04.4	08/03/06 08:18			0.020683 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	08/03/06 18:25	ALPHA	18	19	GPC10C	1.5	N	N	3.8032E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.266E-02)	(0.000E+00)		8%			(0.000E+00)	48.34965		

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
	08/07/06	ALPHA	R	**4.695749**		8.20000E-02	0.215608	0.215608	1.00 Sa	100%		5.272877		
				(1.763806)		(2.9597E-02)	(0.080033)	(0.080033)	(0.028284)			2.120402		

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	**H9F781AE**	**PCI/SA**		06/20/06 11:00	08/03/06 17:10	07/26/06 13:47		1	1.00 Sa	
536403,000505					,J6G180200-4 v4.8.24		FILTER			02.8	08/03/06 08:18			0.020511 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	08/03/06 18:25	ALPHA	19	23	GPC10D	1.5	N	N	4.0888E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.189E-02)	(0.000E+00)		8%			(0.000E+00)	48.755387		

() - (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: 6200160

Alpha Beta, Alpha by GPC-Am , Calculated Results

8/7/2006 10:55:45 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
	08/07/06	ALPHA	R	**4.332769**		8.06667E-02	0.197286	0.197286	1.00 Sa	100%		5.344185		
				(1.702823)		(3.0601E-02)	(0.076703)	(0.076703)	(0.028284)			2.188193		

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	**H9F8F1AE**	**PCI/SA**		06/20/06 11:15	08/03/06 17:10	07/26/06 13:47		1	1.00 Sa	
536403,000506					,J6G180200-5 v4.8.24		FILTER			03.8	08/03/06 08:18			0.020798 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	08/03/06 18:25	ALPHA	18	19	GPC10E	1.5	N	N	3.7913E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.122E-02)	(0.000E+00)		8%			(0.000E+00)	48.082391		

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
	08/07/06	ALPHA	R	**4.684426**		8.20000E-02	0.216284	0.216284	1.00 Sa	100%		5.260162		
				(1.758097)		(2.9597E-02)	(0.080216)	(0.080216)	(0.028284)			2.115288		

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	**H9F8L1AE**	**PCI/SA**		06/20/06 11:30	08/03/06 20:17	07/26/06 13:47		1	1.00 Sa	
536403,000507					,J6G180200-6 v4.8.24		FILTER			02.0	08/03/06 08:18			0.020744 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	08/03/06 21:32	ALPHA	26	17	GPC10A	1.5	N	N	3.9200E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.354E-02)	(0.000E+00)		8%			(0.000E+00)	48.207556		

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
	08/07/06	ALPHA	R	**7.718367**		1.39333E-01	0.355438	0.355438	1.00 Sa	100%		4.878886		
				(2.098461)		(3.4979E-02)	(0.094454)	(0.094454)	(0.028284)			1.940194		

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	**H9F8W1AE**	**PCI/SA**		06/20/06 11:20	08/03/06 20:17	07/26/06 13:47		1	1.00 Sa	
536403,000508					,J6G180200-7 v4.8.24		FILTER			00.8	08/03/06 08:18			0.020919 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	08/03/06 21:32	ALPHA	8	15	GPC10B	1.5	N	N	4.0087E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.346E-02)	(0.000E+00)		8%			(0.000E+00)	47.802759		

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
	08/07/06	ALPHA	R	**1.253348**	**U4**	2.33333E-02	0.058207	0.058207	1.00 Sa	100%		4.502791		
				(1.102727)		(2.0385E-02)	(0.051102)	(0.051102)	(0.028284)			1.76722		

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	**H9F851AE**	**PCI/SA**		06/20/06 10:05	08/03/06 20:17	07/26/06 13:47		1	1.00 Sa	
536403,P-0675					,J6G180200-8 v4.8.24		FILTER			01.5	08/03/06 08:18			0.021122 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: 6200160

Alpha Beta, Alpha by GPC-Am , Calculated Results

8/7/2006 10:55:45 AM

0	08/03/06 21:32	ALPHA	9	19	GPC10C	1.5	N	N	3.8631E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00
			150	500			Y		(1.286E-02)	(0.000E+00)		8%			(0.000E+00)	47.345121	

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
	08/07/06	ALPHA	R	**1.214521**	**U4**	2.20000E-02	0.056949	0.056949	1.00 Sa	100%		5.083221		
				(1.211043)		(2.1817E-02)	(0.056691)	(0.056691)	(0.028284)			2.044135		

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	**H9F891AE**	**PCI/SA**		06/20/06 10:20	08/03/06 20:17	07/26/06 13:47		1	1.00 Sa	
536403,P-0676					,J6G180200-9 v4.8.24		FILTER			01.5	08/03/06 08:18			0.021019 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	08/03/06 21:32	ALPHA	15	23	GPC10D	1.5	N	N	4.1163E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.197E-02)	(0.000E+00)		8%			(0.000E+00)	47.575428		

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
	08/07/06	ALPHA	R	**2.811376**		5.40000E-02	0.131187	0.131187	1.00 Sa	100%		5.180064		
				(1.46278)		(2.7544E-02)	(0.06784)	(0.06784)	(0.028284)			2.120993		

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	**H9F9A1AE**	**PCI/SA**		06/20/06 10:35	08/03/06 20:17	07/26/06 13:47		1	1.00 Sa	
536403,P-0677					,J6G180200-10 v4.8.24		FILTER			01.4	08/03/06 08:18			0.020603 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	08/03/06 21:32	ALPHA	9	19	GPC10E	1.5	N	N	3.8392E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.136E-02)	(0.000E+00)		8%			(0.000E+00)	48.535894		

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
	08/07/06	ALPHA	R	**1.252836**	**U4**	2.20000E-02	0.057304	0.057304	1.00 Sa	100%		5.243583		
				(1.249101)		(2.1817E-02)	(0.057038)	(0.057038)	(0.028284)			2.108621		

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	**H9F9F1AE**	**PCI/SA**		06/20/06 10:55	08/04/06 08:07	07/26/06 13:47		1	1.00 Sa	
536403,P-0678					,J6G180200-11 v4.8.24		FILTER			01.4	08/03/06 08:18			0.02092 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	08/04/06 09:22	ALPHA	14	23	GPC10A	1.5	N	N	3.9337E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.359E-02)	(0.000E+00)		8%			(0.000E+00)	47.801371		

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
	08/07/06	ALPHA	R	**2.59088**		4.73333E-02	0.120326	0.120326	1.00 Sa	100%		5.446158		
				(1.487623)		(2.6725E-02)	(0.068742)	(0.068742)	(0.028284)			2.229946		

() - (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: 6200160

Alpha Beta, Alpha by GPC-Am , Calculated Results

8/7/2006 10:55:45 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
12	Calc	S7	FILTER	*STLE	GabWoBS	**H9F9J1AE**	**PCI/SA**		06/20/06 11:10	08/04/06 08:07	07/26/06 13:47		1	1.00 Sa	
536403,P-0679					,J6G180200-12 v4.8.24		FILTER			01.3	08/03/06 08:18			0.020864 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	08/04/06 09:22	ALPHA	13	23	GPC10B	1.5	N	N	3.9993E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.343E-02)	(0.000E+00)		8%			(0.000E+00)	47.928551		

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
	08/07/06	ALPHA	R	**2.195318**	**U4**	4.06667E-02	0.101685	0.101685	1.00 Sa	100%		5.371171		
				(1.415641)		(2.5880E-02)	(0.06531)	(0.06531)	(0.028284)			2.199243		

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	**H9F9L1AE**	**PCI/SA**		06/20/06 11:25	08/04/06 08:07	07/26/06 13:47		1	1.00 Sa	
536403,P-0680					,J6G180200-13 v4.8.24		FILTER			04.7	08/03/06 08:18			0.020722 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	08/04/06 09:22	ALPHA	18	22	GPC10C	1.5	N	N	3.7963E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.264E-02)	(0.000E+00)		8%			(0.000E+00)	48.258157		

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
	08/07/06	ALPHA	R	**4.351831**		7.60000E-02	0.200196	0.200196	1.00 Sa	100%		5.594801		
				(1.765302)		(2.9799E-02)	(0.08039)	(0.08039)	(0.028284)			2.281498		

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	**H9F9M1AE**	**PCI/SA**		06/20/06 10:10	08/04/06 08:07	07/26/06 13:47		1	1.00 Sa	
536403,P-0681					,J6G180200-14 v4.8.24		FILTER			04.1	08/03/06 08:18			0.020575 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	08/04/06 09:22	ALPHA	17	18	GPC10D	1.5	N	N	4.0591E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.181E-02)	(0.000E+00)		8%			(0.000E+00)	48.602735		

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
	08/07/06	ALPHA	R	**4.171065**		7.73333E-02	0.19052	0.19052	1.00 Sa	100%		4.859875		
				(1.609638)		(2.8767E-02)	(0.072703)	(0.072703)	(0.028284)			1.943868		

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	**H9F9N1AE**	**PCI/SA**		06/20/06 11:35	08/04/06 08:07	07/26/06 13:47		1	1.00 Sa	
536403,P-0682					,J6G180200-15 v4.8.24		FILTER			03.0	08/03/06 08:18			0.020944 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	08/04/06 09:22	ALPHA	4	20	GPC10E	1.5	N	N	3.8082E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.127E-02)	(0.000E+00)		8%			(0.000E+00)	47.747061		

() - (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: 6200160

Alpha Beta, Alpha by GPC-Am , Calculated Results

8/7/2006 10:55:46 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
	08/07/06	ALPHA	R	**-0.753024**	**U4**	-1.33333E-02	-0.035012	-0.035012	1.00 Sa	100%		5.30887		
				(0.910062)		(1.6055E-02)	(0.042266)	(0.042266)	(0.028284)			2.145535		

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	**H9H1M1AA**	**PCI/SA**	**B**	06/20/06 10:15	08/04/06 10:54	07/26/06 13:47		1	1.00 Sa	
0,INTRA-LAB BLANK					,J6G190000-160		FILTER			01.6	08/03/06 08:18			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	08/04/06 12:09	ALPHA	10	23	GPC10A	1.5	N	N	3.9292E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.357E-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
	08/07/06	ALPHA	R	**0.023692**	**U4**	2.06667E-02	0.052597	0.052597	1.00 Sa	100%		0.114064		
				(0.026662)		(2.3161E-02)	(0.059124)	(0.059124)	(0.017321)			0.046704		

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
17	Calc	S7	FILTER	*STLE	GabWoBS	**H9H1M1AC**	**PCI/SA**	**S**	06/20/06 10:15	08/04/06 10:54	07/26/06 13:47	ASC0396	1	1.00 Sa	
0,INTRA-LAB CHECK					,J6G190000-160		FILTER			02.5	08/03/06 08:18	ASC0396 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	08/04/06 12:09	ALPHA	329	23	GPC10B	1.5	N	N	3.9751E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.334E-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
	08/07/06	ALPHA	R	**2.4333**		2.14733E+00	5.401932	5.401932	1.00 Sa	100%	102%	0.112747		
				(0.282913)		(1.2130E-01)	(0.559251)	(0.559251)	(0.017321)			0.046165		

() - (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:17

RADCALC v4.8.24
STL Richland

UST Number: H9F7N1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-A File: [quad10.sample.A]H9F7N1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.A_15;4272

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00013	00000	0150	00000	1000	3-AUG-2006 18:25:27.91

Bkg File: [quad10.bkgrnd]2006-08-03_0346.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00017	0500	0.03	00000	1000	3-AUG-2006 03:46:05.96

UST Number: H9F731AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-B File: [quad10.sample.B]H9F731AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.B_15;4269

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00017	00000	0150	00000	1000	3-AUG-2006 18:25:27.91

Bkg File: [quad10.bkgrnd]2006-08-03_0346.B_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00015	0500	0.03	00000	1000	3-AUG-2006 03:46:05.96

UST Number: H9F751AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-C File: [quad10.sample.C]H9F751AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.C_15;4278

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00018	00000	0150	00000	1000	3-AUG-2006 18:25:27.91

Bkg File: [quad10.bkgrnd]2006-08-03_0346.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00019	0500	0.04	00000	1000	3-AUG-2006 03:46:05.96

UST Number: H9F781AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-D File: [quad10.sample.D]H9F781AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.D_15;4272

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00019	00000	0150	00000	1000	3-AUG-2006 18:25:27.91

Bkg File: [quad10.bkgrnd]2006-08-03_0346.D_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00023	0500	0.05	00000	1000	3-AUG-2006 03:46:05.96

UST Number: H9F8F1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-E File: [quad10.sample.E]H9F8F1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.E_15;4267

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00018	00000	0150	00000	1000	3-AUG-2006 18:25:27.91

Bkg File: [quad10.bkgrnd]2006-08-03_0346.E_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00019	0500	0.04	00000	1000	3-AUG-2006 03:46:05.96

UST Number: H9F851AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-C File: [quad10.sample.C]H9F851AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.C_15;4278

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00009	00000	0150	00000	1000	3-AUG-2006 21:32:32.61

Bkg File: [quad10.bkgrnd]2006-08-03_0346.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00019	0500	0.04	00000	1000	3-AUG-2006 03:46:05.96

UST Number: H9F891AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-D File: [quad10.sample.D]H9F891AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.D_15;4272

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00015	00000	0150	00000	1000	3-AUG-2006 21:32:32.61

Bkg File: [quad10.bkgrnd]2006-08-03_0346.D_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00023	0500	0.05	00000	1000	3-AUG-2006 03:46:05.96

UST Number: H9F9A1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-E File: [quad10.sample.E]H9F9A1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.E_15;4267

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00009	00000	0150	00000	1000	3-AUG-2006 21:32:32.61

Bkg File: [quad10.bkgrnd]2006-08-03_0346.E_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00019	0500	0.04	00000	1000	3-AUG-2006 03:46:05.96

UST Number: H9F8L1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-A File: [quad10.sample.A]H9F8L1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.A_15;4272

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00026	00000	0150	00000	1000	3-AUG-2006 21:32:32.61

Bkg File: [quad10.bkgrnd]2006-08-03_0346.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00017	0500	0.03	00000	1000	3-AUG-2006 03:46:05.96

```
UST Number: H9F8W1AE   Isotope: 112       (QREPORT Rev 11-OCT-98)

  Detector: 10-B          File: [quad10.sample.B]H9F8W1AE.112
 Dish Size: 15        Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.B_15;4269

Cycle  Alpha   Beta     Min   Guard   Volts      Finish Date/Time
   1   00008   00000   0150   00000   1000    3-AUG-2006 21:32:32.61

   Bkg File: [quad10.bkgrnd]2006-08-03_0346.B_15        (QREPORT Rev 11-OCT-98)

Cycle  Count    Min      CPM     Guard   Volts         Date/Time
 Bkg   00015   0500       0.03   00000   1000    3-AUG-2006 03:46:05.96
```

UST Number: H9F9F1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-A File: [quad10.sample.A]H9F9F1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.A_15;4273

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00014	00000	0150	00000	1000	4-AUG-2006 09:22:31.11

Bkg File: [quad10.bkgrnd]2006-08-04_0609.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00023	0500	0.05	00000	1000	4-AUG-2006 06:09:55.67

UST Number: H9F9J1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-B File: [quad10.sample.B]H9F9J1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.B_15;4270

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00013	00000	0150	00000	1000	4-AUG-2006 09:22:31.11

Bkg File: [quad10.bkgrnd]2006-08-04_0609.B_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00023	0500	0.05	00000	1000	4-AUG-2006 06:09:55.67

UST Number: H9F9L1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-C File: [quad10.sample.C]H9F9L1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.C_15;4279

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00018	00000	0150	00000	1000	4-AUG-2006 09:22:31.11

Bkg File: [quad10.bkgrnd]2006-08-04_0609.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00022	0500	0.04	00000	1000	4-AUG-2006 06:09:55.67

UST Number: H9F9M1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-D File: [quad10.sample.D]H9F9M1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.D_15;4273

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00017	00000	0150	00000	1000	4-AUG-2006 09:22:31.11

Bkg File: [quad10.bkgrnd]2006-08-04_0609.D_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00018	0500	0.04	00000	1000	4-AUG-2006 06:09:55.67

UST Number: H9F9N1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-E File: [quad10.sample.E]H9F9N1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.E_15;4268

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00004	00000	0150	00000	1000	4-AUG-2006 09:22:31.11

Bkg File: [quad10.bkgrnd]2006-08-04_0609.E_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00020	0500	0.04	00000	1000	4-AUG-2006 06:09:55.67

UST Number: H9H1M1AA Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-A File: [quad10.sample.A]H9H1M1AA.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.A_15;4273

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00010	00000	0150	00000	1000	4-AUG-2006 12:09:31.52

Bkg File: [quad10.bkgrnd]2006-08-04_0609.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00023	0500	0.05	00000	1000	4-AUG-2006 06:09:55.67

UST Number: H9H1M1AC Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-B File: [quad10.sample.B]H9H1M1AC.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.B_15;4270

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00329	00000	0150	00000	1000	4-AUG-2006 12:09:31.52

Bkg File: [quad10.bkgrnd]2006-08-04_0609.B_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00023	0500	0.05	00000	1000	4-AUG-2006 06:09:55.67

BETA

SAMPLE AND QC DATA

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

8/4/2006 8:27:23 AM

Lot No., Due Date: J6G180200; 08/15/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6200161; RBETA-SR Beta by GPC-Sr/Y

SDG, Matrix: 32138; 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: 10-08440
See NCM.

First Level Review Pam Anderson **Date** 8-4-06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 620016 1

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: Sherryl A Adam Date: 8-7-06

STL RICHLAND

7/27/2006 10:19:04 AM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell , Brown & Caldwell

BD Gross Beta PrpRC5016/5014
S8 Gross Beta by GPC using Sr/Y-90 curve
01 STANDARD TEST SET

Pipet #: _____

AnalyDueDate: 08/14/2006

Sep1 DT/Tm Tech: MF

Batch: 6200161 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 H9F7N-1-AF J6G180200-1-SAMP 06/20/2006 10:15	0.833sa,g	502.14sa,g	50.03g,in	0.083g	Dish PPT 1.5 4.7	150	31A	1733	8/2/06	
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
2 H9F73-1-AF J6G180200-2-SAMP 06/20/2006 10:25	0.833sa,g	501.63sa,g	51.30g,in	0.0852g	2.2		31B			
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
3 H9F75-1-AF J6G180200-3-SAMP 06/20/2006 10:40	0.833sa,g	506.26sa,g	51.28g,in	0.0844g	33.3		31C			
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
4 H9F78-1-AF J6G180200-4-SAMP 06/20/2006 11:00	0.833sa,g	509.29sa,g	50.02g,in	0.0818g	21.4		31D			
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
5 H9F8F-1-AF J6G180200-5-SAMP 06/20/2006 11:15	0.833sa,g	502.26sa,g	50.06g,in	0.083g	30.1		32A			
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
6 H9F8L-1-AF J6G180200-6-SAMP 06/20/2006 11:30	0.833sa,g	506.78sa,g	50.12g,in	0.0824g	13.8		32B			
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
7 H9F8W-1-AF J6G180200-7-SAMP 06/20/2006 11:20	0.833sa,g	501.33sa,g	50.38g,in	0.0837g	0.6		32C			
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:

STL RICHLAND

7/27/2006 10:19:04 AM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell , Brown & Caldwell

BD Gross Beta PrpRC5016/5014
S8 Gross Beta by GPC using Sr/Y-90 curve
01 STANDARD TEST SET

Pipet #:

AnalyDueDate: 08/14/2006

Sep1 DT/Tm Tech: MF

Batch: 6200161 FILTER pCi/sampl PM, Quote: SA , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: HansenM SLOU

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 H9F85-1-AF J6G180200-8-SAMP 06/20/2006 10:05	0.833sa,g	500.08sa,g	51.25g,in	0.0854g	DISH 1.5	PPT 1.1	150	32D	1833	8/2/06 DR
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
9 H9F89-1-AF J6G180200-9-SAMP 06/20/2006 10:20	0.833sa,g	501.72sa,g	50.60g,in	0.084g	0.9		26A	1734		
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
10 H9F9A-1-AF J6G180200-10-SAMP 06/20/2006 10:35	0.833sa,g	505.38sa,g	50.04g,in	0.0825g	0.8		26B			
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
11 H9F9F-1-AF J6G180200-11-SAMP 06/20/2006 10:55	0.833sa,g	502.51sa,g	51.08g,in	0.0847g	1.5		26D			
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
12 H9F9J-1-AF J6G180200-12-SAMP 06/20/2006 11:10	0.833sa,g	502.25sa,g	50.68g,in	0.0841g	1.9		27A			
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
13 H9F9L-1-AF J6G180200-13-SAMP 06/20/2006 11:25	0.833sa,g	504.90sa,g	50.15g,in	0.0827g	31.6		27C			
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
14 H9F9M-1-AF J6G180200-14-SAMP 06/20/2006 10:10	0.833sa,g	508.91sa,g	50.72g,in	0.083g	22.5		27D			
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:

STL RICHLAND

7/27/2006 10:19:05 AM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell , Brown & Caldwell

BD Gross Beta PrpRC5016/5014
S8 Gross Beta by GPC using Sr/Y-90 curve
01 STANDARD TEST SET

Pipet #: _____

AnalyDueDate: 08/14/2006

Sep1 DT/Tm Tech:

Batch: 6200161 FILTER pCi/sampl PM, Quote: SA , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: HansenM

MF
SCOT

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:
15H9F9N-1-AF J6G180200-15-SAMP	0.833sa,g	503.53sa,g	50.15g,in	0.083g	DISH 1.5 PPT 24.0	150	31A	2015	8/2/06	
06/20/2006 11:35		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
16H9H11-1-AA-B J6G190000-161-BLK			1.00sa,in	1.00sa	0.2		31B			
06/20/2006 10:15		AmtRec:	#Containers: 1				Scr:	Alpha:		Beta:
17H9H11-1-AC-C J6G190000-161-LCS			1.00sa,in	1.00sa	BESB2837 06/15/06,pd 12/28/05,r 0.4		31C			
06/20/2006 10:15		AmtRec:	#Containers: 1				Scr:	Alpha:		Beta:

Comments:

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

H9F7N1AF-SAMP Constituent List:
  BETA        RDL:5          pCi/sam   LCL:       UCL:       RPD:
H9H111AA-BLK:
  BETA        RDL:5          pCi/sam   LCL:       UCL:       RPD:
H9H111AC-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
H9F7N1AF-SAMP Calc Info:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
H9H111AA-BLK:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
H9H111AC-LCS:
    Uncert Level (#s).: 2    Decay to SaDt: Y    Blk Subt.: N    Sci.Not.: Y    ODRs: B
```

Clouseau
Nonconformance Memo

SEVERN TRENT SERVICES

NCM #: **10-08440**
NCM Initiated By: Pam Anderson
Date Opened: 08/04/2006
Date Closed:

Classification: **Anomaly**
Status: **GLREVIEW**
Production Area: Environmental - Sep
Tests: Beta by GPC-Sr/Y
Lot #'s (Sample #'s): J6G180200 (1,10,11,12,13,14,15,2,3,4,5, 6,8,9),
QC Batches: 6200161

Nonconformance: MDA not met
Subcategory: Data accepted

Problem Description / Root Cause

Name	Date	Description
Pam Anderson	08/04/2006	All the beta samples except sample H9F8W1AF do not meet CRDL. All of these samples have results >MDA>CRDL except H9F9N1AF which has an MDA of 5.48 pCi/Sa, just over the 5 that is required.

Corrective Action

Name	Date	Corrective Action
Pam Anderson	08/04/2006	Report the data with MDA achieved.

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: 8/4/2006

8/3/2006 4:40:52 PM

ICOC Fraction Transfer/Status Report

ByDate: 8/3/2005, 8/8/2006, Batch: '6200161', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6200161						
AC		**CalcC**	**HansenM**	7/20/2006 1:21:34 PM		
SC			wagarr	IsBatched	7/19/2006 8:00:26 AM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	7/20/2006 1:21:34 PM	RICH-RC-5016 REVISION 5
SC			DAWKINSO	InCnt1	8/2/2006 3:27:13 PM	RICH-RD-0003 REVISION 4
SC			DAWKINSO	CalcC	8/2/2006 9:01:25 PM	RICH-RD-0003 REVISION 4
AC			**DAWKINSO**	8/2/2006 3:27:13 PM		
AC			**DAWKINSO**	8/2/2006 9:01:25 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 3

ICOCFractions v4.8.18

8/3/2006 4:40:52 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
32138	**9H9F7310**		**J6G1802002**	000503	FILTER	7/18/2006 10:00:00	6/20/2006 10:25:00 AM				
BETA	BDS8	0	8/2/2006 4:18:54 PM	**1.8657E+01**	1.625E+00	2.273E+00	4.628E+00	PCI/SA	1.0	1.0E+0	3.519E-2
U-234	7YSR	0	7/29/2006 3:15:06 PM	**1.9955E-01**	1.411E-01	1.42E-01	2.704E-01	PCI/SA	1.05	1.0E+0	3.234E-2
U-235	7YSR	0	7/29/2006 3:15:06 PM	**-5.9866E-02**	3.456E-02	3.489E-02	6.298E-01	PCI/SA	1.05	1.0E+0	3.234E-2
U-238	7YSR	0	7/29/2006 3:15:06 PM	**3.9907E-02**	1.056E-01	1.056E-01	6.298E-01	PCI/SA	1.05	1.0E+0	3.234E-2
32138	**9H9F7510**		**J6G1802003**	000504	FILTER	7/18/2006 10:00:00	6/20/2006 10:40:00 AM				
BETA	BDS8	0	8/2/2006 4:18:54 PM	**1.8053E+01**	1.72E+00	2.119E+00	5.139E+00	PCI/SA	1.0	1.0E+0	3.438E-2
U-234	7YSR	0	7/29/2006 3:15:24 PM	**-2.2612E-02**	1.257E-01	1.258E-01	8.812E-01	PCI/SA	0.856	1.0E+0	3.19E-2
U-235	7YSR	0	7/29/2006 3:15:24 PM	**-6.7763E-02**	3.912E-02	3.951E-02	7.127E-01	PCI/SA	0.856	1.0E+0	3.19E-2
U-238	7YSR	0	7/29/2006 3:15:24 PM	**-2.4464E-05**	1.237E-01	1.237E-01	8.311E-01	PCI/SA	0.856	1.0E+0	3.19E-2
32138	**9H9F7810**		**J6G1802004**	000505	FILTER	7/18/2006 10:00:00	6/20/2006 11:00:00 AM				
BETA	BDS8	0	8/2/2006 4:18:54 PM	**1.948E+01**	1.827E+00	2.283E+00	5.496E+00	PCI/SA	1.0	1.0E+0	3.181E-2
U-234	7YSR	0	7/29/2006 3:15:51 PM	**5.1406E-06**	1.127E-01	1.127E-01	7.569E-01	PCI/SA	0.94	1.0E+0	3.135E-2
U-235	7YSR	0	7/29/2006 3:15:51 PM	**-2.0567E-02**	2.057E-02	2.063E-02	4.926E-01	PCI/SA	0.94	1.0E+0	3.135E-2
U-238	7YSR	0	7/29/2006 3:15:51 PM	**-1.234E-01**	5.038E-02	5.135E-02	8.026E-01	PCI/SA	0.94	1.0E+0	3.135E-2
32138	**9H9F7N10**		**J6G1802001**	000502	FILTER	7/18/2006 10:00:00	6/20/2006 10:15:00 AM				
BETA	BDS8	0	8/2/2006 4:18:54 PM	**1.6424E+01**	1.733E+00	2.091E+00	5.465E+00	PCI/SA	1.0	1.0E+0	3.299E-2
U-234	7YSR	0	7/29/2006 3:14:32 PM	**1.6003E-01**	1.442E-01	1.448E-01	5.652E-01	PCI/SA	0.989	1.0E+0	3.223E-2
U-235	7YSR	0	7/29/2006 3:14:32 PM	**-4.0009E-02**	2.829E-02	2.847E-02	5.652E-01	PCI/SA	0.989	1.0E+0	3.223E-2
U-238	7YSR	0	7/29/2006 3:14:32 PM	**4.0004E-02**	1.059E-01	1.059E-01	6.313E-01	PCI/SA	0.989	1.0E+0	3.223E-2
32138	**9H9F8510**		**J6G1802008**	P-0675	FILTER	7/18/2006 10:00:00	6/20/2006 10:05:00 AM				
BETA	BDS8	0	8/2/2006 4:19:08 PM	**1.3235E+01**	1.707E+00	1.954E+00	5.741E+00	PCI/SA	1.0	1.0E+0	3.537E-2
U-234	7YSR	0	7/29/2006 3:17:03 PM	**0.0E+00**	0.0E+00	1.156E-01	2.557E-01	PCI/SA	0.976	1.0E+0	3.263E-2
U-235	7YSR	0	7/29/2006 3:17:03 PM	**-1.8874E-02**	1.887E-02	1.893E-02	4.519E-01	PCI/SA	0.976	1.0E+0	3.263E-2
U-238	7YSR	0	7/29/2006 3:17:03 PM	**7.5476E-02**	9.622E-02	9.641E-02	4.519E-01	PCI/SA	0.976	1.0E+0	3.263E-2
32138	**9H9F8910**		**J6G1802009**	P-0676	FILTER	7/18/2006 10:00:00	6/20/2006 10:20:00 AM				
BETA	BDS8	0	8/2/2006 4:19:38 PM	**1.4073E+01**	1.702E+00	1.99E+00	5.678E+00	PCI/SA	1.0	1.0E+0	3.401E-2
U-234	7YSR	0	7/29/2006 3:17:19 PM	**-1.9614E-02**	1.961E-02	1.968E-02	4.696E-01	PCI/SA	1.022	1.0E+0	3.263E-2
U-235	7YSR	0	7/29/2006 3:17:19 PM	**9.8048E-02**	9.805E-02	9.836E-02	2.657E-01	PCI/SA	1.022	1.0E+0	3.263E-2
U-238	7YSR	0	7/29/2006 3:17:19 PM	**5.882E-02**	1.019E-01	1.02E-01	5.541E-01	PCI/SA	1.022	1.0E+0	3.263E-2
32138	**9H9F8F10**		**J6G1802005**	000506	FILTER	7/18/2006 10:00:00	6/20/2006 11:15:00 AM				
BETA	BDS8	0	8/2/2006 4:19:08 PM	**1.5794E+01**	1.736E+00	2.051E+00	5.479E+00	PCI/SA	1.0	1.0E+0	3.302E-2
U-234	7YSR	0	7/29/2006 3:16:16 PM	**3.9574E-01**	1.979E-01	2.004E-01	2.681E-01	PCI/SA	0.932	1.0E+0	3.228E-2
U-235	7YSR	0	7/29/2006 3:16:16 PM	**5.9365E-02**	1.028E-01	1.029E-01	5.591E-01	PCI/SA	0.932	1.0E+0	3.228E-2
U-238	7YSR	0	7/29/2006 3:16:16 PM	**1.4444E+00**	3.842E-01	4.014E-01	5.591E-01	PCI/SA	0.932	1.0E+0	3.228E-2
32138	**9H9F8L10**		**J6G1802006**	000507	FILTER	7/18/2006 10:00:00	6/20/2006 11:30:00 AM				
BETA	BDS8	0	8/2/2006 4:19:08 PM	**3.1016E+01**	2.05E+00	2.968E+00	5.356E+00	PCI/SA	1.0	1.0E+0	3.238E-2
U-234	7YSR	0	7/29/2006 3:16:34 PM	**2.0801E-01**	1.471E-01	1.48E-01	2.818E-01	PCI/SA	0.934	1.0E+0	3.166E-2
U-235	7YSR	0	7/29/2006 3:16:34 PM	**-2.0799E-02**	2.08E-02	2.087E-02	4.981E-01	PCI/SA	0.934	1.0E+0	3.166E-2
U-238	7YSR	0	7/29/2006 3:16:34 PM	**-4.1598E-02**	2.941E-02	2.961E-02	5.877E-01	PCI/SA	0.934	1.0E+0	3.166E-2
32138	**9H9F8W10**		**J6G1802007**	000508	FILTER	7/18/2006 10:00:00	6/20/2006 11:20:00 AM				
BETA	BDS8	0	8/2/2006 4:19:08 PM	**2.8685E+00**	1.242E+00	1.269E+00	4.889E+00	PCI/SA	1.0	1.0E+0	3.371E-2
U-234	7YSR	0	7/29/2006 3:16:46 PM	**-1.9868E-02**	1.987E-02	1.993E-02	4.758E-01	PCI/SA	1.032	1.0E+0	3.241E-2
U-235	7YSR	0	7/29/2006 3:16:46 PM	**0.0E+00**	0.0E+00	1.217E-01	2.692E-01	PCI/SA	1.032	1.0E+0	3.241E-2
U-238	7YSR	0	7/29/2006 3:16:46 PM	**-1.9868E-02**	1.987E-02	1.993E-02	4.758E-01	PCI/SA	1.032	1.0E+0	3.241E-2
32138	**9H9F9A10**		**J6G18020010**	P-0677	FILTER	7/18/2006 10:00:00	6/20/2006 10:35:00 AM				
BETA	BDS8	0	8/2/2006 4:19:38 PM	**1.532E+01**	1.718E+00	2.03E+00	5.506E+00	PCI/SA	1.0	1.0E+0	3.248E-2
U-234	7YSR	0	7/29/2006 3:17:44 PM	**-2.0197E-02**	2.02E-02	2.026E-02	4.838E-01	PCI/SA	0.975	1.0E+0	3.196E-2
U-235	7YSR	0	7/29/2006 3:17:44 PM	**0.0E+00**	0.0E+00	1.237E-01	2.737E-01	PCI/SA	0.975	1.0E+0	3.196E-2
U-238	7YSR	0	7/29/2006 3:17:44 PM	**8.081E-02**	1.03E-01	1.032E-01	4.838E-01	PCI/SA	0.975	1.0E+0	3.196E-2
32138	**9H9F9F10**		**J6G18020011**	P-0678	FILTER	7/18/2006 10:00:00	6/20/2006 10:55:00 AM				
BETA	BDS8	0	8/2/2006 4:19:38 PM	**1.7656E+01**	1.717E+00	2.095E+00	5.188E+00	PCI/SA	1.0	1.0E+0	3.467E-2

6200161, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 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-234	7YSR	0		7/29/2006 3:18:06 PM	**0.0E+00**	0.0E+00	1.139E-01	2.521E-01	PCI/SA		0.948	1.0E+0	3.238E-2
U-235	7YSR	0		7/29/2006 3:18:06 PM	**7.4404E-02**	9.485E-02	9.504E-02	4.455E-01	PCI/SA		0.948	1.0E+0	3.238E-2
U-238	7YSR	0		7/29/2006 3:18:06 PM	**-1.8606E-02**	1.861E-02	1.867E-02	4.455E-01	PCI/SA		0.948	1.0E+0	3.238E-2
32138	**9H9F9J10**			**J6G18020012**	P-0679	FILTER	7/18/2006 10:00:00	6/20/2006 11:10:00 AM					
BETA	BDS8	0		8/2/2006 4:19:33 PM	**2.0028E+01**	1.736E+00	2.212E+00	5.03E+00	PCI/SA		1.0	1.0E+0	3.405E-2
U-234	7YSR	0		7/29/2006 3:18:29 PM	**1.0176E-01**	1.018E-01	1.021E-01	2.758E-01	PCI/SA		0.967	1.0E+0	3.233E-2
U-235	7YSR	0		7/29/2006 3:18:29 PM	**0.0E+00**	0.0E+00	1.246E-01	2.758E-01	PCI/SA		0.967	1.0E+0	3.233E-2
U-238	7YSR	0		7/29/2006 3:18:29 PM	**-2.0348E-02**	2.035E-02	2.041E-02	4.874E-01	PCI/SA		0.967	1.0E+0	3.233E-2
32138	**9H9F9L10**			**J6G18020013**	P-0680	FILTER	7/18/2006 10:00:00	6/20/2006 11:25:00 AM					
BETA	BDS8	0		8/2/2006 4:19:33 PM	**1.4015E+01**	1.662E+00	1.919E+00	5.359E+00	PCI/SA		1.0	1.0E+0	3.274E-2
U-234	7YSR	0		7/29/2006 3:19:10 PM	**8.3601E-02**	1.002E-01	1.004E-01	4.548E-01	PCI/SA		0.974	1.0E+0	3.208E-2
U-235	7YSR	0		7/29/2006 3:19:10 PM	**-2.3887E-02**	1.379E-02	1.392E-02	4.964E-01	PCI/SA		0.974	1.0E+0	3.208E-2
U-238	7YSR	0		7/29/2006 3:19:10 PM	**-4.7774E-02**	1.95E-02	1.988E-02	5.904E-01	PCI/SA		0.974	1.0E+0	3.208E-2
32138	**9H9F9M10**			**J6G18020014**	P-0681	FILTER	7/18/2006 10:00:00	6/20/2006 10:10:00 AM					
BETA	BDS8	0		8/2/2006 4:19:33 PM	**1.391E+01**	1.637E+00	1.902E+00	5.263E+00	PCI/SA		1.0	1.0E+0	3.302E-2
U-234	7YSR	0		7/29/2006 3:19:32 PM	**-5.5451E-02**	2.264E-02	2.309E-02	6.85E-01	PCI/SA		0.866	1.0E+0	3.163E-2
U-235	7YSR	0		7/29/2006 3:19:32 PM	**8.7737E-02**	1.166E-01	1.168E-01	5.76E-01	PCI/SA		0.866	1.0E+0	3.163E-2
U-238	7YSR	0		7/29/2006 3:19:32 PM	**-4.6209E-02**	2.067E-02	2.101E-02	6.526E-01	PCI/SA		0.866	1.0E+0	3.163E-2
32138	**9H9F9N10**			**J6G18020015**	P-0682	FILTER	7/18/2006 10:00:00	6/20/2006 11:35:00 AM					
BETA	BDS8	0		8/2/2006 6:58:31 PM	**1.4714E-01**	1.296E+00	1.296E+00	5.478E+00	PCI/SA		1.0	1.0E+0	3.296E-2
U-234	7YSR	0		7/29/2006 3:20:17 PM	**9.146E-02**	1.215E-01	1.217E-01	6.004E-01	PCI/SA		0.865	1.0E+0	3.22E-2
U-235	7YSR	0		7/29/2006 3:20:17 PM	**-1.9262E-02**	1.362E-02	1.371E-02	5.5E-01	PCI/SA		0.865	1.0E+0	3.22E-2
U-238	7YSR	0		7/29/2006 3:20:17 PM	**-1.9262E-02**	1.362E-02	1.371E-02	5.5E-01	PCI/SA		0.865	1.0E+0	3.22E-2
32138	**H9H111AB**			**J6G190000161**	INTRA-LAB BLANK	FILTER	7/18/2006 10:00:00	6/20/2006 10:15:00 AM					
BETA	BDS8	0	B	8/2/2006 6:58:31 PM	**7.862E-02**	9.439E-02	9.461E-02	3.906E-01	PCI/SA		1.0	1.0E+0	1.0E+0
32138	**H9H111CS**			**J6G190000161**	INTRA-LAB CHECK	FILTER	7/18/2006 10:00:00	6/20/2006 10:15:00 AM					
BETA	BDS8	0	S	8/2/2006 6:58:31 PM	**4.9083E+00**	2.048E-01	3.781E-01	4.118E-01	PCI/SA	4.5873E+00	1.0	1.0E+0	1.0E+0

6200161, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => .

Batch Nbr: 6200161

Alpha Beta, Beta by GPC-Sr/Y , Results Summary Report

8/2/2006 9:01:14 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	H9F7N1AF	BETA	1.64E+01	(2.09E+00)		PCI/SA	R	2.62E+00	5.46E+00	*	100%	
Calc	S8	FILTER	H9F731AF	BETA	1.87E+01	(2.27E+00)		PCI/SA	R	2.21E+00	4.63E+00		100%	
Calc	S8	FILTER	H9F751AF	BETA	1.81E+01	(2.12E+00)		PCI/SA	R	2.46E+00	5.14E+00		100%	
Calc	S8	FILTER	H9F781AF	BETA	1.95E+01	(2.28E+00)		PCI/SA	R	2.63E+00	5.50E+00		100%	
Calc	S8	FILTER	H9F8F1AF	BETA	1.58E+01	(2.05E+00)		PCI/SA	R	2.62E+00	5.48E+00		100%	
Calc	S8	FILTER	H9F8L1AF	BETA	3.10E+01	(2.97E+00)		PCI/SA	R	2.56E+00	5.36E+00		100%	
Calc	S8	FILTER	H9F8W1AF	BETA	2.87E+00	(1.27E+00)		PCI/SA	R	2.34E+00	4.89E+00	ok.	100%	
Calc	S8	FILTER	H9F851AF	BETA	1.32E+01	(1.95E+00)		PCI/SA	R	2.76E+00	5.74E+00		100%	
Calc	S8	FILTER	H9F891AF	BETA	1.41E+01	(1.99E+00)		PCI/SA	R	2.73E+00	5.68E+00		100%	
Calc	S8	FILTER	H9F9A1AF	BETA	1.53E+01	(2.03E+00)		PCI/SA	R	2.64E+00	5.51E+00		100%	
Calc	S8	FILTER	H9F9F1AF	BETA	1.77E+01	(2.10E+00)		PCI/SA	R	2.48E+00	5.19E+00		100%	
Calc	S8	FILTER	H9F9J1AF	BETA	2.00E+01	(2.21E+00)		PCI/SA	R	2.41E+00	5.03E+00		100%	
Calc	S8	FILTER	H9F9L1AF	BETA	1.40E+01	(1.92E+00)		PCI/SA	R	2.57E+00	5.36E+00		100%	
Calc	S8	FILTER	H9F9M1AF	BETA	1.39E+01	(1.90E+00)		PCI/SA	R	2.52E+00	5.26E+00		100%	
Calc	S8	FILTER	H9F9N1AF	BETA	1.47E-01	(1.30E+00)	U4	PCI/SA	R	2.63E+00	5.48E+00	ok	100%	
Calc	S8	FILTER	H9H111AA	BETA	7.86E-02	(9.46E-02)	U4	PCI/SA	R	1.86E-01	3.91E-01	B	100%	
Calc	S8	FILTER	H9H111AC	BETA	4.91E+00	(3.78E-01)		PCI/SA	R	1.97E-01	4.12E-01	S	100%	107%

* all but H9F8W1AF (ok)
+ H9F9N1AF (ok) have results >MDC, <RDL

P Anderson
8-3-06

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

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

RecCnt:17
RADCALC v4.8.24
STL Richland

Batch Nbr: 6200161

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

8/2/2006 9:01:15 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	**H9F7N1AF**	**PCI/SA**		06/20/06 10:15	08/02/06 16:18			1	1.00 Sa	
536403,000502					,J6G180200-1 v4.8.24		FILTER			04.7				0.082995 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	08/02/06 17:33	BETA	387	625	GPC31A	1.5	N	N	4.3951E-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)		5%			(0.000E+00)	12.048953		

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
	08/02/06	BETA	R	**16.423825**		1.33000E+00	3.026066	3.026066	1.00 Sa	100%		5.464955		
				(2.090529)		(1.4036E-01)	(0.364409)	(0.364409)	(0.028284)			2.622485		

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	**H9F731AF**	**PCI/SA**		06/20/06 10:25	08/02/06 16:18			1	1.00 Sa	
536403,000503					,J6G180200-2 v4.8.24		FILTER			02.2				0.085188 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	08/02/06 17:33	BETA	382	484	GPC31B	1.5	N	N	4.4743E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(2.470E-02)	(0.000E+00)		5%			(0.000E+00)	11.738731		

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
	08/02/06	BETA	R	**18.656829**		1.57867E+00	3.528337	3.528337	1.00 Sa	100%		4.628124		
				(2.272565)		(1.3753E-01)	(0.404412)	(0.404412)	(0.028284)			2.208617		

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	**H9F751AF**	**PCI/SA**		06/20/06 10:40	08/02/06 16:18			1	1.00 Sa	
536403,000504					,J6G180200-3 v4.8.24		FILTER			33.3				0.084376 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	08/02/06 17:33	BETA	376	533	GPC31C	1.5	N	N	4.2602E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(9.475E-03)	(0.000E+00)		5%			(0.000E+00)	11.851699		

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
	08/02/06	BETA	R	**18.053457**		1.44067E+00	3.381685	3.381685	1.00 Sa	100%		5.138676		
				(2.118753)		(1.3727E-01)	(0.371576)	(0.371576)	(0.028284)			2.457597		

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	**H9F781AF**	**PCI/SA**		06/20/06 11:00	08/02/06 16:18			1	1.00 Sa	
536403,000505					,J6G180200-4 v4.8.24		FILTER			21.4				0.081813 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	08/02/06 17:33	BETA	401	580	GPC31D	1.5	N	N	4.2773E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.168E-02)	(0.000E+00)		5%			(0.000E+00)	12.222962		

() - (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: 6200161

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

8/2/2006 9:01:15 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
	08/02/06	BETA	R	**19.480179**		1.51333E+00	3.538098	3.538098	1.00 Sa	100%		5.496303		
				(2.283451)		(1.4192E-01)	(0.38823)	(0.38823)	(0.028284)			2.633435		

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	**H9F8F1AF**	**PCI/SA**		06/20/06 11:15	08/02/06 16:19			1	1.00 Sa	
536403,000506					,J6G180200-5 v4.8.24		FILTER			30.1				0.083025 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	08/02/06 17:34	BETA	355	572	GPC32A	1.5	N	N	4.2001E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.010E-02)	(0.000E+00)		5%			(0.000E+00)	12.04461		

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
	08/02/06	BETA	R	**15.79403**		1.22267E+00	2.911076	2.911076	1.00 Sa	100%		5.479101		
				(2.050989)		(1.3441E-01)	(0.358467)	(0.358467)	(0.028284)			2.624419		

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	**H9F8L1AF**	**PCI/SA**		06/20/06 11:30	08/02/06 16:19			1	1.00 Sa	
536403,000507					,J6G180200-6 v4.8.24		FILTER			13.8				0.082383 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	08/02/06 17:34	BETA	537	567	GPC32B	1.5	N	N	4.3120E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.048E-02)	(0.000E+00)		5%			(0.000E+00)	12.138455		

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
	08/02/06	BETA	R	**31.016042**		2.44600E+00	5.672524	5.672524	1.00 Sa	100%		5.35586		
				(2.96827)		(1.6166E-01)	(0.489901)	(0.489901)	(0.028284)			2.564908		

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	**H9F8W1AF**	**PCI/SA**		06/20/06 11:20	08/02/06 16:19			1	1.00 Sa	
536403,000508					,J6G180200-7 v4.8.24		FILTER			00.6)				0.08371 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	08/02/06 17:34	BETA	190	515	GPC32C	1.5	N	N	4.4396E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(2.769E-02)	(0.000E+00)		5%			(0.000E+00)	11.945946		

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
	08/02/06	BETA	R	**2.868524**		2.36667E-01	0.533079	0.533079	1.00 Sa	100%		4.889305		
				(1.268762)		(1.0249E-01)	(0.234757)	(0.234757)	(0.028284)			2.336551		

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	**H9F851AF**	**PCI/SA**		06/20/06 10:05	08/02/06 16:19			1	1.00 Sa	
536403,P-0675					,J6G180200-8 v4.8.24		FILTER			01.1				0.085369 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

RecCnt:8

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: 6200161

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

8/2/2006 9:01:15 PM

1	08/02/06 17:34	BETA	372	701	GPC32D	1.5	N	N	4.2979E-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)	11.713876	

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
	08/02/06	BETA	R	**13.234532**		1.07800E+00	2.508196	2.508196	1.00 Sa	100%		5.74094		
				(1.954027)		(1.3906E-01)	(0.355592)	(0.355592)	(0.028284)			2.761208		

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	**H9F891AF**	**PCI/SA**		06/20/06 10:20	08/02/06 16:19			1	1.00 Sa	
536403,P-0676					,J6G180200-9 v4.8.24		FILTER			00.9				0.084011 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	08/02/06 17:34	BETA	405	751	GPC26A	1.5	N	N	4.5644E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.558E-02)	(0.000E+00)		5%			(0.000E+00)	11.903259		

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
	08/02/06	BETA	R	**14.073066**		1.19800E+00	2.624679	2.624679	1.00 Sa	100%		5.678289		
				(1.990218)		(1.4493E-01)	(0.355057)	(0.355057)	(0.028284)			2.734653		

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	**H9F9A1AF**	**PCI/SA**		06/20/06 10:35	08/02/06 16:19			1	1.00 Sa	
536403,P-0677					,J6G180200-10 v4.8.24		FILTER			00.8				0.082479 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	08/02/06 17:34	BETA	370	620	GPC26B	1.5	N	N	4.3730E-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)	12.124274		

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
	08/02/06	BETA	R	**15.319653**		1.22667E+00	2.805089	2.805089	1.00 Sa	100%		5.505712		
				(2.02989)		(1.3757E-01)	(0.353228)	(0.353228)	(0.028284)			2.641609		

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	**H9F9F1AF**	**PCI/SA**		06/20/06 10:55	08/02/06 16:19			1	1.00 Sa	
536403,P-0678					,J6G180200-11 v4.8.24		FILTER			01.5				0.084674 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	08/02/06 17:34	BETA	377	549	GPC26D	1.5	N	N	4.2645E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(8.759E-03)	(0.000E+00)		5%			(0.000E+00)	11.809971		

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
	08/02/06	BETA	R	**17.655871**		1.41533E+00	3.318897	3.318897	1.00 Sa	100%		5.188315		
				(2.095231)		(1.3766E-01)	(0.369319)	(0.369319)	(0.028284)			2.482944		

() - (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: 6200161

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

8/2/2006 9:01:15 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	**H9F9J1AF**	**PCI/SA**		06/20/06 11:10	08/02/06 16:19			1	1.00 Sa	
536403,P-0679					,J6G180200-12 v4.8.24		FILTER			01.9				0.084055 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	08/02/06 17:34	BETA	410	543	GPC27A	1.5	N	N	4.4080E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(9.715E-03)	(0.000E+00)		5%			(0.000E+00)	11.897024		

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
	08/02/06	BETA	R	**20.027551**		1.64733E+00	3.737171	3.737171	1.00 Sa	100%		5.029907		
				(2.212208)		(1.4281E-01)	(0.382965)	(0.382965)	(0.028284)			2.406559		

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	**H9F9L1AF**	**PCI/SA**		06/20/06 11:25	08/02/06 16:19			1	1.00 Sa	
536403,P-0680					,J6G180200-13 v4.8.24		FILTER			31.6				0.082739 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	08/02/06 17:34	BETA	338	572	GPC27C	1.5	N	N	4.3093E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(9.532E-03)	(0.000E+00)		5%			(0.000E+00)	12.08619		

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
	08/02/06	BETA	R	**14.015083**		1.10933E+00	2.574303	2.574303	1.00 Sa	100%		5.358683		
				(1.919378)		(1.3157E-01)	(0.336196)	(0.336196)	(0.028284)			2.56674		

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	**H9F9M1AF**	**PCI/SA**		06/20/06 10:10	08/02/06 16:19			1	1.00 SA	
536403,P-0681					,J6G180200-14 v4.8.24		FILTER			22.5				0.08302 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	08/02/06 17:34	BETA	338	568	GPC27D	1.5	N	N	4.3582E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.103E-02)	(0.000E+00)		5%			(0.000E+00)	12.045276		

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
	08/02/06	BETA	R	**13.910233**		1.11733E+00	2.563723	2.563723	1.00 SA	100%		5.262805		
				(1.901831)		(1.3151E-01)	(0.334198)	(0.334198)	(0.028284)			2.520438		

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	**H9F9N1AF**	**PCI/SA**		06/20/06 11:35	08/02/06 18:58			1	1.00 Sa	
536403,P-0682					,J6G180200-15 v4.8.24		FILTER			24.0				0.082964 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	08/02/06 20:15	BETA	193	625	GPC31A	1.5	N	N	4.3422E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			152.96	500			Y		(1.277E-02)	(0.000E+00)		5%			(0.000E+00)	12.053396		

() - (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: 6200161

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

8/2/2006 9:01:16 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
	08/02/06	BETA	R	**0.147143**	**U4**	1.17678E-02	0.027101	0.027101	1.00 Sa	100%		5.477645		
				(1.296415)		(1.0368E-01)	(0.238772)	(0.238772)	(0.028284)			2.629618		

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	**H9H111AA**	**PCI/SA**	**B**	06/20/06 10:15	08/02/06 18:58			1	1.00 Sa	
0,INTRA-LAB BLANK					,J6G190000-161		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
1	08/02/06 20:15	BETA	160	484	GPC31B	1.5	N	N	4.4704E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			152.96	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
	08/02/06	BETA	R	**0.07862**	**U4**	7.80251E-02	0.174537	0.174537	1.00 Sa	100%		0.390588		
				(0.094608)		(9.3673E-02)	(0.209942)	(0.209942)	(0.017321)			0.186479		

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
17	Calc	S8	FILTER	*STLE	GabWoBS	**H9H111AC**	**PCI/SA**	**S**	06/20/06 10:15	08/02/06 18:58		BESB2837	1	1.00 Sa	
0,INTRA-LAB CHECK					,J6G190000-161		FILTER			00.4		BESB2837 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	08/02/06 20:15	BETA	903	533	GPC31C	1.5	N	N	4.4396E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			152.96	500			Y		(9.874E-03)	(0.000E+00)		5%			(0.000E+00)	1.00		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/02/06	BETA	R	**4.908259**		4.83750E+00	10.896347	10.896347	1.00 Sa	100%	107%	0.411842		
				(0.378127)		(2.0181E-01)	(0.749791)	(0.749791)	(0.017321)			0.19705		

() - (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:17

RADCALC v4.8.24
STL Richland

STL RICHLAND
Richland, WA

GPC Report
02-AUG-2006 17:33:54.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9F7N1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
02-AUG-2006 17:33:54.00	387	150.00	625	500.00	31A

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
5	32	4902	1492

Bkg Count Date/Time
02-AUG-2006 04:34:59.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
02-AUG-2006 17:33:54.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9F731AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
02-AUG-2006 17:33:54.00	382	150.00	484	500.00	31B

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
5	18	4902	1492

Bkg Count Date/Time
02-AUG-2006 04:34:59.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
02-AUG-2006 17:33:54.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9F751AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
02-AUG-2006 17:33:54.00	376	150.00	533	500.00	31C

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
4	16	4902	1492

Bkg Count Date/Time
02-AUG-2006 04:34:59.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
02-AUG-2006 17:33:54.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9F781AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
02-AUG-2006 17:33:54.00	401	150.00	580	500.00	31D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
5	27	4902	1492

Bkg Count Date/Time
02-AUG-2006 04:34:59.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
02-AUG-2006 17:34:08.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9F8F1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
02-AUG-2006 17:34:08.00	355	150.00	572	500.00	32A

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
6	21	4640	1492

Bkg Count Date/Time
02-AUG-2006 04:35:30.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
02-AUG-2006 17:34:08.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9F8L1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
02-AUG-2006 17:34:08.00	537	150.00	567	500.00	32B

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
5	15	4640	1492

Bkg Count Date/Time
02-AUG-2006 04:35:30.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
02-AUG-2006 17:34:08.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9F8W1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
02-AUG-2006 17:34:08.00	190	150.00	515	500.00	32C

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
3	7	4640	1492

Bkg Count Date/Time
02-AUG-2006 04:35:30.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
02-AUG-2006 17:34:08.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9F851AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
02-AUG-2006 17:34:08.00	372	150.00	701	500.00	32D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
0	17	4640	1492

Bkg Count Date/Time
02-AUG-2006 04:35:30.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
02-AUG-2006 17:34:38.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9F891AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
02-AUG-2006 17:34:38.00	405	150.00	751	500.00	26A

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
12	34	4885	1500

Bkg Count Date/Time
02-AUG-2006 04:34:00.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
02-AUG-2006 17:34:38.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9F9A1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
02-AUG-2006 17:34:38.00	370	150.00	620	500.00	26B

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
7	22	4885	1500

Bkg Count Date/Time
02-AUG-2006 04:34:00.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
02-AUG-2006 17:34:38.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9F9F1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
02-AUG-2006 17:34:38.00	377	150.00	549	500.00	26D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
6	30	4885	1500

Bkg Count Date/Time
02-AUG-2006 04:34:00.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
02-AUG-2006 17:34:33.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9F9J1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
02-AUG-2006 17:34:33.00	410	150.00	543	500.00	27A

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
15	22	4896	1500

Bkg Count Date/Time
02-AUG-2006 04:33:53.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
02-AUG-2006 17:34:33.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9F9L1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
02-AUG-2006 17:34:33.00	338	150.00	572	500.00	27C

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
7	11	4896	1500

Bkg Count Date/Time
02-AUG-2006 04:33:53.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
02-AUG-2006 17:34:33.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9F9M1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
02-AUG-2006 17:34:33.00	338	150.00	568	500.00	27D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
6	17	4896	1500

Bkg Count Date/Time
02-AUG-2006 04:33:53.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
02-AUG-2006 20:15:00.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9F9N1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
02-AUG-2006 20:15:00.00	193	152.96	625	500.00	31A

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
11	32	1341	1492

Bkg Count Date/Time
02-AUG-2006 04:34:59.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
02-AUG-2006 20:15:00.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9H111AA	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
02-AUG-2006 20:15:00.00	160	152.96	484	500.00	31B

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
4	18	1341	1492

Bkg Count Date/Time
02-AUG-2006 04:34:59.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
02-AUG-2006 20:15:00.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9H111AC	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
02-AUG-2006 20:15:00.00	903	152.96	533	500.00	31C

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
4	16	1341	1492

Bkg Count Date/Time
02-AUG-2006 04:34:59.00

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

8/15/2006 11:14:15 AM

Lot No., Due Date: J6G180200; 08/15/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6200165; RRA228 Ra-228 by GPC

SDG, Matrix: 32138; 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** 8-14-06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6200165

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: 8-15-06

8/15/2006 11:09:24 AM

ICOC Fraction Transfer/Status Report

ByDate: 8/15/2005, 8/20/2006, Batch: '6200165', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6200165						
AC		**CalcC**	**HansenM**	7/20/2006 1:21:50 PM		
SC			wagarr	IsBatched	7/19/2006 8:00:26 AM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	7/20/2006 1:21:50 PM	RICH-RC-5016 REVISION 5
SC			LongA	InPrep	7/27/2006 2:16:50 PM	RICH-RC-5005 REVISION 5
SC			LongA	Sep1C	7/28/2006 1:34:14 PM	RICH-RC-5005 REVISION 5
SC			TamosaitisM	Sep2C	8/14/2006 8:22:04 AM	RICH-RC-5005 REVISION 4
SC			BlackCL	InCnt2	8/14/2006 10:43:04 AM	RICH-RD-0003 REVISION 4
SC			BlackCL	CalcC	8/15/2006 7:44:16 AM	RICH-RD-0003 REVISION 4
AC			**LongA**	7/27/2006 2:16:50 PM		
AC			**LongA**	7/28/2006 1:34:14 PM		
AC			**TamosaitisM**	8/14/2006 8:22:04		
AC			**BlackCL**	8/14/2006 10:43:04		
AC			**BlackCL**	8/15/2006 7:44:16		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 6

ICOCFractions v4.8.18

8/15/2006 11:09:23 AM

Rpt DB Transfer log (Batch Results)

SEVERN TRENT STL

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Sample Date / Mda	Units	Expected	Yield	Volumes
32138	**9H9F7310**			**J6G1802002**	000503	FILTER	7/18/2006 10:00:00	6/20/2006 10:25:00 AM				
ALPHA	BAS7		0	8/3/2006 5:10:27 PM	**4.4934E+00**	1.54E+00	1.609E+00	4.52E+00	PCI/SA	1.0	1.0E+0	2.094E-2
BETA	BDS8		0	8/2/2006 4:18:54 PM	**1.8657E+01**	1.625E+00	2.273E+00	4.628E+00	PCI/SA	1.0	1.0E+0	3.519E-2
RA-228	BXTF		0	8/15/2006 6:14:35 AM	**7.3281E-01**	3.759E-01	4.35E-01	1.91E+00	PCI/SA	1.024	1.0E+0	2.551E-1
TH-228	9NS1		0	7/31/2006 10:14:42	**-3.6608E-02**	6.849E-02	6.857E-02	3.941E-01	PCI/SA	1.001	1.0E+0	3.618E-2
TH-230	9NS1		0	7/31/2006 10:14:42	**2.6205E-01**	1.004E-01	1.03E-01	2.096E-01	PCI/SA	1.001	1.0E+0	3.618E-2
TH-232	9NS1		0	7/31/2006 10:14:42	**3.4941E-02**	5.525E-02	5.533E-02	2.572E-01	PCI/SA	1.001	1.0E+0	3.618E-2
U-234	7YSR		0	7/29/2006 3:15:06 PM	**1.9955E-01**	1.411E-01	1.42E-01	2.704E-01	PCI/SA	1.05	1.0E+0	3.234E-2
U-235	7YSR		0	7/29/2006 3:15:06 PM	**-5.9866E-02**	3.456E-02	3.489E-02	6.298E-01	PCI/SA	1.05	1.0E+0	3.234E-2
U-238	7YSR		0	7/29/2006 3:15:06 PM	**3.9907E-02**	1.056E-01	1.056E-01	6.298E-01	PCI/SA	1.05	1.0E+0	3.234E-2
32138	**9H9F7510**			**J6G1802003**	000504	FILTER	7/18/2006 10:00:00	6/20/2006 10:40:00 AM				
ALPHA	BAS7		0	8/3/2006 5:10:27 PM	**4.6957E+00**	1.695E+00	1.764E+00	5.273E+00	PCI/SA	1.0	1.0E+0	2.068E-2
BETA	BDS8		0	8/2/2006 4:18:54 PM	**1.8053E+01**	1.72E+00	2.119E+00	5.139E+00	PCI/SA	1.0	1.0E+0	3.438E-2
RA-228	BXTF		0	8/15/2006 6:14:45 AM	**2.1046E+00**	5.408E-01	5.598E-01	2.157E+00	PCI/SA	0.807	1.0E+0	2.483E-1
TH-228	9NS1		0	7/31/2006 10:14:42	**6.679E-02**	6.679E-02	6.706E-02	2.671E-01	PCI/SA	1.005	1.0E+0	3.364E-2
TH-230	9NS1		0	7/31/2006 10:14:42	**5.9495E-01**	1.59E-01	1.678E-01	1.152E-01	PCI/SA	1.005	1.0E+0	3.364E-2
TH-232	9NS1		0	7/31/2006 10:14:42	**4.2497E-02**	4.25E-02	4.267E-02	1.152E-01	PCI/SA	1.005	1.0E+0	3.364E-2
U-234	7YSR		0	7/29/2006 3:15:24 PM	**-2.2612E-02**	1.257E-01	1.258E-01	8.812E-01	PCI/SA	0.856	1.0E+0	3.19E-2
U-235	7YSR		0	7/29/2006 3:15:24 PM	**-6.7763E-02**	3.912E-02	3.951E-02	7.127E-01	PCI/SA	0.856	1.0E+0	3.19E-2
U-238	7YSR		0	7/29/2006 3:15:24 PM	**-2.4464E-05**	1.237E-01	1.237E-01	8.311E-01	PCI/SA	0.856	1.0E+0	3.19E-2
32138	**9H9F7810**			**J6G1802004**	000505	FILTER	7/18/2006 10:00:00	6/20/2006 11:00:00 AM				
ALPHA	BAS7		0	8/3/2006 5:10:27 PM	**4.3328E+00**	1.644E+00	1.703E+00	5.344E+00	PCI/SA	1.0	1.0E+0	2.051E-2
BETA	BDS8		0	8/2/2006 4:18:54 PM	**1.948E+01**	1.827E+00	2.283E+00	5.496E+00	PCI/SA	1.0	1.0E+0	3.181E-2
RA-228	BXTF		0	8/15/2006 6:14:45 AM	**2.9687E+00**	4.997E-01	5.457E-01	1.854E+00	PCI/SA	0.877	1.0E+0	2.491E-1
TH-228	9NS1		0	7/31/2006 10:14:42	**2.5373E-01**	1.292E-01	1.313E-01	3.382E-01	PCI/SA	0.804	1.0E+0	3.4E-2
TH-230	9NS1		0	7/31/2006 10:14:42	**5.1125E-01**	1.723E-01	1.788E-01	3.228E-01	PCI/SA	0.804	1.0E+0	3.4E-2
TH-232	9NS1		0	7/31/2006 10:14:42	**5.3816E-02**	5.382E-02	5.405E-02	1.458E-01	PCI/SA	0.804	1.0E+0	3.4E-2
U-234	7YSR		0	7/29/2006 3:15:51 PM	**5.1406E-06**	1.127E-01	1.127E-01	7.569E-01	PCI/SA	0.94	1.0E+0	3.135E-2
U-235	7YSR		0	7/29/2006 3:15:51 PM	**-2.0567E-02**	2.057E-02	2.063E-02	4.926E-01	PCI/SA	0.94	1.0E+0	3.135E-2
U-238	7YSR		0	7/29/2006 3:15:51 PM	**-1.234E-01**	5.038E-02	5.135E-02	8.026E-01	PCI/SA	0.94	1.0E+0	3.135E-2
32138	**9H9F7N10**			**J6G1802001**	000502	FILTER	7/18/2006 10:00:00	6/20/2006 10:15:00 AM				
ALPHA	BAS7		0	8/3/2006 5:10:27 PM	**2.8978E+00**	1.398E+00	1.431E+00	4.846E+00	PCI/SA	1.0	1.0E+0	2.084E-2
BETA	BDS8		0	8/2/2006 4:18:54 PM	**1.6424E+01**	1.733E+00	2.091E+00	5.465E+00	PCI/SA	1.0	1.0E+0	3.299E-2
RA-228	BXTF		0	8/15/2006 6:14:35 AM	**1.9417E+00**	5.185E-01	5.418E-01	2.158E+00	PCI/SA	0.893	1.0E+0	2.514E-1
TH-228	9NS1		0	7/31/2006 10:14:42	**8.4214E-02**	1.073E-01	1.076E-01	4.532E-01	PCI/SA	0.908	1.0E+0	3.5E-2
TH-230	9NS1		0	7/31/2006 10:14:42	**2.2102E-01**	1.005E-01	1.024E-01	2.41E-01	PCI/SA	0.908	1.0E+0	3.5E-2
TH-232	9NS1		0	7/31/2006 10:14:42	**4.0186E-02**	4.019E-02	4.035E-02	1.089E-01	PCI/SA	0.908	1.0E+0	3.5E-2
U-234	7YSR		0	7/29/2006 3:14:32 PM	**1.6003E-01**	1.442E-01	1.448E-01	5.652E-01	PCI/SA	0.989	1.0E+0	3.223E-2
U-235	7YSR		0	7/29/2006 3:14:32 PM	**-4.0009E-02**	2.829E-02	2.847E-02	5.652E-01	PCI/SA	0.989	1.0E+0	3.223E-2
U-238	7YSR		0	7/29/2006 3:14:32 PM	**4.0004E-02**	1.059E-01	1.059E-01	6.313E-01	PCI/SA	0.989	1.0E+0	3.223E-2
32138	**9H9F8510**			**J6G1802008**	P-0675	FILTER	7/18/2006 10:00:00	6/20/2006 10:05:00 AM				
ALPHA	BAS7		0	8/3/2006 8:17:32 PM	**1.2145E+00**	1.204E+00	1.211E+00	5.083E+00	PCI/SA	1.0	1.0E+0	2.112E-2
BETA	BDS8		0	8/2/2006 4:19:08 PM	**1.3235E+01**	1.707E+00	1.954E+00	5.741E+00	PCI/SA	1.0	1.0E+0	3.537E-2
RA-228	BXTF		0	8/15/2006 6:14:54 AM	**3.1048E+00**	4.679E-01	5.095E-01	1.454E+00	PCI/SA	0.899	1.0E+0	2.522E-1
TH-228	9NS1		0	7/31/2006 10:14:42	**1.8382E-02**	4.11E-02	4.114E-02	2.205E-01	PCI/SA	0.971	1.0E+0	3.449E-2
TH-230	9NS1		0	7/31/2006 10:14:42	**1.7544E-02**	3.923E-02	3.926E-02	2.105E-01	PCI/SA	0.971	1.0E+0	3.449E-2
TH-232	9NS1		0	7/31/2006 10:14:42	**3.5088E-02**	5.548E-02	5.556E-02	2.582E-01	PCI/SA	0.971	1.0E+0	3.449E-2
U-234	7YSR		0	7/29/2006 3:17:03 PM	**0.0E+00**	0.0E+00	1.156E-01	2.557E-01	PCI/SA	0.976	1.0E+0	3.263E-2
U-235	7YSR		0	7/29/2006 3:17:03 PM	**-1.8874E-02**	1.887E-02	1.893E-02	4.519E-01	PCI/SA	0.976	1.0E+0	3.263E-2
U-238	7YSR		0	7/29/2006 3:17:03 PM	**7.5476E-02**	9.622E-02	9.641E-02	4.519E-01	PCI/SA	0.976	1.0E+0	3.263E-2
32138	**9H9F8910**			**J6G1802009**	P-0676	FILTER	7/18/2006 10:00:00	6/20/2006 10:20:00 AM				
ALPHA	BAS7		0	8/3/2006 8:17:32 PM	**2.8114E+00**	1.434E+00	1.463E+00	5.18E+00	PCI/SA	1.0	1.0E+0	2.102E-2

6200165, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H9H2F1AA=> , mat:FILTER | Air *wo:H9H2F1AC=> , 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
BETA	BDS8	0		8/2/2006 4:19:38 PM	**1.4073E+01**	1.702E+00	1.99E+00	5.678E+00	PCI/SA	1.0	1.0E+0	3.401E-2
RA-228	BXTF	0		8/15/2006 6:14:54 AM	**1.1398E+00**	3.57E-01	3.797E-01	1.51E+00	PCI/SA	0.923	1.0E+0	2.524E-1
TH-228	9NS1	0		7/31/2006 8:19:57 PM	**3.8966E-02**	9.138E-02	9.144E-02	4.194E-01	PCI/SA	1.06	1.0E+0	3.341E-2
TH-230	9NS1	0		7/31/2006 8:19:57 PM	**2.7879E-01**	1.068E-01	1.096E-01	2.23E-01	PCI/SA	1.06	1.0E+0	3.341E-2
TH-232	9NS1	0		7/31/2006 8:19:57 PM	**0.0E+00**	0.0E+00	4.553E-02	1.007E-01	PCI/SA	1.06	1.0E+0	3.341E-2
U-234	7YSR	0		7/29/2006 3:17:19 PM	**-1.9614E-02**	1.961E-02	1.968E-02	4.696E-01	PCI/SA	1.022	1.0E+0	3.263E-2
U-235	7YSR	0		7/29/2006 3:17:19 PM	**9.8048E-02**	9.805E-02	9.836E-02	2.657E-01	PCI/SA	1.022	1.0E+0	3.263E-2
U-238	7YSR	0		7/29/2006 3:17:19 PM	**5.882E-02**	1.019E-01	1.02E-01	5.541E-01	PCI/SA	1.022	1.0E+0	3.263E-2
32138	**9H9F8F10**			**J6G1802005**	000506	FILTER	7/18/2006 10:00:00	6/20/2006 11:15:00 AM				
ALPHA	BAS7	0		8/3/2006 5:10:27 PM	**4.6844E+00**	1.691E+00	1.758E+00	5.26E+00	PCI/SA	1.0	1.0E+0	2.08E-2
BETA	BDS8	0		8/2/2006 4:19:08 PM	**1.5794E+01**	1.736E+00	2.051E+00	5.479E+00	PCI/SA	1.0	1.0E+0	3.302E-2
RA-228	BXTF	0		8/15/2006 6:14:45 AM	**3.2032E+00**	5.12E-01	5.629E-01	1.902E+00	PCI/SA	0.896	1.0E+0	2.53E-1
TH-228	9NS1	0		7/31/2006 10:14:42	**3.2041E-01**	1.146E-01	1.181E-01	2.261E-01	PCI/SA	1.039	1.0E+0	3.538E-2
TH-230	9NS1	0		7/31/2006 10:14:42	**6.1162E-01**	1.483E-01	1.579E-01	9.75E-02	PCI/SA	1.039	1.0E+0	3.538E-2
TH-232	9NS1	0		7/31/2006 10:14:42	**1.2592E-01**	7.417E-02	7.5E-02	2.158E-01	PCI/SA	1.039	1.0E+0	3.538E-2
U-234	7YSR	0		7/29/2006 3:16:16 PM	**3.9574E-01**	1.979E-01	2.004E-01	2.681E-01	PCI/SA	0.932	1.0E+0	3.228E-2
U-235	7YSR	0		7/29/2006 3:16:16 PM	**5.9365E-02**	1.028E-01	1.029E-01	5.591E-01	PCI/SA	0.932	1.0E+0	3.228E-2
U-238	7YSR	0		7/29/2006 3:16:16 PM	**1.4444E+00**	3.842E-01	4.014E-01	5.591E-01	PCI/SA	0.932	1.0E+0	3.228E-2
32138	**9H9F8L10**			**J6G1802006**	000507	FILTER	7/18/2006 10:00:00	6/20/2006 11:30:00 AM				
ALPHA	BAS7	0		8/3/2006 8:17:32 PM	**7.7184E+00**	1.938E+00	2.098E+00	4.879E+00	PCI/SA	1.0	1.0E+0	2.074E-2
BETA	BDS8	0		8/2/2006 4:19:08 PM	**3.1016E+01**	2.05E+00	2.968E+00	5.356E+00	PCI/SA	1.0	1.0E+0	3.238E-2
RA-228	BXTF	0		8/15/2006 6:14:54 AM	**2.4364E+00**	4.051E-01	4.514E-01	1.362E+00	PCI/SA	0.971	1.0E+0	2.517E-1
TH-228	9NS1	0		7/31/2006 10:14:42	**1.6053E-01**	1.1E-01	1.109E-01	3.855E-01	PCI/SA	0.859	1.0E+0	3.227E-2
TH-230	9NS1	0		7/31/2006 10:14:42	**4.1587E-01**	1.401E-01	1.451E-01	2.626E-01	PCI/SA	0.859	1.0E+0	3.227E-2
TH-232	9NS1	0		7/31/2006 10:14:42	**1.751E-01**	1.027E-01	1.039E-01	3.222E-01	PCI/SA	0.859	1.0E+0	3.227E-2
U-234	7YSR	0		7/29/2006 3:16:34 PM	**2.0801E-01**	1.471E-01	1.48E-01	2.818E-01	PCI/SA	0.934	1.0E+0	3.166E-2
U-235	7YSR	0		7/29/2006 3:16:34 PM	**-2.0799E-02**	2.08E-02	2.087E-02	4.981E-01	PCI/SA	0.934	1.0E+0	3.166E-2
U-238	7YSR	0		7/29/2006 3:16:34 PM	**-4.1598E-02**	2.941E-02	2.961E-02	5.877E-01	PCI/SA	0.934	1.0E+0	3.166E-2
32138	**9H9F8W10**			**J6G1802007**	000508	FILTER	7/18/2006 10:00:00	6/20/2006 11:20:00 AM				
ALPHA	BAS7	0		8/3/2006 8:17:32 PM	**1.2533E+00**	1.095E+00	1.103E+00	4.503E+00	PCI/SA	1.0	1.0E+0	2.092E-2
BETA	BDS8	0		8/2/2006 4:19:08 PM	**2.8685E+00**	1.242E+00	1.269E+00	4.889E+00	PCI/SA	1.0	1.0E+0	3.371E-2
RA-228	BXTF	0		8/15/2006 6:14:54 AM	**2.2421E+00**	4.323E-01	4.72E-01	1.538E+00	PCI/SA	0.831	1.0E+0	2.502E-1
TH-228	9NS1	0		7/31/2006 10:14:42	**1.1977E-01**	8.637E-02	8.705E-02	2.874E-01	PCI/SA	0.902	1.0E+0	3.364E-2
TH-230	9NS1	0		7/31/2006 10:14:42	**0.0E+00**	0.0E+00	5.6E-02	1.239E-01	PCI/SA	0.902	1.0E+0	3.364E-2
TH-232	9NS1	0		7/31/2006 10:14:42	**0.0E+00**	0.0E+00	5.6E-02	1.239E-01	PCI/SA	0.902	1.0E+0	3.364E-2
U-234	7YSR	0		7/29/2006 3:16:46 PM	**-1.9868E-02**	1.987E-02	1.993E-02	4.758E-01	PCI/SA	1.032	1.0E+0	3.241E-2
U-235	7YSR	0		7/29/2006 3:16:46 PM	**0.0E+00**	0.0E+00	1.217E-01	2.692E-01	PCI/SA	1.032	1.0E+0	3.241E-2
U-238	7YSR	0		7/29/2006 3:16:46 PM	**-1.9868E-02**	1.987E-02	1.993E-02	4.758E-01	PCI/SA	1.032	1.0E+0	3.241E-2
32138	**9H9F9A10**			**J6G18020010**	P-0677	FILTER	7/18/2006 10:00:00	6/20/2006 10:35:00 AM				
ALPHA	BAS7	0		8/3/2006 8:17:32 PM	**1.2528E+00**	1.242E+00	1.249E+00	5.244E+00	PCI/SA	1.0	1.0E+0	2.06E-2
BETA	BDS8	0		8/2/2006 4:19:38 PM	**1.532E+01**	1.718E+00	2.03E+00	5.506E+00	PCI/SA	1.0	1.0E+0	3.248E-2
RA-228	BXTF	0		8/15/2006 6:15:08 AM	**9.8456E-01**	2.885E-01	3.028E-01	1.145E+00	PCI/SA	0.986	1.0E+0	2.488E-1
TH-228	9NS1	0		7/31/2006 8:19:57 PM	**1.5211E-01**	1.109E-01	1.117E-01	4.093E-01	PCI/SA	1.012	1.0E+0	3.301E-2
TH-230	9NS1	0		7/31/2006 8:19:57 PM	**4.8975E-01**	1.369E-01	1.436E-01	2.176E-01	PCI/SA	1.012	1.0E+0	3.301E-2
TH-232	9NS1	0		7/31/2006 8:19:57 PM	**6.0527E-07**	4.443E-02	4.443E-02	2.67E-01	PCI/SA	1.012	1.0E+0	3.301E-2
U-234	7YSR	0		7/29/2006 3:17:44 PM	**-2.0197E-02**	2.02E-02	2.026E-02	4.838E-01	PCI/SA	0.975	1.0E+0	3.196E-2
U-235	7YSR	0		7/29/2006 3:17:44 PM	**0.0E+00**	0.0E+00	1.237E-01	2.737E-01	PCI/SA	0.975	1.0E+0	3.196E-2
U-238	7YSR	0		7/29/2006 3:17:44 PM	**8.081E-02**	1.03E-01	1.032E-01	4.838E-01	PCI/SA	0.975	1.0E+0	3.196E-2
32138	**9H9F9F10**			**J6G18020011**	P-0678	FILTER	7/18/2006 10:00:00	6/20/2006 10:55:00 AM				
ALPHA	BAS7	0		8/4/2006 8:07:31 AM	**2.5909E+00**	1.463E+00	1.488E+00	5.446E+00	PCI/SA	1.0	1.0E+0	2.092E-2
BETA	BDS8	0		8/2/2006 4:19:38 PM	**1.7656E+01**	1.717E+00	2.095E+00	5.188E+00	PCI/SA	1.0	1.0E+0	3.467E-2
RA-228	BXTF	0		8/15/2006 6:15:08 AM	**1.3686E+00**	3.394E-01	3.681E-01	1.341E+00	PCI/SA	0.899	1.0E+0	2.524E-1
TH-228	9NS1	0		7/31/2006 8:19:57 PM	**2.2301E-02**	4.986E-02	4.99E-02	2.675E-01	PCI/SA	1.099	1.0E+0	3.353E-2
TH-230	9NS1	0		7/31/2006 8:19:57 PM	**4.6805E-01**	1.411E-01	1.472E-01	1.153E-01	PCI/SA	1.099	1.0E+0	3.353E-2

6200165, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H9H2F1AA=> , mat:FILTER | Air *wo:H9H2F1AC=> , 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		7/31/2006 8:19:57 PM	**4.255E-02**	4.255E-02	4.272E-02	1.153E-01	PCI/SA		1.099	1.0E+0	3.353E-2
U-234	7YSR	0		7/29/2006 3:18:06 PM	**0.0E+00**	0.0E+00	1.139E-01	2.521E-01	PCI/SA		0.948	1.0E+0	3.238E-2
U-235	7YSR	0		7/29/2006 3:18:06 PM	**7.4404E-02**	9.485E-02	9.504E-02	4.455E-01	PCI/SA		0.948	1.0E+0	3.238E-2
U-238	7YSR	0		7/29/2006 3:18:06 PM	**-1.8606E-02**	1.861E-02	1.867E-02	4.455E-01	PCI/SA		0.948	1.0E+0	3.238E-2
32138	**9H9F9J10**			**J6G18020012**	P-0679	FILTER	7/18/2006 10:00:00	6/20/2006 11:10:00 AM					
ALPHA	BAS7	0		8/4/2006 8:07:31 AM	**2.1953E+00**	1.397E+00	1.416E+00	5.371E+00	PCI/SA		1.0	1.0E+0	2.086E-2
BETA	BDS8	0		8/2/2006 4:19:33 PM	**2.0028E+01**	1.736E+00	2.212E+00	5.03E+00	PCI/SA		1.0	1.0E+0	3.405E-2
RA-228	BXTF	0		8/15/2006 6:15:08 AM	**2.3375E+00**	4.022E-01	4.312E-01	1.356E+00	PCI/SA		0.947	1.0E+0	2.519E-1
TH-228	9NS1	0		7/31/2006 8:19:57 PM	**5.0555E-01**	2.261E-01	2.321E-01	2.74E-01	PCI/SA		0.45	1.0E+0	3.376E-2
TH-230	9NS1	0		7/31/2006 8:19:57 PM	**1.254E+00**	3.478E-01	3.712E-01	2.614E-01	PCI/SA		0.45	1.0E+0	3.376E-2
TH-232	9NS1	0		7/31/2006 8:19:57 PM	**0.0E+00**	0.0E+00	1.181E-01	2.614E-01	PCI/SA		0.45	1.0E+0	3.376E-2
U-234	7YSR	0		7/29/2006 3:18:29 PM	**1.0176E-01**	1.018E-01	1.021E-01	2.758E-01	PCI/SA		0.967	1.0E+0	3.233E-2
U-235	7YSR	0		7/29/2006 3:18:29 PM	**0.0E+00**	0.0E+00	1.246E-01	2.758E-01	PCI/SA		0.967	1.0E+0	3.233E-2
U-238	7YSR	0		7/29/2006 3:18:29 PM	**-2.0348E-02**	2.035E-02	2.041E-02	4.874E-01	PCI/SA		0.967	1.0E+0	3.233E-2
32138	**9H9F9L10**			**J6G18020013**	P-0680	FILTER	7/18/2006 10:00:00	6/20/2006 11:25:00 AM					
ALPHA	BAS7	0		8/4/2006 8:07:31 AM	**4.3518E+00**	1.706E+00	1.765E+00	5.595E+00	PCI/SA		1.0	1.0E+0	2.072E-2
BETA	BDS8	0		8/2/2006 4:19:33 PM	**1.4015E+01**	1.662E+00	1.919E+00	5.359E+00	PCI/SA		1.0	1.0E+0	3.274E-2
RA-228	BXTF	0		8/15/2006 6:15:08 AM	**1.1916E+00**	3.794E-01	4.034E-01	1.614E+00	PCI/SA		0.817	1.0E+0	2.49E-1
U-234	7YSR	0		7/29/2006 3:19:10 PM	**8.3601E-02**	1.002E-01	1.004E-01	4.548E-01	PCI/SA		0.974	1.0E+0	3.208E-2
U-235	7YSR	0		7/29/2006 3:19:10 PM	**-2.3887E-02**	1.379E-02	1.392E-02	4.964E-01	PCI/SA		0.974	1.0E+0	3.208E-2
U-238	7YSR	0		7/29/2006 3:19:10 PM	**-4.7774E-02**	1.95E-02	1.988E-02	5.904E-01	PCI/SA		0.974	1.0E+0	3.208E-2
32138	**9H9F9M10**			**J6G18020014**	P-0681	FILTER	7/18/2006 10:00:00	6/20/2006 10:10:00 AM					
ALPHA	BAS7	0		8/4/2006 8:07:31 AM	**4.1711E+00**	1.552E+00	1.61E+00	4.86E+00	PCI/SA		1.0	1.0E+0	2.057E-2
BETA	BDS8	0		8/2/2006 4:19:33 PM	**1.391E+01**	1.637E+00	1.902E+00	5.263E+00	PCI/SA		1.0	1.0E+0	3.302E-2
RA-228	BXTF	0		8/15/2006 6:15:20 AM	**1.7836E+00**	4.011E-01	4.201E-01	1.5E+00	PCI/SA		0.91	1.0E+0	2.468E-1
TH-228	9NS1	0		7/31/2006 8:19:57 PM	**-2.12E-02**	5.609E-02	5.613E-02	3.564E-01	PCI/SA		0.932	1.0E+0	3.21E-2
TH-230	9NS1	0		7/31/2006 8:19:57 PM	**3.4384E-01**	1.23E-01	1.268E-01	2.426E-01	PCI/SA		0.932	1.0E+0	3.21E-2
TH-232	9NS1	0		7/31/2006 8:19:57 PM	**-4.0451E-02**	2.86E-02	2.883E-02	2.977E-01	PCI/SA		0.932	1.0E+0	3.21E-2
U-234	7YSR	0		7/29/2006 3:19:32 PM	**-5.5451E-02**	2.264E-02	2.309E-02	6.85E-01	PCI/SA		0.866	1.0E+0	3.163E-2
U-235	7YSR	0		7/29/2006 3:19:32 PM	**8.7737E-02**	1.166E-01	1.168E-01	5.76E-01	PCI/SA		0.866	1.0E+0	3.163E-2
U-238	7YSR	0		7/29/2006 3:19:32 PM	**-4.6209E-02**	2.067E-02	2.101E-02	6.526E-01	PCI/SA		0.866	1.0E+0	3.163E-2
32138	**9H9F9N10**			**J6G18020015**	P-0682	FILTER	7/18/2006 10:00:00	6/20/2006 11:35:00 AM					
ALPHA	BAS7	0		8/4/2006 8:07:31 AM	**-7.5302E-01**	9.068E-01	9.101E-01	5.309E+00	PCI/SA		1.0	1.0E+0	2.094E-2
BETA	BDS8	0		8/2/2006 6:58:31 PM	**1.4714E-01**	1.296E+00	1.296E+00	5.478E+00	PCI/SA		1.0	1.0E+0	3.296E-2
RA-228	BXTF	0		8/15/2006 6:15:20 AM	**2.4388E+00**	4.04E-01	4.546E-01	1.43E+00	PCI/SA		0.991	1.0E+0	2.487E-1
TH-228	9NS1	0		7/31/2006 8:19:57 PM	**9.1592E-02**	2.048E-01	2.051E-01	1.099E+00	PCI/SA		0.237	1.0E+0	3.33E-2
TH-230	9NS1	0		7/31/2006 8:19:57 PM	**6.9905E-01**	3.495E-01	3.593E-01	4.736E-01	PCI/SA		0.237	1.0E+0	3.33E-2
TH-232	9NS1	0		7/31/2006 8:19:57 PM	**0.0E+00**	0.0E+00	2.14E-01	4.736E-01	PCI/SA		0.237	1.0E+0	3.33E-2
U-234	7YSR	0		7/29/2006 3:20:17 PM	**9.146E-02**	1.215E-01	1.217E-01	6.004E-01	PCI/SA		0.865	1.0E+0	3.22E-2
U-235	7YSR	0		7/29/2006 3:20:17 PM	**-1.9262E-02**	1.362E-02	1.371E-02	5.5E-01	PCI/SA		0.865	1.0E+0	3.22E-2
U-238	7YSR	0		7/29/2006 3:20:17 PM	**-1.9262E-02**	1.362E-02	1.371E-02	5.5E-01	PCI/SA		0.865	1.0E+0	3.22E-2
32138	**H9H2F1AB**			**J6G190000165**	INTRA-LAB BLANK	FILTER	7/18/2006 10:00:00	6/20/2006 10:15:00 AM					
RA-228	BXTF	0	B	8/15/2006 6:15:20 AM	**3.2504E-01**	9.194E-02	9.66E-02	3.703E-01	PCI/SA		0.909	1.0E+0	1.0E+0
32138	**H9H2F1CS**			**J6G190000165**	INTRA-LAB CHECK	FILTER	7/18/2006 10:00:00	6/20/2006 10:15:00 AM					
RA-228	BXTF	0	S	8/15/2006 6:15:20 AM	**5.0003E+00**	2.482E-01	3.775E-01	3.717E-01	PCI/SA	5.0507E+00	0.907	1.0E+0	1.0E+0

6200165, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H9H2F1AA=> , mat:FILTER | Air *wo:H9H2F1AC=> , mat:FILTER | Air.

STL RICHLAND

7/27/2006 2:31:46 PM

Sample Preparation/Analysis

Balance Id:1120373922,1120373922,1120

536403, Brown and Caldwell , Brown & Caldwell

BX Ra-226/228 PrpRC5016, SepRC5005
TF Radium-228 by GPC
01 STANDARD TEST SET

Pipet #:

Sep1 DT/Tm Tech: AL 7/28/06 1320

AnalyDueDate: 08/14/2006

Sep2 DT/Tm Tech: 8-14-6M 8:25

Batch: 6200165 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: 6200163, BXTE

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:
1 H9F7N-1-AD J6G180200-1-SAMP	0.833sa,g	502.14sa,g	151.56g,in	0.2514g	RATA23499 07/19/06	in 31.1	3450	7A	1317	8/14/06
				0.9873				7A	0610	8/15/06
06/20/2006 10:15		AmtRec: FILTER		#Containers: 1		Scr:		Alpha:		Beta:
2 H9F73-1-AD J6G180200-2-SAMP	0.833sa,g	501.63sa,g	153.64g,in	0.2551g	RATA23500 07/19/06	31.4		7B	1317	8/14/06
				1.1216				7B	0610	8/15/06
06/20/2006 10:25		AmtRec: FILTER		#Containers: 1		Scr:		Alpha:		Beta:
3 H9F75-1-AD J6G180200-3-SAMP	0.833sa,g	506.26sa,g	150.90g,in	0.2483g	RATA23501 07/19/06	31.4		1A	1317	8/14/06
				0.8788				1A	0610	8/15/06
06/20/2006 10:40		AmtRec: FILTER		#Containers: 1		Scr:		Alpha:		Beta:
4 H9F78-1-AD J6G180200-4-SAMP	0.833sa,g	509.29sa,g	152.31g,in	0.2491g	RATA23502 07/19/06	31.8		1C	1317	8/14/06
				0.9490				1C	0610	8/15/06
06/20/2006 11:00		AmtRec: FILTER		#Containers: 1		Scr:		Alpha:		Beta:

7/27/2006 2:31:47 PM

Sample Preparation/Analysis

Balance Id:1120373922,1120373922,1120

536403, Brown and Caldwell , Brown & Caldwell

BX Ra-226/228 PrpRC5016, SepRC5005
TF Radium-228 by GPC
01 STANDARD TEST SET

Pipet #: _____

AnalyDueDate: 08/14/2006

Sep1 DT/Tm Tech:

Batch: 6200165 FILTER pCi/sampl PM, Quote: SA , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: 6200163, BXTE

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 H9F8F-1-AD J6G180200-5-SAMP	0.833sa,g	502.26sa,g	152.52g,in	0.253g 1.0011	RATA23503 07/19/06	1in	30.8	3x50 1D 1D	1317 0610	8/14/06 8/15/06
06/20/2006 11:15		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
6 H9F8L-1-AD J6G180200-6-SAMP	0.833sa,g	506.78sa,g	153.15g,in	0.2517g 1.0770	RATA23504 07/19/06		31.0	2A 2A	1317 0610	8/14/06 8/15/06
06/20/2006 11:30		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
7 H9F8W-1-AD J6G180200-7-SAMP	0.833sa,g	501.33sa,g	150.58g,in	0.2502g 0.9249	RATA23505 07/19/06		30.9	2B 2B	1317 0610	8/14/06 8/15/06
06/20/2006 11:20		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
8 H9F85-1-AD J6G180200-8-SAMP	0.833sa,g	500.08sa,g	151.41g,in	0.2522g 1.0079	RATA23506 07/19/06		30.7	2C 2C	1317 0610	8/14/06 8/15/06
06/20/2006 10:05		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

7/27/2006 2:31:47 PM

Sample Preparation/Analysis

Balance Id:1120373922,1120373922,1120

536403, Brown and Caldwell , Brown & Caldwell

BX Ra-226/228 PrpRC5016, SepRC5005
TF Radium-228 by GPC
01 STANDARD TEST SET

Pipet #: _____

AnalyDueDate: 08/14/2006

Sep1 DT/Tm Tech:

Batch: 6200165 FILTER pCi/sampl PM, Quote: SA , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: 6200163, BXTE

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 H9F89-1-AD J6G180200-9-SAMP	0.833sa,g	501.72sa,g	152.05g,in	0.2524g 1.0441	RATA23507 07/19/06	in	30.4	3X50	2D 1317 2D 0610	8/17/06 8/18/06
06/20/2006 10:20		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
10H9F9A-1-AD J6G180200-10-SAMP	0.833sa,g	505.38sa,g	150.94g,in	0.2488g 1.0732	RATA23508 07/19/06		31.6		3A 1317 3A 0610	8/17/06 8/18/06
06/20/2006 10:35		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
11H9F9F-1-AD J6G180200-11-SAMP	0.833sa,g	502.51sa,g	152.25g,in	0.2524g 0.9669	RATA23509 07/19/06		32.0		3B 1317 3B 0610	8/17/06 8/18/06
06/20/2006 10:55		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
12H9F9J-1-AD J6G180200-12-SAMP	0.833sa,g	502.25sa,g	151.91g,in	0.2519g 1.0406	RATA23510 07/19/06		31.3		3C 1317 3C 0610	8/17/06 8/18/06
06/20/2006 11:10		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

7/27/2006 2:31:48 PM

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: 08/14/2006

Sep1 DT/Tm Tech:

Batch: 6200165 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: 6200163, 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:
13H9F9L-1-AD J6G180200-13-SAMP	0.833sa,g	504.90sa,g	150.90g,in	0.249g 0.9097	RATA23511 07/19/06	1in	30.9	3X50 3D	1317	8/14/06
								3D	0610	8/16/06
06/20/2006 11:25		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
14H9F9M-1-AD J6G180200-14-SAMP	0.833sa,g	508.91sa,g	150.78g,in	0.2468g 1.0035	RATA23512 07/19/06		31.2	4A	1317	8/14/06
								4A	0610	8/16/06
06/20/2006 10:10		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
15H9F9N-1-AD J6G180200-15-SAMP	0.833sa,g	503.53sa,g	150.36g,in	0.2487g 1.1065	RATA23513 07/19/06		30.8	4B	1317	8/14/06
								4B	0610	8/16/06
06/20/2006 11:35		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
16H9H2F-1-AA-B J6G190000-165-BLK			1.00sa,in	1.00sa 1.0052	RATA23514 07/19/06		31.1	4C	1317	8/14/06
								4C	0610	8/16/06
06/20/2006 10:15		AmtRec:		#Containers: 1			Scr:	Alpha:		Beta:

STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 4 ISV - Insufficient Volume for Analysis WO Cnt: 16
Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Prep_SamplePrep v4.8.24

486

7/27/2006 2:31:48 PM

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: 08/14/2006

Sep1 DT/Tm Tech:

Batch: 6200165 pCi/sampl

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

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:
17H9H2F-1-AC-C J6G190000-165-LCS			1.00sa,in	1.00sa 1.0194	RASC4147 06/13/06	1in	30.6	3x50 4D	1317	8/14/06
								4D	dew	8/16/06

06/20/2006 10:15 AmtRec: #Containers: 1 Scr: Alpha: Beta:

Comments:

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

H9F7N1AD-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:						

H9H2F1AA-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:						

H9H2F1AC-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

H9F7N1AD-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

H9H2F1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

H9H2F1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

Batch Nbr: 6200165

Alpha Beta, Ra-228 by GPC , Results

8/15/2006 7:37:02 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	H9F7N1AD	RA-228	2.29E+00	(8.89E-01)		PCI/SA	R	1.53E+00	3.36E+00		89%	
Calc	TF	FILTER	H9F7N1AD	RA-228	2.18E+00	(9.55E-01)		PCI/SA	R	1.70E+00	3.72E+00		89%	
Calc	TF	FILTER	H9F7N1AD	RA-228	1.35E+00	(9.69E-01)	U4	PCI/SA	R	1.89E+00	4.13E+00		89%	
Calc	TF	FILTER	H9F7N1AD	RA-228	1.94E+00	(5.42E-01)		PCI/SA	A	9.85E-01	2.16E+00		89%	
Calc	TF	FILTER	H9F7N1AD	RA-228	4.39E+00	(6.01E+00)	U4	PCI/SA	R	1.24E+01	2.72E+01		89%	
Calc	TF	FILTER	H9F731AD	RA-228	2.54E+00	(8.32E-01)		PCI/SA	R	1.36E+00	2.97E+00		102%	
Calc	TF	FILTER	H9F731AD	RA-228	1.72E-01	(7.00E-01)	U4	PCI/SA	R	1.51E+00	3.30E+00		102%	
Calc	TF	FILTER	H9F731AD	RA-228	-5.14E-01	(7.23E-01)	U4	PCI/SA	R	1.67E+00	3.66E+00		102%	
Calc	TF	FILTER	H9F731AD	RA-228	7.33E-01	(4.35E-01)		PCI/SA	A	8.72E-01	1.91E+00		102%	
Calc	TF	FILTER	H9F731AD	RA-228	3.38E+00	(5.03E+00)	U4	PCI/SA	R	1.04E+01	2.29E+01		102%	
Calc	TF	FILTER	H9F751AD	RA-228	2.52E+00	(9.19E-01)		PCI/SA	R	1.52E+00	3.35E+00		81%	
Calc	TF	FILTER	H9F751AD	RA-228	5.46E-01	(8.15E-01)	U4	PCI/SA	R	1.68E+00	3.72E+00		81%	
Calc	TF	FILTER	H9F751AD	RA-228	3.25E+00	(1.15E+00)		PCI/SA	R	1.87E+00	4.13E+00		81%	
Calc	TF	FILTER	H9F751AD	RA-228	2.10E+00	(5.60E-01)		PCI/SA	A	9.75E-01	2.16E+00		81%	
Calc	TF	FILTER	H9F751AD	RA-228	-2.29E+00	(5.91E+00)	U4	PCI/SA	R	1.34E+01	2.93E+01		81%	
Calc	TF	FILTER	H9F781AD	RA-228	4.33E+00	(1.01E+00)		PCI/SA	R	1.29E+00	2.88E+00		88%	
Calc	TF	FILTER	H9F781AD	RA-228	3.21E+00	(9.63E-01)		PCI/SA	R	1.43E+00	3.20E+00		88%	
Calc	TF	FILTER	H9F781AD	RA-228	1.37E+00	(8.56E-01)	U4	PCI/SA	R	1.59E+00	3.55E+00		88%	
Calc	TF	FILTER	H9F781AD	RA-228	2.97E+00	(5.46E-01)		PCI/SA	A	8.31E-01	1.85E+00		88%	
Calc	TF	FILTER	H9F781AD	RA-228	1.07E+01	(6.03E+00)		PCI/SA	R	1.11E+01	2.46E+01		88%	
Calc	TF	FILTER	H9F8F1AD	RA-228	5.02E+00	(1.08E+00)		PCI/SA	R	1.34E+00	2.96E+00		90%	
Calc	TF	FILTER	H9F8F1AD	RA-228	2.54E+00	(9.06E-01)		PCI/SA	R	1.48E+00	3.28E+00		90%	
Calc	TF	FILTER	H9F8F1AD	RA-228	2.05E+00	(9.34E-01)		PCI/SA	R	1.65E+00	3.64E+00		90%	
Calc	TF	FILTER	H9F8F1AD	RA-228	3.20E+00	(5.63E-01)		PCI/SA	A	8.60E-01	1.90E+00		90%	
Calc	TF	FILTER	H9F8F1AD	RA-228	4.03E+00	(5.30E+00)	U4	PCI/SA	R	1.08E+01	2.40E+01		90%	
Calc	TF	FILTER	H9F8L1AD	RA-228	4.83E+00	(9.97E-01)		PCI/SA	R	8.96E-01	2.12E+00		97%	
Calc	TF	FILTER	H9F8L1AD	RA-228	1.46E+00	(6.51E-01)		PCI/SA	R	9.94E-01	2.35E+00		97%	
Calc	TF	FILTER	H9F8L1AD	RA-228	1.02E+00	(6.45E-01)	U4	PCI/SA	R	1.10E+00	2.61E+00		97%	
Calc	TF	FILTER	H9F8L1AD	RA-228	2.44E+00	(4.51E-01)		PCI/SA	A	5.76E-01	1.36E+00		97%	
Calc	TF	FILTER	H9F8L1AD	RA-228	1.09E+01	(4.86E+00)		PCI/SA	R	7.51E+00	1.77E+01		97%	
Calc	TF	FILTER	H9F8W1AD	RA-228	3.13E+00	(8.61E-01)		PCI/SA	R	1.01E+00	2.39E+00		83%	
Calc	TF	FILTER	H9F8W1AD	RA-228	3.62E+00	(9.72E-01)		PCI/SA	R	1.12E+00	2.65E+00		83%	
Calc	TF	FILTER	H9F8W1AD	RA-228	-2.10E-02	(5.65E-01)	U4	PCI/SA	R	1.25E+00	2.95E+00		83%	
Calc	TF	FILTER	H9F8W1AD	RA-228	2.24E+00	(4.72E-01)		PCI/SA	A	6.50E-01	1.54E+00		83%	
Calc	TF	FILTER	H9F8W1AD	RA-228	2.63E+00	(4.35E+00)	U4	PCI/SA	R	8.77E+00	2.05E+01		83%	
Calc	TF	FILTER	H9F851AD	RA-228	3.99E+00	(9.31E-01)		PCI/SA	R	9.56E-01	2.26E+00		90%	
Calc	TF	FILTER	H9F851AD	RA-228	3.28E+00	(9.02E-01)		PCI/SA	R	1.06E+00	2.51E+00		90%	
Calc	TF	FILTER	H9F851AD	RA-228	2.05E+00	(8.10E-01)		PCI/SA	R	1.18E+00	2.78E+00		90%	

() - (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	H9F851AD	RA-228	3.10E+00	(5.10E-01)		PCI/SA	A	6.15E-01	1.45E+00		90%	
Calc	TF	FILTER	H9F851AD	RA-228	2.09E+00	(3.97E+00)	U4	PCI/SA	R	8.06E+00	1.89E+01		90%	
Calc	TF	FILTER	H9F891AD	RA-228	2.20E+00	(7.31E-01)		PCI/SA	R	1.01E+00	2.35E+00		92%	
Calc	TF	FILTER	H9F891AD	RA-228	6.52E-01	(5.95E-01)	U4	PCI/SA	R	1.12E+00	2.61E+00		92%	
Calc	TF	FILTER	H9F891AD	RA-228	5.71E-01	(6.40E-01)	U4	PCI/SA	R	1.24E+00	2.89E+00		92%	
Calc	TF	FILTER	H9F891AD	RA-228	1.14E+00	(3.80E-01)		PCI/SA	A	6.48E-01	1.51E+00		92%	
Calc	TF	FILTER	H9F891AD	RA-228	5.00E+00	(4.20E+00)	U4	PCI/SA	R	7.72E+00	1.81E+01		92%	
Calc	TF	FILTER	H9F9A1AD	RA-228	1.72E+00	(5.79E-01)		PCI/SA	R	7.42E-01	1.78E+00		99%	
Calc	TF	FILTER	H9F9A1AD	RA-228	1.99E-01	(4.07E-01)	U4	PCI/SA	R	8.23E-01	1.98E+00		99%	
Calc	TF	FILTER	H9F9A1AD	RA-228	1.03E+00	(5.70E-01)		PCI/SA	R	9.13E-01	2.19E+00		99%	
Calc	TF	FILTER	H9F9A1AD	RA-228	9.85E-01	(3.03E-01)		PCI/SA	A	4.77E-01	1.14E+00		99%	
Calc	TF	FILTER	H9F9A1AD	RA-228	2.67E+00	(3.37E+00)	U4	PCI/SA	R	6.56E+00	1.55E+01		99%	
Calc	TF	FILTER	H9F9F1AD	RA-228	3.05E+00	(7.83E-01)		PCI/SA	R	8.86E-01	2.09E+00		90%	
Calc	TF	FILTER	H9F9F1AD	RA-228	1.61E-01	(4.71E-01)	U4	PCI/SA	R	9.83E-01	2.32E+00		90%	
Calc	TF	FILTER	H9F9F1AD	RA-228	8.94E-01	(6.19E-01)	U4	PCI/SA	R	1.09E+00	2.57E+00		90%	
Calc	TF	FILTER	H9F9F1AD	RA-228	1.37E+00	(3.68E-01)		PCI/SA	A	5.70E-01	1.34E+00		90%	
Calc	TF	FILTER	H9F9F1AD	RA-228	9.40E-01	(3.72E+00)	U4	PCI/SA	R	7.89E+00	1.83E+01		90%	
Calc	TF	FILTER	H9F9J1AD	RA-228	2.94E+00	(7.68E-01)		PCI/SA	R	9.03E-01	2.11E+00		95%	
Calc	TF	FILTER	H9F9J1AD	RA-228	2.39E+00	(7.52E-01)		PCI/SA	R	1.00E+00	2.34E+00		95%	
Calc	TF	FILTER	H9F9J1AD	RA-228	1.68E+00	(7.20E-01)		PCI/SA	R	1.11E+00	2.60E+00		95%	
Calc	TF	FILTER	H9F9J1AD	RA-228	2.34E+00	(4.31E-01)		PCI/SA	A	5.80E-01	1.36E+00		95%	
Calc	TF	FILTER	H9F9J1AD	RA-228	2.73E+00	(4.07E+00)	U4	PCI/SA	R	8.21E+00	1.89E+01		95%	
Calc	TF	FILTER	H9F9L1AD	RA-228	1.98E+00	(7.37E-01)		PCI/SA	R	1.08E+00	2.51E+00		82%	
Calc	TF	FILTER	H9F9L1AD	RA-228	1.46E+00	(7.30E-01)		PCI/SA	R	1.19E+00	2.79E+00		82%	
Calc	TF	FILTER	H9F9L1AD	RA-228	1.43E-01	(6.23E-01)	U4	PCI/SA	R	1.32E+00	3.09E+00		82%	
Calc	TF	FILTER	H9F9L1AD	RA-228	1.19E+00	(4.03E-01)		PCI/SA	A	6.92E-01	1.61E+00		82%	
Calc	TF	FILTER	H9F9L1AD	RA-228	5.91E+00	(4.65E+00)	U4	PCI/SA	R	8.48E+00	1.99E+01		82%	
Calc	TF	FILTER	H9F9M1AD	RA-228	1.67E+00	(6.59E-01)		PCI/SA	R	1.01E+00	2.33E+00		91%	
Calc	TF	FILTER	H9F9M1AD	RA-228	2.50E+00	(8.05E-01)		PCI/SA	R	1.12E+00	2.59E+00		91%	
Calc	TF	FILTER	H9F9M1AD	RA-228	1.19E+00	(7.11E-01)		PCI/SA	R	1.24E+00	2.87E+00		91%	
Calc	TF	FILTER	H9F9M1AD	RA-228	1.78E+00	(4.20E-01)		PCI/SA	A	6.48E-01	1.50E+00		91%	
Calc	TF	FILTER	H9F9M1AD	RA-228	-5.67E+00	(4.01E+00)	U4	PCI/SA	R	1.01E+01	2.27E+01		91%	
Calc	TF	FILTER	H9F9N1AD	RA-228	5.01E+00	(1.00E+00)		PCI/SA	R	9.62E-01	2.22E+00		99%	
Calc	TF	FILTER	H9F9N1AD	RA-228	1.74E+00	(6.95E-01)		PCI/SA	R	1.07E+00	2.47E+00		99%	
Calc	TF	FILTER	H9F9N1AD	RA-228	5.64E-01	(6.10E-01)	U4	PCI/SA	R	1.18E+00	2.74E+00		99%	
Calc	TF	FILTER	H9F9N1AD	RA-228	2.44E+00	(4.55E-01)		PCI/SA	A	6.19E-01	1.43E+00		99%	
Calc	TF	FILTER	H9F9N1AD	RA-228	3.37E-01	(3.43E+00)	U4	PCI/SA	R	7.43E+00	1.73E+01		99%	
Calc	TF	FILTER	H9H2F1AA	RA-228	5.68E-01	(1.81E-01)		PCI/SA	R	2.48E-01	5.76E-01	B	91%	
Calc	TF	FILTER	H9H2F1AA	RA-228	3.71E-02	(1.30E-01)	U4	PCI/SA	R	2.75E-01	6.39E-01	B	91%	

() - (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: 6200165

Alpha Beta, Ra-228 by GPC , Results

8/15/2006 7:37:02 AM

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Calc	TF	FILTER	**H9H2F1AA**	RA-228	**3.70E-01**	**(1.85E-01)**		PCI/SA	R	3.05E-01	7.09E-01	**B**	91%	
Calc	TF	FILTER	**H9H2F1AA**	RA-228	**3.25E-01**	**(9.66E-02)**		PCI/SA	A	1.59E-01	3.70E-01	**B**	91%	
Calc	TF	FILTER	**H9H2F1AA**	RA-228	**-2.10E-01**	**(9.22E-01)**	**U4**	PCI/SA	R	2.08E+00	4.81E+00	**B**	91%	
Calc	TF	FILTER	**H9H2F1AC**	RA-228	**5.22E+00**	**(6.60E-01)**		PCI/SA	R	2.48E-01	5.78E-01	**S**	91%	103%
Calc	TF	FILTER	**H9H2F1AC**	RA-228	**5.01E+00**	**(6.54E-01)**		PCI/SA	R	2.75E-01	6.42E-01	**S**	91%	99%
Calc	TF	FILTER	**H9H2F1AC**	RA-228	**4.77E+00**	**(6.47E-01)**		PCI/SA	R	3.05E-01	7.12E-01	**S**	91%	94%
Calc	TF	FILTER	**H9H2F1AC**	RA-228	**5.00E+00**	**(3.77E-01)**		PCI/SA	A	1.59E-01	3.72E-01	**S**	91%	99%
Calc	TF	FILTER	**H9H2F1AC**	RA-228	**4.94E+00**	**(1.52E+00)**		PCI/SA	R	2.01E+00	4.70E+00	**S**	91%	98%

P Andersen
8-15-06

() - (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:85
RADCALC v4.8.24
STL Richland

Batch Nbr: 6200165

Alpha Beta, Ra-228 by GPC , Calculated Results

8/15/2006 7:37:03 AM

Detailed Report

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
1	Calc	TF	FILTER	*STLE	Ra228WoBS	**H9F7N1AD**	**PCI/SA**		06/20/06 10:15	08/15/06 06:14	07/28/06 13:20	RATA23499	1	1.00 SA	
536403,000502					,J6G180200-1 v4.8.24		FILTER			31.1	08/14/06 08:25	RATA23499 Alq	99%	0.251423 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	08/14/06 11:41	RA-228	58	295	GPC7A	1	N	N	5.1857E-01	1.0000E+00	N	89%	N		1.3839E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.198E-02)	(0.000E+00)		7%			(0.000E+00)	3.977363		
1	08/14/06 12:36	RA-228	55	295	GPC7A	1	N	N	5.1857E-01	1.0000E+00	N	89%	N		1.5353E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.198E-02)	(0.000E+00)		7%			(0.000E+00)	3.977363		
2	08/14/06 13:31	RA-228	47	295	GPC7A	1	N	N	5.1857E-01	1.0000E+00	N	89%	N		1.7032E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.198E-02)	(0.000E+00)		7%			(0.000E+00)	3.977363		
3	08/15/06 06:14	RA-228	42	296	GPC7A	1	N	N	5.1857E-01	1.0000E+00	N	89%	N		1.1200E+01	4.5045E-01	1.0126E+00	
			50	400			N		(1.198E-02)	(0.000E+00)		7%			(0.000E+00)	3.977363		

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
	08/15/06	RA-228	R	**2.291783**		4.22500E-01	1.263212	1.263212	1.00 SA	89%		3.357344		
				(0.889171)		(1.5825E-01)	(0.484702)	(0.484702)	(0.028284)			1.532582		
	08/15/06	RA-228	R	**2.181362**		3.62500E-01	1.202348	1.202348	1.00 SA	89%		3.724506		
				(0.95504)		(1.5441E-01)	(0.521859)	(0.521859)	(0.028284)			1.700187		
	08/15/06	RA-228	R	**1.351859**	U4	2.02500E-01	0.745133	0.745133	1.00 SA	89%		4.131952		
				(0.968881)		(1.4368E-01)	(0.532321)	(0.532321)	(0.028284)			1.88618		
	08/15/06	RA-228	A	**1.941668**		3.29167E-01	1.070231	1.070231	1.00 SA	89%		2.158097		
				(0.541752)		(8.7896E-02)	(0.296393)	(0.296393)	(0.01633)			0.985142		
	08/15/06	RA-228	R	**4.389894**	U4	1.00000E-01	2.419672	2.419672	1.00 SA	89%		27.212816		
				(6.011485)		(1.3657E-01)	(3.310563)	(3.310563)	(0.028284)			12.424124		

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	**H9F731AD**	**PCI/SA**		06/20/06 10:25	08/15/06 06:14	07/28/06 13:20	RATA23500	1	1.00 SA	
536403,000503					,J6G180200-2 v4.8.24		FILTER			31.4	08/14/06 08:25	RATA23500 Alq	112%	0.255133 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	08/14/06 11:41	RA-228	64	299	GPC7B	1	N	N	5.1869E-01	1.0000E+00	N	102%	N		1.3839E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.255E-02)	(0.000E+00)		8%			(0.000E+00)	3.919532		
1	08/14/06 12:36	RA-228	39	299	GPC7B	1	N	N	5.1869E-01	1.0000E+00	N	102%	N		1.5353E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.255E-02)	(0.000E+00)		8%			(0.000E+00)	3.919532		
2	08/14/06 13:31	RA-228	33	299	GPC7B	1	N	N	5.1869E-01	1.0000E+00	N	102%	N		1.7032E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.255E-02)	(0.000E+00)		8%			(0.000E+00)	3.919532		

() - (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: 6200165

Alpha Beta, Ra-228 by GPC , Calculated Results

8/15/2006 7:37:03 AM

3	08/15/06 06:14	RA-228	38	269	GPC7B	1	N	N	5.1869E-01	1.0000E+00	N	102%	N	1.1200E+01	4.5045E-01	1.0126E+00	
			50	400			N		(1.255E-02)	(0.000E+00)		8%		(0.000E+00)	3.919532		

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
	08/15/06	RA-228	R	**2.540144**		5.32500E-01	1.420767	1.420767	1.00 SA	102%		2.970687		
				(0.831516)		(1.6574E-01)	(0.457871)	(0.457871)	(0.028284)			1.356876		
	08/15/06	RA-228	R	**0.171987**	U4	3.25000E-02	0.096197	0.096197	1.00 SA	102%		3.295564		
				(0.699645)		(1.3217E-01)	(0.39129)	(0.39129)	(0.028284)			1.505265		
	08/15/06	RA-228	R	**-0.513696**	U4	-8.75000E-02	-0.287323	-0.287323	1.00 SA	102%		3.656085		
				(0.722551)		(1.2275E-01)	(0.403804)	(0.403804)	(0.028284)			1.669935		
	08/15/06	RA-228	A	**0.732811**		1.59167E-01	0.40988	0.40988	1.00 SA	102%		1.909555		
				(0.434997)		(8.1654E-02)	(0.241709)	(0.241709)	(0.01633)			0.872199		
	08/15/06	RA-228	R	**3.377955**	U4	8.75000E-02	1.889376	1.889376	1.00 SA	102%		22.911405		
				(5.027577)		(1.2993E-01)	(2.809956)	(2.809956)	(0.028284)			10.415686		

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	**H9F751AD**	**PCI/SA**		06/20/06 10:40	08/15/06 06:14	07/28/06 13:20	RATA23501	1	1.00 SA	
536403,000504					,J6G180200-3 v4.8.24		FILTER			31.6	08/14/06 08:25	RATA23501 Alq	88%	0.248291 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	08/14/06 11:41	RA-228	51	239	GPC1A	1	N	N	5.2840E-01	1.0000E+00	N	81%	N		1.3848E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.442E-02)	(0.000E+00)		6%			(0.000E+00)	4.027535		
1	08/14/06 12:37	RA-228	34	239	GPC1A	1	N	N	5.2840E-01	1.0000E+00	N	81%	N		1.5363E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.442E-02)	(0.000E+00)		6%			(0.000E+00)	4.027535		
2	08/14/06 13:32	RA-228	52	239	GPC1A	1	N	N	5.2840E-01	1.0000E+00	N	81%	N		1.7044E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.442E-02)	(0.000E+00)		6%			(0.000E+00)	4.027535		
3	08/15/06 06:14	RA-228	33	283	GPC1A	1	N	N	5.2840E-01	1.0000E+00	N	81%	N		1.1203E+01	4.5045E-01	1.0126E+00	
			50	400			N		(1.442E-02)	(0.000E+00)		6%			(0.000E+00)	4.027535		

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
	08/15/06	RA-228	R	**2.519888**		4.22500E-01	1.371646	1.371646	1.00 SA	81%		3.354997		
				(0.919308)		(1.4797E-01)	(0.494163)	(0.494163)	(0.028284)			1.516769		
	08/15/06	RA-228	R	**0.545877**	U4	8.25000E-02	0.297136	0.297136	1.00 SA	81%		3.72202		
				(0.814817)		(1.2286E-01)	(0.443199)	(0.443199)	(0.028284)			1.682697		
	08/15/06	RA-228	R	**3.248185**		4.42500E-01	1.768079	1.768079	1.00 SA	81%		4.129193		
				(1.145191)		(1.4931E-01)	(0.61503)	(0.61503)	(0.028284)			1.866777		
	08/15/06	RA-228	A	**2.10465**		3.15833E-01	1.14562	1.14562	1.00 SA	81%		2.156636		
				(0.559813)		(8.1159E-02)	(0.301641)	(0.301641)	(0.01633)			0.974999		
	08/15/06	RA-228	R	**-2.291953**	U4	-4.75000E-02	-1.247575	-1.247575	1.00 SA	81%		29.304909		
				(5.90808)		(1.2235E-01)	(3.215136)	(3.215136)	(0.028284)			13.352764		

() - (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: 6200165 — Alpha Beta, Ra-228 by GPC , Calculated Results — 8/15/2006 7:37:03 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	**H9F781AD**	**PCI/SA**		06/20/06 11:00	08/15/06 06:14	07/28/06 13:20	RATA23502	1	1.00 SA	
536403,000505					,J6G180200-4 v4.8.24		FILTER			31.8	08/14/06 08:25	RATA23502 Alq	95%	0.24912 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	08/14/06 11:41	RA-228	64	200	GPC1C	1	N	N	5.2024E-01	1.0000E+00	N	88%	N		1.3848E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.164E-02)	(0.000E+00)		7%			(0.000E+00)	4.014133		
1	08/14/06 12:37	RA-228	51	200	GPC1C	1	N	N	5.2024E-01	1.0000E+00	N	88%	N		1.5363E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.164E-02)	(0.000E+00)		7%			(0.000E+00)	4.014133		
2	08/14/06 13:32	RA-228	35	200	GPC1C	1	N	N	5.2024E-01	1.0000E+00	N	88%	N		1.7044E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.164E-02)	(0.000E+00)		7%			(0.000E+00)	4.014133		
3	08/15/06 06:14	RA-228	40	225	GPC1C	1	N	N	5.2024E-01	1.0000E+00	N	88%	N		1.1203E+01	4.5045E-01	1.0126E+00	
			50	400			N		(1.164E-02)	(0.000E+00)		7%			(0.000E+00)	4.014133		

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
	08/15/06	RA-228	R	**4.33356**		7.80000E-01	2.366766	2.366766	1.00 SA	88%		2.884595		
				(1.010129)		(1.6386E-01)	(0.534664)	(0.534664)	(0.028284)			1.292502		
	08/15/06	RA-228	R	**3.205089**		5.20000E-01	1.750454	1.750454	1.00 SA	88%		3.200158		
				(0.962954)		(1.4714E-01)	(0.516213)	(0.516213)	(0.028284)			1.433896		
	08/15/06	RA-228	R	**1.367582**	U4	2.00000E-01	0.746902	0.746902	1.00 SA	88%		3.550242		
				(0.855642)		(1.2349E-01)	(0.465333)	(0.465333)	(0.028284)			1.590758		
	08/15/06	RA-228	A	**2.968744**		5.00000E-01	1.621374	1.621374	1.00 SA	88%		1.854256		
				(0.545666)		(8.4163E-02)	(0.292285)	(0.292285)	(0.01633)			0.830837		
	08/15/06	RA-228	R	**10.675087**		2.37500E-01	5.830179	5.830179	1.00 SA	88%		24.604704		
				(6.027296)		(1.3193E-01)	(3.274714)	(3.274714)	(0.028284)			11.090854		

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	**H9F8F1AD**	**PCI/SA**		06/20/06 11:15	08/15/06 06:14	07/28/06 13:20	RATA23503	1	1.00 SA	
536403,000506					,J6G180200-5 v4.8.24		FILTER			30.8	08/14/06 08:25	RATA23503 Alq	100%	0.252955 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	08/14/06 11:41	RA-228	78	241	GPC1D	1	N	N	5.3160E-01	1.0000E+00	N	90%	N		1.3848E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.368E-02)	(0.000E+00)		7%			(0.000E+00)	3.953273		
1	08/14/06 12:37	RA-228	52	241	GPC1D	1	N	N	5.3160E-01	1.0000E+00	N	90%	N		1.5363E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.368E-02)	(0.000E+00)		7%			(0.000E+00)	3.953273		
2	08/14/06 13:32	RA-228	46	241	GPC1D	1	N	N	5.3160E-01	1.0000E+00	N	90%	N		1.7044E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.368E-02)	(0.000E+00)		7%			(0.000E+00)	3.953273		
3	08/15/06 06:14	RA-228	35	242	GPC1D	1	N	N	5.3160E-01	1.0000E+00	N	90%	N		1.1203E+01	4.5045E-01	1.0126E+00	
			50	400			N		(1.368E-02)	(0.000E+00)		7%			(0.000E+00)	3.953273		

() - (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: 6200165

Alpha Beta, Ra-228 by GPC , Calculated Results

8/15/2006 7:37:03 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
	08/15/06	RA-228	R	**5.018046**		9.57500E-01	2.782797	2.782797	1.00 SA	90%		2.959164		
				(1.076674)		(1.8085E-01)	(0.57528)	(0.57528)	(0.028284)			1.338352		
	08/15/06	RA-228	R	**2.543668**		4.37500E-01	1.410611	1.410611	1.00 SA	90%		3.282884		
				(0.906134)		(1.4935E-01)	(0.495927)	(0.495927)	(0.028284)			1.484762		
	08/15/06	RA-228	R	**2.047918**		3.17500E-01	1.135689	1.135689	1.00 SA	90%		3.642018		
				(0.933618)		(1.4109E-01)	(0.513618)	(0.513618)	(0.028284)			1.647188		
	08/15/06	RA-228	A	**3.203211**		5.70833E-01	1.776366	1.776366	1.00 SA	90%		1.90219		
				(0.562924)		(9.1238E-02)	(0.305631)	(0.305631)	(0.01633)			0.86031		
	08/15/06	RA-228	R	**4.027885**	U4	9.50000E-02	2.233695	2.233695	1.00 SA	90%		23.984993		
				(5.296628)		(1.2455E-01)	(2.934483)	(2.934483)	(0.028284)			10.849932		

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	**H9F8L1AD**	**PCI/SA**		06/20/06 11:30	08/15/06 06:14	07/28/06 13:20	RATA23504	1	1.00 SA	
536403,000507					,J6G180200-6 v4.8.24		FILTER			31.0	08/14/06 08:25	RATA23504 Alq	108%	0.251734 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	08/14/06 11:42	RA-228	50	81	GPC2A	1	N	N	4.2752E-01	1.0000E+00	N	97%	N		1.3855E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.183E-02)	(0.000E+00)		8%			(0.000E+00)	3.972441		
1	08/14/06 12:37	RA-228	21	81	GPC2A	1	N	N	4.2752E-01	1.0000E+00	N	97%	N		1.5371E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.183E-02)	(0.000E+00)		8%			(0.000E+00)	3.972441		
2	08/14/06 13:32	RA-228	17	81	GPC2A	1	N	N	4.2752E-01	1.0000E+00	N	97%	N		1.7052E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.183E-02)	(0.000E+00)		8%			(0.000E+00)	3.972441		
3	08/15/06 06:14	RA-228	22	87	GPC2A	1	N	N	4.2752E-01	1.0000E+00	N	97%	N		1.1207E+01	4.5045E-01	1.0126E+00	
			50	400			N		(1.183E-02)	(0.000E+00)		8%			(0.000E+00)	3.972441		

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
	08/15/06	RA-228	R	**4.825253**		7.97500E-01	2.66298	2.66298	1.00 SA	97%		2.118417		
				(0.997187)		(1.4320E-01)	(0.528643)	(0.528643)	(0.028284)			0.895773		
	08/15/06	RA-228	R	**1.459941**		2.17500E-01	0.805718	0.805718	1.00 SA	97%		2.350163		
				(0.650836)		(9.4373E-02)	(0.356191)	(0.356191)	(0.028284)			0.993767		
	08/15/06	RA-228	R	**1.023918**	U4	1.37500E-01	0.565084	0.565084	1.00 SA	97%		2.607261		
				(0.645078)		(8.5477E-02)	(0.354525)	(0.354525)	(0.028284)			1.10248		
	08/15/06	RA-228	A	**2.436371**		3.84167E-01	1.344594	1.344594	1.00 SA	97%		1.361746		
				(0.451429)		(6.3874E-02)	(0.243133)	(0.243133)	(0.01633)			0.575814		
	08/15/06	RA-228	R	**10.888846**		2.22500E-01	6.009379	6.009379	1.00 SA	97%		17.661393		
				(4.859952)		(9.6663E-02)	(2.659821)	(2.659821)	(0.028284)			7.508918		

() - (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: 6200165

Alpha Beta, Ra-228 by GPC , Calculated Results

8/15/2006 7:37:04 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
7	Calc	TF	FILTER	*STLE	Ra228WoBS	**H9F8W1AD**	**PCI/SA**		06/20/06 11:20	08/15/06 06:14	07/28/06 13:20	RATA23505	1	1.00 SA	
536403,000508					,J6G180200-7 v4.8.24		FILTER			30.9	08/14/06 08:25	RATA23505 Alq	92%	0.250201 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	08/14/06 11:42	RA-228	33	81	GPC2B	1	N	N	4.4485E-01	1.0000E+00	N	83%	N		1.3855E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.049E-02)	(0.000E+00)		7%			(0.000E+00)	3.996791		
1	08/14/06 12:37	RA-228	34	81	GPC2B	1	N	N	4.4485E-01	1.0000E+00	N	83%	N		1.5371E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.049E-02)	(0.000E+00)		7%			(0.000E+00)	3.996791		
2	08/14/06 13:32	RA-228	10	81	GPC2B	1	N	N	4.4485E-01	1.0000E+00	N	83%	N		1.7052E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.049E-02)	(0.000E+00)		7%			(0.000E+00)	3.996791		
3	08/15/06 06:14	RA-228	14	93	GPC2B	1	N	N	4.4485E-01	1.0000E+00	N	83%	N		1.1207E+01	4.5045E-01	1.0126E+00	
			50	400			N		(1.049E-02)	(0.000E+00)		7%			(0.000E+00)	3.996791		

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
	08/15/06	RA-228	R	**3.126832**		4.57500E-01	1.715131	1.715131	1.00 SA	83%		2.39296		
				(0.860536)		(1.1707E-01)	(0.461624)	(0.461624)	(0.028284)			1.011863		
	08/15/06	RA-228	R	**3.620539**		4.77500E-01	1.98594	1.98594	1.00 SA	83%		2.65474		
				(0.972331)		(1.1877E-01)	(0.520999)	(0.520999)	(0.028284)			1.122557		
	08/15/06	RA-228	R	**-0.021029**	U4	-2.50000E-03	-0.011535	-0.011535	1.00 SA	83%		2.945158		
				(0.564673)		(6.7129E-02)	(0.309734)	(0.309734)	(0.028284)			1.24536		
	08/15/06	RA-228	A	**2.242114**		3.10833E-01	1.229845	1.229845	1.00 SA	83%		1.538226		
				(0.471971)		(5.9925E-02)	(0.253962)	(0.253962)	(0.01633)			0.650439		
	08/15/06	RA-228	R	**2.625847**	U4	4.75000E-02	1.440331	1.440331	1.00 SA	83%		20.525152		
				(4.354371)		(7.8621E-02)	(2.387028)	(2.387028)	(0.028284)			8.769669		

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	**H9F851AD**	**PCI/SA**		06/20/06 10:05	08/15/06 06:14	07/28/06 13:20	RATA23506	1	1.00 SA	
536403,P-0675					,J6G180200-8 v4.8.24		FILTER			30.7	08/14/06 08:25	RATA23506 Alq	101%	0.252209 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	08/14/06 11:42	RA-228	41	81	GPC2C	1	N	N	4.3128E-01	1.0000E+00	N	90%	N		1.3855E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(9.380E-03)	(0.000E+00)		7%			(0.000E+00)	3.96497		
1	08/14/06 12:37	RA-228	33	81	GPC2C	1	N	N	4.3128E-01	1.0000E+00	N	90%	N		1.5371E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(9.380E-03)	(0.000E+00)		7%			(0.000E+00)	3.96497		
2	08/14/06 13:32	RA-228	23	81	GPC2C	1	N	N	4.3128E-01	1.0000E+00	N	90%	N		1.7052E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(9.380E-03)	(0.000E+00)		7%			(0.000E+00)	3.96497		
3	08/15/06 06:14	RA-228	13	88	GPC2C	1	N	N	4.3128E-01	1.0000E+00	N	90%	N		1.1207E+01	4.5045E-01	1.0126E+00	
			50	400			N		(9.380E-03)	(0.000E+00)		7%			(0.000E+00)	3.96497		

() - (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: 6200165

Alpha Beta, Ra-228 by GPC , Calculated Results

8/15/2006 7:37:04 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/15/06	RA-228	R	**3.988724**		6.17500E-01	2.205417	2.205417	1.00 SA	90%		2.261617		
				(0.931269)		(1.3002E-01)	(0.499082)	(0.499082)	(0.028284)			0.956325		
	08/15/06	RA-228	R	**3.278496**		4.57500E-01	1.812723	1.812723	1.00 SA	90%		2.509029		
				(0.901779)		(1.1707E-01)	(0.48761)	(0.48761)	(0.028284)			1.060943		
	08/15/06	RA-228	R	**2.047139**		2.57500E-01	1.13189	1.13189	1.00 SA	90%		2.783506		
				(0.81)		(9.8520E-02)	(0.443115)	(0.443115)	(0.028284)			1.177005		
	08/15/06	RA-228	A	**3.104786**		4.44167E-01	1.716677	1.716677	1.00 SA	90%		1.453797		
				(0.509528)		(6.6932E-02)	(0.275519)	(0.275519)	(0.01633)			0.614738		
	08/15/06	RA-228	R	**2.089871**	**U4**	4.00000E-02	1.155517	1.155517	1.00 SA	90%		18.947086		
				(3.967411)		(7.5829E-02)	(2.192629)	(2.192629)	(0.028284)			8.062443		

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	**H9F891AD**	**PCI/SA**		06/20/06 10:20	08/15/06 06:14	07/28/06 13:20	RATA23507	1	1.00 SA	
536403,P-0676					,J6G180200-9 v4.8.24		FILTER			30.4	08/14/06 08:25	RATA23507 Alq	104%	0.252447 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	08/14/06 11:42	RA-228	30	98	GPC2D	1	N	N	4.3857E-01	1.0000E+00	N	92%	N		1.3855E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.311E-02)	(0.000E+00)		7%			(0.000E+00)	3.961229		
1	08/14/06 12:37	RA-228	17	98	GPC2D	1	N	N	4.3857E-01	1.0000E+00	N	92%	N		1.5371E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.311E-02)	(0.000E+00)		7%			(0.000E+00)	3.961229		
2	08/14/06 13:32	RA-228	16	98	GPC2D	1	N	N	4.3857E-01	1.0000E+00	N	92%	N		1.7052E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.311E-02)	(0.000E+00)		7%			(0.000E+00)	3.961229		
3	08/15/06 06:14	RA-228	16	88	GPC2D	1	N	N	4.3857E-01	1.0000E+00	N	92%	N		1.1207E+01	4.5045E-01	1.0126E+00	
			50	400			N		(1.311E-02)	(0.000E+00)		7%			(0.000E+00)	3.961229		

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
	08/15/06	RA-228	R	**2.196216**		3.55000E-01	1.215468	1.215468	1.00 SA	92%		2.349024		
				(0.730627)		(1.1231E-01)	(0.398282)	(0.398282)	(0.028284)			1.007455		
	08/15/06	RA-228	R	**0.652014**	**U4**	9.50000E-02	0.360849	0.360849	1.00 SA	92%		2.605997		
				(0.594701)		(8.6096E-02)	(0.328476)	(0.328476)	(0.028284)			1.117667		
	08/15/06	RA-228	R	**0.571059**	**U4**	7.50000E-02	0.316045	0.316045	1.00 SA	92%		2.891082		
				(0.640315)		(8.3741E-02)	(0.353909)	(0.353909)	(0.028284)			1.239935		
	08/15/06	RA-228	A	**1.139763**		1.75000E-01	0.630787	0.630787	1.00 SA	92%		1.509983		
				(0.379691)		(5.4810E-02)	(0.20864)	(0.20864)	(0.01633)			0.647605		
	08/15/06	RA-228	R	**5.003907**	**U4**	1.00000E-01	2.769348	2.769348	1.00 SA	92%		18.146473		
				(4.203262)		(8.3367E-02)	(2.320795)	(2.320795)	(0.028284)			7.721763		

() - (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:10

RADCALC v4.8.24

STL Richland

Batch Nbr: 6200165

Alpha Beta, Ra-228 by GPC , Calculated Results

8/15/2006 7:37:04 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
10	Calc	TF	FILTER	*STLE	Ra228WoBS	**H9F9A1AD**	**PCI/SA**		06/20/06 10:35	08/15/06 06:15	07/28/06 13:20	RATA23508	1	1.00 SA	
536403,P-0677					,J6G180200-10 v4.8.24		FILTER			31.6	08/14/06 08:25	RATA23508 Alq	107%	0.248789 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	08/14/06 11:42	RA-228	24	67	GPC3A	1	N	N	4.6800E-01	1.0000E+00	N	99%	N		1.3861E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.324E-02)	(0.000E+00)		8%			(0.000E+00)	4.019469		
1	08/14/06 12:37	RA-228	10	67	GPC3A	1	N	N	4.6800E-01	1.0000E+00	N	99%	N		1.5377E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.324E-02)	(0.000E+00)		8%			(0.000E+00)	4.019469		
2	08/14/06 13:32	RA-228	16	67	GPC3A	1	N	N	4.6800E-01	1.0000E+00	N	99%	N		1.7059E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.324E-02)	(0.000E+00)		8%			(0.000E+00)	4.019469		
3	08/15/06 06:15	RA-228	13	80	GPC3A	1	N	N	4.6800E-01	1.0000E+00	N	99%	N		1.1212E+01	4.5045E-01	1.0126E+00	
			50	400			N		(1.324E-02)	(0.000E+00)		8%			(0.000E+00)	4.019469		

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
	08/15/06	RA-228	R	**1.721289**		3.12500E-01	0.938826	0.938826	1.00 SA	99%		1.780988		
				(0.578857)		(1.0009E-01)	(0.31108)	(0.31108)	(0.028284)			0.741664		
	08/15/06	RA-228	R	**0.198591**	**U4**	3.25000E-02	0.108316	0.108316	1.00 SA	99%		1.975758		
				(0.406697)		(6.6474E-02)	(0.221733)	(0.221733)	(0.028284)			0.822773		
	08/15/06	RA-228	R	**1.033792**		1.52500E-01	0.563851	0.563851	1.00 SA	99%		2.191898		
				(0.569714)		(8.2576E-02)	(0.30904)	(0.30904)	(0.028284)			0.912781		
	08/15/06	RA-228	A	**0.984558**		1.65833E-01	0.536997	0.536997	1.00 SA	99%		1.144817		
				(0.302775)		(4.8598E-02)	(0.163789)	(0.163789)	(0.01633)			0.476741		
	08/15/06	RA-228	R	**2.673198**	**U4**	6.00000E-02	1.458016	1.458016	1.00 SA	99%		15.517551		
				(3.374836)		(7.5498E-02)	(1.838797)	(1.838797)	(0.028284)			6.555273		

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	**H9F9F1AD**	**PCI/SA**		06/20/06 10:55	08/15/06 06:15	07/28/06 13:20	RATA23509	1	1.00 SA	
536403,P-0678					,J6G180200-11 v4.8.24		FILTER			32.0	08/14/06 08:25	RATA23509 Alq	97%	0.252382 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	08/14/06 11:42	RA-228	37	86	GPC3B	1	N	N	4.7930E-01	1.0000E+00	N	90%	N		1.3861E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.181E-02)	(0.000E+00)		7%			(0.000E+00)	3.962255		
1	08/14/06 12:37	RA-228	12	86	GPC3B	1	N	N	4.7930E-01	1.0000E+00	N	90%	N		1.5377E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.181E-02)	(0.000E+00)		7%			(0.000E+00)	3.962255		
2	08/14/06 13:32	RA-228	17	86	GPC3B	1	N	N	4.7930E-01	1.0000E+00	N	90%	N		1.7059E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.181E-02)	(0.000E+00)		7%			(0.000E+00)	3.962255		
3	08/15/06 06:15	RA-228	14	104	GPC3B	1	N	N	4.7930E-01	1.0000E+00	N	90%	N		1.1212E+01	4.5045E-01	1.0126E+00	
			50	400			N		(1.181E-02)	(0.000E+00)		7%			(0.000E+00)	3.962255		

() - (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: 6200165

Alpha Beta, Ra-228 by GPC , Calculated Results

8/15/2006 7:37:04 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/15/06	RA-228	R	**3.05077**		5.25000E-01	1.687986	1.687986	1.00 SA	90%		2.086848		
				(0.783477)		(1.2384E-01)	(0.422512)	(0.422512)	(0.028284)			0.886473		
	08/15/06	RA-228	R	**0.161162**	U4	2.50000E-02	0.089171	0.089171	1.00 SA	90%		2.315068		
				(0.471253)		(7.3058E-02)	(0.260693)	(0.260693)	(0.028284)			0.983418		
	08/15/06	RA-228	R	**0.893963**	U4	1.25000E-01	0.494628	0.494628	1.00 SA	90%		2.568327		
				(0.619296)		(8.5659E-02)	(0.341475)	(0.341475)	(0.028284)			1.091		
	08/15/06	RA-228	A	**1.368632**		2.25000E-01	0.757262	0.757262	1.00 SA	90%		1.341424		
				(0.368095)		(5.5790E-02)	(0.200855)	(0.200855)	(0.01633)			0.569824		
	08/15/06	RA-228	R	**0.940061**	U4	2.00000E-02	0.520134	0.520134	1.00 SA	90%		18.308461		
				(3.717144)		(7.9057E-02)	(2.056473)	(2.056473)	(0.028284)			7.885129		

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	**H9F9J1AD**	**PCI/SA**		06/20/06 11:10	08/15/06 06:15	07/28/06 13:20	RATA23510	1	1.00 SA	
536403,P-0679					,J6G180200-12 v4.8.24		FILTER			31.3	08/14/06 08:25	RATA23510 Alq	104%	0.251948 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	08/14/06 11:42	RA-228	38	95	GPC3C	1	N	N	4.7065E-01	1.0000E+00	N	95%	N		1.3861E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.099E-02)	(0.000E+00)		8%			(0.000E+00)	3.969068		
1	08/14/06 12:37	RA-228	31	95	GPC3C	1	N	N	4.7065E-01	1.0000E+00	N	95%	N		1.5377E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.099E-02)	(0.000E+00)		8%			(0.000E+00)	3.969068		
2	08/14/06 13:32	RA-228	24	95	GPC3C	1	N	N	4.7065E-01	1.0000E+00	N	95%	N		1.7059E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.099E-02)	(0.000E+00)		8%			(0.000E+00)	3.969068		
3	08/15/06 06:15	RA-228	18	120	GPC3C	1	N	N	4.7065E-01	1.0000E+00	N	95%	N		1.1212E+01	4.5045E-01	1.0126E+00	
			50	400			N		(1.099E-02)	(0.000E+00)		8%			(0.000E+00)	3.969068		

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
	08/15/06	RA-228	R	**2.942356**		5.22500E-01	1.625212	1.625212	1.00 SA	95%		2.109932		
				(0.767819)		(1.2567E-01)	(0.413702)	(0.413702)	(0.028284)			0.902894		
	08/15/06	RA-228	R	**2.389535**		3.82500E-01	1.31986	1.31986	1.00 SA	95%		2.340676		
				(0.752069)		(1.1399E-01)	(0.408427)	(0.408427)	(0.028284)			1.001635		
	08/15/06	RA-228	R	**1.680661**		2.42500E-01	0.928314	0.928314	1.00 SA	95%		2.596737		
				(0.72012)		(1.0096E-01)	(0.394168)	(0.394168)	(0.028284)			1.11121		
	08/15/06	RA-228	A	**2.337517**		3.82500E-01	1.291129	1.291129	1.00 SA	95%		1.356262		
				(0.431242)		(6.5812E-02)	(0.234125)	(0.234125)	(0.01633)			0.580379		
	08/15/06	RA-228	R	**2.732979**	U4	6.00000E-02	1.509562	1.509562	1.00 SA	95%		18.8752		
				(4.070743)		(8.9163E-02)	(2.246803)	(2.246803)	(0.028284)			8.208078		

() - (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: 6200165

Alpha Beta, Ra-228 by GPC , Calculated Results

8/15/2006 7:37:04 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
13	Calc	TF	FILTER	*STLE	Ra228WoBS	**H9F9L1AD**	**PCI/SA**		06/20/06 11:25	08/15/06 06:15	07/28/06 13:20	RATA23511	1	1.00 SA	
536403,P-0680					,J6G180200-13 v4.8.24		FILTER			30.9	08/14/06 08:25	RATA23511 Alq	91%	0.24896 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	08/14/06 11:42	RA-228	27	97	GPC3D	1	N	N	4.6782E-01	1.0000E+00	N	82%	N		1.3861E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.145E-02)	(0.000E+00)		7%			(0.000E+00)	4.016716		
1	08/14/06 12:37	RA-228	22	97	GPC3D	1	N	N	4.6782E-01	1.0000E+00	N	82%	N		1.5377E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.145E-02)	(0.000E+00)		7%			(0.000E+00)	4.016716		
2	08/14/06 13:32	RA-228	13	97	GPC3D	1	N	N	4.6782E-01	1.0000E+00	N	82%	N		1.7059E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.145E-02)	(0.000E+00)		7%			(0.000E+00)	4.016716		
3	08/15/06 06:15	RA-228	17	92	GPC3D	1	N	N	4.6782E-01	1.0000E+00	N	82%	N		1.1212E+01	4.5045E-01	1.0126E+00	
			50	400			N		(1.145E-02)	(0.000E+00)		7%			(0.000E+00)	4.016716		

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
	08/15/06	RA-228	R	**1.976346**		2.97500E-01	1.07869	1.07869	1.00 SA	82%		2.511355		
				(0.737296)		(1.0680E-01)	(0.397617)	(0.397617)	(0.028284)			1.076286		
	08/15/06	RA-228	R	**1.455513**		1.97500E-01	0.794419	0.794419	1.00 SA	82%		2.786		
				(0.729858)		(9.6986E-02)	(0.395734)	(0.395734)	(0.028284)			1.19399		
	08/15/06	RA-228	R	**0.143078**	U4	1.75000E-02	0.078092	0.078092	1.00 SA	82%		3.090776		
				(0.623162)		(7.6199E-02)	(0.340093)	(0.340093)	(0.028284)			1.324608		
	08/15/06	RA-228	A	**1.191646**		1.70833E-01	0.6504	0.6504	1.00 SA	82%		1.614297		
				(0.403406)		(5.4384E-02)	(0.218675)	(0.218675)	(0.01633)			0.691836		
	08/15/06	RA-228	R	**5.91078**	U4	1.10000E-01	3.226104	3.226104	1.00 SA	82%		19.859056		
				(4.653413)		(8.5878E-02)	(2.533063)	(2.533063)	(0.028284)			8.478361		

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	**H9F9M1AD**	**PCI/SA**		06/20/06 10:10	08/15/06 06:15	07/28/06 13:20	RATA23512	1	1.00 SA	
536403,P-0681					,J6G180200-14 v4.8.24		FILTER			31.2	08/14/06 08:25	RATA23512 Alq	100%	0.246801 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	08/14/06 11:42	RA-228	28	110	GPC4A	1	N	N	4.8160E-01	1.0000E+00	N	91%	N		1.3866E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.103E-02)	(0.000E+00)		7%			(0.000E+00)	4.05184		
1	08/14/06 12:37	RA-228	33	110	GPC4A	1	N	N	4.8160E-01	1.0000E+00	N	91%	N		1.5382E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.103E-02)	(0.000E+00)		7%			(0.000E+00)	4.05184		
2	08/14/06 13:32	RA-228	22	110	GPC4A	1	N	N	4.8160E-01	1.0000E+00	N	91%	N		1.7065E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.103E-02)	(0.000E+00)		7%			(0.000E+00)	4.05184		
3	08/15/06 06:15	RA-228	15	168	GPC4A	1	N	N	4.8160E-01	1.0000E+00	N	91%	N		1.1216E+01	4.5045E-01	1.0126E+00	
			50	400			N		(1.103E-02)	(0.000E+00)		7%			(0.000E+00)	4.05184		

() - (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: 6200165

Alpha Beta, Ra-228 by GPC , Calculated Results

8/15/2006 7:37:05 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/15/06	RA-228	R	**1.666247**		2.85000E-01	0.901539	0.901539	1.00 SA	91%		2.333058		
				(0.659331)		(1.0903E-01)	(0.352958)	(0.352958)	(0.028284)			1.008688		
	08/15/06	RA-228	R	**2.497134**		3.85000E-01	1.351098	1.351098	1.00 SA	91%		2.588284		
				(0.804978)		(1.1785E-01)	(0.42857)	(0.42857)	(0.028284)			1.119034		
	08/15/06	RA-228	R	**1.187276**		1.65000E-01	0.642387	0.642387	1.00 SA	91%		2.871432		
				(0.711087)		(9.7404E-02)	(0.382967)	(0.382967)	(0.028284)			1.241452		
	08/15/06	RA-228	A	**1.783552**		2.78333E-01	0.965008	0.965008	1.00 SA	91%		1.49972		
				(0.420099)		(6.2594E-02)	(0.224825)	(0.224825)	(0.01633)			0.648398		
	08/15/06	RA-228	R	**-5.674995**	U4	-1.20000E-01	-3.07051	-3.07051	1.00 SA	91%		22.717929		
				(4.012056)		(8.3964E-02)	(2.163583)	(2.163583)	(0.028284)			10.083348		

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	**H9F9N1AD**	**PCI/SA**		06/20/06 11:35	08/15/06 06:15	07/28/06 13:20	RATA23513	1	1.00 SA	
536403,P-0682					,J6G180200-15 v4.8.24		FILTER			30.8	08/14/06 08:25	RATA23513 Alq	111%	0.248744 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	08/14/06 11:42	RA-228	59	111	GPC4B	1	N	N	4.6215E-01	1.0000E+00	N	99%	N		1.3866E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.048E-02)	(0.000E+00)		8%			(0.000E+00)	4.020203		
1	08/14/06 12:37	RA-228	28	111	GPC4B	1	N	N	4.6215E-01	1.0000E+00	N	99%	N		1.5382E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.048E-02)	(0.000E+00)		8%			(0.000E+00)	4.020203		
2	08/14/06 13:32	RA-228	18	111	GPC4B	1	N	N	4.6215E-01	1.0000E+00	N	99%	N		1.7065E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.048E-02)	(0.000E+00)		8%			(0.000E+00)	4.020203		
3	08/15/06 06:15	RA-228	13	101	GPC4B	1	N	N	4.6215E-01	1.0000E+00	N	99%	N		1.1216E+01	4.5045E-01	1.0126E+00	
			50	400			N		(1.048E-02)	(0.000E+00)		8%			(0.000E+00)	4.020203		

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
	08/15/06	RA-228	R	**5.011944**		9.02500E-01	2.733153	2.733153	1.00 SA	99%		2.224788		
				(1.002893)		(1.5586E-01)	(0.523884)	(0.523884)	(0.028284)			0.962468		
	08/15/06	RA-228	R	**1.74046**		2.82500E-01	0.949121	0.949121	1.00 SA	99%		2.46817		
				(0.694543)		(1.0906E-01)	(0.374809)	(0.374809)	(0.028284)			1.067758		
	08/15/06	RA-228	R	**0.563879**	U4	8.25000E-02	0.307499	0.307499	1.00 SA	99%		2.738178		
				(0.609927)		(8.8847E-02)	(0.332141)	(0.332141)	(0.028284)			1.184566		
	08/15/06	RA-228	A	**2.438761**		4.22500E-01	1.329924	1.329924	1.00 SA	99%		1.430123		
				(0.45463)		(6.9985E-02)	(0.241581)	(0.241581)	(0.01633)			0.618687		
	08/15/06	RA-228	R	**0.336907**	U4	7.50000E-03	0.183725	0.183725	1.00 SA	99%		17.278588		
				(3.430448)		(7.6363E-02)	(1.870689)	(1.870689)	(0.028284)			7.426346		

() - (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: 6200165

Alpha Beta, Ra-228 by GPC , Calculated Results

8/15/2006 7:37:05 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
16	Calc	TF	FILTER	*STLE	Ra228WoBS	H9H2F1AA	PCI/SA	B	06/20/06 10:15	08/15/06 06:15	07/28/06 13:20	RATA23514	1	1.00 SA	
0,INTRA-LAB BLANK					,J6G190000-165		FILTER			31.1	08/14/06 08:25	RATA23514 Alq	101%	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	08/14/06 11:42	RA-228	32	103	GPC4C	1	N	N	4.6870E-01	1.0000E+00	N	91%	N		1.3866E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.147E-02)	(0.000E+00)		7%			(0.000E+00)	1.00		
1	08/14/06 12:37	RA-228	14	103	GPC4C	1	N	N	4.6870E-01	1.0000E+00	N	91%	N		1.5382E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.147E-02)	(0.000E+00)		7%			(0.000E+00)	1.00		
2	08/14/06 13:32	RA-228	23	103	GPC4C	1	N	N	4.6870E-01	1.0000E+00	N	91%	N		1.7065E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(1.147E-02)	(0.000E+00)		7%			(0.000E+00)	1.00		
3	08/15/06 06:15	RA-228	13	111	GPC4C	1	N	N	4.6870E-01	1.0000E+00	N	91%	N		1.1216E+01	4.5045E-01	1.0126E+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
	08/15/06	RA-228	R	**0.567968**		3.82500E-01	1.24515	1.24515	1.00 SA	91%		0.575987		
				(0.181116)		(1.1595E-01)	(0.391554)	(0.391554)	(0.017321)			0.2479		
	08/15/06	RA-228	R	**0.037065**	U4	2.25000E-02	0.081257	0.081257	1.00 SA	91%		0.638997		
				(0.130219)		(7.9017E-02)	(0.285445)	(0.285445)	(0.017321)			0.27502		
	08/15/06	RA-228	R	**0.370076**		2.02500E-01	0.811313	0.811313	1.00 SA	91%		0.708901		
				(0.184984)		(9.9216E-02)	(0.403259)	(0.403259)	(0.017321)			0.305106		
	08/15/06	RA-228	A	**0.325036**		2.02500E-01	0.712573	0.712573	1.00 SA	91%		0.370252		
				(0.096597)		(5.7282E-02)	(0.210135)	(0.210135)	(0.01)			0.159354		
	08/15/06	RA-228	R	**-0.210194**	U4	-1.75000E-02	-0.460806	-0.460806	1.00 SA	91%		4.811846		
				(0.922335)		(7.6771E-02)	(2.021877)	(2.021877)	(0.017321)			2.081659		

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
17	Calc	TF	FILTER	*STLE	Ra228WoBS	H9H2F1AC	PCI/SA	S	06/20/06 10:15	08/15/06 06:15	07/28/06 13:20	RASC4147	1	1.00 SA	
0,INTRA-LAB CHECK					,J6G190000-165		FILTER			30.6	08/14/06 08:25	RASC4147 Alq	102%	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	08/14/06 11:42	RA-228	182	96	GPC4D	1	N	N	4.5395E-01	1.0000E+00	N	91%	N		1.3866E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(9.347E-03)	(0.000E+00)		7%			(0.000E+00)	1.00		
1	08/14/06 12:37	RA-228	159	96	GPC4D	1	N	N	4.5395E-01	1.0000E+00	N	91%	N		1.5382E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(9.347E-03)	(0.000E+00)		7%			(0.000E+00)	1.00		
2	08/14/06 13:32	RA-228	138	96	GPC4D	1	N	N	4.5395E-01	1.0000E+00	N	91%	N		1.7065E+00	4.5045E-01	1.0126E+00	
			50	400			Y		(9.347E-03)	(0.000E+00)		7%			(0.000E+00)	1.00		
3	08/15/06 06:15	RA-228	32	97	GPC4D	1	N	N	4.5395E-01	1.0000E+00	N	91%	N		1.1216E+01	4.5045E-01	1.0126E+00	
			50	400			N		(9.347E-03)	(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:17

RADCALC v4.8.24

STL Richland

Batch Nbr: 6200165

Alpha Beta, Ra-228 by GPC , Calculated Results

8/15/2006 7:37:05 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/15/06	RA-228	R	**5.224073**		3.40000E+00	11.452676	11.452676	1.00 sa	91%	103%	0.578276		
				(0.66025)		(2.7092E-01)	(1.314487)	(1.314487)	(0.017321)			0.247646		
	08/15/06	RA-228	R	**5.011458**		2.94000E+00	10.986564	10.986564	1.00 sa	91%	99%	0.641537		
				(0.654401)		(2.5338E-01)	(1.311568)	(1.311568)	(0.017321)			0.274738		
	08/15/06	RA-228	R	**4.765449**		2.52000E+00	10.447241	10.447241	1.00 sa	91%	94%	0.711719		
				(0.646607)		(2.3622E-01)	(1.305311)	(1.305311)	(0.017321)			0.304793		
	08/15/06	RA-228	A	**5.000327**		2.95333E+00	10.96216	10.96216	1.00 sa	91%	99%	0.371724		
				(0.377458)		(1.4659E-01)	(0.756595)	(0.756595)	(0.01)			0.15919		
	08/15/06	RA-228	R	**4.940342**		3.97500E-01	10.830657	10.830657	1.00 sa	91%	98%	4.698421		
				(1.518464)		(1.1579E-01)	(3.279209)	(3.279209)	(0.017321)			2.013593		

() - (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:17

RADCALC v4.8.24

STL Richland

UST Number: H9F7N1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 7-A File: [quad7.sample.A]H9F7N1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.A_1;2980

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00058	0050	01123	1700	14-AUG-2006 11:41:26.18
2	00000	00055	0050	01140	1700	14-AUG-2006 12:36:41.90
3	00000	00047	0050	01155	1700	14-AUG-2006 13:31:57.65

Bkg File: [quad7.bkgrnd]2006-08-13_2342.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00295	0400	0.74	09171	1700	13-AUG-2006 23:42:36.53

UST Number: H9F7N1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 7-A File: [quad7.sample.A]H9F7N1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.A_1;2981

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00042	0050	01157	1700	15-AUG-2006 06:14:35.97

Bkg File: [quad7.bkgrnd]2006-08-15_0303.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00296	0400	0.74	09247	1700	15-AUG-2006 03:03:11.20

UST Number: H9F731AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 7-B File: [quad7.sample.B]H9F731AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.B_1;2967

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00064	0050	01123	1700	14-AUG-2006 11:41:26.18
2	00000	00039	0050	01140	1700	14-AUG-2006 12:36:41.90
3	00000	00033	0050	01155	1700	14-AUG-2006 13:31:57.65

Bkg File: [quad7.bkgrnd]2006-08-13_2342.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00299	0400	0.75	09171	1700	13-AUG-2006 23:42:36.53

UST Number: H9F731AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 7-B File: [quad7.sample.B]H9F731AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.B_1;2968

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00038	0050	01157	1700	15-AUG-2006 06:14:35.97

Bkg File: [quad7.bkgrnd]2006-08-15_0303.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00269	0400	0.67	09247	1700	15-AUG-2006 03:03:11.20

UST Number: H9F751AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-A File: [quad1.sample.A]H9F751AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.A_1;3029

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00051	0050	01137	1650	14-AUG-2006 11:41:47.59
2	00000	00034	0050	01153	1650	14-AUG-2006 12:37:03.32
3	00000	00052	0050	01162	1650	14-AUG-2006 13:32:19.19

Bkg File: [quad1.bkgrnd]2006-08-13_2341.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00239	0400	0.60	09252	1650	13-AUG-2006 23:41:59.08

UST Number: H9F751AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-A File: [quad1.sample.A]H9F751AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.A_1;3030

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00033	0050	01155	1650	15-AUG-2006 06:14:45.50

Bkg File: [quad1.bkgrnd]2006-08-15_0307.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00283	0400	0.71	09326	1650	15-AUG-2006 03:07:04.91

UST Number: H9F781AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-C File: [quad1.sample.C]H9F781AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.C_1;3025

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00064	0050	01137	1650	14-AUG-2006 11:41:47.59
2	00000	00051	0050	01153	1650	14-AUG-2006 12:37:03.32
3	00000	00035	0050	01162	1650	14-AUG-2006 13:32:19.19

Bkg File: [quad1.bkgrnd]2006-08-13_2341.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00200	0400	0.50	09252	1650	13-AUG-2006 23:41:59.08

UST Number: H9F781AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-C File: [quad1.sample.C]H9F781AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.C_1;3026

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00040	0050	01155	1650	15-AUG-2006 06:14:45.50

Bkg File: [quad1.bkgrnd]2006-08-15_0307.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00225	0400	0.56	09326	1650	15-AUG-2006 03:07:04.91

UST Number: H9F8F1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-D File: [quad1.sample.D]H9F8F1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.D_1;3028

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00078	0050	01137	1650	14-AUG-2006 11:41:47.59
2	00000	00052	0050	01153	1650	14-AUG-2006 12:37:03.32
3	00000	00046	0050	01162	1650	14-AUG-2006 13:32:19.19

Bkg File: [quad1.bkgrnd]2006-08-13_2341.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00241	0400	0.60	09252	1650	13-AUG-2006 23:41:59.08

UST Number: H9F8F1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-D File: [quad1.sample.D]H9F8F1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.D_1;3029

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00035	0050	01155	1650	15-AUG-2006 06:14:45.50

Bkg File: [quad1.bkgrnd]2006-08-15_0307.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00242	0400	0.61	09326	1650	15-AUG-2006 03:07:04.91

UST Number: H9F8L1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 2-A File: [quad2.sample.A]H9F8L1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.A_1;3569

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00050	0050	01158	1810	14-AUG-2006 11:42:03.89
2	00000	00021	0050	01166	1810	14-AUG-2006 12:37:19.82
3	00000	00017	0050	01156	1810	14-AUG-2006 13:32:35.57

Bkg File: [quad2.bkgrnd]2006-08-13_2342.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00081	0400	0.20	09322	1810	13-AUG-2006 23:42:03.97

UST Number: H9F8L1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-A File: [quad2.sample.A]H9F8L1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.A_1;3570

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00022	0050	01172	1810	15-AUG-2006 06:14:54.24

Bkg File: [quad2.bkgrnd]2006-08-15_0307.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00087	0400	0.22	09401	1810	15-AUG-2006 03:07:18.15

UST Number: H9F8W1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 2-B File: [quad2.sample.B]H9F8W1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.B_1;3566

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00033	0050	01158	1810	14-AUG-2006 11:42:03.89
2	00000	00034	0050	01166	1810	14-AUG-2006 12:37:19.82
3	00000	00010	0050	01156	1810	14-AUG-2006 13:32:35.57

Bkg File: [quad2.bkgrnd]2006-08-13_2342.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00081	0400	0.20	09322	1810	13-AUG-2006 23:42:03.97

UST Number: H9F8W1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-B File: [quad2.sample.B]H9F8W1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.B_1;3567

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00014	0050	01172	1810	15-AUG-2006 06:14:54.24

Bkg File: [quad2.bkgrnd]2006-08-15_0307.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00093	0400	0.23	09401	1810	15-AUG-2006 03:07:18.15

UST Number: H9F851AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 2-C File: [quad2.sample.C]H9F851AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.C_1;3567

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00041	0050	01158	1810	14-AUG-2006 11:42:03.89
2	00000	00033	0050	01166	1810	14-AUG-2006 12:37:19.82
3	00000	00023	0050	01156	1810	14-AUG-2006 13:32:35.57

Bkg File: [quad2.bkgrnd]2006-08-13_2342.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00081	0400	0.20	09322	1810	13-AUG-2006 23:42:03.97

UST Number: H9F851AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-C File: [quad2.sample.C]H9F851AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.C_1;3568

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00013	0050	01172	1810	15-AUG-2006 06:14:54.24

Bkg File: [quad2.bkgrnd]2006-08-15_0307.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00088	0400	0.22	09401	1810	15-AUG-2006 03:07:18.15

UST Number: H9F891AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 2-D File: [quad2.sample.D]H9F891AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.D_1;3566

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00030	0050	01158	1810	14-AUG-2006 11:42:03.89
2	00000	00017	0050	01166	1810	14-AUG-2006 12:37:19.82
3	00000	00016	0050	01156	1810	14-AUG-2006 13:32:35.57

Bkg File: [quad2.bkgrnd]2006-08-13_2342.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00098	0400	0.25	09322	1810	13-AUG-2006 23:42:03.97

UST Number: H9F891AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-D File: [quad2.sample.D]H9F891AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.D_1;3567

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00016	0050	01172	1810	15-AUG-2006 06:14:54.24

Bkg File: [quad2.bkgrnd]2006-08-15_0307.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00088	0400	0.22	09401	1810	15-AUG-2006 03:07:18.15

UST Number: H9F9A1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-A File: [quad3.sample.A]H9F9A1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.A_1;5483

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00024	0050	01253	1920	14-AUG-2006 11:42:16.18
2	00000	00010	0050	01268	1920	14-AUG-2006 12:37:31.92
3	00000	00016	0050	01248	1920	14-AUG-2006 13:32:47.64

Bkg File: [quad3.bkgrnd]2006-08-13_2342.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00067	0400	0.17	10014	1920	13-AUG-2006 23:42:13.34

UST Number: H9F9A1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-A File: [quad3.sample.A]H9F9A1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.A_1;5484

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00013	0050	01282	1920	15-AUG-2006 06:15:08.46

Bkg File: [quad3.bkgrnd]2006-08-15_0302.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00080	0400	0.20	10348	1920	15-AUG-2006 03:02:23.18

UST Number: H9F9F1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-B File: [quad3.sample.B]H9F9F1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.B_1;5492

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00037	0050	01253	1920	14-AUG-2006 11:42:16.18
2	00000	00012	0050	01268	1920	14-AUG-2006 12:37:31.92
3	00000	00017	0050	01248	1920	14-AUG-2006 13:32:47.64

Bkg File: [quad3.bkgrnd]2006-08-13_2342.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00086	0400	0.22	10014	1920	13-AUG-2006 23:42:13.34

UST Number: H9F9F1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-B File: [quad3.sample.B]H9F9F1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.B_1;5493

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00014	0050	01282	1920	15-AUG-2006 06:15:08.46

Bkg File: [quad3.bkgrnd]2006-08-15_0302.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00104	0400	0.26	10348	1920	15-AUG-2006 03:02:23.18

UST Number: H9F9J1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-C File: [quad3.sample.C]H9F9J1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.C_1;5497

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00038	0050	01253	1920	14-AUG-2006 11:42:16.18
2	00000	00031	0050	01268	1920	14-AUG-2006 12:37:31.92
3	00000	00024	0050	01248	1920	14-AUG-2006 13:32:47.64

Bkg File: [quad3.bkgrnd]2006-08-13_2342.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00095	0400	0.24	10014	1920	13-AUG-2006 23:42:13.34

UST Number: H9F9J1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-C File: [quad3.sample.C]H9F9J1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.C_1;5498

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00018	0050	01282	1920	15-AUG-2006 06:15:08.46

Bkg File: [quad3.bkgrnd]2006-08-15_0302.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00120	0400	0.30	10348	1920	15-AUG-2006 03:02:23.18

UST Number: H9F9L1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-D File: [quad3.sample.D]H9F9L1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.D_1;5477

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00027	0050	01253	1920	14-AUG-2006 11:42:16.18
2	00000	00022	0050	01268	1920	14-AUG-2006 12:37:31.92
3	00000	00013	0050	01248	1920	14-AUG-2006 13:32:47.64

Bkg File: [quad3.bkgrnd]2006-08-13_2342.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00097	0400	0.24	10014	1920	13-AUG-2006 23:42:13.34

UST Number: H9F9L1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-D File: [quad3.sample.D]H9F9L1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.D_1;5478

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00017	0050	01282	1920	15-AUG-2006 06:15:08.46

Bkg File: [quad3.bkgrnd]2006-08-15_0302.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00092	0400	0.23	10348	1920	15-AUG-2006 03:02:23.18

UST Number: H9F9M1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-A File: [quad4.sample.A]H9F9M1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.A_1;5501

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00028	0050	01183	1850	14-AUG-2006 11:42:27.81
2	00000	00033	0050	01203	1850	14-AUG-2006 12:37:43.64
3	00000	00022	0050	01200	1850	14-AUG-2006 13:32:59.45

Bkg File: [quad4.bkgrnd]2006-08-13_2342.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00110	0400	0.28	09586	1850	13-AUG-2006 23:42:18.83

```
UST Number: H9F9M1AD   Isotope: 430       (QREPORT Rev 11-OCT-98)

  Detector: 4-A           File: [quad4.sample.A]H9F9M1AD.430
 Dish Size: 1         Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.A_1;5502

Cycle  Alpha   Beta     Min   Guard   Volts      Finish Date/Time
   1   00000   00015   0050   01203   1850   15-AUG-2006 06:15:20.26

   Bkg File: [quad4.bkgrnd]2006-08-15_0302.A_1        (QREPORT Rev 11-OCT-98)

Cycle  Count    Min      CPM     Guard   Volts         Date/Time
 Bkg   00168   0400       0.42   09694   1850   15-AUG-2006 03:02:34.98
```

UST Number: H9F9N1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-B File: [quad4.sample.B]H9F9N1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.B_1;5500

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00059	0050	01183	1850	14-AUG-2006 11:42:27.81
2	00000	00028	0050	01203	1850	14-AUG-2006 12:37:43.64
3	00000	00018	0050	01200	1850	14-AUG-2006 13:32:59.45

Bkg File: [quad4.bkgrnd]2006-08-13_2342.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00111	0400	0.28	09586	1850	13-AUG-2006 23:42:18.83

UST Number: H9F9N1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-B File: [quad4.sample.B]H9F9N1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.B_1;5501

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00013	0050	01203	1850	15-AUG-2006 06:15:20.26

Bkg File: [quad4.bkgrnd]2006-08-15_0302.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00101	0400	0.25	09694	1850	15-AUG-2006 03:02:34.98

UST Number: H9H2F1AA Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-C File: [quad4.sample.C]H9H2F1AA.180
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.C_1;5503

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00032	0050	01183	1850	14-AUG-2006 11:42:27.81
2	00000	00014	0050	01203	1850	14-AUG-2006 12:37:43.64
3	00000	00023	0050	01200	1850	14-AUG-2006 13:32:59.45

Bkg File: [quad4.bkgrnd]2006-08-13_2342.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00103	0400	0.26	09586	1850	13-AUG-2006 23:42:18.83

UST Number: H9H2F1AA Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-C File: [quad4.sample.C]H9H2F1AA.430
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.C_1;5504

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00013	0050	01203	1850	15-AUG-2006 06:15:20.26

Bkg File: [quad4.bkgrnd]2006-08-15_0302.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00111	0400	0.28	09694	1850	15-AUG-2006 03:02:34.98

UST Number: H9H2F1AC Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-D File: [quad4.sample.D]H9H2F1AC.180
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.D_1;5517

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00182	0050	01183	1850	14-AUG-2006 11:42:27.81
2	00000	00159	0050	01203	1850	14-AUG-2006 12:37:43.64
3	00000	00138	0050	01200	1850	14-AUG-2006 13:32:59.45

Bkg File: [quad4.bkgrnd]2006-08-13_2342.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00096	0400	0.24	09586	1850	13-AUG-2006 23:42:18.83

UST Number: H9H2F1AC Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-D File: [quad4.sample.D]H9H2F1AC.430
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.D_1;5518

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00032	0050	01203	1850	15-AUG-2006 06:15:20.26

Bkg File: [quad4.bkgrnd]2006-08-15_0302.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00097	0400	0.24	09694	1850	15-AUG-2006 03:02:34.98

RADIUM 226

SAMPLE AND QC DATA

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

8/15/2006 11:15:46 AM

Lot No., Due Date: J6G180200; 08/15/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6200163; RRA2267 Ra-226 by ASC-7

SDG, Matrix: 32138; FILTER

1.0 COC

	Yes	No	N/A
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	✓		

2.0 QC Batch

	Yes	No	N/A
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2.2 Are the QC appropriate for the analysis included in the batch?	✓		
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	✓		
2.4 Does the Worksheets include a Tracer Vial label for each sample?	✓		

3.0 QC & Samples

	Yes	No	N/A
3.1 Is the blank results, yield, and MDA within contract limits?	✓		
3.2 Is the LCS result, yield, and MDA within contract limits?	✓		
3.3 Are the MS/MSD results, yields, and MDA within contract limits?			✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?			✓
3.5 Are the sample yields and MDAs within contract limits?	✓		

4.0 Raw Data

	Yes	No	N/A
4.1 Were results calculated in the correct units?	✓		
4.2 Were analysis volumes entered correctly?	✓		
4.3 Were Yields entered correctly?	✓		
4.4 Were spectra reviewed/meet contractual requirements?	✓		
4.5 Were raw counts reviewed for anomalies?	✓		

5.0 Other

	Yes	No	N/A
5.1 Are all nonconformances included and noted?			✓
5.2 Are all required forms filled out?	✓		
5.3 Was the correct methodology used?	✓		
5.4 Was transcription checked?	✓		
5.5 Were all calculations checked at a minimum frequency?	✓		
5.6 Are worksheet entries complete and correct?	✓		

6.0 Comments on any No response:

First Level Review Pam Anderson **Date** 8·14·06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 620163

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: 8-15-06

8/15/2006 11:10:37 AM

ICOC Fraction Transfer/Status Report

ByDate: 8/15/2005, 8/20/2006, Batch: '6200163', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6200163						
AC		**CalcC**	**HansenM**	7/20/2006 1:21:42 PM		
SC			wagarr	IsBatched	7/19/2006 8:00:26 AM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	7/20/2006 1:21:42 PM	RICH-RC-5016 REVISION 5
SC			LongA	InPrep	7/27/2006 2:16:38 PM	RICH-RC-5005 REVISION 5
SC			LongA	Sep1C	7/28/2006 1:33:59 PM	RICH-RC-5005 REVISION 5
SC			DAWKINSO	InCnt1	7/28/2006 3:48:25 PM	RICH-RD-0007 REVISION 5
SC			DAWKINSO	Cnt1C	7/28/2006 6:00:00 PM	RICH-RD-0007 REVISION 5
SC			TamosaitisM	InSep2	8/1/2006 9:33:43 AM	RICH-RC-5005 REVISION 4
SC			StringerR	CalcC	8/11/2006 2:45:29 PM	RICH-RC-5005 REVISION 5
AC			**LongA**	7/27/2006 2:16:38 PM		
AC			**LongA**	7/28/2006 1:33:59 PM		
AC			**DAWKINSO**	7/28/2006 3:48:25 PM		
AC			**DAWKINSO**	7/28/2006 6:00:00 PM		
AC			**TamosaitisM**	8/1/2006 9:33:43 AM		
AC			**StringerR**	8/11/2006 2:45:29 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 7

ICOCFractions v4.8.18

8/15/2006 11:10:36 AM

Rpt DB Transfer log (Batch Results)

SEVERN TRENT STL

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Sample Date / Mda	Units	Expected	Yield	Volumes
32138	**9H9F7310**			**J6G1802002**	000503	FILTER	7/18/2006 10:00:00	6/20/2006 10:25:00 AM				
ALPHA	BAS7		0	8/3/2006 5:10:27 PM	**4.4934E+00**	1.54E+00	1.609E+00	4.52E+00	PCI/SA	1.0	1.0E+0	2.094E-2
BETA	BDS8		0	8/2/2006 4:18:54 PM	**1.8657E+01**	1.625E+00	2.273E+00	4.628E+00	PCI/SA	1.0	1.0E+0	3.519E-2
RA-226	BXTE		0	8/11/2006 1:12:00 PM	**3.8481E-02**	6.369E-02	6.381E-02	2.476E-01	PCI/SA	1.122	1.0E+0	2.551E-1
RA-228	BXTF		0	8/15/2006 6:14:35 AM	**7.3281E-01**	3.759E-01	4.35E-01	1.91E+00	PCI/SA	1.024	1.0E+0	2.551E-1
TH-228	9NS1		0	7/31/2006 10:14:42	**-3.6608E-02**	6.849E-02	6.857E-02	3.941E-01	PCI/SA	1.001	1.0E+0	3.618E-2
TH-230	9NS1		0	7/31/2006 10:14:42	**2.6205E-01**	1.004E-01	1.03E-01	2.096E-01	PCI/SA	1.001	1.0E+0	3.618E-2
TH-232	9NS1		0	7/31/2006 10:14:42	**3.4941E-02**	5.525E-02	5.533E-02	2.572E-01	PCI/SA	1.001	1.0E+0	3.618E-2
U-234	7YSR		0	7/29/2006 3:15:06 PM	**1.9955E-01**	1.411E-01	1.42E-01	2.704E-01	PCI/SA	1.05	1.0E+0	3.234E-2
U-235	7YSR		0	7/29/2006 3:15:06 PM	**-5.9866E-02**	3.456E-02	3.489E-02	6.298E-01	PCI/SA	1.05	1.0E+0	3.234E-2
U-238	7YSR		0	7/29/2006 3:15:06 PM	**3.9907E-02**	1.056E-01	1.056E-01	6.298E-01	PCI/SA	1.05	1.0E+0	3.234E-2
32138	**9H9F7510**			**J6G1802003**	000504	FILTER	7/18/2006 10:00:00	6/20/2006 10:40:00 AM				
ALPHA	BAS7		0	8/3/2006 5:10:27 PM	**4.6957E+00**	1.695E+00	1.764E+00	5.273E+00	PCI/SA	1.0	1.0E+0	2.068E-2
BETA	BDS8		0	8/2/2006 4:18:54 PM	**1.8053E+01**	1.72E+00	2.119E+00	5.139E+00	PCI/SA	1.0	1.0E+0	3.438E-2
RA-226	BXTE		0	8/11/2006 1:11:00 PM	**3.3529E-01**	1.18E-01	1.237E-01	3.299E-01	PCI/SA	0.879	1.0E+0	2.483E-1
RA-228	BXTF		0	8/15/2006 6:14:45 AM	**2.1046E+00**	5.408E-01	5.598E-01	2.157E+00	PCI/SA	0.807	1.0E+0	2.483E-1
TH-228	9NS1		0	7/31/2006 10:14:42	**6.679E-02**	6.679E-02	6.706E-02	2.671E-01	PCI/SA	1.005	1.0E+0	3.364E-2
TH-230	9NS1		0	7/31/2006 10:14:42	**5.9495E-01**	1.59E-01	1.678E-01	1.152E-01	PCI/SA	1.005	1.0E+0	3.364E-2
TH-232	9NS1		0	7/31/2006 10:14:42	**4.2497E-02**	4.25E-02	4.267E-02	1.152E-01	PCI/SA	1.005	1.0E+0	3.364E-2
U-234	7YSR		0	7/29/2006 3:15:24 PM	**-2.2612E-02**	1.257E-01	1.258E-01	8.812E-01	PCI/SA	0.856	1.0E+0	3.19E-2
U-235	7YSR		0	7/29/2006 3:15:24 PM	**-6.7763E-02**	3.912E-02	3.951E-02	7.127E-01	PCI/SA	0.856	1.0E+0	3.19E-2
U-238	7YSR		0	7/29/2006 3:15:24 PM	**-2.4464E-05**	1.237E-01	1.237E-01	8.311E-01	PCI/SA	0.856	1.0E+0	3.19E-2
32138	**9H9F7810**			**J6G1802004**	000505	FILTER	7/18/2006 10:00:00	6/20/2006 11:00:00 AM				
ALPHA	BAS7		0	8/3/2006 5:10:27 PM	**4.3328E+00**	1.644E+00	1.703E+00	5.344E+00	PCI/SA	1.0	1.0E+0	2.051E-2
BETA	BDS8		0	8/2/2006 4:18:54 PM	**1.948E+01**	1.827E+00	2.283E+00	5.496E+00	PCI/SA	1.0	1.0E+0	3.181E-2
RA-226	BXTE		0	8/11/2006 1:13:00 PM	**6.8104E-02**	8.084E-02	8.113E-02	2.997E-01	PCI/SA	0.949	1.0E+0	2.491E-1
RA-228	BXTF		0	8/15/2006 6:14:45 AM	**2.9687E+00**	4.997E-01	5.457E-01	1.854E+00	PCI/SA	0.877	1.0E+0	2.491E-1
TH-228	9NS1		0	7/31/2006 10:14:42	**2.5373E-01**	1.292E-01	1.313E-01	3.382E-01	PCI/SA	0.804	1.0E+0	3.4E-2
TH-230	9NS1		0	7/31/2006 10:14:42	**5.1125E-01**	1.723E-01	1.788E-01	3.228E-01	PCI/SA	0.804	1.0E+0	3.4E-2
TH-232	9NS1		0	7/31/2006 10:14:42	**5.3816E-02**	5.382E-02	5.405E-02	1.458E-01	PCI/SA	0.804	1.0E+0	3.4E-2
U-234	7YSR		0	7/29/2006 3:15:51 PM	**5.1406E-06**	1.127E-01	1.127E-01	7.569E-01	PCI/SA	0.94	1.0E+0	3.135E-2
U-235	7YSR		0	7/29/2006 3:15:51 PM	**-2.0567E-02**	2.057E-02	2.063E-02	4.926E-01	PCI/SA	0.94	1.0E+0	3.135E-2
U-238	7YSR		0	7/29/2006 3:15:51 PM	**-1.234E-01**	5.038E-02	5.135E-02	8.026E-01	PCI/SA	0.94	1.0E+0	3.135E-2
32138	**9H9F7N10**			**J6G1802001**	000502	FILTER	7/18/2006 10:00:00	6/20/2006 10:15:00 AM				
ALPHA	BAS7		0	8/3/2006 5:10:27 PM	**2.8978E+00**	1.398E+00	1.431E+00	4.846E+00	PCI/SA	1.0	1.0E+0	2.084E-2
BETA	BDS8		0	8/2/2006 4:18:54 PM	**1.6424E+01**	1.733E+00	2.091E+00	5.465E+00	PCI/SA	1.0	1.0E+0	3.299E-2
RA-226	BXTE		0	8/11/2006 1:11:00 PM	**-7.4613E-02**	9.394E-02	9.425E-02	4.082E-01	PCI/SA	0.987	1.0E+0	2.514E-1
RA-228	BXTF		0	8/15/2006 6:14:35 AM	**1.9417E+00**	5.185E-01	5.418E-01	2.158E+00	PCI/SA	0.893	1.0E+0	2.514E-1
TH-228	9NS1		0	7/31/2006 10:14:42	**8.4214E-02**	1.073E-01	1.076E-01	4.532E-01	PCI/SA	0.908	1.0E+0	3.5E-2
TH-230	9NS1		0	7/31/2006 10:14:42	**2.2102E-01**	1.005E-01	1.024E-01	2.41E-01	PCI/SA	0.908	1.0E+0	3.5E-2
TH-232	9NS1		0	7/31/2006 10:14:42	**4.0186E-02**	4.019E-02	4.035E-02	1.089E-01	PCI/SA	0.908	1.0E+0	3.5E-2
U-234	7YSR		0	7/29/2006 3:14:32 PM	**1.6003E-01**	1.442E-01	1.448E-01	5.652E-01	PCI/SA	0.989	1.0E+0	3.223E-2
U-235	7YSR		0	7/29/2006 3:14:32 PM	**-4.0009E-02**	2.829E-02	2.847E-02	5.652E-01	PCI/SA	0.989	1.0E+0	3.223E-2
U-238	7YSR		0	7/29/2006 3:14:32 PM	**4.0004E-02**	1.059E-01	1.059E-01	6.313E-01	PCI/SA	0.989	1.0E+0	3.223E-2
32138	**9H9F8510**			**J6G1802008**	P-0675	FILTER	7/18/2006 10:00:00	6/20/2006 10:05:00 AM				
ALPHA	BAS7		0	8/3/2006 8:17:32 PM	**1.2145E+00**	1.204E+00	1.211E+00	5.083E+00	PCI/SA	1.0	1.0E+0	2.112E-2
BETA	BDS8		0	8/2/2006 4:19:08 PM	**1.3235E+01**	1.707E+00	1.954E+00	5.741E+00	PCI/SA	1.0	1.0E+0	3.537E-2
RA-226	BXTE		0	8/11/2006 1:13:00 PM	**7.2621E-02**	1.136E-01	1.139E-01	4.303E-01	PCI/SA	1.008	1.0E+0	2.522E-1
RA-228	BXTF		0	8/15/2006 6:14:54 AM	**3.1048E+00**	4.679E-01	5.095E-01	1.454E+00	PCI/SA	0.899	1.0E+0	2.522E-1
TH-228	9NS1		0	7/31/2006 10:14:42	**1.8382E-02**	4.11E-02	4.114E-02	2.205E-01	PCI/SA	0.971	1.0E+0	3.449E-2
TH-230	9NS1		0	7/31/2006 10:14:42	**1.7544E-02**	3.923E-02	3.926E-02	2.105E-01	PCI/SA	0.971	1.0E+0	3.449E-2
TH-232	9NS1		0	7/31/2006 10:14:42	**3.5088E-02**	5.548E-02	5.556E-02	2.582E-01	PCI/SA	0.971	1.0E+0	3.449E-2

6200163, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 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-234	7YSR	0		7/29/2006 3:17:03 PM	**0.0E+00**	0.0E+00	1.156E-01	2.557E-01	PCI/SA	0.976	1.0E+0	3.263E-2
U-235	7YSR	0		7/29/2006 3:17:03 PM	**-1.8874E-02**	1.887E-02	1.893E-02	4.519E-01	PCI/SA	0.976	1.0E+0	3.263E-2
U-238	7YSR	0		7/29/2006 3:17:03 PM	**7.5476E-02**	9.622E-02	9.641E-02	4.519E-01	PCI/SA	0.976	1.0E+0	3.263E-2
32138	**9H9F8910**			**J6G1802009**	P-0676	FILTER	7/18/2006 10:00:00	6/20/2006 10:20:00 AM				
ALPHA	BAS7	0		8/3/2006 8:17:32 PM	**2.8114E+00**	1.434E+00	1.463E+00	5.18E+00	PCI/SA	1.0	1.0E+0	2.102E-2
BETA	BDS8	0		8/2/2006 4:19:38 PM	**1.4073E+01**	1.702E+00	1.99E+00	5.678E+00	PCI/SA	1.0	1.0E+0	3.401E-2
RA-226	BXTE	0		8/11/2006 1:22:00 PM	**-1.2141E-02**	8.839E-02	8.84E-02	3.75E-01	PCI/SA	1.044	1.0E+0	2.524E-1
RA-228	BXTF	0		8/15/2006 6:14:54 AM	**1.1398E+00**	3.57E-01	3.797E-01	1.51E+00	PCI/SA	0.923	1.0E+0	2.524E-1
TH-228	9NS1	0		7/31/2006 8:19:57 PM	**3.8966E-02**	9.138E-02	9.144E-02	4.194E-01	PCI/SA	1.06	1.0E+0	3.341E-2
TH-230	9NS1	0		7/31/2006 8:19:57 PM	**2.7879E-01**	1.068E-01	1.096E-01	2.23E-01	PCI/SA	1.06	1.0E+0	3.341E-2
TH-232	9NS1	0		7/31/2006 8:19:57 PM	**0.0E+00**	0.0E+00	4.553E-02	1.007E-01	PCI/SA	1.06	1.0E+0	3.341E-2
U-234	7YSR	0		7/29/2006 3:17:19 PM	**-1.9614E-02**	1.961E-02	1.968E-02	4.696E-01	PCI/SA	1.022	1.0E+0	3.263E-2
U-235	7YSR	0		7/29/2006 3:17:19 PM	**9.8048E-02**	9.805E-02	9.836E-02	2.657E-01	PCI/SA	1.022	1.0E+0	3.263E-2
U-238	7YSR	0		7/29/2006 3:17:19 PM	**5.882E-02**	1.019E-01	1.02E-01	5.541E-01	PCI/SA	1.022	1.0E+0	3.263E-2
32138	**9H9F8F10**			**J6G1802005**	000506	FILTER	7/18/2006 10:00:00	6/20/2006 11:15:00 AM				
ALPHA	BAS7	0		8/3/2006 5:10:27 PM	**4.6844E+00**	1.691E+00	1.758E+00	5.26E+00	PCI/SA	1.0	1.0E+0	2.08E-2
BETA	BDS8	0		8/2/2006 4:19:08 PM	**1.5794E+01**	1.736E+00	2.051E+00	5.479E+00	PCI/SA	1.0	1.0E+0	3.302E-2
RA-226	BXTE	0		8/11/2006 1:14:00 PM	**4.0313E-01**	1.131E-01	1.215E-01	2.918E-01	PCI/SA	1.001	1.0E+0	2.53E-1
RA-228	BXTF	0		8/15/2006 6:14:45 AM	**3.2032E+00**	5.12E-01	5.629E-01	1.902E+00	PCI/SA	0.896	1.0E+0	2.53E-1
TH-228	9NS1	0		7/31/2006 10:14:42	**3.2041E-01**	1.146E-01	1.181E-01	2.261E-01	PCI/SA	1.039	1.0E+0	3.538E-2
TH-230	9NS1	0		7/31/2006 10:14:42	**6.1162E-01**	1.483E-01	1.579E-01	9.75E-02	PCI/SA	1.039	1.0E+0	3.538E-2
TH-232	9NS1	0		7/31/2006 10:14:42	**1.2592E-01**	7.417E-02	7.5E-02	2.158E-01	PCI/SA	1.039	1.0E+0	3.538E-2
U-234	7YSR	0		7/29/2006 3:16:16 PM	**3.9574E-01**	1.979E-01	2.004E-01	2.681E-01	PCI/SA	0.932	1.0E+0	3.228E-2
U-235	7YSR	0		7/29/2006 3:16:16 PM	**5.9365E-02**	1.028E-01	1.029E-01	5.591E-01	PCI/SA	0.932	1.0E+0	3.228E-2
U-238	7YSR	0		7/29/2006 3:16:16 PM	**1.4444E+00**	3.842E-01	4.014E-01	5.591E-01	PCI/SA	0.932	1.0E+0	3.228E-2
32138	**9H9F8L10**			**J6G1802006**	000507	FILTER	7/18/2006 10:00:00	6/20/2006 11:30:00 AM				
ALPHA	BAS7	0		8/3/2006 8:17:32 PM	**7.7184E+00**	1.938E+00	2.098E+00	4.879E+00	PCI/SA	1.0	1.0E+0	2.074E-2
BETA	BDS8	0		8/2/2006 4:19:08 PM	**3.1016E+01**	2.05E+00	2.968E+00	5.356E+00	PCI/SA	1.0	1.0E+0	3.238E-2
RA-226	BXTE	0		8/11/2006 1:12:00 PM	**2.4134E-01**	1.402E-01	1.424E-01	4.67E-01	PCI/SA	1.077	1.0E+0	2.517E-1
RA-228	BXTF	0		8/15/2006 6:14:54 AM	**2.4364E+00**	4.051E-01	4.514E-01	1.362E+00	PCI/SA	0.971	1.0E+0	2.517E-1
TH-228	9NS1	0		7/31/2006 10:14:42	**1.6053E-01**	1.1E-01	1.109E-01	3.855E-01	PCI/SA	0.859	1.0E+0	3.227E-2
TH-230	9NS1	0		7/31/2006 10:14:42	**4.1587E-01**	1.401E-01	1.451E-01	2.626E-01	PCI/SA	0.859	1.0E+0	3.227E-2
TH-232	9NS1	0		7/31/2006 10:14:42	**1.751E-01**	1.027E-01	1.039E-01	3.222E-01	PCI/SA	0.859	1.0E+0	3.227E-2
U-234	7YSR	0		7/29/2006 3:16:34 PM	**2.0801E-01**	1.471E-01	1.48E-01	2.818E-01	PCI/SA	0.934	1.0E+0	3.166E-2
U-235	7YSR	0		7/29/2006 3:16:34 PM	**-2.0799E-02**	2.08E-02	2.087E-02	4.981E-01	PCI/SA	0.934	1.0E+0	3.166E-2
U-238	7YSR	0		7/29/2006 3:16:34 PM	**-4.1598E-02**	2.941E-02	2.961E-02	5.877E-01	PCI/SA	0.934	1.0E+0	3.166E-2
32138	**9H9F8W10**			**J6G1802007**	000508	FILTER	7/18/2006 10:00:00	6/20/2006 11:20:00 AM				
ALPHA	BAS7	0		8/3/2006 8:17:32 PM	**1.2533E+00**	1.095E+00	1.103E+00	4.503E+00	PCI/SA	1.0	1.0E+0	2.092E-2
BETA	BDS8	0		8/2/2006 4:19:08 PM	**2.8685E+00**	1.242E+00	1.269E+00	4.889E+00	PCI/SA	1.0	1.0E+0	3.371E-2
RA-226	BXTE	0		8/11/2006 1:11:01 PM	**6.5374E-02**	1.054E-01	1.056E-01	4.039E-01	PCI/SA	0.925	1.0E+0	2.502E-1
RA-228	BXTF	0		8/15/2006 6:14:54 AM	**2.2421E+00**	4.323E-01	4.72E-01	1.538E+00	PCI/SA	0.831	1.0E+0	2.502E-1
TH-228	9NS1	0		7/31/2006 10:14:42	**1.1977E-01**	8.637E-02	8.705E-02	2.874E-01	PCI/SA	0.902	1.0E+0	3.364E-2
TH-230	9NS1	0		7/31/2006 10:14:42	**0.0E+00**	0.0E+00	5.6E-02	1.239E-01	PCI/SA	0.902	1.0E+0	3.364E-2
TH-232	9NS1	0		7/31/2006 10:14:42	**0.0E+00**	0.0E+00	5.6E-02	1.239E-01	PCI/SA	0.902	1.0E+0	3.364E-2
U-234	7YSR	0		7/29/2006 3:16:46 PM	**-1.9868E-02**	1.987E-02	1.993E-02	4.758E-01	PCI/SA	1.032	1.0E+0	3.241E-2
U-235	7YSR	0		7/29/2006 3:16:46 PM	**0.0E+00**	0.0E+00	1.217E-01	2.692E-01	PCI/SA	1.032	1.0E+0	3.241E-2
U-238	7YSR	0		7/29/2006 3:16:46 PM	**-1.9868E-02**	1.987E-02	1.993E-02	4.758E-01	PCI/SA	1.032	1.0E+0	3.241E-2
32138	**9H9F9A10**			**J6G18020010**	P-0677	FILTER	7/18/2006 10:00:00	6/20/2006 10:35:00 AM				
ALPHA	BAS7	0		8/3/2006 8:17:32 PM	**1.2528E+00**	1.242E+00	1.249E+00	5.244E+00	PCI/SA	1.0	1.0E+0	2.06E-2
BETA	BDS8	0		8/2/2006 4:19:38 PM	**1.532E+01**	1.718E+00	2.03E+00	5.506E+00	PCI/SA	1.0	1.0E+0	3.248E-2
RA-226	BXTE	0		8/11/2006 1:40:00 PM	**-5.709E-03**	6.621E-02	6.621E-02	2.763E-01	PCI/SA	1.073	1.0E+0	2.488E-1
RA-228	BXTF	0		8/15/2006 6:15:08 AM	**9.8456E-01**	2.885E-01	3.028E-01	1.145E+00	PCI/SA	0.986	1.0E+0	2.488E-1
TH-228	9NS1	0		7/31/2006 8:19:57 PM	**1.5211E-01**	1.109E-01	1.117E-01	4.093E-01	PCI/SA	1.012	1.0E+0	3.301E-2
TH-230	9NS1	0		7/31/2006 8:19:57 PM	**4.8975E-01**	1.369E-01	1.436E-01	2.176E-01	PCI/SA	1.012	1.0E+0	3.301E-2

6200163, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 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
TH-232	9NS1	0		7/31/2006 8:19:57 PM	**6.0527E-07**	4.443E-02	4.443E-02	2.67E-01	PCI/SA	1.012	1.0E+0	3.301E-2
U-234	7YSR	0		7/29/2006 3:17:44 PM	**-2.0197E-02**	2.02E-02	2.026E-02	4.838E-01	PCI/SA	0.975	1.0E+0	3.196E-2
U-235	7YSR	0		7/29/2006 3:17:44 PM	**0.0E+00**	0.0E+00	1.237E-01	2.737E-01	PCI/SA	0.975	1.0E+0	3.196E-2
U-238	7YSR	0		7/29/2006 3:17:44 PM	**8.081E-02**	1.03E-01	1.032E-01	4.838E-01	PCI/SA	0.975	1.0E+0	3.196E-2
32138	**9H9F9F10**			**J6G18020011**	P-0678	FILTER	7/18/2006 10:00:00	6/20/2006 10:55:00 AM				
ALPHA	BAS7	0		8/4/2006 8:07:31 AM	**2.5909E+00**	1.463E+00	1.488E+00	5.446E+00	PCI/SA	1.0	1.0E+0	2.092E-2
BETA	BDS8	0		8/2/2006 4:19:38 PM	**1.7656E+01**	1.717E+00	2.095E+00	5.188E+00	PCI/SA	1.0	1.0E+0	3.467E-2
RA-226	BXTE	0		8/11/2006 1:41:03 PM	**-5.9332E-02**	8.641E-02	8.663E-02	3.772E-01	PCI/SA	0.967	1.0E+0	2.524E-1
RA-228	BXTF	0		8/15/2006 6:15:08 AM	**1.3686E+00**	3.394E-01	3.681E-01	1.341E+00	PCI/SA	0.899	1.0E+0	2.524E-1
TH-228	9NS1	0		7/31/2006 8:19:57 PM	**2.2301E-02**	4.986E-02	4.99E-02	2.675E-01	PCI/SA	1.099	1.0E+0	3.353E-2
TH-230	9NS1	0		7/31/2006 8:19:57 PM	**4.6805E-01**	1.411E-01	1.472E-01	1.153E-01	PCI/SA	1.099	1.0E+0	3.353E-2
TH-232	9NS1	0		7/31/2006 8:19:57 PM	**4.255E-02**	4.255E-02	4.272E-02	1.153E-01	PCI/SA	1.099	1.0E+0	3.353E-2
U-234	7YSR	0		7/29/2006 3:18:06 PM	**0.0E+00**	0.0E+00	1.139E-01	2.521E-01	PCI/SA	0.948	1.0E+0	3.238E-2
U-235	7YSR	0		7/29/2006 3:18:06 PM	**7.4404E-02**	9.485E-02	9.504E-02	4.455E-01	PCI/SA	0.948	1.0E+0	3.238E-2
U-238	7YSR	0		7/29/2006 3:18:06 PM	**-1.8606E-02**	1.861E-02	1.867E-02	4.455E-01	PCI/SA	0.948	1.0E+0	3.238E-2
32138	**9H9F9J10**			**J6G18020012**	P-0679	FILTER	7/18/2006 10:00:00	6/20/2006 11:10:00 AM				
ALPHA	BAS7	0		8/4/2006 8:07:31 AM	**2.1953E+00**	1.397E+00	1.416E+00	5.371E+00	PCI/SA	1.0	1.0E+0	2.086E-2
BETA	BDS8	0		8/2/2006 4:19:33 PM	**2.0028E+01**	1.736E+00	2.212E+00	5.03E+00	PCI/SA	1.0	1.0E+0	3.405E-2
RA-226	BXTE	0		8/11/2006 1:36:00 PM	**2.5847E-01**	1.202E-01	1.235E-01	3.827E-01	PCI/SA	1.041	1.0E+0	2.519E-1
RA-228	BXTF	0		8/15/2006 6:15:08 AM	**2.3375E+00**	4.022E-01	4.312E-01	1.356E+00	PCI/SA	0.947	1.0E+0	2.519E-1
TH-228	9NS1	0		7/31/2006 8:19:57 PM	**5.0555E-01**	2.261E-01	2.321E-01	2.74E-01	PCI/SA	0.45	1.0E+0	3.376E-2
TH-230	9NS1	0		7/31/2006 8:19:57 PM	**1.254E+00**	3.478E-01	3.712E-01	2.614E-01	PCI/SA	0.45	1.0E+0	3.376E-2
TH-232	9NS1	0		7/31/2006 8:19:57 PM	**0.0E+00**	0.0E+00	1.181E-01	2.614E-01	PCI/SA	0.45	1.0E+0	3.376E-2
U-234	7YSR	0		7/29/2006 3:18:29 PM	**1.0176E-01**	1.018E-01	1.021E-01	2.758E-01	PCI/SA	0.967	1.0E+0	3.233E-2
U-235	7YSR	0		7/29/2006 3:18:29 PM	**0.0E+00**	0.0E+00	1.246E-01	2.758E-01	PCI/SA	0.967	1.0E+0	3.233E-2
U-238	7YSR	0		7/29/2006 3:18:29 PM	**-2.0348E-02**	2.035E-02	2.041E-02	4.874E-01	PCI/SA	0.967	1.0E+0	3.233E-2
32138	**9H9F9L10**			**J6G18020013**	P-0680	FILTER	7/18/2006 10:00:00	6/20/2006 11:25:00 AM				
ALPHA	BAS7	0		8/4/2006 8:07:31 AM	**4.3518E+00**	1.706E+00	1.765E+00	5.595E+00	PCI/SA	1.0	1.0E+0	2.072E-2
BETA	BDS8	0		8/2/2006 4:19:33 PM	**1.4015E+01**	1.662E+00	1.919E+00	5.359E+00	PCI/SA	1.0	1.0E+0	3.274E-2
RA-226	BXTE	0		8/11/2006 1:37:00 PM	**1.4161E-01**	1.355E-01	1.363E-01	4.896E-01	PCI/SA	0.91	1.0E+0	2.49E-1
RA-228	BXTF	0		8/15/2006 6:15:08 AM	**1.1916E+00**	3.794E-01	4.034E-01	1.614E+00	PCI/SA	0.817	1.0E+0	2.49E-1
U-234	7YSR	0		7/29/2006 3:19:10 PM	**8.3601E-02**	1.002E-01	1.004E-01	4.548E-01	PCI/SA	0.974	1.0E+0	3.208E-2
U-235	7YSR	0		7/29/2006 3:19:10 PM	**-2.3887E-02**	1.379E-02	1.392E-02	4.964E-01	PCI/SA	0.974	1.0E+0	3.208E-2
U-238	7YSR	0		7/29/2006 3:19:10 PM	**-4.7774E-02**	1.95E-02	1.988E-02	5.904E-01	PCI/SA	0.974	1.0E+0	3.208E-2
32138	**9H9F9M10**			**J6G18020014**	P-0681	FILTER	7/18/2006 10:00:00	6/20/2006 10:10:00 AM				
ALPHA	BAS7	0		8/4/2006 8:07:31 AM	**4.1711E+00**	1.552E+00	1.61E+00	4.86E+00	PCI/SA	1.0	1.0E+0	2.057E-2
BETA	BDS8	0		8/2/2006 4:19:33 PM	**1.391E+01**	1.637E+00	1.902E+00	5.263E+00	PCI/SA	1.0	1.0E+0	3.302E-2
RA-226	BXTE	0		8/11/2006 1:38:00 PM	**2.3974E-01**	1.032E-01	1.066E-01	3.211E-01	PCI/SA	1.004	1.0E+0	2.468E-1
RA-228	BXTF	0		8/15/2006 6:15:20 AM	**1.7836E+00**	4.011E-01	4.201E-01	1.5E+00	PCI/SA	0.91	1.0E+0	2.468E-1
TH-228	9NS1	0		7/31/2006 8:19:57 PM	**-2.12E-02**	5.609E-02	5.613E-02	3.564E-01	PCI/SA	0.932	1.0E+0	3.21E-2
TH-230	9NS1	0		7/31/2006 8:19:57 PM	**3.4384E-01**	1.23E-01	1.268E-01	2.426E-01	PCI/SA	0.932	1.0E+0	3.21E-2
TH-232	9NS1	0		7/31/2006 8:19:57 PM	**-4.0451E-02**	2.86E-02	2.883E-02	2.977E-01	PCI/SA	0.932	1.0E+0	3.21E-2
U-234	7YSR	0		7/29/2006 3:19:32 PM	**-5.5451E-02**	2.264E-02	2.309E-02	6.85E-01	PCI/SA	0.866	1.0E+0	3.163E-2
U-235	7YSR	0		7/29/2006 3:19:32 PM	**8.7737E-02**	1.166E-01	1.168E-01	5.76E-01	PCI/SA	0.866	1.0E+0	3.163E-2
U-238	7YSR	0		7/29/2006 3:19:32 PM	**-4.6209E-02**	2.067E-02	2.101E-02	6.526E-01	PCI/SA	0.866	1.0E+0	3.163E-2
32138	**9H9F9N10**			**J6G18020015**	P-0682	FILTER	7/18/2006 10:00:00	6/20/2006 11:35:00 AM				
ALPHA	BAS7	0		8/4/2006 8:07:31 AM	**-7.5302E-01**	9.068E-01	9.101E-01	5.309E+00	PCI/SA	1.0	1.0E+0	2.094E-2
BETA	BDS8	0		8/2/2006 6:58:31 PM	**1.4714E-01**	1.296E+00	1.296E+00	5.478E+00	PCI/SA	1.0	1.0E+0	3.296E-2
RA-226	BXTE	0		8/11/2006 1:41:00 PM	**2.1765E-02**	8.555E-02	8.558E-02	3.361E-01	PCI/SA	1.107	1.0E+0	2.487E-1
RA-228	BXTF	0		8/15/2006 6:15:20 AM	**2.4388E+00**	4.04E-01	4.546E-01	1.43E+00	PCI/SA	0.991	1.0E+0	2.487E-1
TH-228	9NS1	0		7/31/2006 8:19:57 PM	**9.1592E-02**	2.048E-01	2.051E-01	1.099E+00	PCI/SA	0.237	1.0E+0	3.33E-2
TH-230	9NS1	0		7/31/2006 8:19:57 PM	**6.9905E-01**	3.495E-01	3.593E-01	4.736E-01	PCI/SA	0.237	1.0E+0	3.33E-2
TH-232	9NS1	0		7/31/2006 8:19:57 PM	**0.0E+00**	0.0E+00	2.14E-01	4.736E-01	PCI/SA	0.237	1.0E+0	3.33E-2
U-234	7YSR	0		7/29/2006 3:20:17 PM	**9.146E-02**	1.215E-01	1.217E-01	6.004E-01	PCI/SA	0.865	1.0E+0	3.22E-2

6200163, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 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		7/29/2006 3:20:17 PM	**-1.9262E-02**	1.362E-02	1.371E-02	5.5E-01	PCI/SA		0.865	1.0E+0	3.22E-2
U-238	7YSR	0		7/29/2006 3:20:17 PM	**-1.9262E-02**	1.362E-02	1.371E-02	5.5E-01	PCI/SA		0.865	1.0E+0	3.22E-2
32138	**H9H181AB**			**J6G190000163**	INTRA-LAB BLANK	FILTER	7/18/2006 10:00:00	6/20/2006 10:15:00 AM					
RA-226	BXTE	0	B	8/11/2006 1:41:01 PM	**2.8964E-02**	1.672E-02	1.699E-02	5.299E-02	PCI/SA		1.005	1.0E+0	1.0E+0
32138	**H9H181CS**			**J6G190000163**	INTRA-LAB CHECK	FILTER	7/18/2006 10:00:00	6/20/2006 10:15:00 AM					
RA-226	BXTE	0	S	8/11/2006 1:42:00 PM	**1.3909E+00**	8.174E-02	1.633E-01	8.131E-02	PCI/SA	1.386E+00	1.019	1.0E+0	1.0E+0

6200163, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => .

STL RICHLAND

7/27/2006 2:31:44 PM

Sample Preparation/Analysis

Balance Id:1120373922,1120403183

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

Pipet #:

AnalyDueDate: 08/14/2006

Sep1 DT/Tm Tech: AL 7/28/06 1320

Batch: 6200163 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: 6200165, BXTF

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:
1 H9F7N-1-AC J6G180200-1-SAMP	0.833sa,g	502.14sa,g	151.56g,in	0.2514g	RATA23499 07/19/06		G4	1615	7/28/06	
				7.5662 / 7.47 = 1.0129			8-1-6M 12:15 2RC 8/11/06 1011R			
06/20/2006 10:15		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
2 H9F73-1-AC J6G180200-2-SAMP	0.833sa,g	501.63sa,g	153.64g,in	0.2551g	RATA23500 07/19/06		G7	1616	7/28/06	
				7.5268 / 8.442 = 0.8916			8-1-6M 12:15 3MA 8/11/06 1012R			
06/20/2006 10:25		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
3 H9F75-1-AC J6G180200-3-SAMP	0.833sa,g	506.26sa,g	150.90g,in	0.2483g	RATA23501 07/19/06		G6	1616	7/28/06	
				7.5367 / 6.623 = 1.1380			8-1-6M 12:15 4UA 8/11/06 1011R			
06/20/2006 10:40		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
4 H9F78-1-AC J6G180200-4-SAMP	0.833sa,g	509.29sa,g	152.31g,in	0.2491g	RATA23502 07/19/06		G1	1704	7/28/06	
				7.5760 / 7.19 = 1.0537			8-1-6M 12:15 6MB 8/11/06 1013R			
06/20/2006 11:00		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:

7/27/2006 2:31:45 PM

Sample Preparation/Analysis

Balance Id:1120373922,1120373922,1120

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

Pipet #: _____

AnalyDueDate: 08/14/2006

Sep1 DT/Tm Tech:

Batch: 6200163 FILTER pCi/sampl PM, Quote: SA , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: 6200165, BXTF

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 H9F8F-1-AC J6G180200-5-SAMP	0.833sa,g	502.26sa,g	152.52g,in	0.253g 7.5268 / 7.535 = 0.9989	RATA23503 07/19/06		G5 8-1-6M 12:15 7UA 8/11/06 1014 R	1705	7/28/06 WD	
06/20/2006 11:15		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
6 H9F8L-1-AC J6G180200-6-SAMP	0.833sa,g	506.78sa,g	153.15g,in	0.2517g 7.5367 / 8.117 = 0.9285	RATA23504 07/19/06		G4 8-1-6M 12:15 8RD 8/11/06 1012 R	1706	7/28/06 WD	
06/20/2006 11:30		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
7 H9F8W-1-AC J6G180200-7-SAMP	0.833sa,g	501.33sa,g	150.58g,in	0.2502g 7.5367 / 6.971 = 1.0812	RATA23505 07/19/06		G7 8-1-6M 12:15 9RC 8/11/06 1011 R	1706	7/28/06 WD	
06/20/2006 11:20		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
8 H9F85-1-AC J6G180200-8-SAMP	0.833sa,g	500.08sa,g	151.41g,in	0.2522g 7.5367 / 7.596 = 0.9922	RATA23506 07/19/06		G12 8-1-6M 12:15 ASC 8/11/06 1013 R	1706	7/28/06 WD	
06/20/2006 10:05		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:

STL RICHLAND

7/27/2006 2:31:45 PM

Sample Preparation/Analysis

Balance Id:1120373922,1120373922,1120

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

Pipet #:

AnalyDueDate: 08/14/2006

Sep1 DT/Tm Tech:

Batch: 6200163 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: 6200165, 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 H9F89-1-AC J6G180200-9-SAMP	0.833sa,g	501.72sa,g	152.05g,in	0.2524g	RATA23507 07/19/06		G6	1707	7/28/06 DP	
			7.5367 / 7.869 = 0.9578				8-1-6 M 12:40 DSA 8/11/06 1022 R			
06/20/2006 10:20		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
10H9F9A-1-AC J6G180200-10-SAMP	0.833sa,g	505.38sa,g	150.94g,in	0.2488g	RATA23508 07/19/06		G13	1707	7/28/06 DP	
			7.5465 / 8.099 = 0.9318				8-1-6 M 12:40 EHB 8/11/06 1040 R			
06/20/2006 10:35		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
11H9F9F-1-AC J6G180200-11-SAMP	0.833sa,g	502.51sa,g	152.25g,in	0.2524g	RATA23509 07/19/06		9 11	1753	7/28/06 DP	
			7.4776 / 7.23 = 1.0342				8-1-6 M 12:40 GSA 8/11/06 1041 R			
06/20/2006 10:55		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
12H9F9J-1-AC J6G180200-12-SAMP	0.833sa,g	502.25sa,g	151.91g,in	0.2519g	RATA23510 07/19/06		G5	1753	7/28/06 DP	
			7.5170 / 7.822 = 0.9610				8-1-6 M 12:40 KMD 8/11/06 1036 R			
06/20/2006 11:10		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:

STL RICHLAND

7/27/2006 2:31:45 PM

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: 08/14/2006

Sep1 DT/Tm Tech:

Batch: 6200163 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: 6200165, 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:
13H9F9L-1-AC J6G180200-13-SAMP	0.833sa,g	504.90sa,g	150.90g,in	0.249g	RATA23511 07/19/06		G4	1754	7/28/06 ane	
			7.5268 / 6.847 = 1.0993				8-1-6M 12:40 FSA 8/11/06		1037 r	
06/20/2006 11:25		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
14H9F9M-1-AC J6G180200-14-SAMP	0.833sa,g	508.91sa,g	150.78g,in	0.2468g	RATA23512 07/19/06		G7	1754	7/28/06 ane	
			7.5563 / 7.583 = 0.9965				8-1-6M 12:40 LMC 8/11/06		1038 R	
06/20/2006 10:10		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
15H9F9N-1-AC J6G180200-15-SAMP	0.833sa,g	503.53sa,g	150.36g,in	0.2487g	RATA23513 07/19/06		G12	1755	7/28/06 ane	
			7.4875 / 8.285 = 0.9037				8-1-6M 12:40 MRA 8/11/06		1041	
06/20/2006 11:35		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
16H9H18-1-AA-B J6G190000-163-BLK			1.00sa,in	1.00sa	RATA23514 07/19/06		G13	1755	7/28/06 ane	
			7.5367 / 7.576 = 0.9948				8-1-6M 12:40 JSB 8/11/06		1041	
06/20/2006 10:15		AmtRec:		#Containers: 1			Scr:	Alpha:		Beta:

STL RICHLAND

7/27/2006 2:31:46 PM

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: 08/14/2006

Sep1 DT/Tm Tech:

Batch: 6200163 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:
17H9H18-1-AC-C			1.00sa,in	1.00sa	RASC4147 06/13/06		G6	1755	7/28/06A	
J6G190000-163-LCS			7.5164 / 7.662 = 0.9810					8-1-6 M 12:57 PMA 8/11/06 1042		
06/20/2006 10:15		AmtRec:	#Containers: 1				Scr:	Alpha:		Beta:

Comments:

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

H9F7N1AC-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:

H9H181AA-BLK:
Ba-133 RDL: pCi/sam LCL:20 UCL:115 RPD:20 Ra-226 RDL:1.00E+00 pCi/sam LCL: UCL: RPD:

H9H181AC-LCS:
Ba-133 RDL: pCi/sam LCL:20 UCL:115 RPD:20 Ra-226 RDL:1 pCi/sam LCL:70 UCL:130 RPD:20

H9F7N1AC-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H9H181AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H9H181AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

Batch Nbr: 6200163

Alpha Beta, Ra-226 by ASC-7 , Results

Summary Report

8/15/2006 11:01:40 AM

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Ra-226 by ASC-7				Richland Standard Ra-226/Ra-228 Deem Wo Blk Subt.										
Calc	TE	FILTER	H9F7N1AC	RA-226	-7.46E-02	(9.43E-02)	U4	PCI/SA	R	1.75E-01	4.08E-01		99%	
Calc	TE	FILTER	H9F731AC	RA-226	3.85E-02	(6.38E-02)	U4	PCI/SA	R	9.98E-02	2.48E-01		112%	
Calc	TE	FILTER	H9F751AC	RA-226	3.35E-01	(1.24E-01)		PCI/SA	R	1.33E-01	3.30E-01		88%	
Calc	TE	FILTER	H9F781AC	RA-226	6.81E-02	(8.11E-02)	U4	PCI/SA	R	1.25E-01	3.00E-01		95%	
Calc	TE	FILTER	H9F8F1AC	RA-226	4.03E-01	(1.21E-01)		PCI/SA	R	1.19E-01	2.92E-01		100%	
Calc	TE	FILTER	H9F8L1AC	RA-226	2.41E-01	(1.42E-01)		PCI/SA	R	1.97E-01	4.67E-01		108%	
Calc	TE	FILTER	H9F8W1AC	RA-226	6.54E-02	(1.06E-01)	U4	PCI/SA	R	1.67E-01	4.04E-01		92%	
Calc	TE	FILTER	H9F851AC	RA-226	7.26E-02	(1.14E-01)	U4	PCI/SA	R	1.81E-01	4.30E-01		101%	
Calc	TE	FILTER	H9F891AC	RA-226	-1.21E-02	(8.84E-02)	U4	PCI/SA	R	1.55E-01	3.75E-01		104%	
Calc	TE	FILTER	H9F9A1AC	RA-226	-5.71E-03	(6.62E-02)	U4	PCI/SA	R	1.15E-01	2.76E-01		107%	
Calc	TE	FILTER	H9F9F1AC	RA-226	-5.93E-02	(8.66E-02)	U4	PCI/SA	R	1.60E-01	3.77E-01		97%	
Calc	TE	FILTER	H9F9J1AC	RA-226	2.58E-01	(1.23E-01)		PCI/SA	R	1.63E-01	3.83E-01		104%	
Calc	TE	FILTER	H9F9L1AC	RA-226	1.42E-01	(1.36E-01)	U4	PCI/SA	R	2.04E-01	4.90E-01		91%	
Calc	TE	FILTER	H9F9M1AC	RA-226	2.40E-01	(1.07E-01)		PCI/SA	R	1.36E-01	3.21E-01		100%	
Calc	TE	FILTER	H9F9N1AC	RA-226	2.18E-02	(8.56E-02)	U4	PCI/SA	R	1.43E-01	3.36E-01		111%	
Calc	TE	FILTER	H9H181AA	RA-226	2.90E-02	(1.70E-02)		PCI/SA	R	1.94E-02	5.30E-02	B	101%	
Calc	TE	FILTER	H9H181AC	RA-226	1.39E+00	(1.63E-01)		PCI/SA	R	3.46E-02	8.13E-02	S	102%	100%

P Anderson
8-15-06

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

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

RecCnt:17
RADCALC v4.8.24
STL Richland

Batch Nbr: 6200163

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

Detailed Report

8/15/2006 11:01:41 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
1	Calc	TE	FILTER	*STLE	Ra226WoBS	**H9F7N1AC**	**PCI/SA**		06/20/06 10:15	08/11/06 13:11	08/01/06 12:15	RATA23499	1	1.00 Sa	
CID:000502LOT:J6G1802001 v4.8.24							FILTER				08/11/06 10:11	RATA23499 Alq	99%	0.251423 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	08/11/06 13:11	RA-226	9	15	ASC2RC	ASC		N	2.0913E+00	1.0000E+00	N	99%	N		1.2283E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(6.818E-02)	(0.000E+00)		8%			(0.000E+00)	3.977363		

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
	08/15/06	RA-226	R	**-0.074613**	U4	-7.00000E-02	-0.041644	-0.041644	1.00 Sa	99%		0.408244		
				(0.094255)		(8.8129E-02)	(0.052552)	(0.052552)	(0.028284)			0.17534		

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	**H9F731AC**	**PCI/SA**		06/20/06 10:25	08/11/06 13:12	08/01/06 12:15	RATA23500	1	1.00 Sa	
CID:000503LOT:J6G1802002 v4.8.24							FILTER				08/11/06 10:12	RATA23500 Alq	112%	0.255133 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	08/11/06 13:12	RA-226	8	7	ASC3MA	ASC		N	2.4421E+00	1.0000E+00	N	112%	N		1.2283E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(6.350E-02)	(0.000E+00)		9%			(0.000E+00)	3.919532		

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
	08/15/06	RA-226	R	**0.038481**	U4	4.33333E-02	0.021795	0.021795	1.00 Sa	112%		0.247597		
				(0.063814)		(7.1725E-02)	(0.036121)	(0.036121)	(0.028284)			0.099792		

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	**H9F751AC**	**PCI/SA**		06/20/06 10:40	08/11/06 13:11	08/01/06 12:15	RATA23501	1	1.00 Sa	
CID:000504LOT:J6G1802003 v4.8.24							FILTER				08/11/06 10:11	RATA23501 Alq	88%	0.248291 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	08/11/06 13:11	RA-226	20	7	ASC4UA	ASC		N	2.1431E+00	1.0000E+00	N	88%	N		1.2283E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(1.080E-01)	(0.000E+00)		7%			(0.000E+00)	4.027535		

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
	08/15/06	RA-226	R	**0.335285**		2.83333E-01	0.184802	0.184802	1.00 Sa	88%		0.32994		
				(0.1237)		(9.9722E-02)	(0.067349)	(0.067349)	(0.028284)			0.13298		

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	**H9F781AC**	**PCI/SA**		06/20/06 11:00	08/11/06 13:13	08/01/06 12:15	RATA23502	1	1.00 Sa	
CID:000505LOT:J6G1802004 v4.8.24							FILTER				08/11/06 10:13	RATA23502 Alq	95%	0.24912 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	08/11/06 13:13	RA-226	12	10	ASC6MB	ASC		N	2.5199E+00	1.0000E+00	N	95%	N		1.2282E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(3.251E-02)	(0.000E+00)		8%			(0.000E+00)	4.014133		

() - (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: 6200163

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

8/15/2006 11:01:41 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
	08/15/06	RA-226	R	**0.068104**	**U4**	7.33333E-02	0.037663	0.037663	1.00 Sa	95%		0.299661		
				(0.081126)		(8.7050E-02)	(0.044812)	(0.044812)	(0.028284)			0.124737		

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	**H9F8F1AC**	**PCI/SA**		06/20/06 11:15	08/11/06 13:14	08/01/06 12:15	RATA23503	1	1.00 Sa	
CID:000506LOT:J6G1802005 v4.8.24							FILTER				08/11/06 10:14	RATA23503 Alq	100%	0.252955 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	08/11/06 13:14	RA-226	27	8	ASC7UA	ASC		N	2.2064E+00	1.0000E+00	N	100%	N		1.2282E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(1.072E-01)	(0.000E+00)		8%			(0.000E+00)	3.953273		

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
	08/15/06	RA-226	R	**0.403129**		4.06667E-01	0.22637	0.22637	1.00 Sa	100%		0.291764		
				(0.121478)		(1.1411E-01)	(0.066963)	(0.066963)	(0.028284)			0.119089		

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	**H9F8L1AC**	**PCI/SA**		06/20/06 11:30	08/11/06 13:12	08/01/06 12:15	RATA23504	1	1.00 Sa	
CID:000507LOT:J6G1802006 v4.8.24							FILTER				08/11/06 10:12	RATA23504 Alq	108%	0.251734 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	08/11/06 13:12	RA-226	19	12	ASC8RD	ASC		N	1.6393E+00	1.0000E+00	N	108%	N		1.2283E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(4.623E-02)	(0.000E+00)		9%			(0.000E+00)	3.972441		

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
	08/15/06	RA-226	R	**0.241343**		1.80000E-01	0.134868	0.134868	1.00 Sa	108%		0.466988		
				(0.142361)		(1.0456E-01)	(0.079176)	(0.079176)	(0.028284)			0.197276		

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	**H9F8W1AC**	**PCI/SA**		06/20/06 11:20	08/11/06 13:11	08/01/06 12:15	RATA23505	1	1.00 Sa	
CID:000508LOT:J6G1802007 v4.8.24							FILTER				08/11/06 10:11	RATA23505 Alq	92%	0.250201 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	08/11/06 13:11	RA-226	10	9	ASC9RC	ASC		N	1.8288E+00	1.0000E+00	N	92%	N		1.2283E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(5.139E-02)	(0.000E+00)		7%			(0.000E+00)	3.996791		

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
	08/15/06	RA-226	R	**0.065374**	**U4**	5.00000E-02	0.03631	0.03631	1.00 Sa	92%		0.403868		
				(0.105625)		(8.0623E-02)	(0.058629)	(0.058629)	(0.028284)			0.1666		

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	**H9F851AC**	**PCI/SA**		06/20/06 10:05	08/11/06 13:13	08/01/06 12:15	RATA23506	1	1.00 Sa	
CID:P-0675LOT:J6G1802008 v4.8.24							FILTER				08/11/06 10:13	RATA23506 Alq	101%	0.252209 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: 6200163

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

8/15/2006 11:01:41 AM

1	08/11/06 13:13	RA-226	12	11	ASCASC	ASC	N	1.7118E+00	1.0000E+00	N	101%	N		1.2282E+00	4.5045E-01	1.0000E+00	
			50	60			Y	(9.244E-02)	(0.000E+00)		8%			(0.000E+00)	3.96497		

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
	08/15/06	RA-226	R	**0.072621**	**U4**	5.66667E-02	0.040659	0.040659	1.00 Sa	101%		0.430309		
				(0.113879)		(8.8632E-02)	(0.063715)	(0.063715)	(0.028284)			0.180532		

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	**H9F891AC**	**PCI/SA**		06/20/06 10:20	08/11/06 13:22	08/01/06 12:40	RATA23507	1	1.00 Sa	
CID:P-0676LOT:J6G1802009 v4.8.24							FILTER				08/11/06 10:22	RATA23507 Alq	104%	0.252447 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	08/11/06 13:22	RA-226	7	9	ASCDSA	ASC		N	1.8059E+00	1.0000E+00	N	104%	N		1.2287E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(3.449E-02)	(0.000E+00)		8%			(0.000E+00)	3.961229		

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
	08/15/06	RA-226	R	**-0.012141**	**U4**	-1.00000E-02	-0.006804	-0.006804	1.00 Sa	104%		0.375023		
				(0.088396)		(7.2801E-02)	(0.049536)	(0.049536)	(0.028284)			0.154701		

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	**H9F9A1AC**	**PCI/SA**		06/20/06 10:35	08/11/06 13:40	08/01/06 12:40	RATA23508	1	1.00 Sa	
CID:P-0677LOT:J6G18020010 v4.8.24							FILTER				08/11/06 10:40	RATA23508 Alq	107%	0.248789 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	08/11/06 13:40	RA-226	8	10	ASCEHB	ASC		N	2.5969E+00	1.0000E+00	N	107%	N		1.2282E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(2.438E-02)	(0.000E+00)		9%			(0.000E+00)	4.019469		

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
	08/15/06	RA-226	R	**-0.005709**	**U4**	-6.66667E-03	-0.003153	-0.003153	1.00 Sa	107%		0.276315		
				(0.066212)		(7.7316E-02)	(0.036567)	(0.036567)	(0.028284)			0.115019		

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	**H9F9F1AC**	**PCI/SA**		06/20/06 10:55	08/11/06 13:41	08/01/06 12:40	RATA23509	1	1.00 Sa	
CID:P-0678LOT:J6G18020011 v4.8.24							FILTER				08/11/06 10:41	RATA23509 Alq	97%	0.252382 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	08/11/06 13:41	RA-226	8	13	ASCGSA	ASC		N	2.1653E+00	1.0000E+00	N	97%	N		1.2281E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(7.622E-02)	(0.000E+00)		8%			(0.000E+00)	3.962255		

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
	08/15/06	RA-226	R	**-0.059332**	**U4**	-5.66667E-02	-0.033241	-0.033241	1.00 Sa	97%		0.377245		
				(0.086633)		(8.2529E-02)	(0.048499)	(0.048499)	(0.028284)			0.160343		

RecCnt:12 RADCALC v4.8.24
STL Richland

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

Batch Nbr: 6200163

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

8/15/2006 11:01:41 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
12	Calc	TE	FILTER	*STLE	Ra226WoBS	**H9F9J1AC**	**PCI/SA**		06/20/06 11:10	08/11/06 13:36	08/01/06 12:40	RATA23510	1	1.00 Sa	
CID:P-0679LOT:J6G18020012 v4.8.24							FILTER				08/11/06 10:36	RATA23510 Alq	104%	0.251948 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	08/11/06 13:36	RA-226	23	13	ASCKMD	ASC		N	2.0676E+00	1.0000E+00	N	104%	N		1.2283E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(9.676E-02)	(0.000E+00)		8%			(0.000E+00)	3.969068		

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
	08/15/06	RA-226	R	**0.258465**		2.43333E-01	0.144559	0.144559	1.00 Sa	104%		0.382706		
				(0.123484)		(1.1319E-01)	(0.068563)	(0.068563)	(0.028284)			0.162664		

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	**H9F9L1AC**	**PCI/SA**		06/20/06 11:25	08/11/06 13:37	08/01/06 12:40	RATA23511	1	1.00 Sa	
CID:P-0680LOT:J6G18020013 v4.8.24							FILTER				08/11/06 10:37	RATA23511 Alq	91%	0.24896 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	08/11/06 13:37	RA-226	13	10	ASCFSA	ASC		N	1.6102E+00	1.0000E+00	N	91%	N		1.2283E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(2.979E-02)	(0.000E+00)		7%			(0.000E+00)	4.016716		

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
	08/15/06	RA-226	R	**0.141611**	**U4**	9.33333E-02	0.078263	0.078263	1.00 Sa	91%		0.489572		
				(0.136261)		(8.9318E-02)	(0.075172)	(0.075172)	(0.028284)			0.203789		

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	**H9F9M1AC**	**PCI/SA**		06/20/06 10:10	08/11/06 13:38	08/01/06 12:40	RATA23512	1	1.00 Sa	
CID:P-0681LOT:J6G18020014 v4.8.24							FILTER				08/11/06 10:38	RATA23512 Alq	100%	0.246801 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	08/11/06 13:38	RA-226	23	12	ASCLMC	ASC		N	2.4313E+00	1.0000E+00	N	100%	N		1.2282E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(1.218E-01)	(0.000E+00)		8%			(0.000E+00)	4.05184		

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
	08/15/06	RA-226	R	**0.239737**		2.60000E-01	0.131345	0.131345	1.00 Sa	100%		0.321147		
				(0.106572)		(1.1195E-01)	(0.057898)	(0.057898)	(0.028284)			0.135666		

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	**H9F9N1AC**	**PCI/SA**		06/20/06 11:35	08/11/06 13:41	08/01/06 12:40	RATA23513	1	1.00 Sa	
CID:P-0682LOT:J6G18020015 v4.8.24							FILTER				08/11/06 10:41	RATA23513 Alq	111%	0.248744 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	08/11/06 13:41	RA-226	12	13	ASCMRA	ASC		N	2.3844E+00	1.0000E+00	N	111%	N		1.2281E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(1.044E-01)	(0.000E+00)		9%			(0.000E+00)	4.020203		

() - (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: 6200163

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

8/15/2006 11:01:41 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
	08/15/06	RA-226	R	**0.021765**	**U4**	2.33333E-02	0.012018	0.012018	1.00 Sa	111%		0.336085		
				(0.08558)		(9.1712E-02)	(0.047251)	(0.047251)	(0.028284)			0.142849		

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	**H9H181AA**	**PCI/SA**	**B**	06/20/06 10:15	08/11/06 13:41	08/01/06 12:40	RATA23514	1	1.00 Sa	
CID:INTRA-LAB BLANKLOT:J6G190000163 v4.8.24							FILTER				08/11/06 10:41	RATA23514 Alq	101%	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	08/11/06 13:41	RA-226	8	3	ASCJSB	ASC		N	2.1011E+00	1.0000E+00	N	101%	N		1.2281E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(7.837E-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
	08/15/06	RA-226	R	**0.028964**		1.10000E-01	0.064296	0.064296	1.00 Sa	101%		0.052989		
				(0.016986)		(6.3509E-02)	(0.037553)	(0.037553)	(0.017321)			0.019371		

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
17	Calc	TE	FILTER	*STLE	Ra226WoBS	**H9H181AC**	**PCI/SA**	**S**	06/20/06 10:15	08/11/06 13:42	08/01/06 12:57	RASC4147	1	1.00 Sa	
CID:INTRA-LAB CHECKLOT:J6G190000163 v4.8.24							FILTER				08/11/06 10:42	RASC4147 Alq	102%	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	08/11/06 13:42	RA-226	319	13	ASCPMA	ASC		N	2.4525E+00	1.0000E+00	N	102%	N		1.2286E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(8.241E-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
	08/15/06	RA-226	R	**1.390883**		6.16333E+00	3.087608	3.087608	1.00 Sa	102%	100%	0.081309		
				(0.163292)		(3.6223E-01)	(0.323582)	(0.323582)	(0.017321)			0.034559		

() - (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:17

RADCALC v4.8.24

STL Richland

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9F7N1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200163 Activity Unit: PCI/SA Multiplier: 1.0129
Technician: RS

Analysis Size: 0.2514 Analysis Unit: SA

Report Date: 11-AUG-2006 14:01:01.49
First Separation Date: 1-AUG-2006 12:15:00.00
Second Separation Date: 11-AUG-2006 10:11:00.00

Detector ID: 2 Cell ID: 2RC

Bkg Date: 11-AUG-2006 08:39:49.02
Bkg Counts: 000015 Bkg Duration: 000060.0

Count Date: 11-AUG-2006 13:11:00.48
Counts: 000009 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9F731AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200163 Activity Unit: PCI/SA Multiplier: 0.8916
Technician: RS

Analysis Size: 0.2551 Analysis Unit: SA

Report Date: 11-AUG-2006 14:02:00.78
First Separation Date: 1-AUG-2006 12:15:00.00
Second Separation Date: 11-AUG-2006 10:12:00.00

Detector ID: 3 Cell ID: 3MA

Bkg Date: 11-AUG-2006 08:39:57.79
Bkg Counts: 000007 Bkg Duration: 000060.0

Count Date: 11-AUG-2006 13:12:00.34
Counts: 000008 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9F751AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200163 Activity Unit: PCI/SA Multiplier: 1.138
Technician: RS

Analysis Size: 0.2483 Analysis Unit: SA

Report Date: 11-AUG-2006 14:01:01.07
First Separation Date: 1-AUG-2006 12:15:00.00
Second Separation Date: 11-AUG-2006 10:11:00.00

Detector ID: 4 Cell ID: 4UA

Bkg Date: 11-AUG-2006 08:40:08.72
Bkg Counts: 000007 Bkg Duration: 000060.0

Count Date: 11-AUG-2006 13:11:00.42
Counts: 000020 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9F781AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200163 Activity Unit: PCI/SA Multiplier: 1.0537
Technician: RS

Analysis Size: 0.2491 Analysis Unit: SA

Report Date: 11-AUG-2006 14:03:00.86
First Separation Date: 1-AUG-2006 12:15:00.00
Second Separation Date: 11-AUG-2006 10:13:00.00

Detector ID: 6 Cell ID: 6MB

Bkg Date: 11-AUG-2006 08:40:23.69
Bkg Counts: 000010 Bkg Duration: 000060.0

Count Date: 11-AUG-2006 13:13:00.35
Counts: 000012 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9F8F1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200163 Activity Unit: PCI/SA Multiplier: 0.9989
Technician: RS

Analysis Size: 0.253 Analysis Unit: SA

Report Date: 11-AUG-2006 14:04:00.54
First Separation Date: 1-AUG-2006 12:15:00.00
Second Separation Date: 11-AUG-2006 10:14:00.00

Detector ID: 7 Cell ID: 7UA

Bkg Date: 11-AUG-2006 08:40:31.94
Bkg Counts: 000008 Bkg Duration: 000060.0

Count Date: 11-AUG-2006 13:14:00.25
Counts: 000027 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9F8L1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200163 Activity Unit: PCI/SA Multiplier: 0.9285
Technician: RS

Analysis Size: 0.2517 Analysis Unit: SA

Report Date: 11-AUG-2006 14:02:00.90
First Separation Date: 1-AUG-2006 12:15:00.00
Second Separation Date: 11-AUG-2006 10:12:00.00

Detector ID: 8 Cell ID: 8RD

Bkg Date: 11-AUG-2006 08:40:40.88
Bkg Counts: 000012 Bkg Duration: 000060.0

Count Date: 11-AUG-2006 13:12:00.39
Counts: 000019 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9F8W1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200163 Activity Unit: PCI/SA Multiplier: 1.0812
Technician: RS

Analysis Size: 0.2502 Analysis Unit: SA

Report Date: 11-AUG-2006 14:01:01.55
First Separation Date: 1-AUG-2006 12:15:00.00
Second Separation Date: 11-AUG-2006 10:11:00.00

Detector ID: 9 Cell ID: 9RC

Bkg Date: 11-AUG-2006 08:40:52.51
Bkg Counts: 000009 Bkg Duration: 000060.0

Count Date: 11-AUG-2006 13:11:00.52
Counts: 000010 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9F851AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200163 Activity Unit: PCI/SA Multiplier: 0.9922
Technician: RS

Analysis Size: 0.2522 Analysis Unit: SA

Report Date: 11-AUG-2006 14:03:00.79
First Separation Date: 1-AUG-2006 12:15:00.00
Second Separation Date: 11-AUG-2006 10:13:00.00

Detector ID: 10 Cell ID: ASC

Bkg Date: 11-AUG-2006 08:41:01.73
Bkg Counts: 000011 Bkg Duration: 000060.0

Count Date: 11-AUG-2006 13:13:00.29
Counts: 000012 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9F891AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200163 Activity Unit: PCI/SA Multiplier: 0.9578
Technician: RS

Analysis Size: 0.2524 Analysis Unit: SA

Report Date: 11-AUG-2006 14:12:00.58
First Separation Date: 1-AUG-2006 12:40:00.00
Second Separation Date: 11-AUG-2006 10:22:00.00

Detector ID: 13 Cell ID: DSA

Bkg Date: 11-AUG-2006 08:41:51.91
Bkg Counts: 000009 Bkg Duration: 000060.0

Count Date: 11-AUG-2006 13:22:00.24
Counts: 000007 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9F9A1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200163 Activity Unit: PCI/SA Multiplier: 0.9318
Technician: RS

Analysis Size: 0.2488 Analysis Unit: SA

Report Date: 11-AUG-2006 14:30:00.57
First Separation Date: 1-AUG-2006 12:40:00.00
Second Separation Date: 11-AUG-2006 10:40:00.00

Detector ID: 14 Cell ID: EHB

Bkg Date: 11-AUG-2006 08:41:58.28
Bkg Counts: 000010 Bkg Duration: 000060.0

Count Date: 11-AUG-2006 13:40:00.25
Counts: 000008 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9F9F1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200163 Activity Unit: PCI/SA Multiplier: 1.0342
Technician: RS

Analysis Size: 0.2524 Analysis Unit: SA

Report Date: 11-AUG-2006 14:31:03.07
First Separation Date: 1-AUG-2006 12:40:00.00
Second Separation Date: 11-AUG-2006 10:41:00.00

Detector ID: 16 Cell ID: GSA

Bkg Date: 11-AUG-2006 08:42:14.39
Bkg Counts: 000013 Bkg Duration: 000060.0

Count Date: 11-AUG-2006 13:41:02.56
Counts: 000008 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9F9J1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200163 Activity Unit: PCI/SA Multiplier: 0.961
Technician: RS

Analysis Size: 0.2519 Analysis Unit: SA

Report Date: 11-AUG-2006 14:26:00.68
First Separation Date: 1-AUG-2006 12:40:00.00
Second Separation Date: 11-AUG-2006 10:36:00.00

Detector ID: 19 Cell ID: KMD

Bkg Date: 11-AUG-2006 08:42:49.16
Bkg Counts: 000013 Bkg Duration: 000060.0

Count Date: 11-AUG-2006 13:36:00.26
Counts: 000023 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9F9L1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200163 Activity Unit: PCI/SA Multiplier: 1.0993
Technician: RS

Analysis Size: 0.249 Analysis Unit: SA

Report Date: 11-AUG-2006 14:27:00.56
First Separation Date: 1-AUG-2006 12:40:00.00
Second Separation Date: 11-AUG-2006 10:37:00.00

Detector ID: 15 Cell ID: FSA

Bkg Date: 11-AUG-2006 08:42:07.03
Bkg Counts: 000010 Bkg Duration: 000060.0

Count Date: 11-AUG-2006 13:37:00.25
Counts: 000013 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9F9M1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200163 Activity Unit: PCI/SA Multiplier: 0.9965
Technician: RS

Analysis Size: 0.2468 Analysis Unit: SA

Report Date: 11-AUG-2006 14:28:00.56
First Separation Date: 1-AUG-2006 12:40:00.00
Second Separation Date: 11-AUG-2006 10:38:00.00

Detector ID: 20 Cell ID: LMC

Bkg Date: 9-AUG-2006 15:07:58.68
Bkg Counts: 000012 Bkg Duration: 000060.0

Count Date: 11-AUG-2006 13:38:00.25
Counts: 000023 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9F9N1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200163 Activity Unit: PCI/SA Multiplier: 0.9037
Technician: RS

Analysis Size: 0.2487 Analysis Unit: SA

Report Date: 11-AUG-2006 14:31:00.98
First Separation Date: 1-AUG-2006 12:40:00.00
Second Separation Date: 11-AUG-2006 10:41:00.00

Detector ID: 21 Cell ID: MRA

Bkg Date: 11-AUG-2006 08:43:07.34
Bkg Counts: 000013 Bkg Duration: 000060.0

Count Date: 11-AUG-2006 13:41:00.46
Counts: 000012 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9H181AA Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200163 Activity Unit: PCI/SA Multiplier: 0.9948
Technician: RS

Analysis Size: 1.0 Analysis Unit: SA

Report Date: 11-AUG-2006 14:31:01.13
First Separation Date: 1-AUG-2006 12:40:00.00
Second Separation Date: 11-AUG-2006 10:41:00.00

Detector ID: 18 Cell ID: JSB

Bkg Date: 11-AUG-2006 08:42:29.33
Bkg Counts: 000003 Bkg Duration: 000060.0

Count Date: 11-AUG-2006 13:41:00.54
Counts: 000008 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9H181AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200163 Activity Unit: PCI/SA Multiplier: 0.981
Technician: RS

Analysis Size: 1.0 Analysis Unit: SA

Report Date: 11-AUG-2006 14:32:00.58
First Separation Date: 1-AUG-2006 12:57:00.00
Second Separation Date: 11-AUG-2006 10:42:00.00

Detector ID: 23 Cell ID: PMA

Bkg Date: 11-AUG-2006 08:43:15.59
Bkg Counts: 000013 Bkg Duration: 000060.0

Count Date: 11-AUG-2006 13:42:00.26
Counts: 000319 Count Duration: 000050.0

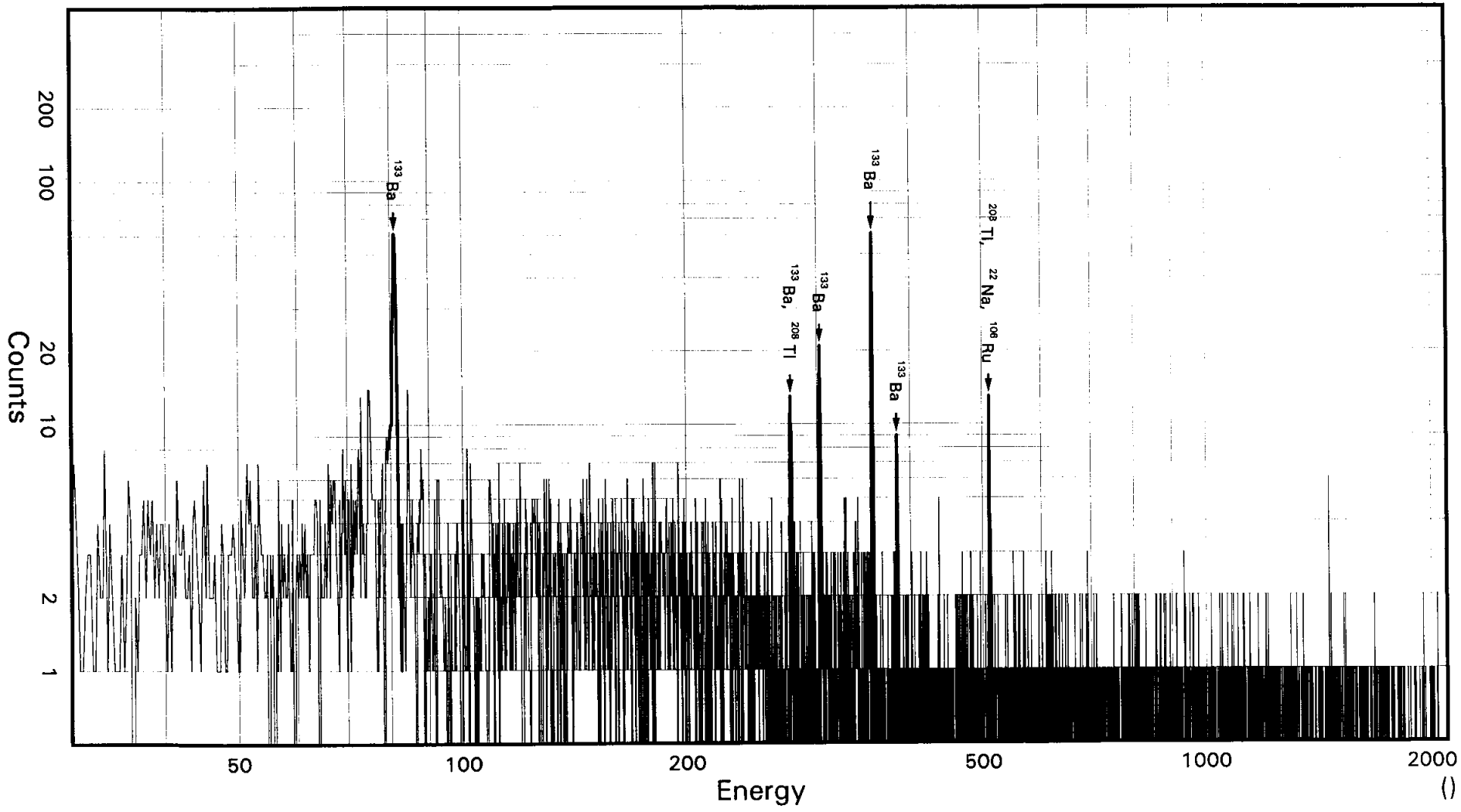
End of Report

STL Richland WA.

BA133

Sample ID: H9F7N1AC
Detector ID: GER4 1

Batch ID: 6200163



Acquisition Start: 28-JUL-2006 15:45:56.63
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -1.24429E-01
Slope: 2.48926E-01
Quadrature: 1.06042E-08

SAMPLE IDENTIFICATION: H9F7N1AC

CONFIGURATION ID: GER4:H9F7N1AC_280761545
TITLE : BA133
SAMPLE ID : H9F7N1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 15:45:56
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 19-JUL-2006 12:00:00.00
CALIB DATE: 28-JUL-2006 05:19:46.10
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: -.1244E+00 keV
ENERGY SLOPE: 2.4893E-01 keV/C
ENERGY Q COEFF: 1.0604E-08 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 4.8025E-01 keV
FWHM SLOPE: 3.8283E-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-JUL-2006 16:16:13

Configuration : $DISK1:[GER4.SAMPLE]H9F7N1AC_280761545.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 15:45:56
Sample ID : H9F7N1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.41 0.0%
Start energy : 19.79 End energy : 2039.79
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	76.30*	17	70	2.38	307.00	293	23	9.52E-03	137.0	
2	0	81.10	200	61	0.70	326.28	320	13	1.11E-01	10.9	
3	0	276.56	63	8	1.41	1111.45	1104	15	3.47E-02	15.8	
4	0	302.89	93	16	1.24	1217.21	1210	20	5.15E-02	14.6	
5	0	355.96	306	8	1.14	1430.41	1422	16	1.70E-01	6.1	
6	0	383.71	42	7	0.97	1541.86	1534	14	2.33E-02	20.4	
7	0	511.06*	37	0	0.70	2053.36	2043	21	2.08E-02	20.7	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 16:16:14

Configuration : $DISK1:[GER4.SAMPLE]H9F7N1AC_280761545.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 15:45:56
Sample ID : H9F7N1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.41 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	200	33.00	2.043E+00	9.871E+02	9.887E+02	12.24
	276.40	63	6.90	2.203E+00	1.371E+03	1.373E+03	16.78
	302.84	93	17.80	2.205E+00	7.878E+02	7.891E+02	15.62
	356.00	306	62.05*	2.207E+00	7.457E+02	7.470E+02	9.11
	383.85	42	8.70	2.207E+00	7.291E+02	7.303E+02	21.33

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H9F7N1AC Acquisition date : 28-JUL-2006 15:45:56

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	76.30	17	70	2.38	307.00	293	23	9.52E-03	****	2.03E+00	
0	511.06	37	0	0.70	2053.36	2043	21	2.08E-02	20.7	2.20E+00	T

Flags: "T" = Tentatively associated

Sample ID : H9F7N1AC Acquisition date : 28-JUL-2006 15:45:56

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
NA-22	2.60Y	0.01	511.00	179.68	3.178E+01	21.57	Abun.
			1274.54*	99.94	--- Not Found ---		
		% Abundances Found =		64.26			
RU-106DA	368.20D	0.02	511.85	20.60	2.801E+02	21.57	Abun.
			621.84*	9.80	--- Not Found ---		
		% Abundances Found =		67.76			
TL-208	1.41E+10Y	0.00	277.35	6.80	1.391E+03	16.78	Abun.
			510.84	21.60	2.626E+02	21.57	
			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-JUL-2006 16:16:15

Configuration : $DISK1:[GER4.SAMPLE]H9F7N1AC_280761545.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 : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 15:45:56
Sample ID : H9F7N1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.41 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.470E+02	6.806E+01	5.236E+01	2.454E+00	14.267

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-6.416E+01		6.528E+01	2.307E+02	8.424E+00	-0.278
NA-22	4.833E+00		2.807E+00	1.733E+01	6.682E-01	0.279
K-40	3.193E+01		7.739E+01	3.870E+02	1.511E+01	0.083
SC-46	5.785E+00		5.665E+00	2.598E+01	9.907E-01	0.223
CR-51	-9.688E+01		1.080E+02	3.769E+02	8.748E+00	-0.257
MN-54	-7.280E+00		5.548E+00	1.898E+01	7.089E-01	-0.384
CO-57	-1.272E+02		9.781E+01	3.349E+02	8.028E+00	-0.380
CO-58	2.879E+00		6.513E+00	2.699E+01	1.006E+00	0.107
FE-59	3.894E+00		1.049E+01	4.542E+01	1.729E+00	0.086
CO-60	-4.972E+00		2.888E+00	4.355E+00	1.686E-01	-1.142
ZN-65	-1.145E+01		1.089E+01	3.886E+01	1.481E+00	-0.295
SE-75	-7.634E-01		1.302E+01	5.035E+01	1.172E+00	-0.015
SR-85	1.296E+01		8.948E+00	3.482E+01	1.274E+00	0.372
Y-88	3.025E-02		2.487E+00	1.304E+01	5.221E-01	0.002
NB-94	1.849E-01		4.329E+00	1.865E+01	6.982E-01	0.010
NB-95	-3.133E+00		6.107E+00	2.325E+01	8.642E-01	-0.135
TC-95M	-7.897E+00		1.798E+01	6.362E+01	1.493E+00	-0.124
ZR-95	-4.417E+00		9.218E+00	3.583E+01	1.331E+00	-0.123
ZRNB-95	-4.945E+00		1.137E+01	4.371E+01	1.625E+00	-0.113
MO-99	1.248E+02		1.235E+02	4.852E+02	1.161E+01	0.257
RH-101	-1.258E+01		1.636E+01	5.633E+01	1.323E+00	-0.223
RH-102M	2.468E+00		5.865E+00	2.473E+01	9.029E-01	0.100
RU-103	9.991E+00		6.044E+00	3.004E+01	1.098E+00	0.333
RU-106DA	-1.100E+02		7.349E+01	2.443E+02	8.990E+00	-0.450
AG-108M	-4.225E+00		7.902E+00	2.928E+01	1.067E+00	-0.144
AG-110M	-6.215E+00		7.184E+00	2.637E+01	9.884E-01	-0.236
SN-113DA	3.905E+00		1.014E+01	4.105E+01	1.495E+00	0.095

Sample ID : H9F7N1AC Acquisition date : 28-JUL-2006 15:45:56

---- Non-Identified Nuclides ----

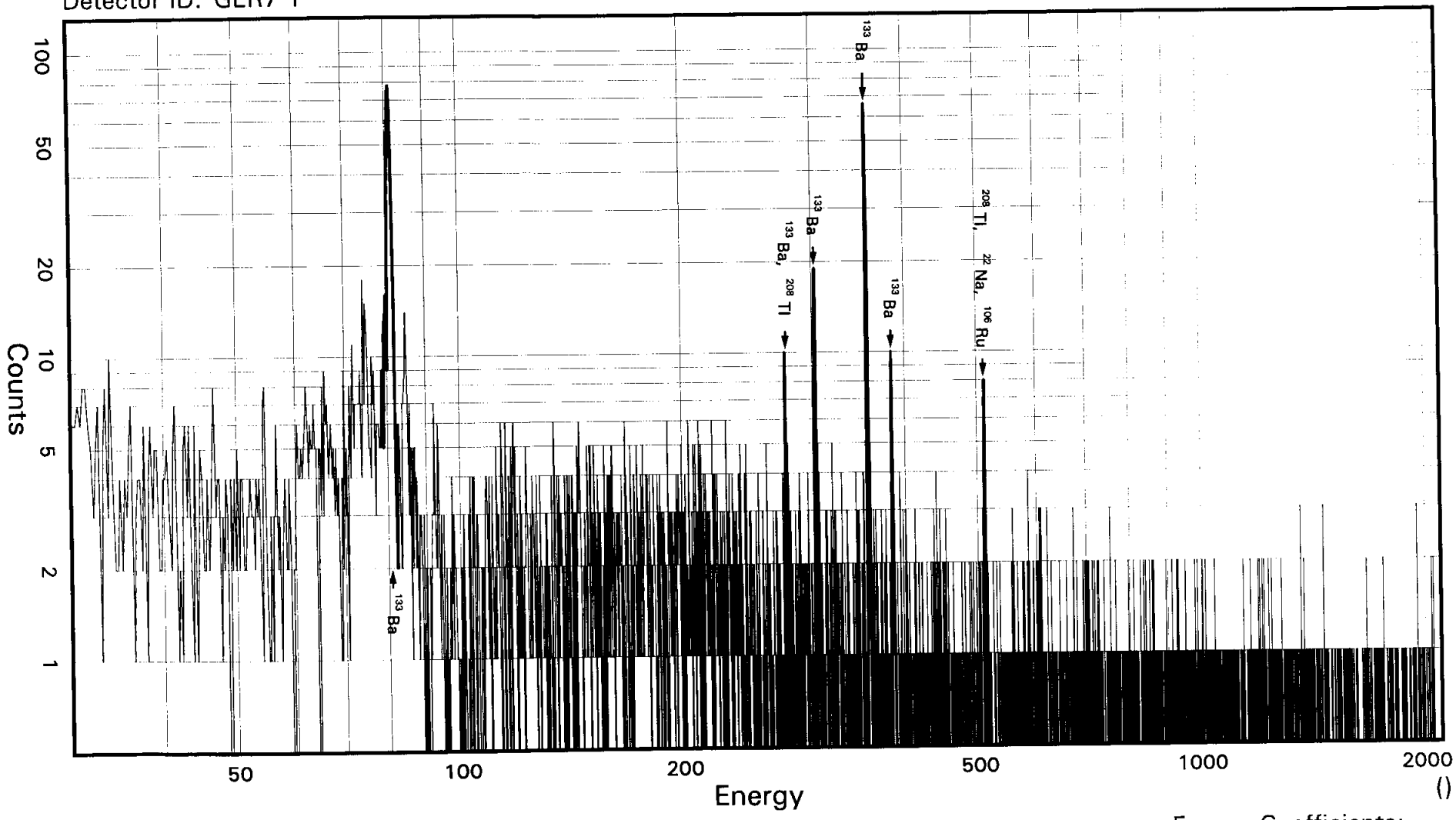
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	7.437E+00		6.816E+00	3.014E+01	1.108E+00	0.247
SB-125	7.350E-01		1.890E+01	7.714E+01	2.811E+00	0.010
SN-126DA	1.804E-01		5.684E+00	2.299E+01	8.484E-01	0.008
I-131	1.225E+01		1.629E+01	6.903E+01	2.513E+00	0.178
CS-134	3.323E+00		5.877E+00	2.571E+01	9.576E-01	0.129
CS-137DA	-2.382E+00		6.308E+00	2.457E+01	9.064E-01	-0.097
LA-138	-2.351E+00		2.356E+00	6.555E+00	2.556E-01	-0.359
CE-139	-4.010E-01		1.422E+01	5.235E+01	1.240E+00	-0.008
BA-140	-3.207E+01		3.382E+01	1.199E+02	4.389E+00	-0.268
BALA-140	5.629E+00		5.640E+00	4.139E+01	1.631E+00	0.136
LA-140	7.592E+01		7.607E+01	5.582E+02	2.200E+01	0.136
CE-141	3.960E+01		3.073E+01	1.204E+02	2.874E+00	0.329
CE-144	-4.222E+01		9.964E+01	3.638E+02	8.734E+00	-0.116
CEPR-144	-1.423E+02		2.029E+02	7.261E+02	1.743E+01	-0.196
PM-144	-2.359E+00		7.190E+00	2.728E+01	1.004E+00	-0.086
PM-146	1.527E+00		6.747E+00	2.945E+01	1.074E+00	0.052
EU-152	-4.051E+01		3.146E+01	1.048E+02	2.432E+00	-0.387
EU-154	1.354E+01		7.866E+00	4.856E+01	1.872E+00	0.279
EU-155	4.099E+01		4.605E+01	1.815E+02	4.437E+00	0.226
HF-181	6.964E+00		9.312E+00	3.887E+01	1.420E+00	0.179
BI-207	5.810E+00		6.367E+00	2.716E+01	9.963E-01	0.214
TL-208	-1.291E+01		7.709E+00	2.714E+01	9.965E-01	-0.476
BI-210M	-1.545E+01		1.504E+01	5.298E+01	1.233E+00	-0.292
BI-212	-3.367E+01		6.058E+01	2.387E+02	1.039E+01	-0.141
PB-212	-1.399E+01		2.468E+01	9.393E+01	2.192E+00	-0.149
BI-214	-1.192E+01		1.713E+01	6.658E+01	2.448E+00	-0.179
PB-214	7.111E+00		2.793E+01	9.105E+01	2.113E+00	0.078
RA-223	-4.237E+01		5.691E+01	2.056E+02	4.783E+00	-0.206
RA-224DA	-1.412E+01		2.490E+01	9.478E+01	2.212E+00	-0.149
RA-226DA	-1.165E+01		1.716E+01	6.675E+01	2.454E+00	-0.175
AC-227DA	-2.159E+01		9.851E+01	3.492E+02	8.152E+00	-0.062
AC-228	7.537E+00		1.983E+01	9.366E+01	3.517E+00	0.080
RA-228DA	7.560E+00		1.989E+01	9.394E+01	3.528E+00	0.080
TH-228DA	-3.627E+01		2.165E+01	7.624E+01	2.799E+00	-0.476
TH-232DA	1.607E+02		7.945E+01	3.297E+02	7.652E+00	0.487
TH-234DA	-1.603E+03		6.797E+02	1.438E+03	5.434E+01	-1.115
U-234DA	6.907E+01		4.735E+01	1.949E+02	4.528E+00	0.354
U-235HP	4.801E+01		1.148E+02	4.324E+02	1.033E+01	0.111
NP-237DA	-1.647E+01		2.295E+01	8.171E+01	1.897E+00	-0.202
U-238DA	7.111E+00		2.793E+01	9.105E+01	2.113E+00	0.078
U-238DHP	6.158E+00		3.343E+02	1.267E+03	3.266E+01	0.005
AM-241HP	-2.590E+01		3.168E+01	1.123E+02	2.918E+00	-0.231

STL Richland WA.

BA133

Sample ID: H9F731AC
Detector ID: GER7 1

Batch ID: 6200163



Acquisition Start: 28-JUL-2006 15:46:08.04
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 5.05100E-01
Slope: 2.49316E-01
Quadrature: 1.19546E-07

SAMPLE IDENTIFICATION: H9F731AC

CONFIGURATION ID: GER7:H9F731AC_280761546
TITLE : BA133
SAMPLE ID : H9F731AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 15:46:08
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 19-JUL-2006 12:00:00.00
CALIB DATE: 28-JUL-2006 05:20:22.55
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: 5.0510E-01 keV
ENERGY SLOPE: 2.4932E-01 keV/C
ENERGY Q COEFF: 1.1955E-07 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 4.3365E-01 keV
FWHM SLOPE: 4.2398E-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-JUL-2006 16:16:28

```
Configuration     : $DISK1:[GER7.SAMPLE]H9F731AC_280761546.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 15:46:08
Sample ID         : H9F731AC             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      :    20.45             End energy       :  2050.93
Sensitivity       :     5.00             Gaussian         :    10.00
Critical level    : No
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	80.84	347	73	1.04	322.19	313	16	1.93E-01	7.7	
2	0	276.81	26	21	0.36	1107.65	1096	16	1.46E-02	42.9	
3	0	302.92	118	5	1.27	1212.26	1200	23	6.54E-02	10.6	
4	0	355.95	326	5	1.01	1424.72	1414	20	1.81E-01	5.8	
5	0	383.79	42	3	0.71	1536.23	1530	15	2.33E-02	18.3	
6	0	511.15*	0	3	1.34	2046.17	2039	14	2.49E-04	*****	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 16:16:29

Configuration : $DISK1:[GER7.SAMPLE]H9F731AC_280761546.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 15:46:08
Sample ID : H9F731AC 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	347	33.00	1.922E+00	1.824E+03	1.827E+03	9.40
	276.40	26	6.90	2.076E+00	6.121E+02	6.131E+02	43.19
	302.84	118	17.80	2.078E+00	1.060E+03	1.062E+03	11.90
	356.00	326	62.05*	2.080E+00	8.428E+02	8.442E+02	7.90
	383.85	42	8.70	2.080E+00	7.735E+02	7.747E+02	19.08

Flag: "*" = Keyline

Sample ID : H9F731AC Acquisition date : 28-JUL-2006 15:46:08

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	511.15	0	3	1.34	2046.17	2039	14	2.49E-04	****	2.07E+00	T

Flags: "T" = Tentatively associated

Sample ID : H9F731AC Acquisition date : 28-JUL-2006 15:46:08

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
NA-22	2.60Y	0.01	511.00	179.68	4.044E-01	1702.22	Abun.
			1274.54*	99.94	--- Not Found ---		
		% Abundances Found =		64.26			
RU-106DA	368.20D	0.02	511.85	20.60	3.565E+00	1702.22	Abun.
			621.84*	9.80	--- Not Found ---		
		% Abundances Found =		67.76			
TL-208	1.41E+10Y	0.00	277.35	6.80	6.211E+02	43.19	Abun.
			510.84	21.60	3.342E+00	1702.22	
			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-JUL-2006 16:16:31

Configuration : $DISK1:[GER7.SAMPLE]H9F731AC_280761546.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 : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 15:46:08
Sample ID : H9F731AC 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%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	8.442E+02	6.669E+01	4.202E+01	8.404E-01	20.090

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-3.656E+01		4.991E+01	1.871E+02	3.754E+00	-0.195
NA-22	5.214E+00		4.506E+00	2.242E+01	4.753E-01	0.233
K-40	-2.852E+01		5.986E+01	3.034E+02	6.519E+00	-0.094
SC-46	3.576E+00		4.463E+00	2.175E+01	4.561E-01	0.164
CR-51	3.191E+01		1.279E+02	4.820E+02	9.643E+00	0.066
MN-54	9.039E+00		5.681E+00	2.713E+01	5.570E-01	0.333
CO-57	1.855E+01		1.065E+02	4.039E+02	8.349E+00	0.046
CO-58	3.706E+00		5.688E+00	2.546E+01	5.218E-01	0.146
FE-59	-3.383E-01		9.664E+00	4.078E+01	8.537E-01	-0.008
CO-60	6.845E+00		3.443E+00	2.054E+01	4.373E-01	0.333
ZN-65	-3.674E+00		1.232E+01	4.786E+01	1.003E+00	-0.077
SE-75	-1.505E+01		1.621E+01	5.697E+01	1.143E+00	-0.264
SR-85	1.520E+01		7.877E+00	3.392E+01	6.817E-01	0.448
Y-88	1.885E+00		1.888E+00	1.386E+01	3.053E-01	0.136
NB-94	1.581E+00		4.390E+00	1.979E+01	4.074E-01	0.080
NB-95	6.525E-01		5.537E+00	2.404E+01	4.910E-01	0.027
TC-95M	-1.370E+01		1.887E+01	6.524E+01	1.319E+00	-0.210
ZR-95	-8.820E+00		1.152E+01	4.278E+01	8.733E-01	-0.206
ZRNB-95	1.637E+00		1.027E+01	4.476E+01	9.142E-01	0.037
MO-99	-7.242E+01		1.184E+02	4.268E+02	8.806E+00	-0.170
RH-101	1.441E+00		1.722E+01	6.253E+01	1.266E+00	0.023
RH-102M	-5.285E+00		4.580E+00	1.579E+01	3.168E-01	-0.335
RU-103	1.191E+01		5.937E+00	3.121E+01	6.266E-01	0.382
RU-106DA	1.346E+02		5.367E+01	2.801E+02	5.665E+00	0.481
AG-108M	-1.756E+01		8.736E+00	2.679E+01	5.365E-01	-0.655
AG-110M	-4.893E+00		6.683E+00	2.509E+01	5.169E-01	-0.195
SN-113DA	1.985E+01		1.193E+01	5.295E+01	1.059E+00	0.375

---- Non-Identified Nuclides ----

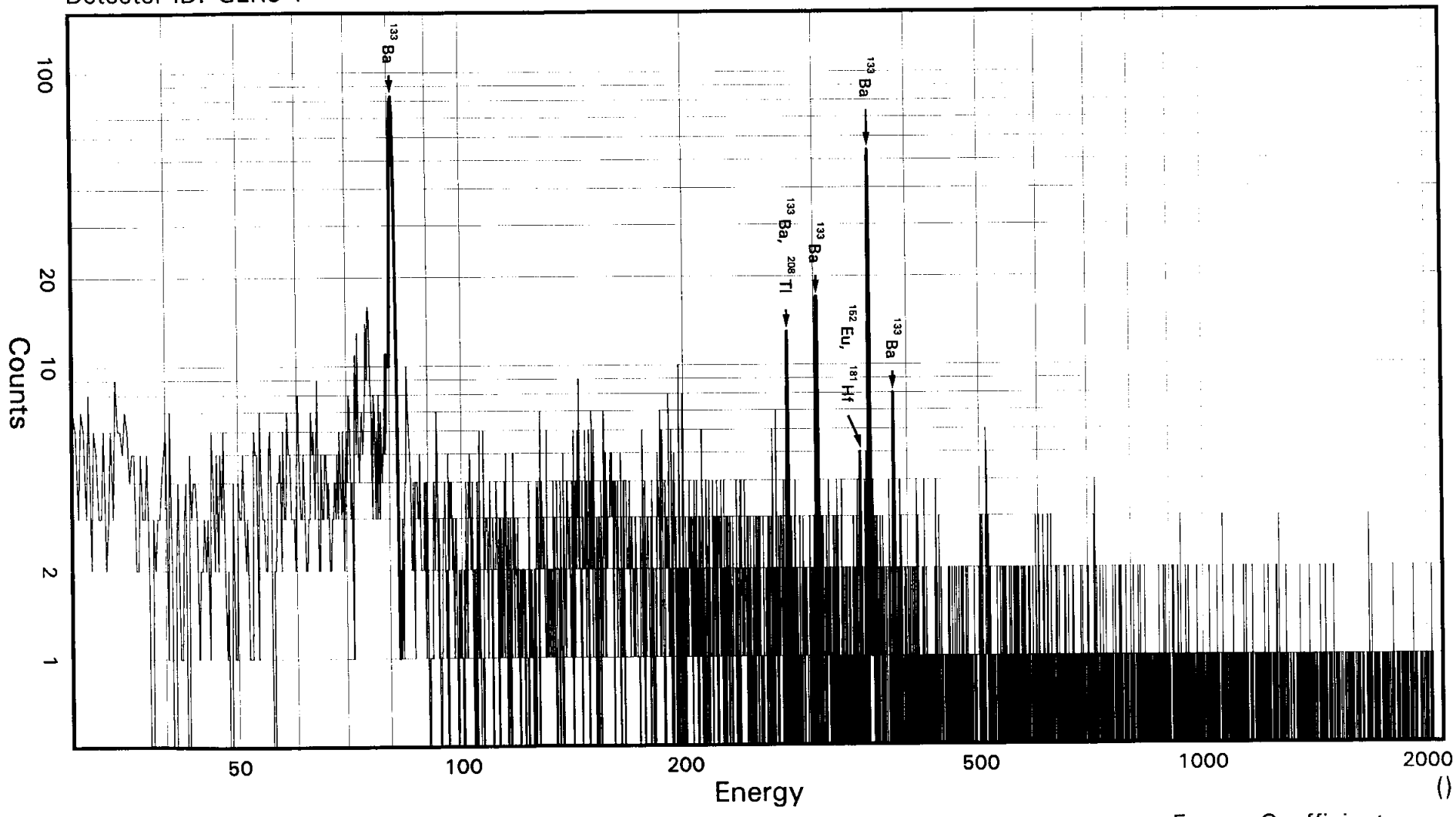
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	5.220E-01		8.189E+00	3.218E+01	6.500E-01	0.016
SB-125	-5.110E+00		1.638E+01	6.606E+01	1.323E+00	-0.077
SN-126DA	-9.528E-01		4.504E+00	1.854E+01	3.760E-01	-0.051
I-131	1.323E-01		2.241E+01	8.426E+01	1.685E+00	0.002
CS-134	6.903E+00		5.946E+00	2.820E+01	5.773E-01	0.245
CS-137DA	1.235E-01		5.501E+00	2.323E+01	4.712E-01	0.005
LA-138	-1.180E-01		5.211E+00	2.390E+01	5.126E-01	-0.005
CE-139	-2.670E+01		1.452E+01	4.660E+01	9.518E-01	-0.573
BA-140	-6.818E+00		3.103E+01	1.283E+02	2.582E+00	-0.053
BALA-140	-1.168E+01		1.184E+01	4.397E+01	9.534E-01	-0.266
LA-140	-1.576E+02		1.597E+02	5.931E+02	1.286E+01	-0.266
CE-141	4.128E+01		3.007E+01	1.198E+02	2.465E+00	0.345
CE-144	4.479E+01		1.019E+02	3.944E+02	8.165E+00	0.114
CEPR-144	8.958E+01		2.038E+02	7.888E+02	1.633E+01	0.114
PM-144	4.557E-02		5.246E+00	2.179E+01	4.406E-01	0.002
PM-146	8.871E+00		9.159E+00	4.045E+01	8.107E-01	0.219
EU-152	8.654E+01		3.429E+01	1.504E+02	3.009E+00	0.575
EU-154	1.461E+01		1.262E+01	6.281E+01	1.332E+00	0.233
EU-155	-1.564E+01		4.956E+01	1.788E+02	3.771E+00	-0.087
HF-181	1.679E-02		6.507E+00	2.736E+01	5.491E-01	0.001
BI-207	4.238E+00		5.748E+00	2.538E+01	5.116E-01	0.167
TL-208	6.801E+00		8.962E+00	3.859E+01	7.785E-01	0.176
BI-210M	2.360E+01		1.714E+01	7.207E+01	1.446E+00	0.328
BI-212	4.152E+01		9.502E+01	3.932E+02	1.202E+01	0.106
PB-212	9.186E+00		2.315E+01	9.440E+01	1.899E+00	0.097
BI-214	8.382E+00		1.641E+01	7.126E+01	1.440E+00	0.118
PB-214	1.331E+01		2.376E+01	9.039E+01	1.808E+00	0.147
RA-223	-2.385E+01		6.324E+01	2.341E+02	4.695E+00	-0.102
RA-224DA	9.270E+00		2.337E+01	9.526E+01	1.916E+00	0.097
RA-226DA	8.523E+00		1.643E+01	7.135E+01	1.442E+00	0.119
AC-227DA	-6.167E+00		9.308E+01	3.483E+02	7.009E+00	-0.018
AC-228	1.714E+01		1.589E+01	7.780E+01	1.606E+00	0.220
RA-228DA	1.719E+01		1.594E+01	7.803E+01	1.611E+00	0.220
TH-228DA	1.910E+01		2.517E+01	1.084E+02	2.187E+00	0.176
TH-232DA	3.063E+01		5.697E+01	2.316E+02	4.633E+00	0.132
TH-234DA	2.785E+02		6.695E+02	3.074E+03	6.390E+01	0.091
U-234DA	1.672E+01		4.724E+01	1.827E+02	3.659E+00	0.092
U-235HP	6.447E+01		1.152E+02	4.401E+02	9.067E+00	0.146
NP-237DA	8.087E+00		2.460E+01	9.499E+01	1.901E+00	0.085
U-238DA	1.331E+01		2.376E+01	9.039E+01	1.808E+00	0.147
U-238DHP	-2.164E+02		4.438E+02	1.608E+03	3.579E+01	-0.135
AM-241HP	-3.949E+01		3.786E+01	1.322E+02	2.966E+00	-0.299

STL Richland WA.

BA133

Sample ID: H9F751AC
Detector ID: GER6 1

Batch ID: 6200163



Acquisition Start: 28-JUL-2006 15:46:20.25
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -8.22105E-02
Slope: 2.49341E-01
Quadrature: 1.47158E-08

SAMPLE IDENTIFICATION: H9F751AC

CONFIGURATION ID: GER6:H9F751AC_280761546
TITLE : BA133
SAMPLE ID : H9F751AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 15:46:20
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 19-JUL-2006 12:00:00.00
CALIB DATE: 28-JUL-2006 05:20:03.87
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: -.8221E-01 keV
ENERGY SLOPE: 2.4934E-01 keV/C
ENERGY Q COEFF: 1.4716E-08 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 1.7775E-01 keV
FWHM SLOPE: 6.3535E-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-JUL-2006 16:16:44

Configuration : $DISK1:[GER6.SAMPLE]H9F751AC_280761546.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 15:46:20
Sample ID : H9F751AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.25 0.0%
Start energy : 19.87 End energy : 2043.51
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	373	53	1.03	324.63	316	16	2.07E-01	6.7	
2	0	276.39	53	7	0.86	1108.74	1101	14	2.93E-02	17.4	
3	0	302.82	124	6	1.62	1214.73	1203	22	6.90E-02	10.2	
4	0	345.30	17	0	0.65	1385.06	1377	15	9.44E-03	24.3	
5	0	356.09	288	29	1.31	1428.32	1418	24	1.60E-01	7.7	
6	0	383.40	33	4	0.70	1537.86	1529	16	1.86E-02	21.8	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 16:16:44

Configuration : $DISK1:[GER6.SAMPLE]H9F751AC_280761546.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 15:46:20
Sample ID : H9F751AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.25 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	373	33.00	2.166E+00	1.740E+03	1.743E+03	8.67
	276.40	53	6.90	2.334E+00	1.093E+03	1.095E+03	18.23
	302.84	124	17.80	2.337E+00	9.960E+02	9.977E+02	11.52
	356.00	288	62.05*	2.339E+00	6.612E+02	6.623E+02	9.43
	383.85	33	8.70	2.338E+00	5.480E+02	5.489E+02	22.42

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H9F751AC
Acquisition date : 28-JUL-2006 15:46:20

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	345.30	17	0	0.65	1385.06	1377	15	9.44E-03	24.3	2.34E+00	T

Flags: "T" = Tentatively associated

Sample ID : H9F751AC
Acquisition date : 28-JUL-2006 15:46:20

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
EU-152	13.60Y	0.00	121.78	28.40	--- Not Found ---		Abun.
			244.67	7.49	--- Not Found ---		
			344.27*	26.50	9.155E+01	24.84	
			778.89	12.74	--- Not Found ---		
			964.01	14.40	--- Not Found ---		
			1085.78	10.00	--- Not Found ---		
			1112.02	13.30	--- Not Found ---		
			1407.95	20.70	--- Not Found ---		
		% Abundances Found =		19.85			
HF-181	42.39D	0.22	133.02	41.70	--- Not Found ---		Abun.
			345.85	17.20	1.637E+02	24.84	
			482.03*	82.80	--- Not Found ---		
		% Abundances Found =		12.14			
TL-208	1.41E+10Y	0.00	277.35	6.80	1.109E+03	18.23	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-JUL-2006 16:16:46

Configuration : $DISK1:[GER6.SAMPLE]H9F751AC_280761546.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 : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 15:46:20
Sample ID : H9F751AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.25 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	6.623E+02	6.247E+01	6.278E+01	1.256E+00	10.549

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-3.888E+01		7.093E+01	2.573E+02	5.162E+00	-0.151
NA-22	-1.951E+00		3.872E+00	1.559E+01	3.299E-01	-0.125
K-40	-9.982E+01		6.068E+01	2.966E+02	6.358E+00	-0.337
SC-46	6.535E-01		6.066E+00	2.463E+01	5.156E-01	0.027
CR-51	9.353E+01		1.105E+02	4.376E+02	8.754E+00	0.214
MN-54	8.608E+00		5.158E+00	2.461E+01	5.049E-01	0.350
CO-57	-1.834E+01		9.131E+01	3.402E+02	7.025E+00	-0.054
CO-58	-4.773E+00		5.319E+00	1.928E+01	3.947E-01	-0.248
FE-59	1.227E+01		8.586E+00	4.285E+01	8.957E-01	0.286
CO-60	1.517E+00		2.634E+00	1.410E+01	2.996E-01	0.108
ZN-65	6.175E+00		9.500E+00	4.251E+01	8.897E-01	0.145
SE-75	3.452E+01		1.672E+01	6.914E+01	1.387E+00	0.499
SR-85	-1.754E+01		1.237E+01	4.129E+01	8.296E-01	-0.425
Y-88	-8.787E-02		3.388E+00	1.551E+01	3.407E-01	-0.006
NB-94	3.641E+00		5.273E+00	2.279E+01	4.686E-01	0.160
NB-95	5.550E+00		6.694E+00	2.909E+01	5.939E-01	0.191
TC-95M	4.506E+00		1.686E+01	6.393E+01	1.292E+00	0.070
ZR-95	-2.399E+00		8.544E+00	3.485E+01	7.109E-01	-0.069
ZRNB-95	1.019E+01		1.232E+01	5.356E+01	1.093E+00	0.190
MO-99	-8.098E+01		1.186E+02	4.227E+02	8.712E+00	-0.192
RH-101	3.849E+01		1.458E+01	6.040E+01	1.223E+00	0.637
RH-102M	-2.187E+00		6.755E+00	2.521E+01	5.056E-01	-0.087
RU-103	-1.238E+01		7.131E+00	2.268E+01	4.553E-01	-0.546
RU-106DA	-9.712E+01		6.710E+01	2.244E+02	4.538E+00	-0.433
AG-108M	-9.615E+00		8.130E+00	2.764E+01	5.535E-01	-0.348
AG-110M	-6.747E+00		7.044E+00	2.488E+01	5.121E-01	-0.271
SN-113DA	1.971E+01		1.298E+01	5.455E+01	1.091E+00	0.361

Sample ID : H9F751AC Acquisition date : 28-JUL-2006 15:46:20

---- Non-Identified Nuclides ----

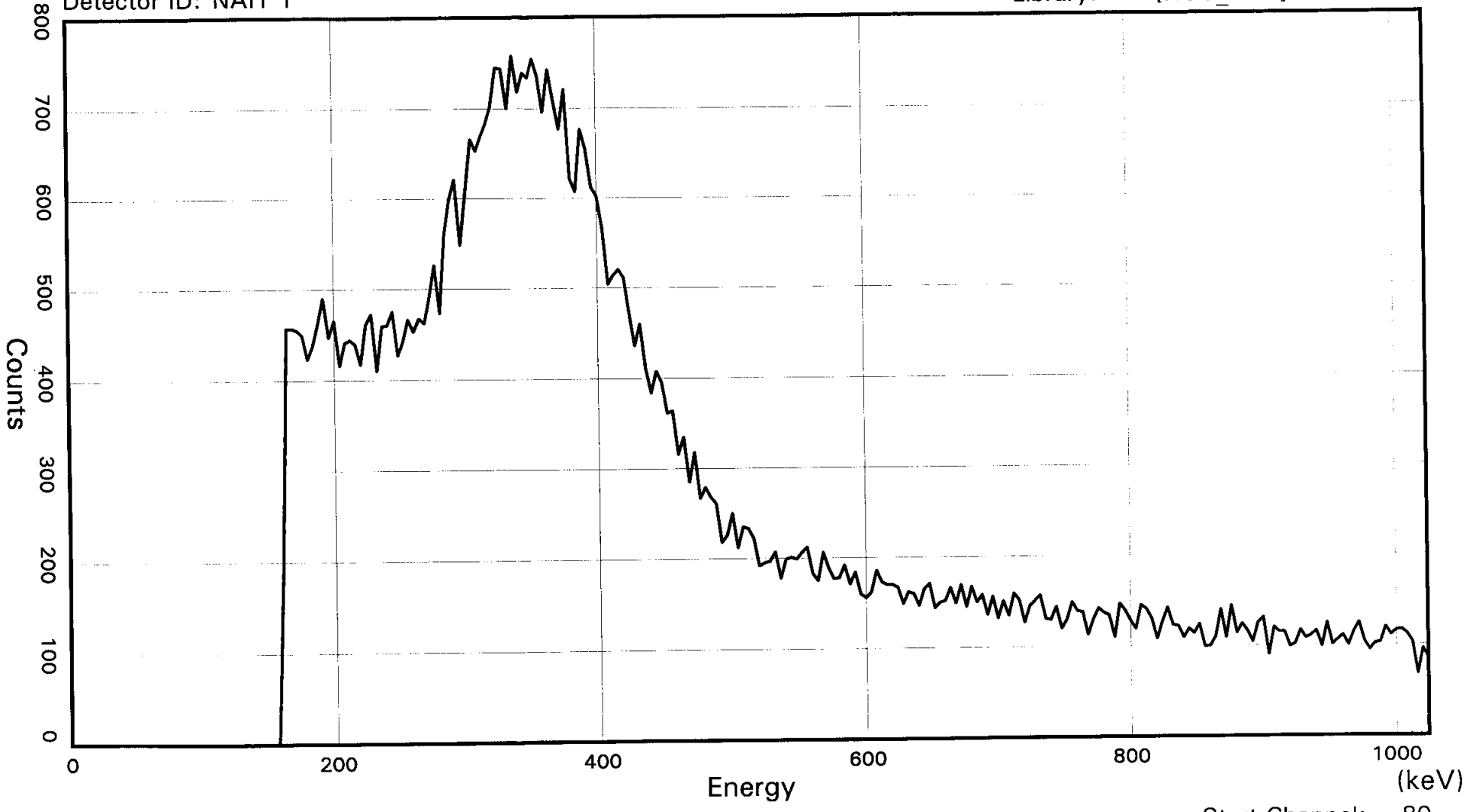
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	3.136E+00		6.277E+00	2.616E+01	5.283E-01	0.120
SB-125	-9.911E+00		1.953E+01	7.325E+01	1.467E+00	-0.135
SN-126DA	-5.464E+00		5.798E+00	2.059E+01	4.175E-01	-0.265
I-131	-3.545E+01		2.390E+01	7.740E+01	1.548E+00	-0.458
CS-134	-1.658E+00		3.822E+00	1.597E+01	3.267E-01	-0.104
CS-137DA	8.402E+00		6.102E+00	2.817E+01	5.709E-01	0.298
LA-138	6.924E+00		5.099E+00	2.745E+01	5.874E-01	0.252
CE-139	1.870E+01		1.469E+01	5.716E+01	1.167E+00	0.327
BA-140	6.673E-01		4.200E+01	1.641E+02	3.301E+00	0.004
BALA-140	-1.095E+01		1.080E+01	3.902E+01	8.440E-01	-0.281
LA-140	-1.477E+02		1.457E+02	5.263E+02	1.138E+01	-0.281
CE-141	-2.210E+01		3.032E+01	1.066E+02	2.192E+00	-0.207
CE-144	4.363E+01		8.565E+01	3.249E+02	6.719E+00	0.134
CEPR-144	8.390E+01		1.710E+02	6.480E+02	1.340E+01	0.129
PM-144	6.474E+00		5.869E+00	2.590E+01	5.236E-01	0.250
PM-146	1.555E+01		9.752E+00	4.314E+01	8.645E-01	0.360
EU-152	9.155E+01	+	2.275E+01	1.222E+02	2.445E+00	0.749
EU-154	-2.189E+00		9.816E+00	4.236E+01	8.965E-01	-0.052
EU-155	-6.053E+01		4.813E+01	1.618E+02	3.407E+00	-0.374
HF-181	-6.368E+00		8.090E+00	2.881E+01	5.781E-01	-0.221
BI-207	1.858E+00		6.192E+00	2.496E+01	5.030E-01	0.074
TL-208	2.952E+00		7.677E+00	3.211E+01	6.477E-01	0.092
BI-210M	-1.194E+01		2.090E+01	7.285E+01	1.461E+00	-0.164
BI-212	-4.539E+00		7.770E+01	3.107E+02	9.497E+00	-0.015
PB-212	-4.766E+00		2.278E+01	8.596E+01	1.729E+00	-0.055
BI-214	1.027E+01		1.425E+01	6.317E+01	1.276E+00	0.163
PB-214	5.283E+01		2.726E+01	1.023E+02	2.045E+00	0.517
RA-223	-3.548E+01		7.929E+01	2.778E+02	5.571E+00	-0.128
RA-224DA	-4.809E+00		2.299E+01	8.674E+01	1.745E+00	-0.055
RA-226DA	1.014E+01		1.424E+01	6.309E+01	1.275E+00	0.161
AC-227DA	-1.531E+02		8.164E+01	2.595E+02	5.221E+00	-0.590
AC-228	3.730E+01		2.091E+01	1.033E+02	2.131E+00	0.361
RA-228DA	3.741E+01		2.097E+01	1.036E+02	2.137E+00	0.361
TH-228DA	8.292E+00		2.156E+01	9.020E+01	1.819E+00	0.092
TH-232DA	-1.140E+02		6.819E+01	2.190E+02	4.380E+00	-0.521
TH-234DA	4.438E+02		7.237E+02	3.207E+03	6.658E+01	0.138
U-234DA	-1.793E+01		4.151E+01	1.529E+02	3.062E+00	-0.117
U-235HP	1.949E+02		1.133E+02	4.502E+02	9.266E+00	0.433
NP-237DA	4.411E+01		2.333E+01	9.879E+01	1.977E+00	0.446
U-238DA	5.283E+01		2.726E+01	1.023E+02	2.045E+00	0.517
U-238DHP	5.193E+02		3.467E+02	1.351E+03	2.997E+01	0.385
AM-241HP	1.767E+00		3.629E+01	1.315E+02	2.941E+00	0.013

STL Richland WA.

BA133

Sample ID: H9F781AC
Detector ID: NAI1 1

Library: [NUC_LIBR]BA133.NLB



Acquisition Start: 28-JUL-2006 16:34:54.61
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: H9F781AC

CONFIGURATION ID: NAI1:H9F781AC_280761634
TITLE : BA133
SAMPLE ID : H9F781AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 16:34:54
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 19-JUL-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-JUL-2006 17:04:59

Configuration	: RDND06$DKA100:[NAI1.SAMPLE]H9F781AC_280761634.CNF;1		
Analyses by	: NAI V3.0		
Sample title	: BA133		
Sample date	: 19-JUL-2006 12:00:00	Acquisition date	: 28-JUL-2006 16:34:54
Sample ID	: H9F781AC	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:	5.3	6.6	6.5	3.4	5.5	2.1	3.2	2.2
88:	3.0	1.3	-0.7	1.1	0.5	-2.3	1.3	-2.3
96:	-3.2	-1.3	-0.7	-2.5	-3.0	-2.1	-4.9	-5.3
104:	-4.7	-3.8	-4.5	-4.8	-3.1	-4.9	-6.9	-5.0
112:	-3.7	-3.9						

List of Suspicious Channels

81	82	83	84	85	86	87

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	1.71E+01	0.00E+00	1.02E+00
2	9.33E+00	0.00E+00	1.04E+00
3	3.13E+00	0.00E+00	1.07E+00
4	8.62E-01	0.00E+00	1.08E+00

Sample ID : H9F781AC
Acquisition date : 28-JUL-2006 16:34:54

Brief Report

Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	719.	8.57

Total Activity :	719.	

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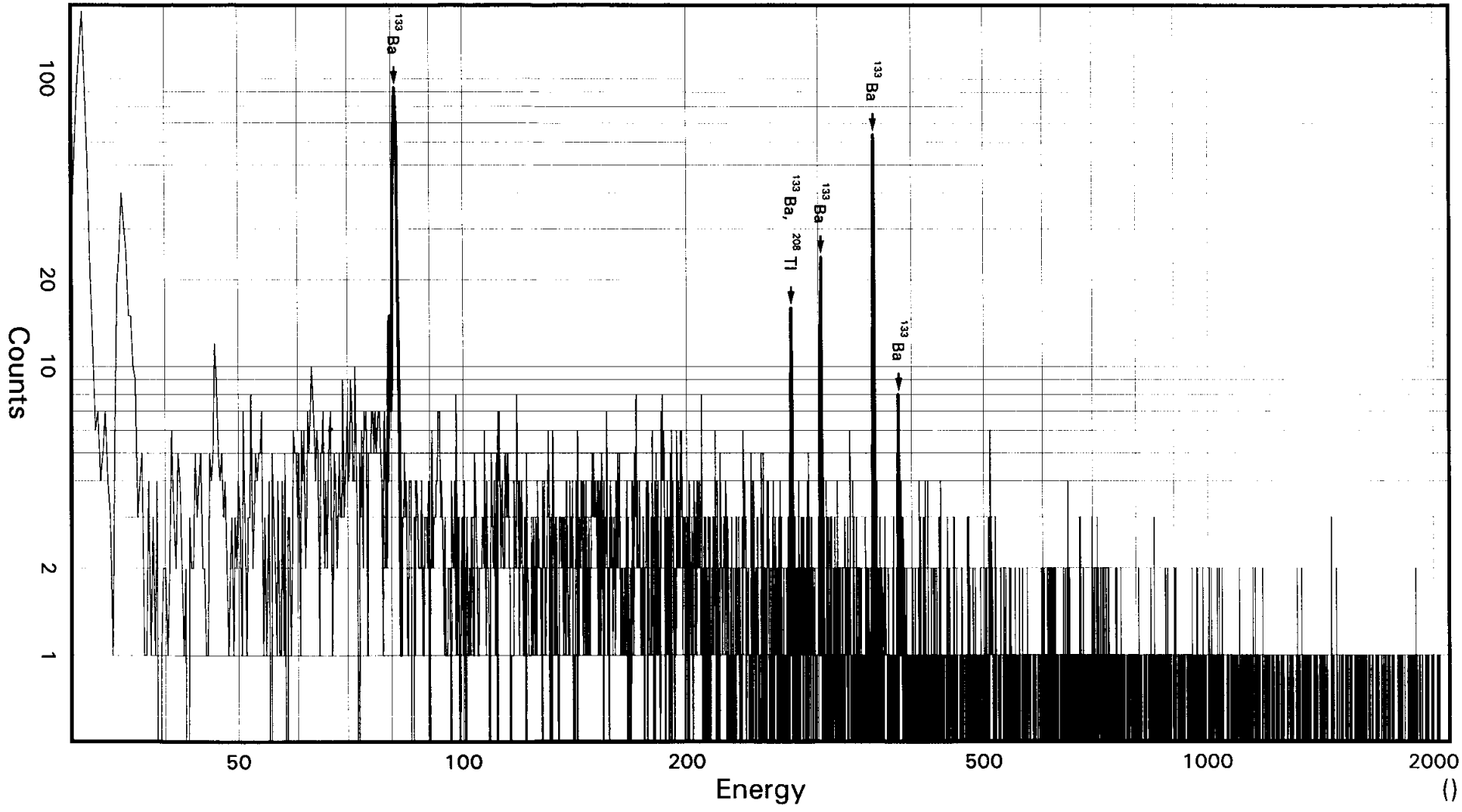
BA133

Sample ID: H9F8F1AC

Detector ID: GER5 1

Batch ID: 6200163



Acquisition Start: 28-JUL-2006 16:35:13.35

Preset Live Time: 0 00:30:00.00

Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:

Offset: -3.82444E-01

Slope: 2.49405E-01

Quadrature: -2.02310E-09

SAMPLE IDENTIFICATION: H9F8F1AC

CONFIGURATION ID: GER5:H9F8F1AC_280761635
TITLE : BA133
SAMPLE ID : H9F8F1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 16:35:13
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 19-JUL-2006 12:00:00.00
CALIB DATE: 28-JUL-2006 05:19:50.00
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: -.3824E+00 keV
ENERGY SLOPE: 2.4940E-01 keV/C
ENERGY Q COEFF: -.2023E-08 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 7.1159E-01 keV
FWHM SLOPE: 2.9464E-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-JUL-2006 17:05:30

Configuration : RDND06$DKA100:[GER5.SAMPLE]H9F8F1AC_280761635.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 16:35:13
Sample ID : H9F8F1AC 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 : 19.57 End energy : 2042.61
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	3	30.95	597	92	1.00	125.65	117	43	3.32E-01	5.1	1.71E+00
2	3	35.33	154	29	1.18	143.18	117	43	8.56E-02	15.0	
3	0	80.97	381	54	1.00	326.19	317	16	2.12E-01	6.7	
4	0	276.17	62	7	0.82	1108.85	1102	14	3.42E-02	15.6	
5	0	302.81	89	22	0.98	1215.69	1206	17	4.96E-02	15.9	
6	0	355.98	291	6	1.03	1428.88	1420	20	1.62E-01	6.2	
7	0	384.80	18	31	0.74	1544.42	1534	18	9.93E-03	77.3	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 28-JUL-2006 17:05:30

Configuration : RDND06$DKA100:[GER5.SAMPLE]H9F8F1AC_280761635.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4
Sample title : BA133
Sample date : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 16:35:13
Sample ID : H9F8F1AC 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	381	33.00	1.924E+00	2.000E+03	2.004E+03	8.60
	276.40	62	6.90	2.077E+00	1.431E+03	1.433E+03	16.54
	302.84	89	17.80	2.080E+00	8.040E+02	8.053E+02	16.78
	356.00	291	62.05*	2.082E+00	7.522E+02	7.535E+02	8.18
	383.85	18	8.70	2.081E+00	3.291E+02	3.297E+02	77.44

Flag: "*" = Keyline

Sample ID : H9F8F1AC Acquisition date : 28-JUL-2006 16:35:13

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	30.95	597	92	1.00	125.65	117	43	3.32E-01	5.1	1.68E+00	
3	35.33	154	29	1.18	143.18	117	43	8.56E-02	15.0	1.72E+00	

Flags: "T" = Tentatively associated

Sample ID : H9F8F1AC Acquisition date : 28-JUL-2006 16:35:13

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	1.452E+03	16.54	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-JUL-2006 17:05:32

Configuration	: RDND06$DKA100:[GER5.SAMPLE]H9F8F1AC_280761635.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	: 19-JUL-2006 12:00:00	Acquisition date	: 28-JUL-2006 16:35:13
Sample ID	: H9F8F1AC	Sample quantity	: 1.0000 SAMPL
Sample type	:	Sample geometry	: BA133T15
Elapsed live time	: 0 00:30:00.00	Elapsed real time	: 0 00:30:00.23 0.0%
Peak Width (FWHM)	: 3.00	Confidence level	: 5.00 %
Energy tolerance	: 1.50	Half life ratio	: 8.00
Errors propagated	: Yes	Systematic Error	: 5.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 80.00	WTM error limit	: 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.535E+02	6.163E+01	5.537E+01	1.107E+00	13.609

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	1.622E+02		9.209E+01	3.944E+02	7.913E+00	0.411
NA-22	6.126E-02		2.376E+00	1.257E+01	2.666E-01	0.005
NA-24	2.763E-02		4.765E-02	Half-Life too short		
K-40	1.693E+02		7.364E+01	3.788E+02	8.139E+00	0.447
SC-46	-2.003E+00		5.500E+00	2.174E+01	4.559E-01	-0.092
CR-51	4.405E+01		1.137E+02	4.368E+02	8.740E+00	0.101
MN-54	9.191E-01		6.133E+00	2.490E+01	5.112E-01	0.037
CO-57	1.830E+02		1.190E+02	4.677E+02	9.669E+00	0.391
CO-58	-2.002E+00		4.129E+00	1.676E+01	3.435E-01	-0.119
FE-59	1.268E+01		8.236E+00	4.382E+01	9.174E-01	0.289
CO-60	4.608E+00		2.819E+00	1.768E+01	3.764E-01	0.261
ZN-65	-2.019E-01		8.396E+00	3.651E+01	7.652E-01	-0.006
SE-75	-1.578E+01		1.884E+01	6.506E+01	1.305E+00	-0.242
SR-85	-3.602E+01		1.274E+01	3.605E+01	7.244E-01	-0.999
Y-88	-1.864E+00		1.867E+00	5.093E+00	1.122E-01	-0.366
NB-94	3.232E-01		4.548E+00	1.978E+01	4.072E-01	0.016
NB-95	4.491E+00		6.383E+00	2.837E+01	5.795E-01	0.158
TC-95M	-3.254E+00		2.074E+01	7.530E+01	1.523E+00	-0.043
ZR-95	-1.013E+01		9.922E+00	3.512E+01	7.169E-01	-0.288
ZRNB-95	8.270E+00		1.175E+01	5.223E+01	1.067E+00	0.158
MO-99	-3.105E+01		1.404E+02	4.974E+02	1.026E+01	-0.062
RH-101	2.205E+01		1.779E+01	6.916E+01	1.400E+00	0.319
RH-102M	2.087E+00		8.301E+00	3.247E+01	6.514E-01	0.064
RU-103	-2.281E+00		7.189E+00	2.805E+01	5.632E-01	-0.081
RU-106DA	-5.382E+01		7.450E+01	2.720E+02	5.501E+00	-0.198
AG-108M	-5.255E+00		9.255E+00	3.356E+01	6.721E-01	-0.157
AG-110M	6.868E+00		6.825E+00	3.243E+01	6.682E-01	0.212

Sample ID : H9F8F1AC Acquisition date : 28-JUL-2006 16:35:13

---- Non-Identified Nuclides ----

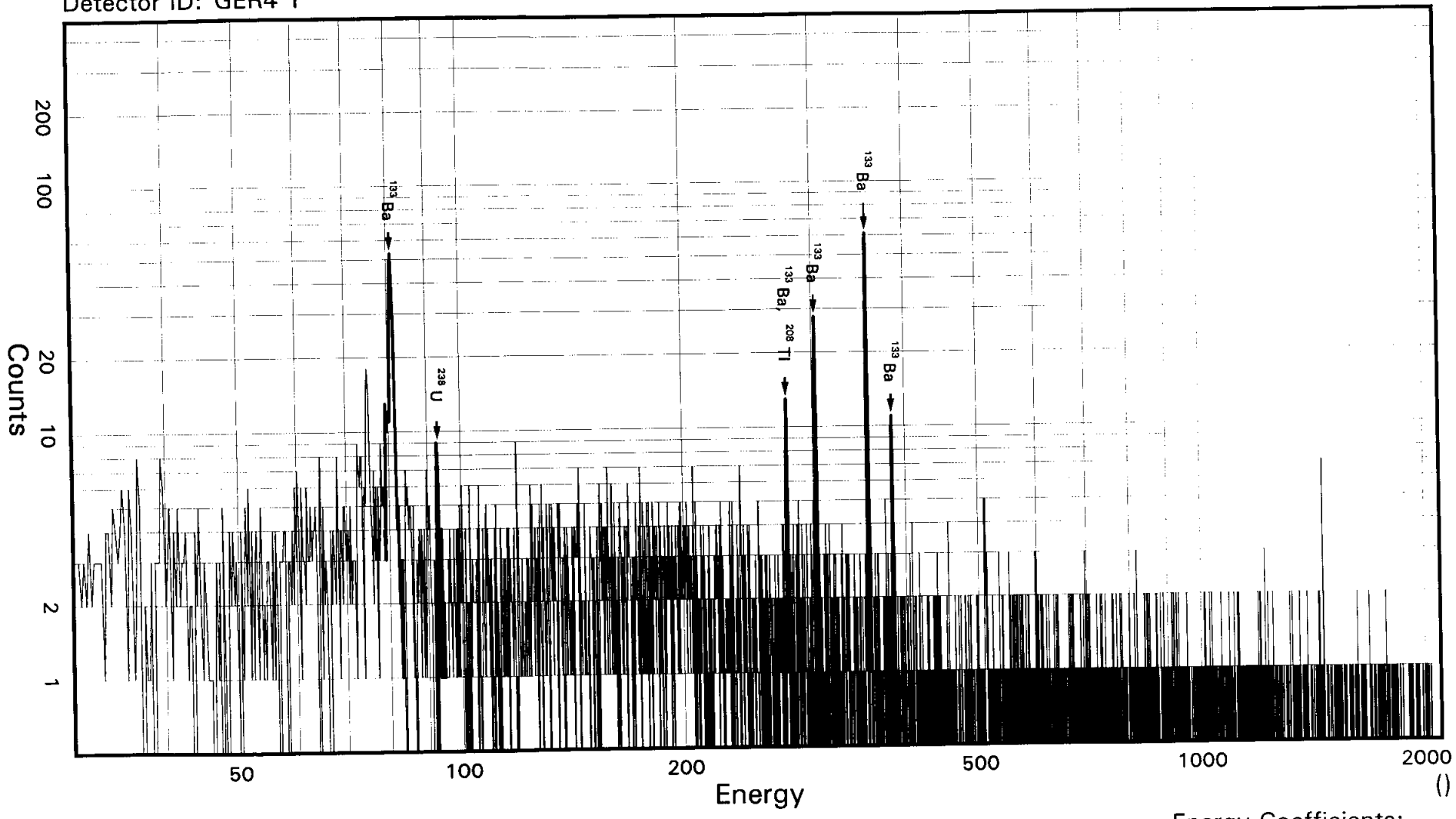
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	9.062E+00		1.190E+01	4.948E+01	9.899E-01	0.183
SB-124	7.755E-01		6.282E+00	2.620E+01	5.292E-01	0.030
SB-125	-1.880E-01		2.565E+01	9.928E+01	1.988E+00	-0.002
SN-126DA	-6.236E+00		6.443E+00	2.290E+01	4.645E-01	-0.272
I-131	-1.800E+01		2.375E+01	8.519E+01	1.704E+00	-0.211
CS-134	9.497E+00		6.494E+00	3.069E+01	6.282E-01	0.309
CS-137DA	3.701E+00		7.047E+00	3.000E+01	6.083E-01	0.123
LA-138	1.371E-03		3.640E+00	1.893E+01	4.060E-01	0.000
CE-139	-1.003E+01		1.449E+01	5.177E+01	1.057E+00	-0.194
BA-140	-4.758E+01		4.381E+01	1.495E+02	3.009E+00	-0.318
BALA-140	5.327E+00		1.351E+01	6.404E+01	1.389E+00	0.083
LA-140	-8.978E+01		1.865E+02	7.586E+02	1.645E+01	-0.118
CE-141	2.072E+01		3.161E+01	1.179E+02	2.427E+00	0.176
CE-144	-2.540E+01		1.228E+02	4.352E+02	9.010E+00	-0.058
CEPR-144	-5.079E+01		2.456E+02	8.705E+02	1.802E+01	-0.058
PM-144	3.755E+00		7.661E+00	3.117E+01	6.303E-01	0.120
PM-146	7.431E+00		7.457E+00	3.491E+01	6.997E-01	0.213
EU-152	-4.847E+01		2.428E+01	7.461E+01	1.492E+00	-0.650
EU-154	1.716E-01		6.656E+00	3.523E+01	7.470E-01	0.005
EU-155	1.448E+01		6.188E+01	2.279E+02	4.808E+00	0.064
HF-181	-5.795E-01		1.018E+01	3.919E+01	7.863E-01	-0.015
BI-207	-9.104E+00		5.514E+00	1.778E+01	3.584E-01	-0.512
TL-208	9.875E+00		6.302E+00	3.042E+01	6.137E-01	0.325
BI-210M	3.851E+01		2.068E+01	8.533E+01	1.712E+00	0.451
BI-212	1.977E+01		1.021E+02	4.099E+02	1.253E+01	0.048
PB-212	4.560E+01		2.530E+01	1.075E+02	2.162E+00	0.424
BI-214	1.406E+01		1.371E+01	6.030E+01	1.218E+00	0.233
PB-214	-1.945E+01		2.431E+01	7.168E+01	1.434E+00	-0.271
RA-223	-9.112E+01		6.900E+01	2.287E+02	4.587E+00	-0.398
RA-224DA	4.601E+01		2.553E+01	1.084E+02	2.181E+00	0.424
RA-226DA	1.420E+01		1.373E+01	6.040E+01	1.221E+00	0.235
AC-227DA	-2.317E+02		1.010E+02	3.087E+02	6.211E+00	-0.751
AC-228	1.319E+01		1.394E+01	7.817E+01	1.614E+00	0.169
RA-228DA	1.323E+01		1.398E+01	7.841E+01	1.619E+00	0.169
TH-228DA	2.774E+01		1.770E+01	8.544E+01	1.724E+00	0.325
TH-232DA	1.258E+00		7.001E+01	2.689E+02	5.378E+00	0.005
TH-234DA	-5.032E+02		5.084E+02	1.882E+03	3.912E+01	-0.267
U-234DA	3.497E+01		4.569E+01	1.815E+02	3.634E+00	0.193
U-235HP	9.692E+01		1.186E+02	4.473E+02	9.214E+00	0.217
NP-237DA	-1.699E+01		2.808E+01	9.825E+01	1.966E+00	-0.173
U-238DA	-1.945E+01		2.431E+01	7.168E+01	1.434E+00	-0.271
U-238DHP	1.806E+02		4.932E+02	1.895E+03	4.220E+01	0.095
AM-241HP	8.818E+00		4.433E+01	1.630E+02	3.657E+00	0.054

STL Richland WA.

BA133

Sample ID: H9F8L1AC
Detector ID: GER4 1

Batch ID: 6200163



Acquisition Start: 28-JUL-2006 16:36:04.31
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -1.24429E-01
Slope: 2.48926E-01
Quadrature: 1.06042E-08

SAMPLE IDENTIFICATION: H9F8L1AC

CONFIGURATION ID: GER4:H9F8L1AC_280761636
TITLE : BA133
SAMPLE ID : H9F8L1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 16:36:04
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 19-JUL-2006 12:00:00.00
CALIB DATE: 28-JUL-2006 05:19:46.10
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: -.1244E+00 keV
ENERGY SLOPE: 2.4893E-01 keV/C
ENERGY Q COEFF: 1.0604E-08 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 4.8025E-01 keV
FWHM SLOPE: 3.8283E-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-JUL-2006 17:06:18

Configuration	: $DISK1:[GER4.SAMPLE]H9F8L1AC_280761636.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6		
Sample title	: BA133		
Sample date	: 19-JUL-2006 12:00:00	Acquisition date	: 28-JUL-2006 16:36:04
Sample ID	: H9F8L1AC	Sample quantity	: 1.0000 SAMPL
Sample type	:	Sample geometry	: BA133T15
Elapsed live time	: 0 00:30:00.00	Elapsed real time	: 0 00:30:00.41 0.0%
Start energy	: 19.79	End energy	: 2039.79
Sensitivity	: 5.00	Gaussian	: 10.00
Critical level	: No		

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	75.23*	17	46	0.74	302.72	298	13	9.57E-03	90.8	
2	0	80.93	206	73	0.92	325.63	317	19	1.14E-01	12.3	
3	0	93.11*	11	11	0.58	374.52	371	11	6.32E-03	71.7	
4	0	276.32	47	11	1.00	1110.48	1104	12	2.58E-02	20.8	
5	0	302.88	116	13	1.06	1217.18	1207	17	6.42E-02	11.7	
6	0	355.95	333	0	1.18	1430.34	1422	19	1.85E-01	5.5	
7	0	383.74	50	3	1.07	1541.97	1535	14	2.75E-02	16.3	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 17:06:18

Configuration : $DISK1:[GER4.SAMPLE]H9F8L1AC_280761636.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 16:36:04
Sample ID : H9F8L1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.41 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	206	33.00	2.043E+00	1.017E+03	1.018E+03	13.52
	276.40	47	6.90	2.202E+00	1.020E+03	1.022E+03	21.56
	302.84	116	17.80	2.205E+00	9.819E+02	9.836E+02	12.94
	356.00	333	62.05*	2.207E+00	8.104E+02	8.117E+02	8.71
	383.85	50	8.70	2.207E+00	8.595E+02	8.609E+02	17.45

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H9F8L1AC Acquisition date : 28-JUL-2006 16:36:04

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	75.23	17	46	0.74	302.72	298	13	9.57E-03	90.8	2.03E+00	
0	93.11	11	11	0.58	374.52	371	11	6.32E-03	71.7	2.07E+00	T

Flags: "T" = Tentatively associated

Sample ID : H9F8L1AC
Acquisition date : 28-JUL-2006 16:36:04

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	1.035E+03	21.56	Abun.
			510.84	21.60	--- Not Found ---		
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		5.44			
U-238DHP	4.47E+09Y	0.00	63.28*	3.80	--- Not Found ---		Abun.
			92.59	5.41	3.386E+02	71.93	
		% Abundances Found =		58.74			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 17:06:20

Configuration : $DISK1:[GER4.SAMPLE]H9F8L1AC_280761636.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 : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 16:36:04
Sample ID : H9F8L1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.41 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	8.117E+02	7.068E+01	5.125E+01	2.402E+00	15.837

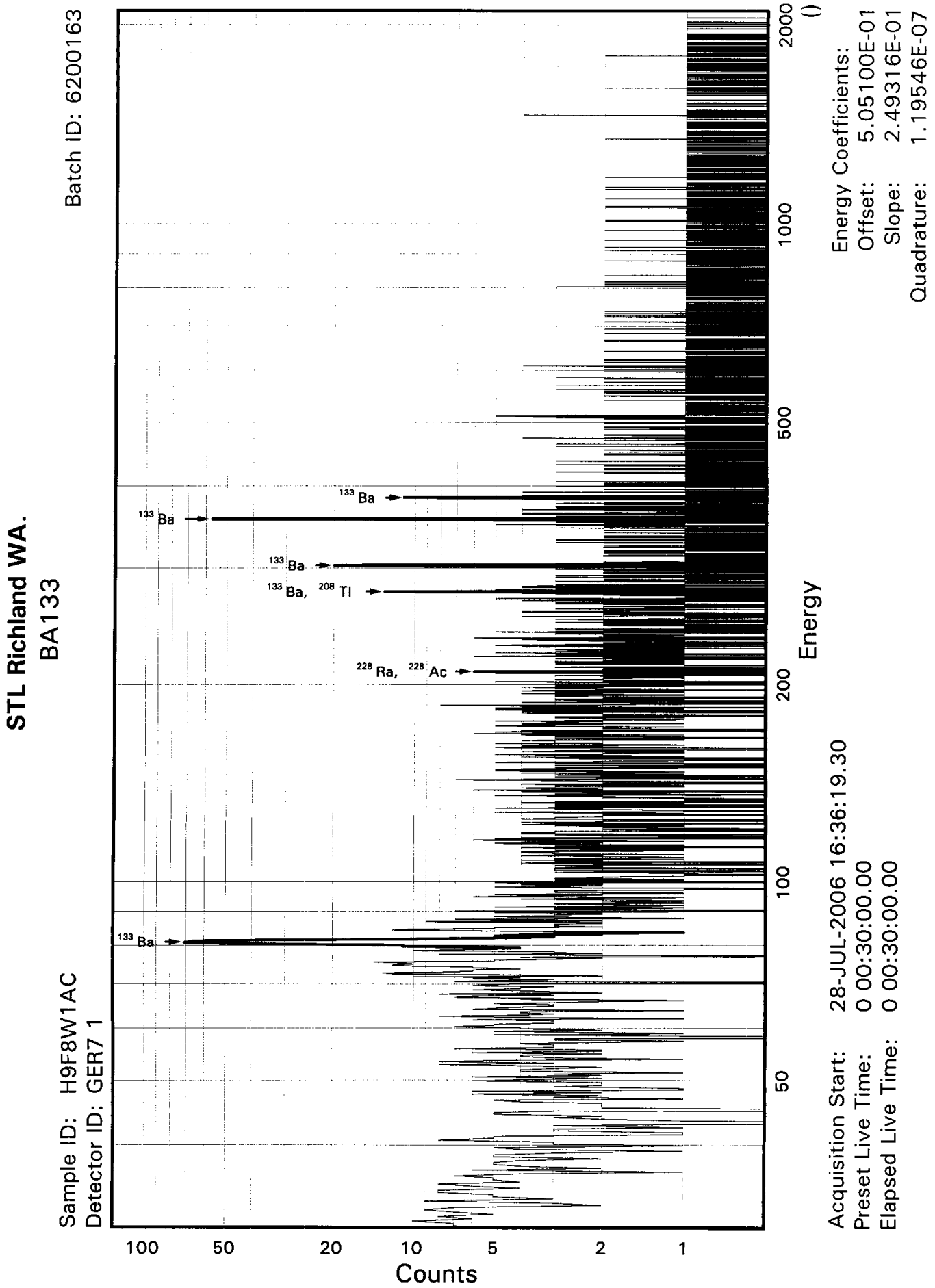
---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	6.858E+00		5.256E+01	2.209E+02	8.065E+00	0.031
NA-22	3.203E+00		3.238E+00	1.733E+01	6.682E-01	0.185
K-40	5.863E+01		8.276E+01	4.061E+02	1.586E+01	0.144
SC-46	-7.817E+00		6.053E+00	2.070E+01	7.893E-01	-0.378
CR-51	-2.998E+01		1.070E+02	3.948E+02	9.165E+00	-0.076
MN-54	-2.606E+00		5.772E+00	2.229E+01	8.324E-01	-0.117
CO-57	-7.243E+01		1.095E+02	3.910E+02	9.373E+00	-0.185
CO-58	2.968E+00		6.029E+00	2.555E+01	9.525E-01	0.116
FE-59	2.105E+00		8.085E+00	3.688E+01	1.404E+00	0.057
CO-60	-1.384E-01		4.004E+00	1.733E+01	6.710E-01	-0.008
ZN-65	3.548E+00		8.334E+00	3.839E+01	1.463E+00	0.092
SE-75	-2.079E+01		1.580E+01	5.380E+01	1.252E+00	-0.386
SR-85	-2.784E+01		1.143E+01	3.385E+01	1.238E+00	-0.822
Y-88	1.804E+00		3.058E+00	1.646E+01	6.591E-01	0.110
NB-94	-5.890E+00		4.824E+00	1.671E+01	6.257E-01	-0.352
NB-95	4.391E+00		6.079E+00	2.696E+01	1.002E+00	0.163
TC-95M	-2.132E+01		2.101E+01	7.083E+01	1.661E+00	-0.301
ZR-95	-1.313E+01		1.254E+01	4.338E+01	1.611E+00	-0.303
ZRNB-95	8.907E+00		1.132E+01	5.038E+01	1.872E+00	0.177
MO-99	-1.012E+02		1.264E+02	4.463E+02	1.068E+01	-0.227
RH-101	7.440E+00		1.733E+01	6.381E+01	1.499E+00	0.117
RH-102M	1.588E+00		4.215E+00	1.918E+01	7.001E-01	0.083
RU-103	9.988E+00		6.681E+00	3.176E+01	1.161E+00	0.314
RU-106DA	7.895E+01		5.629E+01	2.618E+02	9.634E+00	0.302
AG-108M	-8.029E+00		7.133E+00	2.491E+01	9.079E-01	-0.322
AG-110M	-1.918E+01		7.850E+00	2.039E+01	7.641E-01	-0.941
SN-113DA	-9.311E+00		1.052E+01	3.664E+01	1.334E+00	-0.254

Sample ID : H9F8L1AC Acquisition date : 28-JUL-2006 16:36:04

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	7.667E-01		7.171E+00	2.885E+01	1.060E+00	0.027
SB-125	2.817E+01		2.126E+01	9.467E+01	3.450E+00	0.298
SN-126DA	3.770E+00		5.769E+00	2.474E+01	9.130E-01	0.152
I-131	-1.531E+00		2.149E+01	8.052E+01	2.931E+00	-0.019
CS-134	-5.754E+00		5.683E+00	1.990E+01	7.412E-01	-0.289
CS-137DA	-3.393E+00		5.630E+00	2.160E+01	7.970E-01	-0.157
LA-138	-6.833E+00		7.142E+00	2.609E+01	1.017E+00	-0.262
CE-139	-2.543E+01		1.573E+01	5.168E+01	1.224E+00	-0.492
BA-140	2.007E+01		3.819E+01	1.602E+02	5.865E+00	0.125
BALA-140	5.536E+00		1.266E+01	6.066E+01	2.391E+00	0.091
LA-140	7.559E+01		1.729E+02	8.285E+02	3.266E+01	0.091
CE-141	-1.127E+00		2.943E+01	1.084E+02	2.588E+00	-0.010
CE-144	1.423E+01		1.145E+02	4.263E+02	1.023E+01	0.033
CEPR-144	8.753E+01		2.260E+02	8.544E+02	2.051E+01	0.102
PM-144	2.424E+00		6.010E+00	2.518E+01	9.265E-01	0.096
PM-146	3.262E+00		9.003E+00	3.741E+01	1.365E+00	0.087
EU-152	2.389E+01		2.331E+01	1.007E+02	2.337E+00	0.237
EU-154	8.976E+00		9.073E+00	4.856E+01	1.872E+00	0.185
EU-155	-1.956E+01		5.298E+01	1.878E+02	4.593E+00	-0.104
HF-181	1.863E+00		8.705E+00	3.514E+01	1.283E+00	0.053
BI-207	1.013E+00		6.178E+00	2.471E+01	9.063E-01	0.041
TL-208	-4.299E+00		8.204E+00	3.241E+01	1.190E+00	-0.133
BI-210M	-1.350E+01		1.781E+01	6.367E+01	1.482E+00	-0.212
BI-212	1.246E+01		8.349E+01	3.425E+02	1.490E+01	0.036
PB-212	-1.918E+01		2.827E+01	1.038E+02	2.423E+00	-0.185
BI-214	9.536E-02		1.586E+01	6.623E+01	2.436E+00	0.001
PB-214	5.412E+01		2.372E+01	9.655E+01	2.240E+00	0.561
RA-223	-4.118E+01		6.980E+01	2.515E+02	5.851E+00	-0.164
RA-224DA	-1.936E+01		2.853E+01	1.048E+02	2.445E+00	-0.185
RA-226DA	9.456E-02		1.586E+01	6.623E+01	2.436E+00	0.001
AC-227DA	-2.019E+02		1.030E+02	3.174E+02	7.409E+00	-0.636
AC-228	-9.255E+00		1.899E+01	8.440E+01	3.169E+00	-0.110
RA-228DA	-9.283E+00		1.905E+01	8.465E+01	3.179E+00	-0.110
TH-228DA	-1.208E+01		2.305E+01	9.103E+01	3.342E+00	-0.133
TH-232DA	1.106E+02		5.395E+01	2.461E+02	5.712E+00	0.449
TH-234DA	-2.645E+02		7.317E+02	2.896E+03	1.095E+02	-0.091
U-234DA	-1.391E+01		4.399E+01	1.626E+02	3.777E+00	-0.086
U-235HP	3.278E+02		1.167E+02	4.859E+02	1.161E+01	0.675
NP-237DA	-4.978E+00		2.468E+01	9.118E+01	2.117E+00	-0.055
U-238DA	5.412E+01		2.372E+01	9.655E+01	2.240E+00	0.561
U-238DHP	-4.905E+02		3.656E+02	1.268E+03	3.271E+01	-0.387
AM-241HP	7.271E+00		3.740E+01	1.392E+02	3.616E+00	0.052


STL Richland WA.
BA133
Batch ID: 6200163
Sample ID: H9F8W1AC
Detector ID: GER7 1
133 Ba
133 Ba
133 Ba
133 Ba, 208 Tl
228 Ra, 228 Ac
133 Ba
Counts
100
50
20
10
5
2
1
Energy
50
100
200
500
1000
2000
()
Acquisition Start: 28-JUL-2006 16:36:19.30
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00
Energy Coefficients:
Offset: 5.05100E-01
Slope: 2.49316E-01
Quadrature: 1.19546E-07

SAMPLE IDENTIFICATION: H9F8W1AC

CONFIGURATION ID: GER7:H9F8W1AC_280761636
TITLE : BA133
SAMPLE ID : H9F8W1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 16:36:19
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 19-JUL-2006 12:00:00.00
CALIB DATE: 28-JUL-2006 05:20:22.55
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: 5.0510E-01 keV
ENERGY SLOPE: 2.4932E-01 keV/C
ENERGY Q COEFF: 1.1955E-07 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 4.3365E-01 keV
FWHM SLOPE: 4.2398E-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-JUL-2006 17:06:36

Configuration : $DISK1:[GER7.SAMPLE]H9F8W1AC_280761636.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 16:36:19
Sample ID : H9F8W1AC 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 : 20.45 End energy : 2050.93
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.00	326	56	1.07	322.81	316	19	1.81E-01	7.8	
2	0	209.33	16	7	0.78	837.26	832	12	9.06E-03	39.3	
3	0	276.37	41	2	0.51	1105.92	1101	10	2.26E-02	17.3	
4	0	302.89	85	13	1.05	1212.14	1204	14	4.72E-02	14.3	
5	0	355.93	270	9	1.16	1424.63	1416	17	1.50E-01	6.6	
6	0	383.61	49	8	1.01	1535.49	1528	16	2.71E-02	19.3	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 17:06:36

Configuration : $DISK1:[GER7.SAMPLE]H9F8W1AC_280761636.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 16:36:19
Sample ID : H9F8W1AC 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	326	33.00	1.923E+00	1.713E+03	1.716E+03	9.54
	276.40	41	6.90	2.076E+00	9.453E+02	9.469E+02	18.10
	302.84	85	17.80	2.078E+00	7.653E+02	7.666E+02	15.26
	356.00	270	62.05*	2.080E+00	6.959E+02	6.971E+02	8.50
	383.85	49	8.70	2.080E+00	8.984E+02	8.999E+02	20.08

Flag: "*" = Keyline

Sample ID : H9F8W1AC Acquisition date : 28-JUL-2006 16:36:19

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	209.33	16	7	0.78	837.26	832	12	9.06E-03	39.3	2.06E+00	T

Flags: "T" = Tentatively associated

Sample ID : H9F8W1AC
Acquisition date : 28-JUL-2006 16:36:19

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	9.592E+02	18.10	Abun.
			510.84	21.60	--- Not Found ---		
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		5.44			
AC-228	1.41E+10Y	0.00	209.28	4.40	5.998E+02	39.64	Abun.
			270.23	3.60	--- Not Found ---		
			338.32	11.40	--- Not Found ---		
			911.07*	27.70	--- Not Found ---		
			969.11	16.60	--- Not Found ---		
		% Abundances Found =		6.91			
RA-228DA	5.75Y	0.00	209.28	4.40	6.016E+02	39.64	Abun.
			338.32	11.40	--- Not Found ---		
			911.07*	27.70	--- Not Found ---		
			964.60	5.20	--- Not Found ---		
			969.11	16.60	--- Not Found ---		
		% Abundances Found =		6.74			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 17:06:39

Configuration : $DISK1:[GER7.SAMPLE]H9F8W1AC_280761636.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 : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 16:36:19
Sample ID : H9F8W1AC 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%
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	6.971E+02	5.925E+01	5.333E+01	1.067E+00	13.071

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	3.157E+01		7.451E+01	3.025E+02	6.070E+00	0.104
NA-22	3.422E+00		2.427E+00	1.588E+01	3.367E-01	0.216
K-40	3.600E+01		6.801E+01	3.436E+02	7.383E+00	0.105
SC-46	1.764E+00		4.076E+00	1.950E+01	4.088E-01	0.090
CR-51	-1.179E+02		1.077E+02	3.671E+02	7.344E+00	-0.321
MN-54	3.375E+00		5.813E+00	2.519E+01	5.172E-01	0.134
CO-57	2.250E+01		1.089E+02	4.128E+02	8.534E+00	0.054
CO-58	5.514E+00		5.974E+00	2.712E+01	5.558E-01	0.203
FE-59	-6.931E+00		8.430E+00	3.177E+01	6.652E-01	-0.218
CO-60	6.868E+00		4.847E+00	2.412E+01	5.135E-01	0.285
ZN-65	-3.555E+00		9.048E+00	3.653E+01	7.657E-01	-0.097
SE-75	1.197E+00		1.621E+01	6.175E+01	1.239E+00	0.019
SR-85	-3.282E+01		1.228E+01	3.499E+01	7.033E-01	-0.938
Y-88	-1.761E+00		3.196E+00	1.386E+01	3.054E-01	-0.127
NB-94	-2.531E+00		4.858E+00	1.887E+01	3.884E-01	-0.134
NB-95	-7.540E+00		4.702E+00	1.446E+01	2.954E-01	-0.521
TC-95M	4.631E+00		1.764E+01	6.594E+01	1.334E+00	0.070
ZR-95	-9.312E+00		7.105E+00	2.402E+01	4.903E-01	-0.388
ZRNB-95	-1.388E+01		8.656E+00	2.662E+01	5.437E-01	-0.521
MO-99	-1.280E+02		1.352E+02	4.725E+02	9.749E+00	-0.271
RH-101	6.130E+00		1.596E+01	5.952E+01	1.205E+00	0.103
RH-102M	3.584E+00		8.479E+00	3.350E+01	6.720E-01	0.107
RU-103	-1.118E+01		6.589E+00	1.972E+01	3.960E-01	-0.567
RU-106DA	7.854E+01		5.993E+01	2.756E+02	5.574E+00	0.285
AG-108M	-2.572E+01		8.310E+00	2.016E+01	4.038E-01	-1.276
AG-110M	7.060E+00		5.274E+00	2.812E+01	5.794E-01	0.251
SN-113DA	1.134E+01		1.149E+01	4.910E+01	9.824E-01	0.231

Sample ID : H9F8W1AC Acquisition date : 28-JUL-2006 16:36:19

---- Non-Identified Nuclides ----

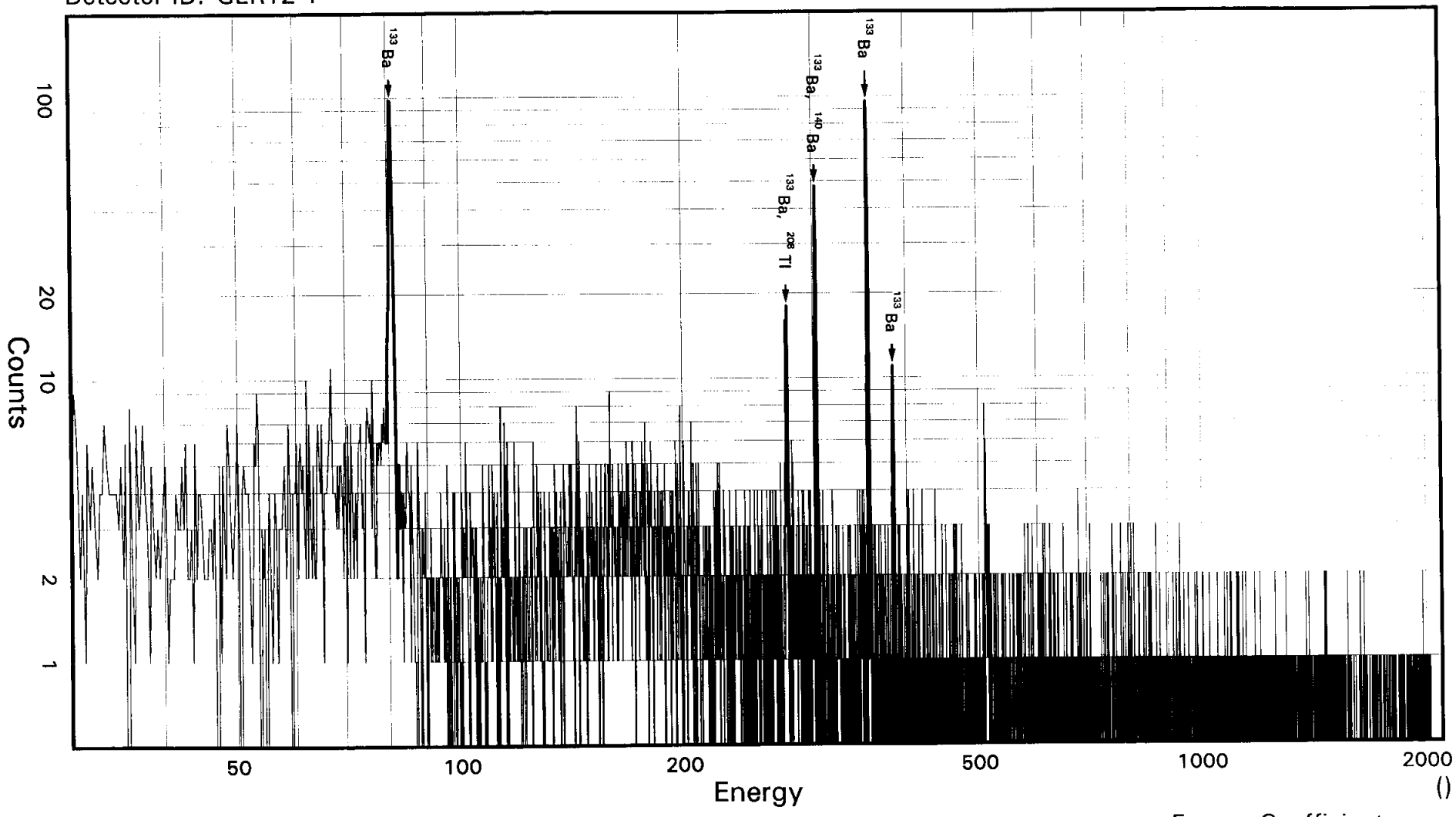
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	-2.187E+00		6.994E+00	2.709E+01	5.472E-01	-0.081
SB-125	-1.565E+01		2.381E+01	8.727E+01	1.747E+00	-0.179
SN-126DA	2.264E+00		5.567E+00	2.367E+01	4.801E-01	0.096
I-131	-1.740E+01		2.445E+01	8.523E+01	1.705E+00	-0.204
CS-134	1.509E-01		5.425E+00	2.325E+01	4.758E-01	0.006
CS-137DA	-5.715E+00		6.459E+00	2.324E+01	4.712E-01	-0.246
LA-138	-2.694E+00		4.532E+00	1.894E+01	4.062E-01	-0.142
CE-139	-3.567E+01		1.626E+01	5.080E+01	1.038E+00	-0.702
BA-140	-7.890E+01		3.242E+01	8.027E+01	1.615E+00	-0.983
BALA-140	-2.350E+01		1.454E+01	4.405E+01	9.552E-01	-0.534
LA-140	-3.211E+02		1.987E+02	6.017E+02	1.305E+01	-0.534
CE-141	-5.687E+01		2.973E+01	9.622E+01	1.981E+00	-0.591
CE-144	-1.442E+02		9.610E+01	3.243E+02	6.714E+00	-0.445
CEPR-144	-2.847E+02		1.925E+02	6.509E+02	1.348E+01	-0.437
PM-144	6.381E-02		6.207E+00	2.496E+01	5.047E-01	0.003
PM-146	-2.353E+00		8.978E+00	3.507E+01	7.030E-01	-0.067
EU-152	-9.193E+00		2.556E+01	9.560E+01	1.912E+00	-0.096
EU-154	9.589E+00		6.800E+00	4.449E+01	9.433E-01	0.216
EU-155	2.913E+01		5.315E+01	2.023E+02	4.268E+00	0.144
HF-181	-1.187E+01		8.917E+00	2.956E+01	5.932E-01	-0.402
BI-207	6.188E+00		5.579E+00	2.568E+01	5.176E-01	0.241
TL-208	1.541E+01		8.310E+00	3.928E+01	7.925E-01	0.392
BI-210M	1.728E+01		1.874E+01	7.533E+01	1.511E+00	0.229
BI-212	-1.416E+02		9.244E+01	2.912E+02	8.902E+00	-0.486
PB-212	-2.125E+01		2.530E+01	9.440E+01	1.899E+00	-0.225
BI-214	-2.459E+01		1.427E+01	5.247E+01	1.060E+00	-0.469
PB-214	-5.029E+01		3.430E+01	9.502E+01	1.900E+00	-0.529
RA-223	7.630E+01		6.631E+01	2.721E+02	5.457E+00	0.280
RA-224DA	-2.144E+01		2.553E+01	9.526E+01	1.916E+00	-0.225
RA-226DA	-2.460E+01		1.427E+01	5.247E+01	1.060E+00	-0.469
AC-227DA	-3.960E+01		9.825E+01	3.579E+02	7.202E+00	-0.111
AC-228	4.143E+01		2.004E+01	9.943E+01	2.053E+00	0.417
RA-228DA	4.155E+01		2.010E+01	9.973E+01	2.059E+00	0.417
TH-228DA	4.329E+01		2.334E+01	1.103E+02	2.226E+00	0.392
TH-232DA	5.759E+01		5.375E+01	2.316E+02	4.633E+00	0.249
TH-234DA	7.459E+00		3.570E+02	1.883E+03	3.914E+01	0.004
U-234DA	-8.336E+00		4.648E+01	1.730E+02	3.464E+00	-0.048
U-235HP	1.535E+02		1.096E+02	4.401E+02	9.066E+00	0.349
NP-237DA	4.818E+00		1.968E+01	7.827E+01	1.566E+00	0.062
U-238DA	-5.029E+01		3.430E+01	9.502E+01	1.900E+00	-0.529
U-238DHP	-1.181E+02		4.026E+02	1.487E+03	3.311E+01	-0.079
AM-241HP	3.984E+01		3.846E+01	1.503E+02	3.372E+00	0.265

STL Richland WA.

BA133

Sample ID: H9F851AC
Detector ID: GER12 1

Batch ID: 6200163



Acquisition Start: 28-JUL-2006 16:36:34.32
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 1.25056E+01
Slope: 2.46535E-01
Quadrature: 1.32258E-09

SAMPLE IDENTIFICATION: H9F851AC

CONFIGURATION ID: GER12:H9F851AC_280761636
TITLE : BA133
SAMPLE ID : H9F851AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 16:36:34
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 19-JUL-2006 12:00:00.00
CALIB DATE: 28-JUL-2006 05:21:40.87
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: 1.2506E+01 keV
ENERGY SLOPE: 2.4653E-01 keV/C
ENERGY Q COEFF: 1.3226E-09 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 3.4811E-01 keV
FWHM SLOPE: 3.9049E-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-JUL-2006 17:06:53

```
Configuration     : $DISK1:[GER12.SAMPLE]H9F851AC_280761636.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 16:36:34
Sample ID         : H9F851AC             Sample quantity  : 1.0000 SAMPL
Sample type       :                      Sample geometry  : BA133T15
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.35   0.0%
Start energy      :    12.75             End energy       :  2032.21
Sensitivity       :     5.00             Gaussian         :    10.00
Critical level    : No
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	80.94	334	85	0.74	277.58	270	17	1.85E-01	8.5	
2	0	276.64	54	30	1.14	1071.39	1065	11	3.01E-02	23.9	
3	0	302.94	190	12	0.97	1178.07	1170	16	1.06E-01	8.3	
4	0	356.10	439	13	0.98	1393.68	1385	19	2.44E-01	5.2	
5	0	384.05	41	18	1.09	1507.04	1498	14	2.28E-02	26.7	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 17:06:54

Configuration : $DISK1:[GER12.SAMPLE]H9F851AC_280761636.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 16:36:34
Sample ID : H9F851AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.35 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	334	33.00	2.899E+00	1.163E+03	1.165E+03	10.06
	276.40	54	6.90	3.105E+00	8.432E+02	8.446E+02	24.46
	302.84	190	17.80	3.109E+00	1.146E+03	1.148E+03	9.90
	356.00	439	62.05*	3.111E+00	7.583E+02	7.596E+02	7.48
	383.85	41	8.70	3.111E+00	5.059E+02	5.068E+02	27.23

Flag: "*" = Keyline

None

Flags: "T" = Tentatively associated

Sample ID : H9F851AC
Acquisition date : 28-JUL-2006 16:36:34

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
BA-140	12.79D	0.72	162.64	6.70	--- Not Found ---		Abun.
			304.84	4.50	7.466E+03	9.90	
			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	8.556E+02	24.46	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-JUL-2006 17:06:55

Configuration : $DISK1:[GER12.SAMPLE]H9F851AC_280761636.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 : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 16:36:34
Sample ID : H9F851AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.35 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	7.596E+02	5.681E+01	3.591E+01	7.182E-01	21.150

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-7.165E+01		4.543E+01	1.431E+02	2.870E+00	-0.501
NA-22	1.240E-01		2.736E+00	1.223E+01	2.578E-01	0.010
K-40	-1.247E+02		4.649E+01	1.941E+02	4.138E+00	-0.643
SC-46	-1.266E+00		4.366E+00	1.700E+01	3.547E-01	-0.074
CR-51	-9.804E+01		8.072E+01	2.675E+02	5.351E+00	-0.367
MN-54	1.146E+00		3.713E+00	1.579E+01	3.233E-01	0.073
CO-57	-1.417E+02		7.327E+01	2.334E+02	4.809E+00	-0.607
CO-58	4.869E+00		3.806E+00	1.809E+01	3.697E-01	0.269
FE-59	3.338E-03		5.581E+00	2.451E+01	5.108E-01	0.000
CO-60	1.159E+00		1.958E+00	1.055E+01	2.232E-01	0.110
ZN-65	-6.888E+00		8.788E+00	3.185E+01	6.643E-01	-0.216
SE-75	-3.820E+00		1.225E+01	4.445E+01	8.915E-01	-0.086
SR-85	-2.207E+01		9.035E+00	2.811E+01	5.646E-01	-0.785
Y-88	2.465E+00		2.515E+00	1.343E+01	2.928E-01	0.184
NB-94	-6.490E+00		3.570E+00	1.058E+01	2.170E-01	-0.614
NB-95	2.848E+00		4.484E+00	1.969E+01	4.013E-01	0.145
TC-95M	1.615E+01		1.279E+01	5.115E+01	1.033E+00	0.316
ZR-95	1.341E+01		8.100E+00	3.795E+01	7.729E-01	0.354
ZRNB-95	5.243E+00		8.255E+00	3.625E+01	7.387E-01	0.145
MO-99	1.630E-01		9.294E+01	3.484E+02	7.165E+00	0.000
RH-101	-5.870E+00		1.221E+01	4.342E+01	8.782E-01	-0.135
RH-102M	3.172E+00		4.173E+00	1.804E+01	3.617E-01	0.176
RU-103	-2.179E+00		6.045E+00	2.253E+01	4.521E-01	-0.097
RU-106DA	8.171E+01		4.422E+01	2.059E+02	4.160E+00	0.397
AG-108M	-2.041E+00		5.145E+00	1.930E+01	3.864E-01	-0.106
AG-110M	-1.682E+00		4.163E+00	1.672E+01	3.435E-01	-0.101
SN-113DA	6.847E+00		8.749E+00	3.577E+01	7.156E-01	0.191

---- Non-Identified Nuclides ----

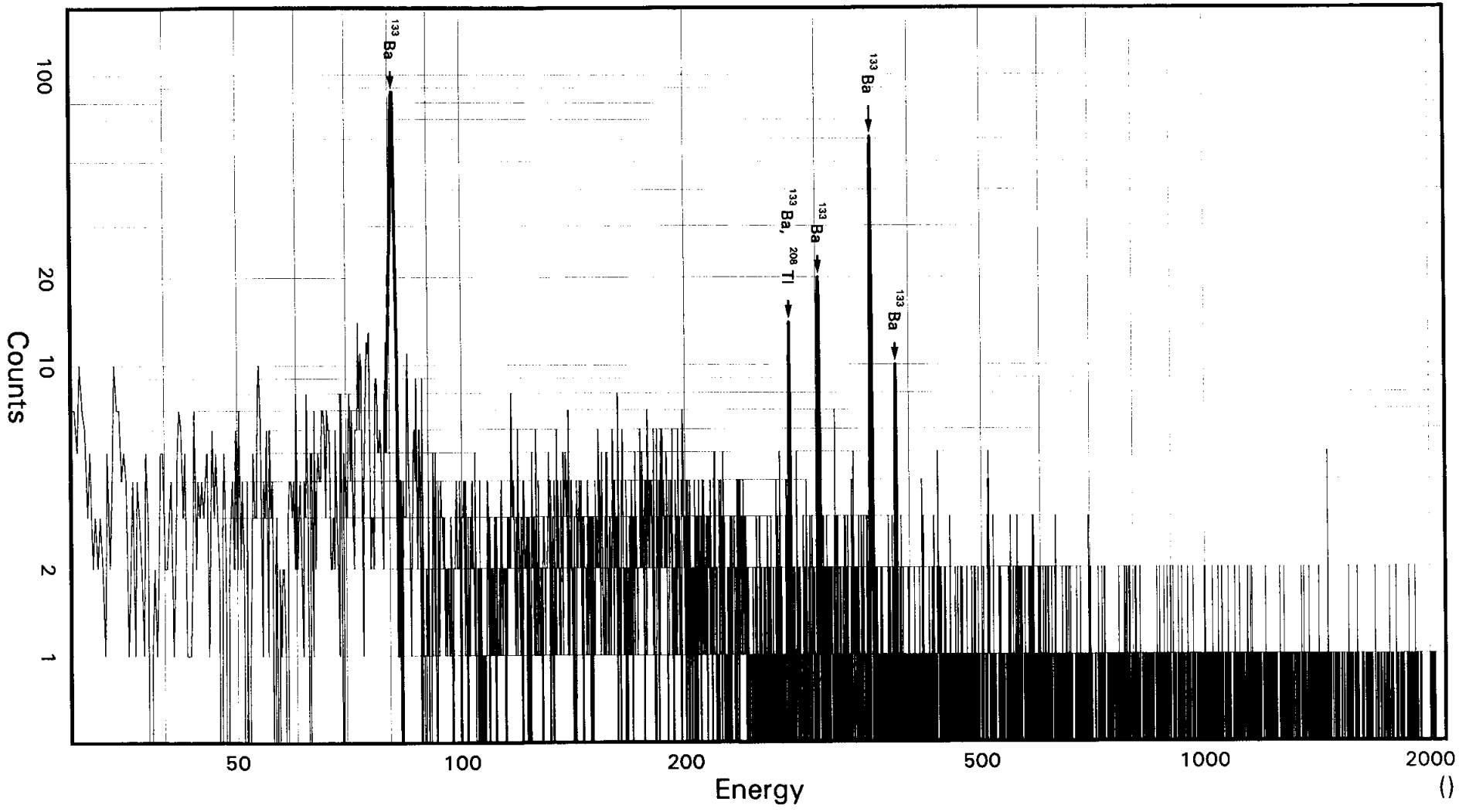
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	-7.255E+00		6.005E+00	2.045E+01	4.126E-01	-0.355
SB-125	1.240E+01		1.626E+01	6.774E+01	1.356E+00	0.183
SN-126DA	4.644E+00		4.463E+00	1.926E+01	3.902E-01	0.241
I-131	-1.678E+01		1.586E+01	5.547E+01	1.109E+00	-0.303
CS-134	5.322E+00		5.137E+00	2.249E+01	4.592E-01	0.237
CS-137DA	-9.257E+00		4.358E+00	1.183E+01	2.396E-01	-0.782
LA-138	-5.205E+00		3.868E+00	1.257E+01	2.677E-01	-0.414
CE-139	-4.412E+00		1.161E+01	4.074E+01	8.303E-01	-0.108
BA-140	9.089E+00		2.504E+01	1.065E+02	2.141E+00	0.085
BALA-140	7.945E+00		5.635E+00	3.686E+01	7.926E-01	0.216
LA-140	1.085E+02		7.697E+01	5.035E+02	1.083E+01	0.216
CE-141	-8.630E+00		1.967E+01	7.015E+01	1.440E+00	-0.123
CE-144	5.175E+01		6.581E+01	2.589E+02	5.340E+00	0.200
CEPR-144	1.035E+02		1.316E+02	5.177E+02	1.068E+01	0.200
PM-144	-8.878E+00		4.755E+00	1.461E+01	2.951E-01	-0.608
PM-146	-8.737E+00		6.950E+00	2.331E+01	4.671E-01	-0.375
EU-152	-1.356E+01		2.378E+01	8.678E+01	1.736E+00	-0.156
EU-154	3.480E-01		7.664E+00	3.428E+01	7.224E-01	0.010
EU-155	-4.735E+01		2.976E+01	1.001E+02	2.100E+00	-0.473
HF-181	1.078E+01		6.011E+00	2.770E+01	5.556E-01	0.389
BI-207	-4.580E+00		3.379E+00	1.138E+01	2.292E-01	-0.402
TL-208	6.411E+00		4.236E+00	2.027E+01	4.087E-01	0.316
BI-210M	1.145E+01		1.313E+01	5.193E+01	1.041E+00	0.220
BI-212	-2.787E+01		5.073E+01	1.987E+02	6.068E+00	-0.140
PB-212	-9.715E+00		1.520E+01	5.438E+01	1.093E+00	-0.179
BI-214	-1.774E+00		9.682E+00	3.745E+01	7.560E-01	-0.047
PB-214	-1.925E+01		2.041E+01	6.134E+01	1.227E+00	-0.314
RA-223	1.977E+01		4.230E+01	1.662E+02	3.333E+00	0.119
RA-224DA	-9.804E+00		1.534E+01	5.488E+01	1.103E+00	-0.179
RA-226DA	-1.679E+00		9.693E+00	3.753E+01	7.576E-01	-0.045
AC-227DA	2.926E+01		6.212E+01	2.389E+02	4.804E+00	0.122
AC-228	-6.396E-01		1.279E+01	5.213E+01	1.073E+00	-0.012
RA-228DA	-6.415E-01		1.283E+01	5.229E+01	1.076E+00	-0.012
TH-228DA	1.801E+01		1.190E+01	5.695E+01	1.148E+00	0.316
TH-232DA	-3.651E+00		4.455E+01	1.657E+02	3.315E+00	-0.022
TH-234DA	4.891E+02		5.517E+02	2.518E+03	5.211E+01	0.194
U-234DA	1.671E+00		3.353E+01	1.249E+02	2.501E+00	0.013
U-235HP	1.619E+02		7.961E+01	3.219E+02	6.611E+00	0.503
NP-237DA	1.347E+00		1.529E+01	5.813E+01	1.163E+00	0.023
U-238DA	-1.925E+01		2.041E+01	6.134E+01	1.227E+00	-0.314
U-238DHP	-2.092E+02		2.552E+02	8.787E+02	1.935E+01	-0.238
AM-241HP	-5.817E+00		2.585E+01	9.298E+01	2.061E+00	-0.063

STL Richland WA.

BA133

Sample ID: H9F891AC
Detector ID: GER6 1

Batch ID: 6200163



Acquisition Start: 28-JUL-2006 16:37:03.32
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -8.22105E-02
Slope: 2.49341E-01
Quadrature: 1.47158E-08

SAMPLE IDENTIFICATION: H9F891AC

CONFIGURATION ID: GER6:H9F891AC_280761637
TITLE : BA133
SAMPLE ID : H9F891AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 16:37:03
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 19-JUL-2006 12:00:00.00
CALIB DATE: 28-JUL-2006 05:20:03.87
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: -.8221E-01 keV
ENERGY SLOPE: 2.4934E-01 keV/C
ENERGY Q COEFF: 1.4716E-08 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 1.7775E-01 keV
FWHM SLOPE: 6.3535E-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-JUL-2006 17:07:19

Configuration : $DISK1:[GER6.SAMPLE]H9F891AC_280761637.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 16:37:03
Sample ID : H9F891AC 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 : 19.87 End energy : 2043.51
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	80.94	378	59	0.84	324.95	317	17	2.10E-01	7.0	
2	0	276.41	49	6	0.93	1108.83	1102	12	2.72E-02	17.4	
3	0	302.84	114	0	1.19	1214.81	1207	18	6.33E-02	9.4	
4	0	355.96	342	0	1.15	1427.81	1418	20	1.90E-01	5.4	
5	0	383.96	54	5	1.33	1540.08	1529	18	2.99E-02	16.6	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 17:07:20

Configuration : $DISK1:[GER6.SAMPLE]H9F891AC_280761637.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 16:37:03
Sample ID : H9F891AC 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	378	33.00	2.167E+00	1.765E+03	1.767E+03	8.89
	276.40	49	6.90	2.334E+00	1.014E+03	1.016E+03	18.25
	302.84	114	17.80	2.337E+00	9.136E+02	9.152E+02	10.80
	356.00	342	62.05*	2.339E+00	7.856E+02	7.869E+02	7.63
	383.85	54	8.70	2.338E+00	8.805E+02	8.820E+02	17.42

Flag: "*" = Keyline

Sample ID : H9F891AC
Acquisition date : 28-JUL-2006 16:37:03

None

Flags: "T" = Tentatively associated

Sample ID : H9F891AC Acquisition date : 28-JUL-2006 16:37:03

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	1.029E+03	18.25	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-JUL-2006 17:07:22

Configuration	: $DISK1:[GER6.SAMPLE]H9F891AC_280761637.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	: 19-JUL-2006 12:00:00	Acquisition date	: 28-JUL-2006 16:37:03
Sample ID	: H9F891AC	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%
Peak Width (FWHM)	: 3.00	Confidence level	: 5.00 %
Energy tolerance	: 1.50	Half life ratio	: 8.00
Errors propagated	: Yes	Systematic Error	: 5.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 80.00	WTM error limit	: 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.869E+02	6.005E+01	3.701E+01	7.401E-01	21.263

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	1.038E+01		6.120E+01	2.451E+02	4.917E+00	0.042
NA-22	4.616E+00		4.006E+00	1.991E+01	4.213E-01	0.232
K-40	-4.139E+01		7.801E+01	3.580E+02	7.675E+00	-0.116
SC-46	1.657E+00		4.243E+00	1.933E+01	4.046E-01	0.086
CR-51	1.526E+01		1.069E+02	4.060E+02	8.123E+00	0.038
MN-54	6.566E+00		4.845E+00	2.294E+01	4.707E-01	0.286
CO-57	-1.544E+01		1.094E+02	4.021E+02	8.304E+00	-0.038
CO-58	-1.562E+00		5.781E+00	2.264E+01	4.636E-01	-0.069
FE-59	3.664E+00		1.006E+01	4.319E+01	9.030E-01	0.085
CO-60	3.362E+00		3.794E+00	1.861E+01	3.956E-01	0.181
ZN-65	1.214E+01		8.533E+00	4.251E+01	8.898E-01	0.286
SE-75	1.894E+00		1.531E+01	5.718E+01	1.147E+00	0.033
SR-85	-1.341E+01		1.097E+01	3.724E+01	7.483E-01	-0.360
Y-88	1.584E+00		3.780E+00	1.799E+01	3.951E-01	0.088
NB-94	4.329E+00		4.934E+00	2.208E+01	4.541E-01	0.196
NB-95	2.058E+00		6.219E+00	2.623E+01	5.355E-01	0.078
TC-95M	-9.543E+00		1.584E+01	5.716E+01	1.156E+00	-0.167
ZR-95	-5.726E+00		1.056E+01	4.024E+01	8.208E-01	-0.142
ZRNB-95	6.911E+00		1.102E+01	4.829E+01	9.858E-01	0.143
MO-99	-9.278E+01		1.230E+02	4.355E+02	8.976E+00	-0.213
RH-101	6.593E+00		1.638E+01	5.961E+01	1.207E+00	0.111
RH-102M	-1.074E+01		6.542E+00	2.051E+01	4.113E-01	-0.524
RU-103	-2.025E+00		7.065E+00	2.770E+01	5.561E-01	-0.073
RU-106DA	-2.308E+01		5.119E+01	1.991E+02	4.025E+00	-0.116
AG-108M	-1.729E+01		1.001E+01	3.211E+01	6.431E-01	-0.538
AG-110M	-2.860E+00		7.588E+00	2.897E+01	5.963E-01	-0.099
SN-113DA	3.682E+00		9.990E+00	4.079E+01	8.161E-01	0.090

Sample ID : H9F891AC Acquisition date : 28-JUL-2006 16:37:03

---- Non-Identified Nuclides ----

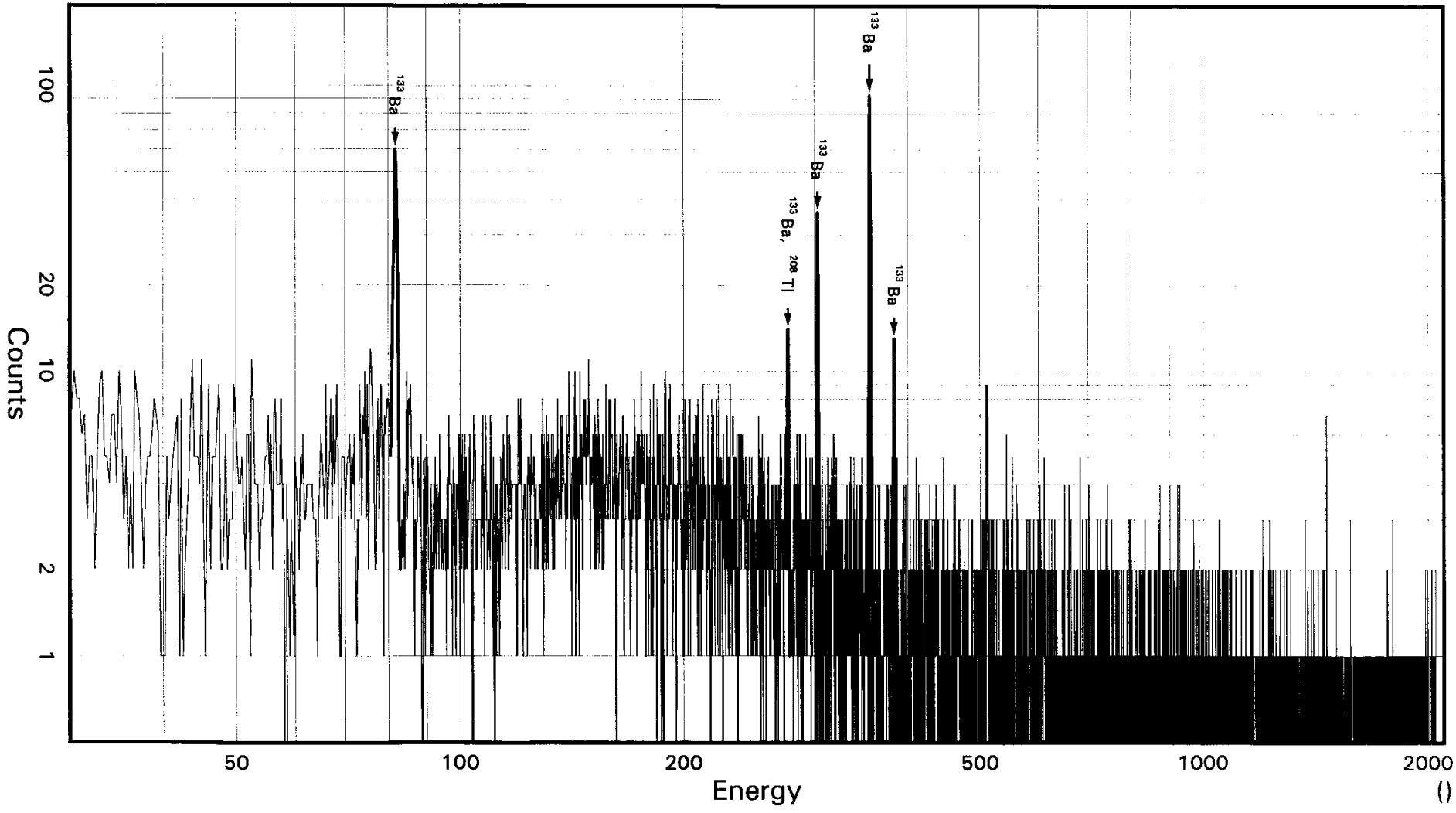
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	-1.271E+01		8.087E+00	2.579E+01	5.209E-01	-0.493
SB-125	-4.270E+01		2.367E+01	7.447E+01	1.491E+00	-0.573
SN-126DA	-1.832E+00		3.733E+00	1.497E+01	3.036E-01	-0.122
I-131	4.950E+00		1.759E+01	6.948E+01	1.390E+00	0.071
CS-134	-2.138E+00		5.042E+00	2.004E+01	4.100E-01	-0.107
CS-137DA	4.591E-02		4.141E+00	1.827E+01	3.703E-01	0.003
LA-138	1.920E-01		5.523E+00	2.460E+01	5.264E-01	0.008
CE-139	2.163E+00		1.407E+01	5.187E+01	1.059E+00	0.042
BA-140	-4.761E+00		3.450E+01	1.370E+02	2.756E+00	-0.035
BALA-140	4.865E+00		1.610E+01	6.965E+01	1.507E+00	0.070
LA-140	6.643E+01		2.200E+02	9.515E+02	2.058E+01	0.070
CE-141	1.684E+01		2.575E+01	9.946E+01	2.046E+00	0.169
CE-144	-5.842E+01		9.976E+01	3.431E+02	7.096E+00	-0.170
CEPR-144	-1.146E+02		1.997E+02	6.874E+02	1.422E+01	-0.167
PM-144	1.940E+00		5.990E+00	2.463E+01	4.979E-01	0.079
PM-146	4.335E+00		1.048E+01	4.170E+01	8.357E-01	0.104
EU-152	-3.608E+01		3.263E+01	1.106E+02	2.213E+00	-0.326
EU-154	1.293E+01		1.122E+01	5.577E+01	1.180E+00	0.232
EU-155	2.057E+00		3.865E+01	1.474E+02	3.105E+00	0.014
HF-181	-2.372E+01		9.645E+00	2.630E+01	5.276E-01	-0.902
BI-207	-1.082E+01		5.379E+00	1.549E+01	3.121E-01	-0.699
TL-208	-7.371E+00		8.832E+00	3.226E+01	6.508E-01	-0.228
BI-210M	2.017E+01		1.740E+01	6.960E+01	1.396E+00	0.290
BI-212	-5.296E+00		8.393E+01	3.309E+02	1.011E+01	-0.016
PB-212	-8.574E+00		2.510E+01	9.260E+01	1.862E+00	-0.093
BI-214	1.572E+01		1.602E+01	6.976E+01	1.409E+00	0.225
PB-214	2.062E+01		1.961E+01	7.386E+01	1.477E+00	0.279
RA-223	1.571E+00		5.986E+01	2.233E+02	4.479E+00	0.007
RA-224DA	-8.652E+00		2.533E+01	9.345E+01	1.879E+00	-0.093
RA-226DA	1.572E+01		1.602E+01	6.976E+01	1.409E+00	0.225
AC-227DA	9.911E+01		9.248E+01	3.598E+02	7.239E+00	0.275
AC-228	-4.671E+00		1.928E+01	8.413E+01	1.735E+00	-0.056
RA-228DA	-4.686E+00		1.934E+01	8.438E+01	1.740E+00	-0.056
TH-228DA	-2.071E+01		2.481E+01	9.063E+01	1.828E+00	-0.228
TH-232DA	-4.907E+01		7.857E+01	2.763E+02	5.526E+00	-0.178
TH-234DA	2.534E+03		8.981E+02	4.454E+03	9.246E+01	0.569
U-234DA	8.935E+01		3.888E+01	1.733E+02	3.471E+00	0.516
U-235HP	8.959E+01		9.921E+01	3.877E+02	7.979E+00	0.231
NP-237DA	1.567E+01		2.208E+01	8.808E+01	1.763E+00	0.178
U-238DA	2.062E+01		1.961E+01	7.386E+01	1.477E+00	0.279
U-238DHP	-5.287E+02		3.514E+02	1.157E+03	2.566E+01	-0.457
AM-241HP	6.230E+01		3.038E+01	1.252E+02	2.800E+00	0.497

STL Richland WA.

BA133

Sample ID: H9F9A1AC
Detector ID: GER13 1

Batch ID: 6200163



Acquisition Start: 28-JUL-2006 16:37:20.53
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -7.12020E-01
Slope: 2.50827E-01
Quadrature: -1.09332E-07

SAMPLE IDENTIFICATION: H9F9A1AC

CONFIGURATION ID: GER13:H9F9A1AC_280761637
TITLE : BA133
SAMPLE ID : H9F9A1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 16:37:20
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 19-JUL-2006 12:00:00.00
CALIB DATE: 28-JUL-2006 05:40:04.31
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: -.7120E+00 keV
ENERGY SLOPE: 2.5083E-01 keV/C
ENERGY Q COEFF: -.1093E-06 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 5.7614E-01 keV
FWHM SLOPE: 3.5887E-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-JUL-2006 17:07:37

Configuration : $DISK1:[GER13.SAMPLE]H9F9A1AC_280761637.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 16:37:20
Sample ID : H9F9A1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.39 0.0%
Start energy : 19.35 End energy : 2046.72
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.87	199	42	0.74	329.28	324	11	1.11E-01	9.6	
2	0	189.29	24	33	0.76	757.76	749	13	1.36E-02	52.1	
3	0	276.40	57	45	1.14	1105.32	1096	15	3.15E-02	29.0	
4	0	302.84	146	29	0.85	1210.86	1202	17	8.09E-02	11.9	
5	0	355.81	437	17	1.18	1422.27	1411	23	2.43E-01	5.4	
6	0	383.55	66	8	0.83	1533.02	1526	15	3.67E-02	15.3	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 17:07:37

Configuration : $DISK1:[GER13.SAMPLE]H9F9A1AC_280761637.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 16:37:20
Sample ID : H9F9A1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.39 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	199	33.00	2.704E+00	7.431E+02	7.444E+02	11.00
	276.40	57	6.90	2.897E+00	9.466E+02	9.482E+02	29.48
	302.84	146	17.80	2.900E+00	9.398E+02	9.413E+02	13.09
	356.00	437	62.05*	2.903E+00	8.085E+02	8.099E+02	7.61
	383.85	66	8.70	2.902E+00	8.732E+02	8.747E+02	16.20

Flag: "*" = Keyline

Sample ID : H9F9A1AC Acquisition date : 28-JUL-2006 16:37:20

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	189.29	24	33	0.76	757.76	749	13	1.36E-02	52.1	2.87E+00	

Flags: "T" = Tentatively associated

Sample ID : H9F9A1AC Acquisition date : 28-JUL-2006 16:37:20

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	9.606E+02	29.48	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-JUL-2006 17:07:39

Configuration : $DISK1:[GER13.SAMPLE]H9F9A1AC_280761637.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 : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 16:37:20
Sample ID : H9F9A1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.39 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	8.099E+02	6.167E+01	4.684E+01	9.368E-01	17.290

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	2.334E+01		7.335E+01	2.803E+02	5.622E+00	0.083
NA-22	-5.958E-02		3.877E+00	1.598E+01	3.372E-01	-0.004
K-40	-8.225E+01		9.133E+01	4.409E+02	9.414E+00	-0.187
SC-46	-1.114E+01		5.024E+00	1.855E+01	3.873E-01	-0.600
CR-51	-1.033E+02		1.227E+02	4.172E+02	8.348E+00	-0.248
MN-54	-4.207E+00		4.724E+00	1.708E+01	3.498E-01	-0.246
CO-57	1.130E+02		1.149E+02	4.270E+02	8.801E+00	0.265
CO-58	-3.707E+00		5.440E+00	2.011E+01	4.113E-01	-0.184
FE-59	-6.455E+00		9.249E+00	3.445E+01	7.184E-01	-0.187
CO-60	7.725E+00		3.973E+00	1.972E+01	4.176E-01	0.392
ZN-65	5.274E+00		8.280E+00	3.637E+01	7.593E-01	0.145
SE-75	-1.188E+01		1.512E+01	5.259E+01	1.055E+00	-0.226
SR-85	-4.023E+01		1.217E+01	3.432E+01	6.895E-01	-1.172
Y-88	1.451E+00		3.504E+00	1.608E+01	3.514E-01	0.090
NB-94	8.747E+00		5.418E+00	2.389E+01	4.905E-01	0.366
NB-95	4.903E+00		6.701E+00	2.727E+01	5.560E-01	0.180
TC-95M	1.810E+00		1.925E+01	6.996E+01	1.414E+00	0.026
ZR-95	-4.413E+00		1.134E+01	4.166E+01	8.490E-01	-0.106
ZRNB-95	9.336E+00		1.237E+01	5.040E+01	1.028E+00	0.185
MO-99	2.516E+01		1.423E+02	5.078E+02	1.045E+01	0.050
RH-101	2.127E+01		1.517E+01	5.687E+01	1.150E+00	0.374
RH-102M	6.039E+00		6.857E+00	2.745E+01	5.506E-01	0.220
RU-103	-7.340E-01		8.164E+00	3.054E+01	6.129E-01	-0.024
RU-106DA	2.762E+01		6.309E+01	2.495E+02	5.040E+00	0.111
AG-108M	1.018E+00		8.495E+00	3.171E+01	6.350E-01	0.032
AG-110M	-1.174E+01		8.216E+00	2.735E+01	5.621E-01	-0.429
SN-113DA	-1.100E+01		1.026E+01	3.568E+01	7.138E-01	-0.308

---- Non-Identified Nuclides ----

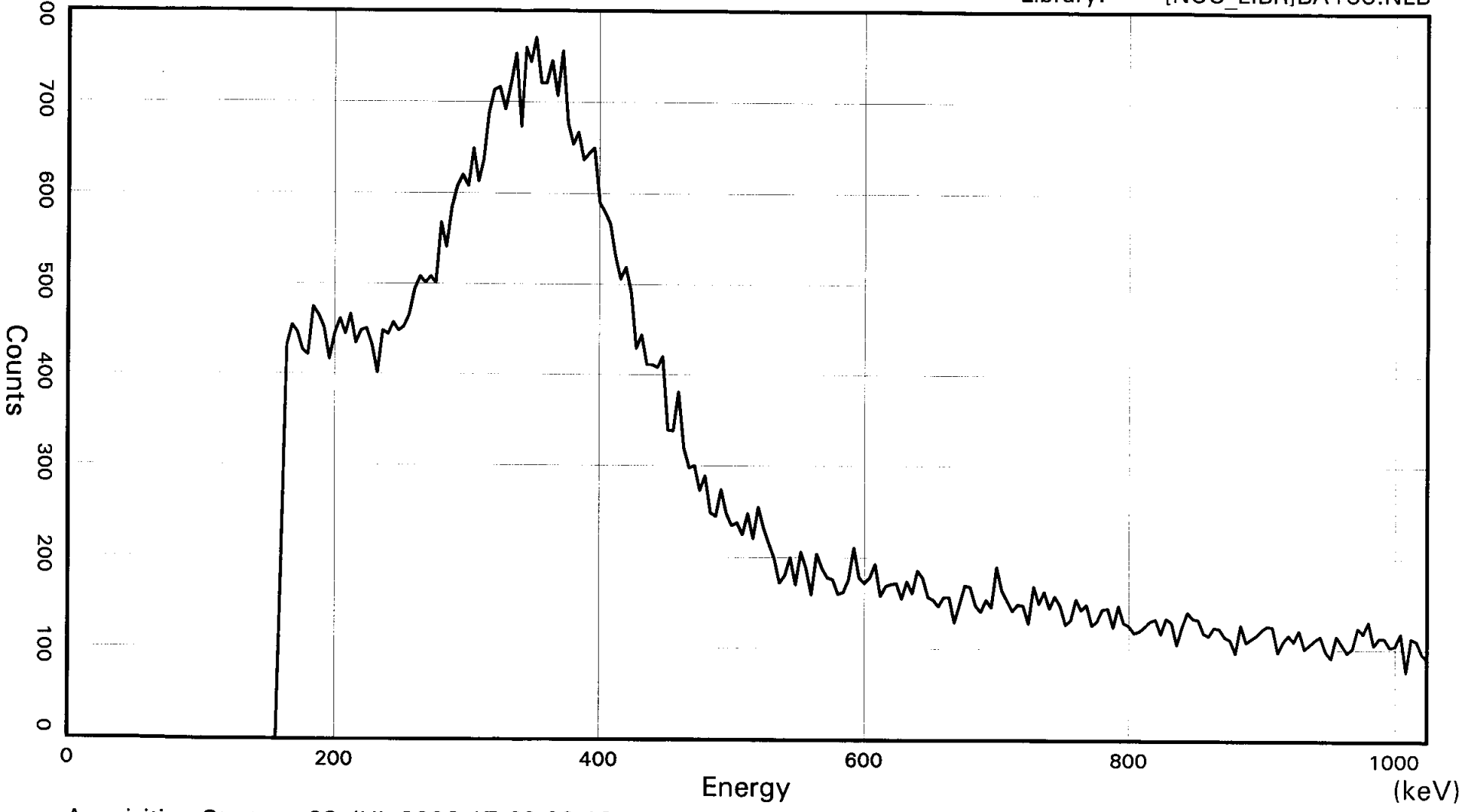
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	-9.516E-01		8.832E+00	3.260E+01	6.580E-01	-0.029
SB-125	3.235E+01		2.360E+01	9.668E+01	1.936E+00	0.335
SN-126DA	2.345E+00		5.202E+00	2.109E+01	4.273E-01	0.111
I-131	-2.236E+01		2.081E+01	7.224E+01	1.445E+00	-0.309
CS-134	1.185E+01		7.080E+00	3.030E+01	6.190E-01	0.391
CS-137DA	-1.262E+01		6.812E+00	2.134E+01	4.322E-01	-0.592
LA-138	-3.412E+00		4.394E+00	1.703E+01	3.630E-01	-0.200
CE-139	-3.379E-01		1.580E+01	5.557E+01	1.133E+00	-0.006
BA-140	5.778E+01		3.638E+01	1.574E+02	3.165E+00	0.367
BALA-140	4.236E+00		1.280E+01	5.586E+01	1.203E+00	0.076
LA-140	-1.174E+02		1.845E+02	6.989E+02	1.505E+01	-0.168
CE-141	-2.765E+01		3.192E+01	1.084E+02	2.225E+00	-0.255
CE-144	4.336E+01		1.066E+02	3.893E+02	8.035E+00	0.111
CEPR-144	8.760E+01		2.133E+02	7.789E+02	1.608E+01	0.112
PM-144	7.622E+00		5.065E+00	2.261E+01	4.567E-01	0.337
PM-146	2.368E+00		9.618E+00	3.711E+01	7.436E-01	0.064
EU-152	3.640E+01		3.391E+01	1.291E+02	2.582E+00	0.282
EU-154	-9.858E-01		1.073E+01	4.392E+01	9.267E-01	-0.022
EU-155	-1.617E+01		5.211E+01	1.868E+02	3.922E+00	-0.087
HF-181	1.590E-01		7.712E+00	2.966E+01	5.950E-01	0.005
BI-207	-2.303E+00		6.031E+00	2.254E+01	4.541E-01	-0.102
TL-208	1.755E+01		7.223E+00	3.370E+01	6.794E-01	0.521
BI-210M	-2.686E+01		1.753E+01	5.766E+01	1.156E+00	-0.466
BI-212	1.565E+02		8.627E+01	3.780E+02	1.155E+01	0.414
PB-212	3.235E+00		2.515E+01	9.276E+01	1.865E+00	0.035
BI-214	-5.423E+00		1.814E+01	7.352E+01	1.484E+00	-0.074
PB-214	1.362E+01		2.505E+01	8.993E+01	1.799E+00	0.151
RA-223	1.215E+02		7.015E+01	2.758E+02	5.530E+00	0.440
RA-224DA	3.265E+00		2.538E+01	9.361E+01	1.882E+00	0.035
RA-226DA	-5.323E+00		1.815E+01	7.356E+01	1.485E+00	-0.072
AC-227DA	-1.829E+02		9.606E+01	3.118E+02	6.270E+00	-0.587
AC-228	7.369E+00		1.907E+01	8.578E+01	1.766E+00	0.086
RA-228DA	7.391E+00		1.913E+01	8.604E+01	1.771E+00	0.086
TH-228DA	4.931E+01		2.029E+01	9.466E+01	1.908E+00	0.521
TH-232DA	-3.697E+01		7.372E+01	2.559E+02	5.119E+00	-0.144
TH-234DA	-5.963E+02		8.091E+02	2.901E+03	6.009E+01	-0.206
U-234DA	-9.498E+01		5.404E+01	1.799E+02	3.603E+00	-0.528
U-235HP	9.296E+01		1.140E+02	4.193E+02	8.615E+00	0.222
NP-237DA	1.274E+01		2.310E+01	8.683E+01	1.738E+00	0.147
U-238DA	1.362E+01		2.505E+01	8.993E+01	1.799E+00	0.151
U-238DHP	-3.122E+02		2.958E+02	9.926E+02	2.189E+01	-0.314
AM-241HP	-6.470E+01		3.045E+01	9.493E+01	2.109E+00	-0.682

STL Richland WA.

BA133

Sample ID: H9F9F1AC
Detector ID: NAI1 1

Library: [NUC_LIBR]BA133.NLB



Acquisition Start: 28-JUL-2006 17:23:29.13
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: H9F9F1AC

CONFIGURATION ID: NAI1:H9F9F1AC_280761723
TITLE : BA133
SAMPLE ID : H9F9F1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 17:23:29
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 19-JUL-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-JUL-2006 17:53:33

```
Configuration     : RDND06$DKA100:[NAI1.SAMPLE]H9F9F1AC_280761723.CNF;1
Analyses by       : NAI V3.0
Sample title      : BA133
Sample date       : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 17:23:29
Sample ID         : H9F9F1AC             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:	7.3	6.2	4.6	4.1	5.0	0.7	4.8	2.5
88:	3.1	0.7	0.4	0.9	0.0	0.5	-0.5	-1.2
96:	-1.1	-3.0	-1.6	-1.4	-3.7	-2.2	-2.6	-4.2
104:	-5.3	-4.1	-4.3	-5.7	-4.8	-5.3	-5.4	-4.8
112:	-3.1	-5.6						

List of Suspicious Channels

81 82 83 87

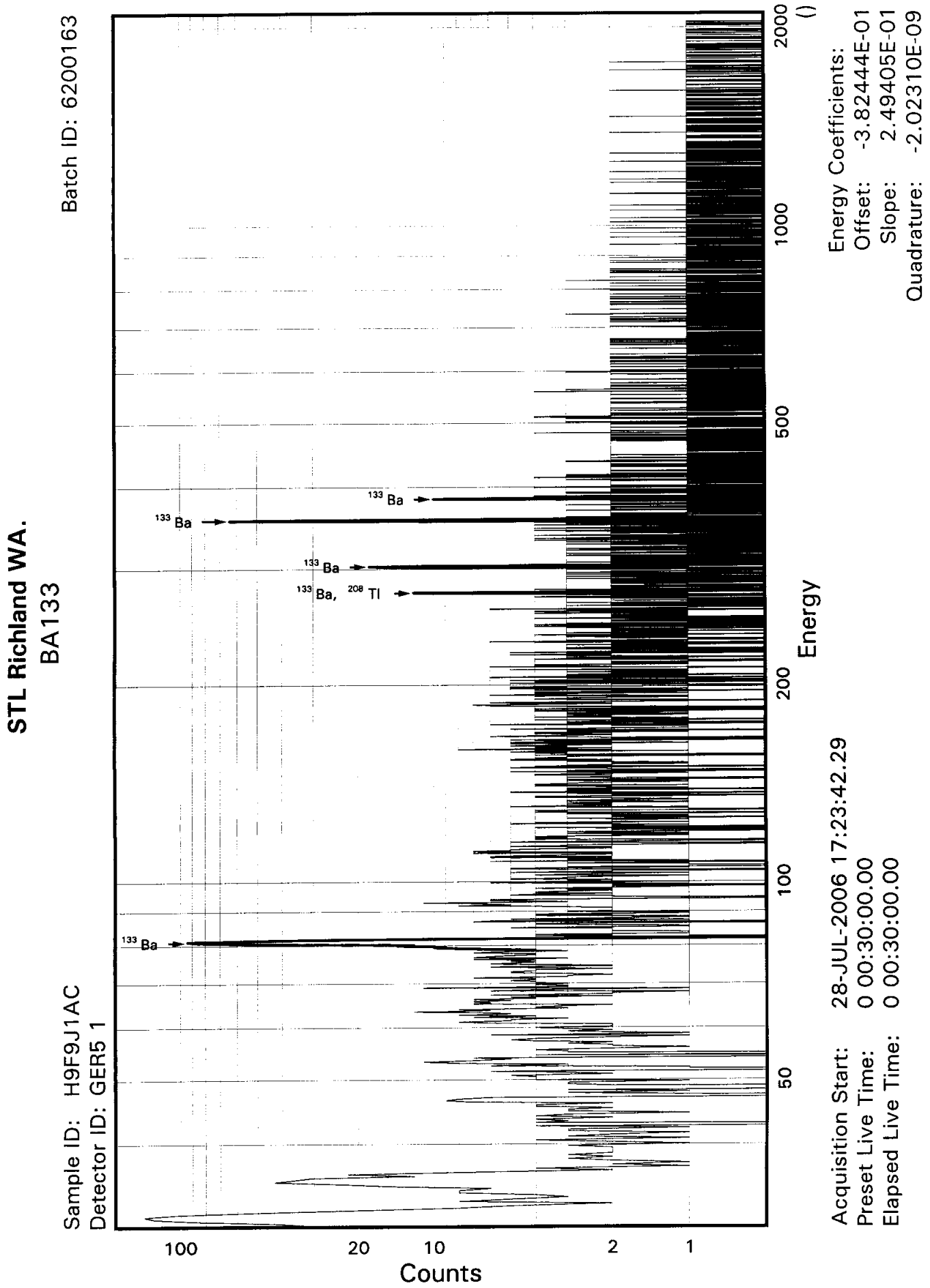
Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	1.34E+01	0.00E+00	1.02E+00
2	5.59E+00	0.00E+00	1.05E+00
3	1.58E+00	0.00E+00	1.07E+00
4	6.20E-01	0.00E+00	1.08E+00

Sample ID : H9F9F1AC
Acquisition date : 28-JUL-2006 17:23:29

Brief Report

Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	723.	7.05

Total Activity :	723.	


STL Richland WA.
BA133
Batch ID: 6200163
Sample ID: H9F9J1AC
Detector ID: GER5 1
133 Ba
133 Ba
133 Ba
133 Ba
133 Ba, 208 Tl
Counts
100
20
10
2
1
Energy
50
100
200
500
1000
2000
()
Acquisition Start: 28-JUL-2006 17:23:42.29
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00
Energy Coefficients:
Offset: -3.82444E-01
Slope: 2.49405E-01
Quadrature: -2.02310E-09

SAMPLE IDENTIFICATION: H9F9J1AC

CONFIGURATION ID: GER5:H9F9J1AC_280761723
TITLE : BA133
SAMPLE ID : H9F9J1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 17:23:42
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 19-JUL-2006 12:00:00.00
CALIB DATE: 28-JUL-2006 05:19:50.00
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: -.3824E+00 keV
ENERGY SLOPE: 2.4940E-01 keV/C
ENERGY Q COEFF: -.2023E-08 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 7.1159E-01 keV
FWHM SLOPE: 2.9464E-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-JUL-2006 17:53:57

Configuration : RDND06$DKA100:[GER5.SAMPLE]H9F9J1AC_280761723.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 17:23:42
Sample ID : H9F9J1AC 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 : 19.57 End energy : 2042.61
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	30.97	527	126	0.94	125.71	118	15	2.93E-01	6.4	
2	0	35.27	183	43	0.85	142.97	135	16	1.02E-01	10.9	
3	0	46.37*	10	14	0.89	187.47	181	11	5.54E-03	94.7	
4	0	53.99*	17	28	1.07	218.03	209	11	9.66E-03	64.6	
5	0	80.93	409	34	0.96	326.03	317	15	2.27E-01	5.8	
6	0	276.15	40	11	0.91	1108.80	1102	14	2.24E-02	23.2	
7	0	302.75	95	13	1.47	1215.45	1209	13	5.28E-02	12.9	
8	0	355.99	303	4	1.10	1428.91	1420	16	1.68E-01	5.9	
9	0	383.65	49	4	1.20	1539.80	1532	15	2.75E-02	16.6	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 28-JUL-2006 17:53:57

Configuration : RDND06$DKA100:[GER5.SAMPLE]H9F9J1AC_280761723.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4
Sample title : BA133
Sample date : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 17:23:42
Sample ID : H9F9J1AC 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	409	33.00	1.924E+00	2.150E+03	2.153E+03	7.93
	276.40	40	6.90	2.077E+00	9.384E+02	9.400E+02	23.84
	302.84	95	17.80	2.080E+00	8.554E+02	8.569E+02	13.98
	356.00	303	62.05*	2.082E+00	7.809E+02	7.822E+02	8.02
	383.85	49	8.70	2.081E+00	9.099E+02	9.114E+02	17.42

Flag: "*" = Keyline

Sample ID : H9F9J1AC Acquisition date : 28-JUL-2006 17:23:42

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	30.97	527	126	0.94	125.71	118	15	2.93E-01	6.4	1.68E+00	
0	35.27	183	43	0.85	142.97	135	16	1.02E-01	10.9	1.72E+00	
0	46.37	10	14	0.89	187.47	181	11	5.54E-03	94.7	1.79E+00	
0	53.99	17	28	1.07	218.03	209	11	9.66E-03	64.6	1.83E+00	

Flags: "T" = Tentatively associated

Sample ID : H9F9J1AC Acquisition date : 28-JUL-2006 17:23:42

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	9.522E+02	23.84	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 V3.1 Generated 28-JUL-2006 17:53:58

Configuration : RDND06$DKA100:[GER5.SAMPLE]H9F9J1AC_280761723.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 : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 17:23:42
Sample ID : H9F9J1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.23 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.822E+02	6.271E+01	5.392E+01	1.078E+00	14.506

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-9.086E+01		7.681E+01	2.607E+02	5.231E+00	-0.348
NA-22	1.225E-01		3.360E+00	1.587E+01	3.365E-01	0.008
NA-24	4.321E-02		3.064E-02	Half-Life too short		
K-40	-1.049E+02		4.468E+01	2.112E+02	4.537E+00	-0.497
SC-46	5.321E+00		5.482E+00	2.554E+01	5.354E-01	0.208
CR-51	-1.040E+02		1.168E+02	4.001E+02	8.006E+00	-0.260
MN-54	3.132E+00		4.829E+00	2.198E+01	4.513E-01	0.142
CO-57	9.351E+01		1.197E+02	4.517E+02	9.337E+00	0.207
CO-58	-2.264E+00		6.644E+00	2.546E+01	5.218E-01	-0.089
FE-59	1.017E+01		9.116E+00	4.486E+01	9.390E-01	0.227
CO-60	-1.593E+00		3.773E+00	1.587E+01	3.379E-01	-0.100
ZN-65	-3.243E+00		9.163E+00	3.707E+01	7.770E-01	-0.087
SE-75	7.561E+00		1.595E+01	6.198E+01	1.243E+00	0.122
SR-85	-2.919E+01		1.182E+01	3.451E+01	6.936E-01	-0.846
Y-88	0.000E+00		9.423E-02	5.094E+00	1.122E-01	0.000
NB-94	-2.973E+00		3.909E+00	1.529E+01	3.148E-01	-0.194
NB-95	3.773E+00		6.274E+00	2.772E+01	5.661E-01	0.136
TC-95M	1.560E+01		2.164E+01	8.200E+01	1.658E+00	0.190
ZR-95	-2.800E-01		1.042E+01	4.279E+01	8.734E-01	-0.007
ZRNB-95	6.944E+00		1.155E+01	5.101E+01	1.042E+00	0.136
MO-99	8.982E+01		1.494E+02	5.529E+02	1.141E+01	0.162
RH-101	1.679E+01		1.797E+01	6.880E+01	1.393E+00	0.244
RH-102M	-2.795E-02		7.309E+00	2.851E+01	5.720E-01	-0.001
RU-103	9.176E+00		8.179E+00	3.615E+01	7.258E-01	0.254
RU-106DA	9.279E+01		6.934E+01	3.085E+02	6.238E+00	0.301
AG-108M	-1.614E+01		8.921E+00	2.813E+01	5.633E-01	-0.574
AG-110M	2.541E+00		5.122E+00	2.508E+01	5.167E-01	0.101

---- Non-Identified Nuclides ----

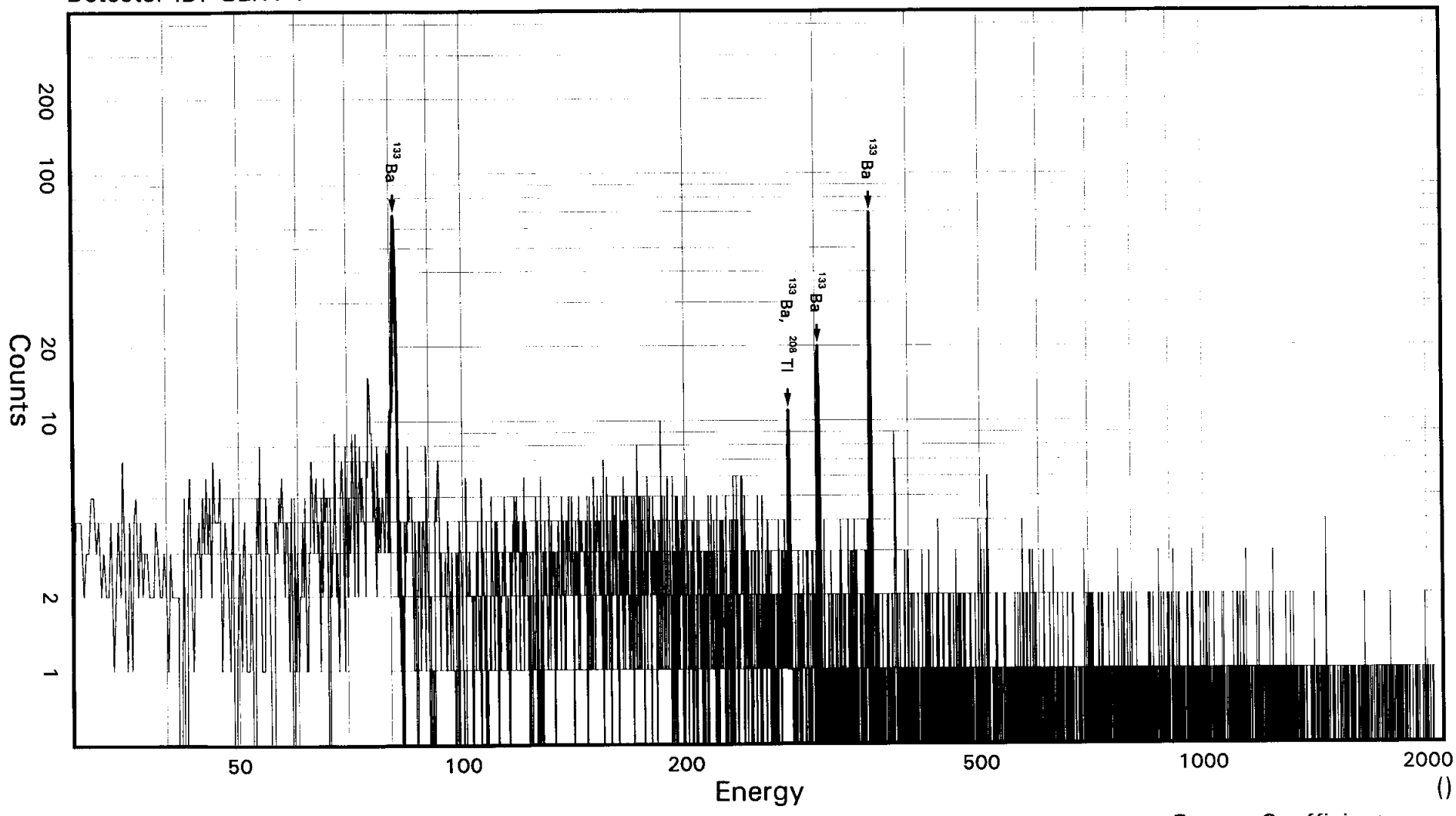
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	2.046E+01		1.361E+01	5.792E+01	1.159E+00	0.353
SB-124	-2.996E+00		7.185E+00	2.758E+01	5.571E-01	-0.109
SB-125	2.353E+01		2.075E+01	9.263E+01	1.855E+00	0.254
SN-126DA	-3.013E+00		6.442E+00	2.438E+01	4.946E-01	-0.124
I-131	-5.485E+00		2.267E+01	8.544E+01	1.709E+00	-0.064
CS-134	7.195E-01		6.961E+00	2.828E+01	5.789E-01	0.025
CS-137DA	-3.030E-01		8.387E+00	3.275E+01	6.641E-01	-0.009
LA-138	5.150E+00		5.156E+00	2.769E+01	5.939E-01	0.186
CE-139	-4.665E+00		1.767E+01	6.389E+01	1.305E+00	-0.073
BA-140	4.918E+01		4.175E+01	1.840E+02	3.703E+00	0.267
BALA-140	-3.117E+01		1.640E+01	4.410E+01	9.563E-01	-0.707
LA-140	-2.683E+02		2.238E+02	7.592E+02	1.646E+01	-0.353
CE-141	4.428E+00		3.114E+01	1.129E+02	2.323E+00	0.039
CE-144	-5.454E+01		1.210E+02	4.225E+02	8.746E+00	-0.129
CEPR-144	-1.103E+02		2.419E+02	8.444E+02	1.748E+01	-0.131
PM-144	6.069E+00		7.220E+00	3.056E+01	6.180E-01	0.199
PM-146	1.235E+01		7.463E+00	3.712E+01	7.441E-01	0.333
EU-152	1.404E+01		3.411E+01	1.339E+02	2.678E+00	0.105
EU-154	4.963E+00		8.206E+00	4.446E+01	9.427E-01	0.112
EU-155	-5.824E+01		6.046E+01	2.062E+02	4.350E+00	-0.282
HF-181	1.310E+01		1.018E+01	4.387E+01	8.803E-01	0.299
BI-207	1.796E+01		6.759E+00	3.291E+01	6.635E-01	0.546
TL-208	7.785E+00		7.489E+00	3.306E+01	6.670E-01	0.235
BI-210M	9.715E+00		1.760E+01	6.907E+01	1.386E+00	0.141
BI-212	1.236E+02		7.482E+01	3.719E+02	1.137E+01	0.332
PB-212	4.157E+00		2.427E+01	9.602E+01	1.931E+00	0.043
BI-214	2.740E+00		1.307E+01	5.399E+01	1.091E+00	0.051
PB-214	2.848E+01		3.110E+01	1.087E+02	2.174E+00	0.262
RA-223	-2.036E+01		6.419E+01	2.352E+02	4.717E+00	-0.087
RA-224DA	4.195E+00		2.449E+01	9.690E+01	1.949E+00	0.043
RA-226DA	2.600E+00		1.305E+01	5.387E+01	1.089E+00	0.048
AC-227DA	-1.381E+02		1.011E+02	3.363E+02	6.766E+00	-0.411
AC-228	-3.040E+01		1.652E+01	6.008E+01	1.240E+00	-0.506
RA-228DA	-3.049E+01		1.657E+01	6.026E+01	1.244E+00	-0.506
TH-228DA	2.187E+01		2.104E+01	9.287E+01	1.874E+00	0.235
TH-232DA	1.440E+01		7.538E+01	2.902E+02	5.805E+00	0.050
TH-234DA	5.825E+00		5.091E+02	2.375E+03	4.937E+01	0.002
U-234DA	5.534E+01		4.911E+01	1.972E+02	3.949E+00	0.281
U-235HP	-1.973E+02		1.224E+02	3.902E+02	8.037E+00	-0.506
NP-237DA	-8.879E+00		2.635E+01	9.482E+01	1.897E+00	-0.094
U-238DA	2.848E+01		3.110E+01	1.087E+02	2.174E+00	0.262
U-238DHP	-4.218E+02		5.257E+02	1.914E+03	4.261E+01	-0.220
AM-241HP	-9.307E+01		4.403E+01	1.417E+02	3.179E+00	-0.657

STL Richland WA.

BA133

Sample ID: H9F9L1AC
Detector ID: GER4 1

Batch ID: 6200163



Acquisition Start: 28-JUL-2006 17:24:40.23
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -1.24429E-01
Slope: 2.48926E-01
Quadrature: 1.06042E-08

SAMPLE IDENTIFICATION: H9F9L1AC

CONFIGURATION ID: GER4:H9F9L1AC_280761724
TITLE : BA133
SAMPLE ID : H9F9L1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 17:24:40
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 19-JUL-2006 12:00:00.00
CALIB DATE: 28-JUL-2006 05:19:46.10
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: -.1244E+00 keV
ENERGY SLOPE: 2.4893E-01 keV/C
ENERGY Q COEFF: 1.0604E-08 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 4.8025E-01 keV
FWHM SLOPE: 3.8283E-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-JUL-2006 17:54:57

Configuration : $DISK1:[GER4.SAMPLE]H9F9L1AC_280761724.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 17:24:40
Sample ID : H9F9L1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.41 0.0%
Start energy : 19.79 End energy : 2039.79
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.08	239	33	0.79	326.22	320	15	1.33E-01	8.5	
2	0	276.26	42	14	1.22	1110.26	1105	11	2.36E-02	22.8	
3	0	302.82	95	15	1.29	1216.95	1209	15	5.29E-02	13.5	
4	0	355.93	281	5	0.86	1430.29	1420	18	1.56E-01	6.2	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 17:54:57

Configuration : $DISK1:[GER4.SAMPLE]H9F9L1AC_280761724.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 17:24:40
Sample ID : H9F9L1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.41 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	239	33.00	2.043E+00	1.181E+03	1.183E+03	10.18
	276.40	42	6.90	2.202E+00	9.314E+02	9.330E+02	23.47
	302.84	95	17.80	2.205E+00	8.092E+02	8.106E+02	14.61
	356.00	281	62.05*	2.207E+00	6.836E+02	6.847E+02	9.18
	383.85	------	8.70	2.207E+00	------	Line Not Found	------

Flag: "*" = Keyline

Sample ID : H9F9L1AC Acquisition date : 28-JUL-2006 17:24:40

None

Flags: "T" = Tentatively associated

Sample ID : H9F9L1AC Acquisition date : 28-JUL-2006 17:24:40

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	9.451E+02	23.47	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-JUL-2006 17:54:59

Configuration : $DISK1:[GER4.SAMPLE]H9F9L1AC_280761724.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 : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 17:24:40
Sample ID : H9F9L1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.41 0.0%
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	6.847E+02	6.288E+01	2.816E+01	1.320E+00	24.312

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	3.383E+01		6.930E+01	2.852E+02	1.041E+01	0.119
NA-22	-3.124E+00		3.295E+00	1.220E+01	4.703E-01	-0.256
K-40	4.712E+01		7.889E+01	3.941E+02	1.539E+01	0.120
SC-46	3.594E+00		4.773E+00	2.237E+01	8.530E-01	0.161
CR-51	7.693E+01		9.103E+01	3.770E+02	8.750E+00	0.204
MN-54	1.930E+00		5.143E+00	2.229E+01	8.325E-01	0.087
CO-57	3.131E+01		1.091E+02	4.125E+02	9.889E+00	0.076
CO-58	-3.714E-01		5.536E+00	2.238E+01	8.344E-01	-0.017
FE-59	-1.967E+01		1.067E+01	3.258E+01	1.240E+00	-0.604
CO-60	-1.750E+00		3.667E+00	1.495E+01	5.788E-01	-0.117
ZN-65	-1.198E+01		9.887E+00	3.441E+01	1.312E+00	-0.348
SE-75	-2.742E+01		1.569E+01	5.120E+01	1.192E+00	-0.535
SR-85	-1.742E+01		9.700E+00	3.058E+01	1.118E+00	-0.570
Y-88	-1.714E+00		3.041E+00	1.305E+01	5.224E-01	-0.131
NB-94	1.097E+01		5.170E+00	2.587E+01	9.686E-01	0.424
NB-95	1.511E+00		6.781E+00	2.782E+01	1.034E+00	0.054
TC-95M	-6.746E+00		1.648E+01	5.888E+01	1.381E+00	-0.115
ZR-95	1.346E+01		1.100E+01	5.001E+01	1.857E+00	0.269
ZRNB-95	2.780E+00		1.248E+01	5.120E+01	1.903E+00	0.054
MO-99	1.458E+02		1.356E+02	5.284E+02	1.264E+01	0.276
RH-101	-2.011E+00		1.701E+01	6.088E+01	1.430E+00	-0.033
RH-102M	7.863E+00		6.578E+00	2.889E+01	1.055E+00	0.272
RU-103	1.615E+01		8.107E+00	3.780E+01	1.381E+00	0.427
RU-106DA	5.469E+01		5.265E+01	2.419E+02	8.903E+00	0.226
AG-108M	-1.121E+01		5.453E+00	1.561E+01	5.690E-01	-0.718
AG-110M	2.520E+00		7.835E+00	3.297E+01	1.236E+00	0.076
SN-113DA	-1.210E+01		1.143E+01	3.875E+01	1.411E+00	-0.312

Sample ID : H9F9L1AC Acquisition date : 28-JUL-2006 17:24:40

---- Non-Identified Nuclides ----

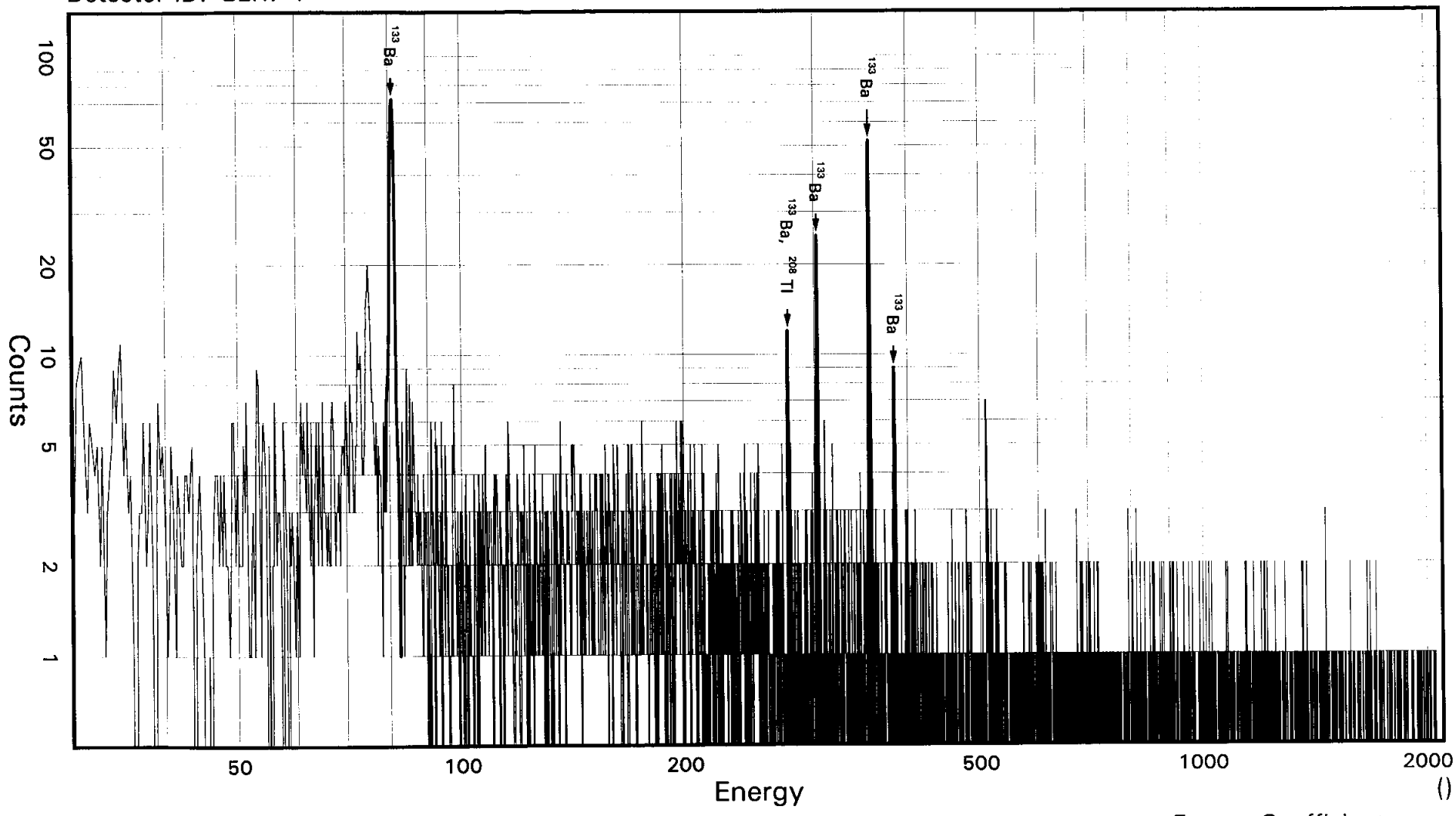
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	1.065E+01		5.967E+00	2.886E+01	1.061E+00	0.369
SB-125	-2.183E+01		2.107E+01	7.471E+01	2.723E+00	-0.292
SN-126DA	9.217E+00		4.362E+00	2.299E+01	8.484E-01	0.401
I-131	1.975E+00		1.617E+01	6.461E+01	2.352E+00	0.031
CS-134	2.697E+00		6.900E+00	2.854E+01	1.063E+00	0.094
CS-137DA	-8.688E+00		6.426E+00	2.160E+01	7.970E-01	-0.402
LA-138	7.717E+00		4.354E+00	2.667E+01	1.040E+00	0.289
CE-139	1.534E+01		1.557E+01	5.996E+01	1.420E+00	0.256
BA-140	-1.153E+01		3.059E+01	1.203E+02	4.406E+00	-0.096
BALA-140	1.519E+01		1.231E+01	6.579E+01	2.593E+00	0.231
LA-140	2.336E+02		1.756E+02	9.374E+02	3.695E+01	0.249
CE-141	2.178E+01		3.096E+01	1.179E+02	2.815E+00	0.185
CE-144	-2.223E+01		1.049E+02	3.865E+02	9.278E+00	-0.058
CEPR-144	-1.652E+01		2.080E+02	7.732E+02	1.856E+01	-0.021
PM-144	2.672E+00		4.762E+00	2.139E+01	7.871E-01	0.125
PM-146	2.121E+01		9.650E+00	4.540E+01	1.656E+00	0.467
EU-152	1.028E+01		2.448E+01	9.932E+01	2.305E+00	0.103
EU-154	-7.123E+00		9.617E+00	3.754E+01	1.448E+00	-0.190
EU-155	7.992E+01		5.064E+01	2.043E+02	4.995E+00	0.391
HF-181	2.705E+00		8.288E+00	3.415E+01	1.247E+00	0.079
BI-207	9.060E+00		6.767E+00	2.943E+01	1.080E+00	0.308
TL-208	9.425E+00		7.535E+00	3.522E+01	1.293E+00	0.268
BI-210M	1.359E+01		1.674E+01	6.761E+01	1.574E+00	0.201
BI-212	-9.646E+01		9.443E+01	3.293E+02	1.433E+01	-0.293
PB-212	-1.504E+01		2.805E+01	1.040E+02	2.427E+00	-0.145
BI-214	1.237E+01		1.308E+01	6.198E+01	2.279E+00	0.200
PB-214	2.188E+01		3.041E+01	1.024E+02	2.375E+00	0.214
RA-223	-8.202E+01		7.477E+01	2.581E+02	6.005E+00	-0.318
RA-224DA	-1.518E+01		2.831E+01	1.050E+02	2.450E+00	-0.145
RA-226DA	1.237E+01		1.308E+01	6.198E+01	2.279E+00	0.200
AC-227DA	-2.282E+02		1.109E+02	3.400E+02	7.937E+00	-0.671
AC-228	-1.311E+01		2.152E+01	9.048E+01	3.398E+00	-0.145
RA-228DA	-1.315E+01		2.159E+01	9.076E+01	3.408E+00	-0.145
TH-228DA	2.647E+01		2.117E+01	9.893E+01	3.632E+00	0.268
TH-232DA	1.105E+02		7.523E+01	3.066E+02	7.114E+00	0.361
TH-234DA	-1.859E+01		6.890E+02	2.896E+03	1.095E+02	-0.006
U-234DA	-4.629E+01		4.524E+01	1.569E+02	3.645E+00	-0.295
U-235HP	2.811E+01		1.187E+02	4.413E+02	1.054E+01	0.064
NP-237DA	8.300E+00		1.871E+01	7.589E+01	1.762E+00	0.109
U-238DA	2.188E+01		3.041E+01	1.024E+02	2.375E+00	0.214
U-238DHP	-6.102E+00		3.741E+02	1.393E+03	3.593E+01	-0.004
AM-241HP	-4.070E+01		3.373E+01	1.159E+02	3.012E+00	-0.351

STL Richland WA.

BA133

Sample ID: H9F9M1AC
Detector ID: GER7 1

Batch ID: 6200163



Acquisition Start: 28-JUL-2006 17:24:53.04
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 5.05100E-01
Slope: 2.49316E-01
Quadrature: 1.19546E-07

SAMPLE IDENTIFICATION: H9F9M1AC

CONFIGURATION ID: GER7:H9F9M1AC_280761724
TITLE : BA133
SAMPLE ID : H9F9M1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 17:24:53
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 19-JUL-2006 12:00:00.00
CALIB DATE: 28-JUL-2006 05:20:22.55
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: 5.0510E-01 keV
ENERGY SLOPE: 2.4932E-01 keV/C
ENERGY Q COEFF: 1.1955E-07 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 4.3365E-01 keV
FWHM SLOPE: 4.2398E-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-JUL-2006 17:55:12

Configuration : $DISK1:[GER7.SAMPLE]H9F9M1AC_280761724.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 17:24:53
Sample ID : H9F9M1AC 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 : 20.45 End energy : 2050.93
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	75.06*	21	55	1.06	299.01	294	12	1.17E-02	79.9	
2	0	80.94	326	45	1.08	322.58	314	16	1.81E-01	7.2	
3	0	276.58	51	7	0.84	1106.75	1099	14	2.82E-02	17.9	
4	0	302.74	105	0	0.79	1211.53	1204	14	5.83E-02	9.8	
5	0	355.86	293	13	1.35	1424.34	1416	17	1.63E-01	6.5	
6	0	383.79	47	7	0.98	1536.22	1528	15	2.63E-02	19.2	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 17:55:13

Configuration : $DISK1:[GER7.SAMPLE]H9F9M1AC_280761724.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 19-JUL-2006 12:00:00
Sample ID : H9F9M1AC
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-JUL-2006 17:24:53
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.20 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	326	33.00	1.923E+00	1.715E+03	1.717E+03	9.00
	276.40	51	6.90	2.076E+00	1.183E+03	1.185E+03	18.66
	302.84	105	17.80	2.078E+00	9.460E+02	9.476E+02	11.15
	356.00	293	62.05*	2.080E+00	7.570E+02	7.583E+02	8.42
	383.85	47	8.70	2.080E+00	8.705E+02	8.720E+02	19.92

Flag: "*" = Keyline

Sample ID : H9F9M1AC Acquisition date : 28-JUL-2006 17:24:53

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	75.06	21	55	1.06	299.01	294	12	1.17E-02	79.9	1.91E+00	

Flags: "T" = Tentatively associated

Sample ID : H9F9M1AC Acquisition date : 28-JUL-2006 17:24:53

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	1.200E+03	18.66	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-JUL-2006 17:55:14

Configuration : $DISK1:[GER7.SAMPLE]H9F9M1AC_280761724.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 : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 17:24:53
Sample ID : H9F9M1AC 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%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.583E+02	6.385E+01	5.953E+01	1.191E+00	12.737

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	1.203E+02		6.809E+01	3.153E+02	6.325E+00	0.382
NA-22	5.134E+00		2.977E+00	1.841E+01	3.903E-01	0.279
K-40	1.939E+01		6.999E+01	3.436E+02	7.383E+00	0.056
SC-46	3.578E+00		4.466E+00	2.176E+01	4.563E-01	0.164
CR-51	5.557E+01		1.195E+02	4.617E+02	9.238E+00	0.120
MN-54	6.493E-01		4.855E+00	2.087E+01	4.285E-01	0.031
CO-57	-4.711E+01		1.143E+02	4.152E+02	8.582E+00	-0.113
CO-58	5.516E+00		5.976E+00	2.713E+01	5.559E-01	0.203
FE-59	3.129E+00		7.624E+00	3.651E+01	7.643E-01	0.086
CO-60	-3.366E+00		4.824E+00	1.841E+01	3.920E-01	-0.183
ZN-65	-7.340E+00		8.315E+00	3.087E+01	6.470E-01	-0.238
SE-75	6.770E+00		1.623E+01	6.335E+01	1.271E+00	0.107
SR-85	-3.148E+01		1.370E+01	4.125E+01	8.290E-01	-0.763
Y-88	-1.700E+00		4.135E+00	1.750E+01	3.855E-01	-0.097
NB-94	4.902E+00		4.388E+00	2.160E+01	4.447E-01	0.227
NB-95	2.621E+00		5.885E+00	2.618E+01	5.348E-01	0.100
TC-95M	4.667E+00		2.015E+01	7.396E+01	1.496E+00	0.063
ZR-95	1.477E+01		1.138E+01	5.280E+01	1.078E+00	0.280
ZRNB-95	5.260E+00		1.090E+01	4.863E+01	9.933E-01	0.108
MO-99	8.846E+01		1.395E+02	5.342E+02	1.102E+01	0.166
RH-101	8.401E+00		1.854E+01	6.818E+01	1.381E+00	0.123
RH-102M	-8.605E+00		6.734E+00	2.257E+01	4.527E-01	-0.381
RU-103	-3.151E-01		6.128E+00	2.553E+01	5.126E-01	-0.012
RU-106DA	-8.361E+01		6.068E+01	2.019E+02	4.084E+00	-0.414
AG-108M	-1.404E+01		7.965E+00	2.516E+01	5.038E-01	-0.558
AG-110M	8.242E-01		4.933E+00	2.308E+01	4.756E-01	0.036
SN-113DA	-3.965E+00		1.141E+01	4.350E+01	8.703E-01	-0.091

---- Non-Identified Nuclides ----

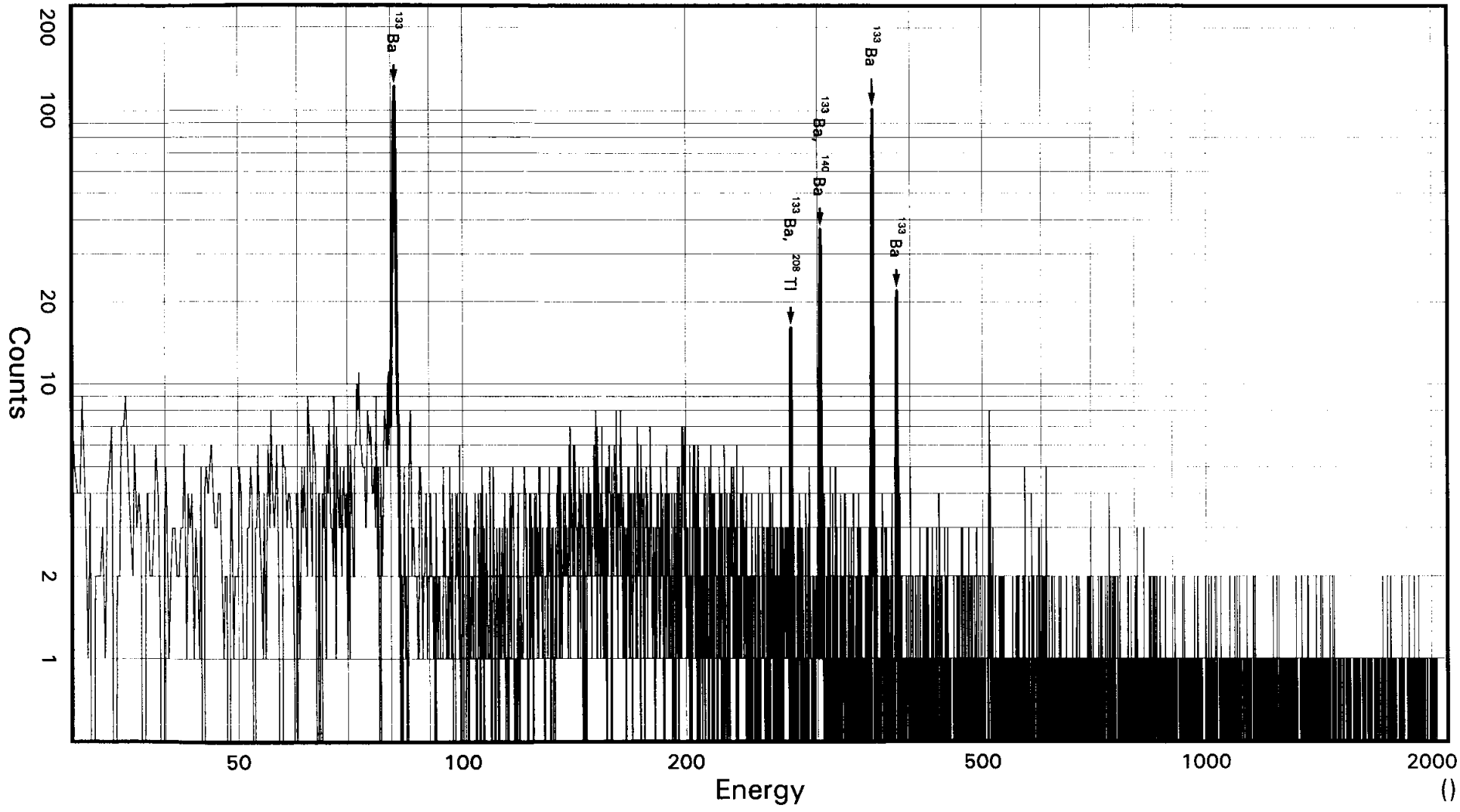
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	-1.411E+00		9.136E+00	3.465E+01	7.000E-01	-0.041
SB-125	2.991E+01		2.413E+01	1.048E+02	2.098E+00	0.286
SN-126DA	5.586E+00		5.054E+00	2.367E+01	4.801E-01	0.236
I-131	-4.601E+01		2.551E+01	7.884E+01	1.577E+00	-0.584
CS-134	-3.722E+00		4.687E+00	1.797E+01	3.679E-01	-0.207
CS-137DA	-3.733E+00		5.517E+00	2.090E+01	4.238E-01	-0.179
LA-138	-2.753E+00		5.842E+00	2.390E+01	5.126E-01	-0.115
CE-139	9.791E-01		1.525E+01	5.636E+01	1.151E+00	0.017
BA-140	-3.746E+01		3.851E+01	1.393E+02	2.804E+00	-0.269
BALA-140	6.002E+00		6.011E+00	4.413E+01	9.570E-01	0.136
LA-140	8.298E+01		8.310E+01	6.101E+02	1.323E+01	0.136
CE-141	3.337E+00		2.952E+01	1.103E+02	2.271E+00	0.030
CE-144	-2.955E+00		1.025E+02	3.853E+02	7.977E+00	-0.008
CEPR-144	-8.421E+00		2.049E+02	7.694E+02	1.593E+01	-0.011
PM-144	6.381E-02		6.208E+00	2.496E+01	5.048E-01	0.003
PM-146	-3.366E+00		1.129E+01	4.252E+01	8.522E-01	-0.079
EU-152	2.958E-01		3.203E+01	1.205E+02	2.410E+00	0.002
EU-154	1.438E+01		8.341E+00	5.157E+01	1.094E+00	0.279
EU-155	-4.383E+00		5.324E+01	1.941E+02	4.094E+00	-0.023
HF-181	-1.657E+01		1.006E+01	3.182E+01	6.385E-01	-0.521
BI-207	6.837E+00		5.677E+00	2.622E+01	5.285E-01	0.261
TL-208	-1.168E+00		7.121E+00	3.028E+01	6.109E-01	-0.039
BI-210M	1.378E+01		1.896E+01	7.513E+01	1.507E+00	0.183
BI-212	5.049E+01		7.251E+01	3.300E+02	1.009E+01	0.153
PB-212	-2.857E+01		2.382E+01	8.762E+01	1.763E+00	-0.326
BI-214	-4.031E+01		1.649E+01	5.384E+01	1.088E+00	-0.749
PB-214	-3.932E+01		3.046E+01	8.746E+01	1.749E+00	-0.450
RA-223	4.935E+01		6.785E+01	2.700E+02	5.414E+00	0.183
RA-224DA	-2.884E+01		2.404E+01	8.843E+01	1.779E+00	-0.326
RA-226DA	-4.017E+01		1.651E+01	5.396E+01	1.090E+00	-0.745
AC-227DA	-1.032E+02		8.763E+01	3.035E+02	6.107E+00	-0.340
AC-228	2.274E+01		2.088E+01	9.433E+01	1.947E+00	0.241
RA-228DA	2.281E+01		2.094E+01	9.462E+01	1.953E+00	0.241
TH-228DA	-3.280E+00		2.000E+01	8.505E+01	1.716E+00	-0.039
TH-232DA	-2.473E+01		6.287E+01	2.306E+02	4.612E+00	-0.107
TH-234DA	5.347E+02		7.172E+02	3.356E+03	6.974E+01	0.159
U-234DA	-8.278E+01		4.749E+01	1.518E+02	3.041E+00	-0.545
U-235HP	-1.705E+02		1.247E+02	4.218E+02	8.689E+00	-0.404
NP-237DA	-2.201E+01		2.599E+01	9.053E+01	1.812E+00	-0.243
U-238DA	-3.932E+01		3.046E+01	8.746E+01	1.749E+00	-0.450
U-238DHP	-4.717E+02		4.023E+02	1.419E+03	3.159E+01	-0.332
AM-241HP	-7.228E+01		3.639E+01	1.186E+02	2.660E+00	-0.610

STL Richland WA.

BA133

Sample ID: H9F9N1AC
Detector ID: GER12 1

Batch ID: 6200163



Acquisition Start: 28-JUL-2006 17:25:28.09
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 1.25056E+01
Slope: 2.46535E-01
Quadrature: 1.32258E-09

SAMPLE IDENTIFICATION: H9F9N1AC

CONFIGURATION ID: GER12:H9F9N1AC_280761725
TITLE : BA133
SAMPLE ID : H9F9N1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 17:25:28
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 19-JUL-2006 12:00:00.00
CALIB DATE: 28-JUL-2006 05:21:40.87
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: 1.2506E+01 keV
ENERGY SLOPE: 2.4653E-01 keV/C
ENERGY Q COEFF: 1.3226E-09 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 3.4811E-01 keV
FWHM SLOPE: 3.9049E-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-JUL-2006 17:55:45

Configuration : $DISK1:[GER12.SAMPLE]H9F9N1AC_280761725.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 17:25:28
Sample ID : H9F9N1AC 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 : 12.75 End energy : 2032.21
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	359	43	0.59	277.67	271	14	2.00E-01	6.6	
2	0	276.53	71	7	0.95	1070.93	1064	14	3.94E-02	14.3	
3	0	302.90	128	36	0.78	1177.91	1169	18	7.11E-02	14.1	
4	0	355.95	479	5	1.12	1393.08	1382	21	2.66E-01	4.7	
5	0	383.77	89	4	0.69	1505.94	1498	15	4.95E-02	11.6	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 17:55:45

Configuration : $DISK1:[GER12.SAMPLE]H9F9N1AC_280761725.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 17:25:28
Sample ID : H9F9N1AC 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	359	33.00	2.899E+00	1.251E+03	1.253E+03	8.55
	276.40	71	6.90	3.105E+00	1.105E+03	1.107E+03	15.24
	302.84	128	17.80	3.109E+00	7.711E+02	7.724E+02	15.10
	356.00	479	62.05*	3.111E+00	8.271E+02	8.285E+02	7.16
	383.85	89	8.70	3.111E+00	1.098E+03	1.099E+03	12.80

Flag: "*" = Keyline

Sample ID : H9F9N1AC
Acquisition date : 28-JUL-2006 17:25:28

None

Flags: "T" = Tentatively associated

Sample ID : H9F9N1AC Acquisition date : 28-JUL-2006 17:25:28

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
BA-140	12.79D	0.72	162.64	6.70	--- Not Found ---		Abun.
			304.84	4.50	5.031E+03	15.10	
			423.70	3.20	--- Not Found ---		
			537.32*	25.00	--- Not Found ---		
		% Abundances Found =		11.42			
TL-208	1.41E+10Y	0.00	277.35	6.80	1.121E+03	15.24	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-JUL-2006 17:55:47

Configuration : $DISK1:[GER12.SAMPLE]H9F9N1AC_280761725.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 : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 17:25:28
Sample ID : H9F9N1AC 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	8.285E+02	5.934E+01	3.492E+01	6.984E-01	23.726

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	6.647E+01		4.403E+01	2.014E+02	4.040E+00	0.330
NA-22	-8.400E-01		2.528E+00	1.083E+01	2.283E-01	-0.078
K-40	-3.627E+01		4.066E+01	2.095E+02	4.468E+00	-0.173
SC-46	4.826E+00		2.427E+00	1.448E+01	3.021E-01	0.333
CR-51	-2.078E+02		8.227E+01	2.318E+02	4.638E+00	-0.896
MN-54	2.252E+00		4.188E+00	1.775E+01	3.634E-01	0.127
CO-57	2.448E+00		7.581E+01	2.800E+02	5.768E+00	0.009
CO-58	-3.524E+00		3.591E+00	1.297E+01	2.651E-01	-0.272
FE-59	-4.554E+00		7.212E+00	2.737E+01	5.702E-01	-0.166
CO-60	-1.094E+00		1.945E+00	8.360E+00	1.768E-01	-0.131
ZN-65	2.236E+00		5.066E+00	2.431E+01	5.071E-01	0.092
SE-75	-3.316E+00		1.139E+01	4.167E+01	8.358E-01	-0.080
SR-85	-2.759E+01		8.860E+00	2.572E+01	5.167E-01	-1.073
Y-88	-3.104E-02		1.788E+00	9.179E+00	2.002E-01	-0.003
NB-94	2.151E+00		3.129E+00	1.440E+01	2.956E-01	0.149
NB-95	-9.994E-01		4.648E+00	1.850E+01	3.771E-01	-0.054
TC-95M	7.954E+00		1.353E+01	5.193E+01	1.049E+00	0.153
ZR-95	-2.086E+01		7.378E+00	1.609E+01	3.278E-01	-1.296
ZRNB-95	-1.839E+00		8.554E+00	3.405E+01	6.941E-01	-0.054
MO-99	4.865E+01		1.000E+02	3.810E+02	7.835E+00	0.128
RH-101	1.667E+01		1.316E+01	5.066E+01	1.024E+00	0.329
RH-102M	-2.818E+00		4.343E+00	1.588E+01	3.185E-01	-0.177
RU-103	-5.743E+00		5.215E+00	1.776E+01	3.565E-01	-0.323
RU-106DA	3.308E+01		4.644E+01	1.954E+02	3.948E+00	0.169
AG-108M	-3.440E-02		7.006E+00	2.620E+01	5.246E-01	-0.001
AG-110M	2.982E+00		6.290E+00	2.597E+01	5.334E-01	0.115
SN-113DA	-1.109E+01		6.744E+00	2.167E+01	4.336E-01	-0.512

Sample ID : H9F9N1AC Acquisition date : 28-JUL-2006 17:25:28

---- Non-Identified Nuclides ----

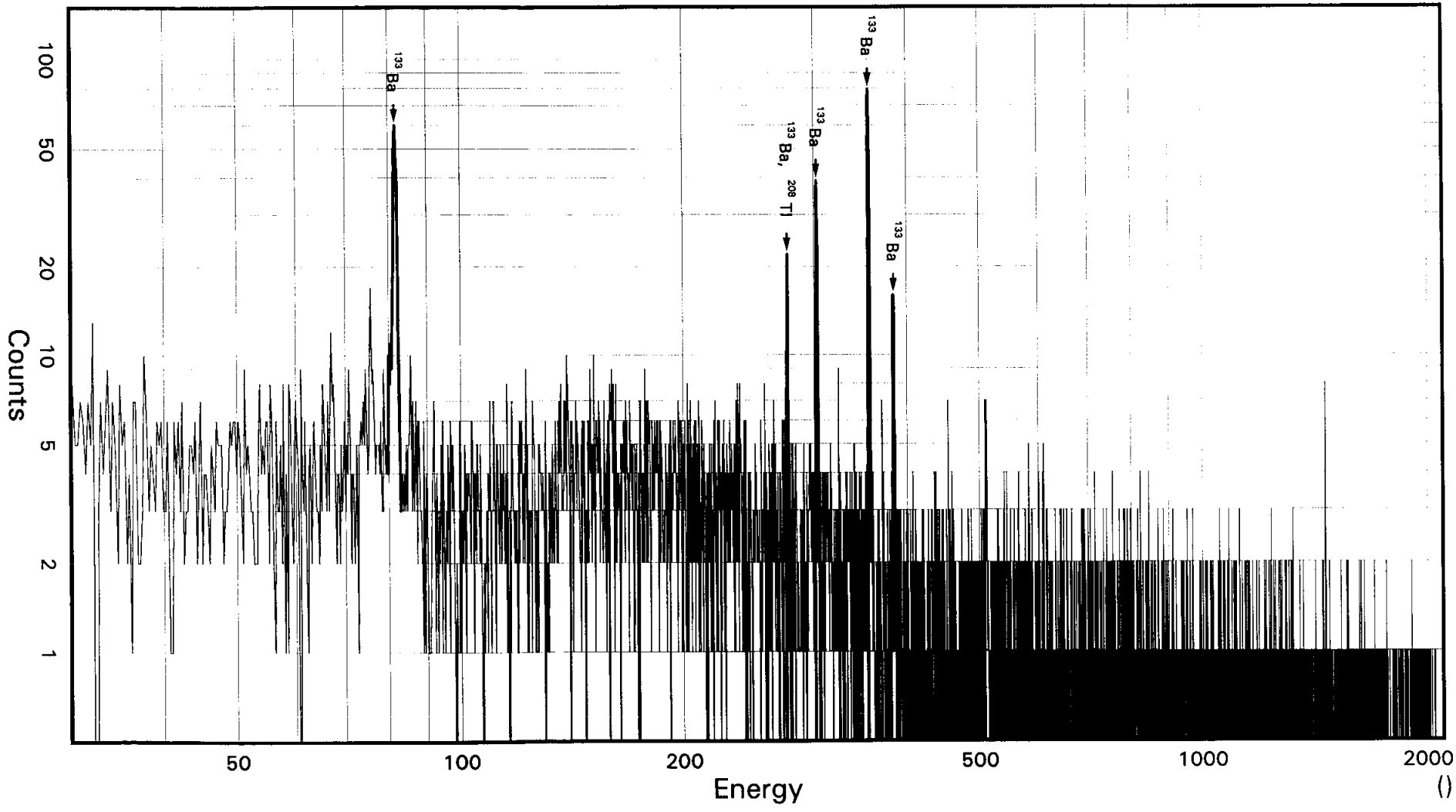
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	8.511E+00		5.621E+00	2.461E+01	4.965E-01	0.346
SB-125	4.043E+01		1.534E+01	7.397E+01	1.481E+00	0.547
SN-126DA	-3.819E+00		3.956E+00	1.392E+01	2.819E-01	-0.274
I-131	-8.111E+00		1.465E+01	5.401E+01	1.080E+00	-0.150
CS-134	-2.431E+00		4.038E+00	1.550E+01	3.166E-01	-0.157
CS-137DA	1.641E+00		4.740E+00	1.964E+01	3.978E-01	0.084
LA-138	1.673E+00		3.842E+00	1.839E+01	3.916E-01	0.091
CE-139	-2.166E+01		1.115E+01	3.494E+01	7.121E-01	-0.620
BA-140	1.361E+00		2.585E+01	1.058E+02	2.128E+00	0.013
BALA-140	2.585E-01		7.832E+00	3.693E+01	7.941E-01	0.007
LA-140	1.051E+02		1.076E+02	5.828E+02	1.253E+01	0.180
CE-141	-8.150E+00		1.933E+01	6.911E+01	1.418E+00	-0.118
CE-144	-9.694E+01		7.146E+01	2.401E+02	4.953E+00	-0.404
CEPR-144	-1.973E+02		1.427E+02	4.784E+02	9.868E+00	-0.412
PM-144	-4.756E+00		4.698E+00	1.643E+01	3.319E-01	-0.289
PM-146	-1.200E+01		6.116E+00	1.779E+01	3.565E-01	-0.675
EU-152	-1.752E+01		1.853E+01	6.655E+01	1.331E+00	-0.263
EU-154	-1.191E+00		7.338E+00	3.212E+01	6.769E-01	-0.037
EU-155	3.131E+00		3.398E+01	1.298E+02	2.722E+00	0.024
HF-181	-3.667E+00		6.204E+00	2.265E+01	4.543E-01	-0.162
BI-207	7.442E+00		4.739E+00	2.120E+01	4.271E-01	0.351
TL-208	1.033E+01		4.812E+00	2.324E+01	4.685E-01	0.444
BI-210M	-9.347E+00		1.353E+01	4.775E+01	9.577E-01	-0.196
BI-212	-5.836E+01		5.995E+01	2.168E+02	6.623E+00	-0.269
PB-212	1.239E+01		1.687E+01	6.521E+01	1.311E+00	0.190
BI-214	2.107E+01		1.218E+01	5.239E+01	1.058E+00	0.402
PB-214	-2.765E+00		1.682E+01	5.698E+01	1.140E+00	-0.049
RA-223	-3.352E+01		5.123E+01	1.808E+02	3.626E+00	-0.185
RA-224DA	1.250E+01		1.702E+01	6.581E+01	1.323E+00	0.190
RA-226DA	2.107E+01		1.218E+01	5.239E+01	1.058E+00	0.402
AC-227DA	-8.551E+01		6.701E+01	2.273E+02	4.571E+00	-0.376
AC-228	7.575E+00		1.140E+01	5.213E+01	1.073E+00	0.145
RA-228DA	7.598E+00		1.143E+01	5.229E+01	1.076E+00	0.145
TH-228DA	2.902E+01		1.352E+01	6.530E+01	1.316E+00	0.444
TH-232DA	2.136E+01		4.869E+01	1.867E+02	3.735E+00	0.114
TH-234DA	3.661E+02		5.320E+02	2.404E+03	4.977E+01	0.152
U-234DA	-1.750E+01		3.086E+01	1.102E+02	2.206E+00	-0.159
U-235HP	-4.177E+01		8.076E+01	2.852E+02	5.857E+00	-0.146
NP-237DA	-1.446E+01		1.739E+01	6.002E+01	1.201E+00	-0.241
U-238DA	-2.765E+00		1.682E+01	5.698E+01	1.140E+00	-0.049
U-238DHP	8.286E+01		2.500E+02	9.221E+02	2.030E+01	0.090
AM-241HP	-4.451E+01		2.383E+01	7.624E+01	1.690E+00	-0.584

STL Richland WA.

BA133

Sample ID: H9H181AA
Detector ID: GER13 1

Batch ID: 6200163



Acquisition Start: 28-JUL-2006 17:25:40.05
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -7.12020E-01
Slope: 2.50827E-01
Quadrature: -1.09332E-07

SAMPLE IDENTIFICATION: H9H181AA

CONFIGURATION ID: GER13:H9H181AA_280761725
TITLE : BA133
SAMPLE ID : H9H181AA

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 17:25:40
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 19-JUL-2006 12:00:00.00
CALIB DATE: 28-JUL-2006 05:40:04.31
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: -.7120E+00 keV
ENERGY SLOPE: 2.5083E-01 keV/C
ENERGY Q COEFF: -.1093E-06 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 5.7614E-01 keV
FWHM SLOPE: 3.5887E-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-JUL-2006 17:56:00

Configuration : $DISK1:[GER13.SAMPLE]H9H181AA_280761725.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 17:25:40
Sample ID : H9H181AA 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 : 19.35 End energy : 2046.72
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.73	240	61	0.99	328.72	320	15	1.33E-01	9.5	
2	0	276.19	70	22	0.54	1104.47	1097	17	3.90E-02	19.2	
3	0	302.71	182	15	0.97	1210.31	1200	19	1.01E-01	8.9	
4	0	355.79	409	17	1.23	1422.20	1413	18	2.27E-01	5.5	
5	0	384.08	70	24	1.02	1535.11	1526	19	3.92E-02	21.5	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 17:56:00

Configuration : $DISK1:[GER13.SAMPLE]H9H181AA_280761725.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 17:25:40
Sample ID : H9H181AA Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.37 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	240	33.00	2.704E+00	8.975E+02	8.990E+02	10.99
	276.40	70	6.90	2.897E+00	1.171E+03	1.173E+03	19.97
	302.84	182	17.80	2.900E+00	1.178E+03	1.180E+03	10.42
	356.00	409	62.05*	2.903E+00	7.563E+02	7.576E+02	7.70
	383.85	70	8.70	2.902E+00	9.304E+02	9.319E+02	22.15

Flag: "*" = Keyline

None

Flags: "T" = Tentatively associated

Sample ID : H9H181AA
Acquisition date : 28-JUL-2006 17:25:40

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	1.188E+03	19.97	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-JUL-2006 17:56:03

Configuration : $DISK1:[GER13.SAMPLE]H9H181AA_280761725.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 : 19-JUL-2006 12:00:00
Sample ID : H9H181AA
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-JUL-2006 17:25:40
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.37 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	7.576E+02	5.836E+01	5.366E+01	1.073E+00	14.119

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-9.121E+01		7.025E+01	2.343E+02	4.700E+00	-0.389
NA-22	2.345E+00		5.201E+00	2.124E+01	4.481E-01	0.110
K-40	-1.366E+02		9.361E+01	4.379E+02	9.351E+00	-0.312
SC-46	-8.613E+00		4.692E+00	1.858E+01	3.879E-01	-0.464
CR-51	-1.062E+02		1.108E+02	3.753E+02	7.508E+00	-0.283
MN-54	-3.177E+00		4.851E+00	1.801E+01	3.690E-01	-0.176
CO-57	-7.589E+01		1.199E+02	4.138E+02	8.530E+00	-0.183
CO-58	-5.803E+00		4.551E+00	1.569E+01	3.208E-01	-0.370
FE-59	1.854E+01		9.559E+00	4.504E+01	9.392E-01	0.412
CO-60	3.536E+00		4.088E+00	1.831E+01	3.876E-01	0.193
ZN-65	-4.337E+00		7.509E+00	2.910E+01	6.074E-01	-0.149
SE-75	5.041E+01		1.700E+01	6.999E+01	1.404E+00	0.720
SR-85	-4.080E+01		1.029E+01	2.570E+01	5.162E-01	-1.588
Y-88	-1.266E+00		2.280E+00	9.855E+00	2.153E-01	-0.128
NB-94	5.244E+00		4.732E+00	2.079E+01	4.269E-01	0.252
NB-95	1.602E+01		6.974E+00	3.130E+01	6.381E-01	0.512
TC-95M	2.023E+01		1.843E+01	7.009E+01	1.416E+00	0.289
ZR-95	1.985E+00		1.149E+01	4.441E+01	9.049E-01	0.045
ZRNB-95	2.980E+01		1.287E+01	5.777E+01	1.178E+00	0.516
MO-99	3.385E+01		1.415E+02	5.066E+02	1.042E+01	0.067
RH-101	1.685E+00		1.700E+01	5.944E+01	1.202E+00	0.028
RH-102M	2.514E+00		6.293E+00	2.470E+01	4.953E-01	0.102
RU-103	-1.002E+01		9.052E+00	3.063E+01	6.148E-01	-0.327
RU-106DA	5.049E+01		5.603E+01	2.344E+02	4.736E+00	0.215
AG-108M	-4.313E+00		8.087E+00	2.897E+01	5.801E-01	-0.149
AG-110M	-2.852E+00		8.434E+00	3.142E+01	6.458E-01	-0.091
SN-113DA	-1.699E+01		1.129E+01	3.761E+01	7.524E-01	-0.452

Sample ID : H9H181AA Acquisition date : 28-JUL-2006 17:25:40

---- Non-Identified Nuclides ----

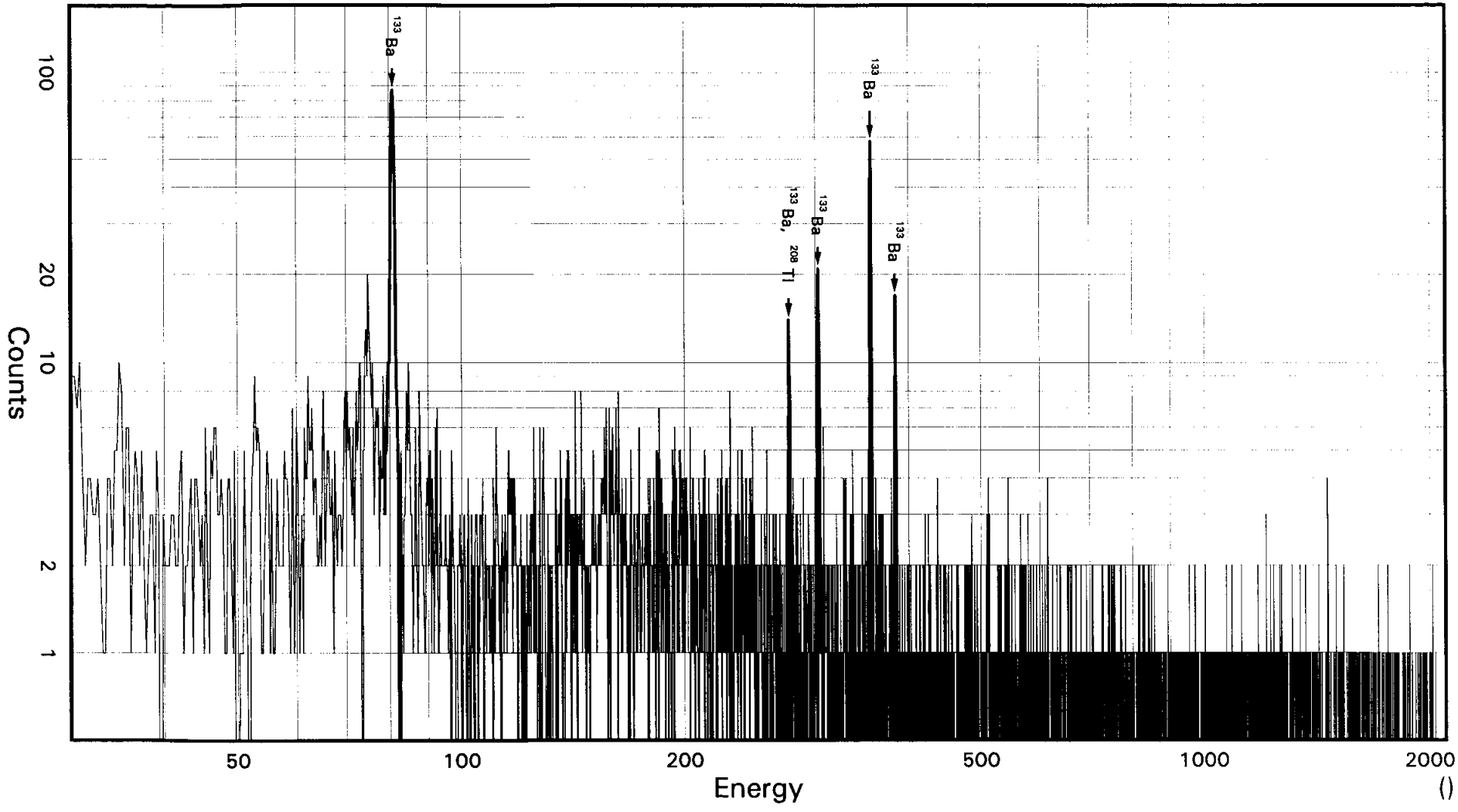
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	1.746E+00		6.728E+00	2.640E+01	5.328E-01	0.066
SB-125	-1.598E+01		2.134E+01	7.603E+01	1.522E+00	-0.210
SN-126DA	4.623E+00		6.578E+00	2.607E+01	5.282E-01	0.177
I-131	1.565E+01		1.685E+01	6.903E+01	1.381E+00	0.227
CS-134	-9.172E-01		7.551E+00	2.794E+01	5.709E-01	-0.033
CS-137DA	-1.284E+00		7.598E+00	2.832E+01	5.735E-01	-0.045
LA-138	2.029E+00		4.784E+00	2.203E+01	4.695E-01	0.092
CE-139	1.919E+00		1.512E+01	5.374E+01	1.096E+00	0.036
BA-140	9.768E+00		4.129E+01	1.576E+02	3.171E+00	0.062
BALA-140	-7.895E+00		8.730E+00	3.291E+01	7.087E-01	-0.240
LA-140	-5.937E+01		1.323E+02	5.481E+02	1.180E+01	-0.108
CE-141	1.400E+01		2.774E+01	1.015E+02	2.084E+00	0.138
CE-144	-1.854E+01		1.009E+02	3.597E+02	7.424E+00	-0.052
CEPR-144	-3.529E+01		2.019E+02	7.200E+02	1.486E+01	-0.049
PM-144	-6.712E+00		5.758E+00	1.984E+01	4.007E-01	-0.338
PM-146	-4.084E+00		1.000E+01	3.644E+01	7.301E-01	-0.112
EU-152	-1.365E+01		3.308E+01	1.157E+02	2.314E+00	-0.118
EU-154	6.572E+00		1.457E+01	5.951E+01	1.256E+00	0.110
EU-155	3.643E+01		4.772E+01	1.818E+02	3.817E+00	0.200
HF-181	1.565E+01		8.940E+00	3.791E+01	7.604E-01	0.413
BI-207	1.734E+00		5.543E+00	2.223E+01	4.477E-01	0.078
TL-208	2.054E+01		8.201E+00	3.696E+01	7.452E-01	0.556
BI-210M	1.329E+01		1.915E+01	7.182E+01	1.440E+00	0.185
BI-212	6.776E+01		7.616E+01	3.216E+02	9.826E+00	0.211
PB-212	-9.110E+00		2.502E+01	9.033E+01	1.816E+00	-0.101
BI-214	1.346E+01		1.711E+01	7.426E+01	1.499E+00	0.181
PB-214	-1.314E+01		2.737E+01	8.841E+01	1.768E+00	-0.149
RA-223	-3.653E+01		6.844E+01	2.406E+02	4.823E+00	-0.152
RA-224DA	-9.194E+00		2.525E+01	9.116E+01	1.833E+00	-0.101
RA-226DA	1.336E+01		1.710E+01	7.422E+01	1.499E+00	0.180
AC-227DA	-2.317E+01		9.987E+01	3.552E+02	7.143E+00	-0.065
AC-228	1.177E+01		2.295E+01	9.803E+01	2.018E+00	0.120
RA-228DA	1.180E+01		2.302E+01	9.833E+01	2.024E+00	0.120
TH-228DA	5.770E+01		2.304E+01	1.038E+02	2.093E+00	0.556
TH-232DA	6.720E+01		7.274E+01	2.749E+02	5.498E+00	0.244
TH-234DA	-5.920E+02		7.656E+02	2.745E+03	5.687E+01	-0.216
U-234DA	5.471E+01		5.259E+01	2.036E+02	4.077E+00	0.269
U-235HP	4.613E+01		1.093E+02	3.970E+02	8.157E+00	0.116
NP-237DA	8.905E+00		2.828E+01	1.025E+02	2.051E+00	0.087
U-238DA	-1.314E+01		2.737E+01	8.841E+01	1.768E+00	-0.149
U-238DHP	-4.951E+02		3.095E+02	1.002E+03	2.210E+01	-0.494
AM-241HP	-1.501E+00		3.337E+01	1.185E+02	2.632E+00	-0.013

STL Richland WA.

BA133

Sample ID: H9H181AC
Detector ID: GER6 1

Batch ID: 6200163



Acquisition Start: 28-JUL-2006 17:25:56.86
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -8.22105E-02
Slope: 2.49341E-01
Quadrature: 1.47158E-08

SAMPLE IDENTIFICATION: H9H181AC

CONFIGURATION ID: GER6:H9H181AC_280761725
TITLE : BA133
SAMPLE ID : H9H181AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 17:25:56
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 13-JUN-2006 12:00:00.00
CALIB DATE: 28-JUL-2006 05:20:03.87
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: -.8221E-01 keV
ENERGY SLOPE: 2.4934E-01 keV/C
ENERGY Q COEFF: 1.4716E-08 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 1.7775E-01 keV
FWHM SLOPE: 6.3535E-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-JUL-2006 17:56:16

Configuration : $DISK1:[GER6.SAMPLE]H9H181AC_280761725.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00 Acquisition date : 28-JUL-2006 17:25:56
Sample ID : H9H181AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.25 0.0%
Start energy : 19.87 End energy : 2043.51
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	341	66	0.94	325.02	316	16	1.90E-01	7.5	
2	0	128.95	22	6	1.86	517.50	511	12	1.24E-02	30.3	
3	0	276.41	52	7	0.99	1108.84	1101	14	2.89E-02	17.6	
4	0	302.82	100	16	1.12	1214.73	1207	16	5.56E-02	13.4	
5	0	355.94	331	4	1.44	1427.72	1419	17	1.84E-01	5.7	
6	0	383.59	71	3	0.88	1538.61	1529	16	3.93E-02	13.4	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 17:56:16

Configuration : $DISK1:[GER6.SAMPLE]H9H181AC_280761725.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00
Sample ID : H9H181AC
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-JUL-2006 17:25:56
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.25 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	341	33.00	2.167E+00	1.591E+03	1.604E+03	9.30
	276.40	52	6.90	2.334E+00	1.077E+03	1.085E+03	18.38
	302.84	100	17.80	2.337E+00	8.014E+02	8.080E+02	14.46
	356.00	331	62.05*	2.339E+00	7.600E+02	7.662E+02	7.83
	383.85	71	8.70	2.338E+00	1.160E+03	1.170E+03	14.44

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H9H181AC

Acquisition date : 28-JUL-2006 17:25:56

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	128.95	22	6	1.86	517.50	511	12	1.24E-02	30.3	2.26E+00	

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : H9H181AC
Acquisition date : 28-JUL-2006 17:25:56

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	1.092E+03	18.38	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-JUL-2006 17:56:18

Configuration : $DISK1:[GER6.SAMPLE]H9H181AC_280761725.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3,WTMEAN/KEY V1.8
Analyses by : MINACT V2.8
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00 Acquisition date : 28-JUL-2006 17:25:56
Sample ID : H9H181AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.25 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.662E+02	5.997E+01	4.491E+01	8.982E-01	17.062

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	1.596E+02		1.146E+02	4.928E+02	9.885E+00	0.324
NA-22	2.076E-01		5.782E+00	2.341E+01	4.954E-01	0.009
K-40	1.006E+02		8.095E+01	3.972E+02	8.516E+00	0.253
SC-46	1.312E+01		8.678E+00	3.931E+01	8.231E-01	0.334
CR-51	6.513E+01		2.422E+02	9.395E+02	1.880E+01	0.069
MN-54	-1.148E+01		6.334E+00	1.940E+01	3.979E-01	-0.592
CO-57	-6.857E+01		1.049E+02	3.776E+02	7.799E+00	-0.182
CO-58	4.599E+00		6.461E+00	2.995E+01	6.133E-01	0.154
FE-59	-1.016E+01		1.489E+01	5.726E+01	1.197E+00	-0.177
CO-60	-1.548E+00		4.077E+00	1.656E+01	3.519E-01	-0.093
ZN-65	1.694E+01		1.375E+01	6.056E+01	1.268E+00	0.280
SE-75	4.972E+01		1.860E+01	8.115E+01	1.628E+00	0.613
SR-85	-1.017E+01		1.478E+01	5.254E+01	1.056E+00	-0.194
Y-88	-5.555E-02		3.029E+00	1.554E+01	3.414E-01	-0.004
NB-94	5.337E+00		4.108E+00	2.023E+01	4.161E-01	0.264
NB-95	-2.359E+01		1.167E+01	3.375E+01	6.888E-01	-0.699
TC-95M	-1.719E+01		2.695E+01	9.621E+01	1.945E+00	-0.179
ZR-95	9.623E+00		1.691E+01	7.144E+01	1.457E+00	0.135
ZRNB-95	-3.195E+01		1.545E+01	4.401E+01	8.984E-01	-0.726
RH-101	1.842E+01		1.691E+01	6.369E+01	1.289E+00	0.289
RH-102M	2.479E+00		7.073E+00	2.809E+01	5.635E-01	0.088
RU-103	-1.465E+01		1.279E+01	4.491E+01	9.018E-01	-0.326
RU-106DA	8.121E+01		4.785E+01	2.402E+02	4.857E+00	0.338
AG-108M	-1.589E+01		8.479E+00	2.653E+01	5.314E-01	-0.599
AG-110M	-1.261E+00		5.509E+00	2.323E+01	4.782E-01	-0.054
SN-113DA	-1.578E+01		1.259E+01	4.329E+01	8.660E-01	-0.365
SB-124	-8.969E-01		1.013E+01	3.925E+01	7.926E-01	-0.023

Sample ID : H9H181AC Acquisition date : 28-JUL-2006 17:25:56

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	5.154E+00		2.297E+01	9.096E+01	1.821E+00	0.057
SN-126DA	-2.807E+00		6.115E+00	2.292E+01	4.647E-01	-0.122
I-131	-4.494E+02		5.170E+02	1.780E+03	3.559E+01	-0.253
CS-134	3.399E+00		6.097E+00	2.647E+01	5.414E-01	0.128
CS-137DA	-4.009E-01		6.712E+00	2.655E+01	5.382E-01	-0.015
LA-138	2.287E+00		2.290E+00	1.681E+01	3.598E-01	0.136
CE-139	5.429E-02		1.731E+01	6.310E+01	1.288E+00	0.001
BA-140	1.639E+02		2.690E+02	1.129E+03	2.272E+01	0.145
BALA-140	7.415E+01		7.546E+01	4.031E+02	8.720E+00	0.184
CE-141	7.322E+01		5.822E+01	2.303E+02	4.736E+00	0.318
CE-144	-1.347E+02		9.603E+01	3.082E+02	6.374E+00	-0.437
CEPR-144	-2.669E+02		1.922E+02	6.180E+02	1.278E+01	-0.432
PM-144	-1.329E+01		6.020E+00	1.735E+01	3.506E-01	-0.766
PM-146	-1.726E+00		9.419E+00	3.612E+01	7.239E-01	-0.048
EU-152	1.599E+01		2.849E+01	1.127E+02	2.255E+00	0.142
EU-154	5.428E+00		1.543E+01	6.495E+01	1.375E+00	0.084
EU-155	6.004E+01		4.563E+01	1.849E+02	3.893E+00	0.325
HF-181	-2.412E+01		1.678E+01	5.429E+01	1.089E+00	-0.444
BI-207	8.342E+00		7.260E+00	3.037E+01	6.122E-01	0.275
TL-208	-7.280E+00		7.334E+00	2.716E+01	5.478E-01	-0.268
BI-210M	1.369E+00		1.733E+01	6.447E+01	1.293E+00	0.021
BI-212	6.236E+01		8.064E+01	3.496E+02	1.068E+01	0.178
PB-212	-1.977E+01		2.439E+01	8.783E+01	1.766E+00	-0.225
BI-214	-2.078E+01		1.587E+01	5.849E+01	1.182E+00	-0.355
PB-214	1.177E+01		2.404E+01	8.137E+01	1.627E+00	0.145
RA-223	2.317E+01		5.137E+01	2.032E+02	4.076E+00	0.114
RA-224DA	-2.067E+01		2.551E+01	9.186E+01	1.848E+00	-0.225
RA-226DA	-2.078E+01		1.588E+01	5.849E+01	1.182E+00	-0.355
AC-227DA	-6.445E+01		9.347E+01	3.274E+02	6.587E+00	-0.197
AC-228	-2.059E+01		1.699E+01	6.951E+01	1.434E+00	-0.296
RA-228DA	-2.090E+01		1.724E+01	7.056E+01	1.455E+00	-0.296
TH-228DA	-2.120E+01		2.135E+01	7.907E+01	1.595E+00	-0.268
TH-232DA	-2.342E+01		6.963E+01	2.527E+02	5.055E+00	-0.093
TH-234DA	2.134E+02		7.592E+02	3.207E+03	6.658E+01	0.067
U-234DA	-3.732E+01		3.977E+01	1.406E+02	2.816E+00	-0.265
U-235HP	5.623E+01		1.021E+02	3.903E+02	8.033E+00	0.144
NP-237DA	-5.373E-01		2.198E+01	8.324E+01	1.666E+00	-0.006
U-238DA	1.177E+01		2.404E+01	8.137E+01	1.627E+00	0.145
U-238DHP	-3.211E+01		3.540E+02	1.272E+03	2.823E+01	-0.025
AM-241HP	-1.013E+01		3.204E+01	1.149E+02	2.568E+00	-0.088

7/28/2006 4:40:04 PM

Standard Material Fractions (Vials)

Vial Prep: 7/27/05 to 7/29/06,SMFractionIdentifier Between RATA23499 and RATA23514, 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			
RATA23499	BA	**3.0066E+01**	± **1.984E-01**	mg	1.0332	g	7/19/2006	7/19/2006	Armstron		±	mg/g
RATA23500	BA	**3.0125E+01**	± **1.988E-01**	mg	1.0352	g	7/19/2006	7/19/2006	Armstron		±	mg/g
RATA23501	BA	**3.0098E+01**	± **1.986E-01**	mg	1.0343	g	7/19/2006	7/19/2006	Armstron		±	mg/g
RATA23502	BA	**3.0078E+01**	± **1.985E-01**	mg	1.0336	g	7/19/2006	7/19/2006	Armstron		±	mg/g
RATA23503	BA	**3.0052E+01**	± **1.983E-01**	mg	1.0327	g	7/19/2006	7/19/2006	Armstron		±	mg/g
RATA23504	BA	**3.0081E+01**	± **1.985E-01**	mg	1.0337	g	7/19/2006	7/19/2006	Armstron		±	mg/g
RATA23505	BA	**3.0043E+01**	± **1.983E-01**	mg	1.0324	g	7/19/2006	7/19/2006	Armstron		±	mg/g
RATA23506	BA	**3.0064E+01**	± **1.984E-01**	mg	1.0331	g	7/19/2006	7/19/2006	Armstron		±	mg/g
RATA23507	BA	**3.0078E+01**	± **1.985E-01**	mg	1.0336	g	7/19/2006	7/19/2006	Armstron		±	mg/g
RATA23508	BA	**3.0087E+01**	± **1.986E-01**	mg	1.0339	g	7/19/2006	7/19/2006	Armstron		±	mg/g
RATA23509	BA	**3.0017E+01**	± **1.981E-01**	mg	1.0315	g	7/19/2006	7/19/2006	Armstron		±	mg/g
RATA23510	BA	**3.0119E+01**	± **1.988E-01**	mg	1.035	g	7/19/2006	7/19/2006	Armstron		±	mg/g
RATA23511	BA	**2.9965E+01**	± **1.977E-01**	mg	1.0297	g	7/19/2006	7/19/2006	Armstron		±	mg/g
RATA23512	BA	**3.0061E+01**	± **1.984E-01**	mg	1.033	g	7/19/2006	7/19/2006	Armstron		±	mg/g
RATA23513	BA	**3.0023E+01**	± **1.981E-01**	mg	1.0317	g	7/19/2006	7/19/2006	Armstron		±	mg/g
RATA23514	BA	**3.0090E+01**	± **1.986E-01**	mg	1.034	g	7/19/2006	7/19/2006	Armstron		±	mg/g
		3.0065E+001	± 4.008E-002	(16)		0.133%	2.9965E+001 , 3.0125E+001					

* - Isotope is an Impurity

Vial Identifier	Constituent	Prep Activity/Concentration			Std Wt Used		Prep,Decayed To Date		Prep by	Std Decayed Activity/Concentration		
	Parent Standard:	BA13306A000		Ref:	10/4/2004		1.1069E+04	±		DPM/G		
RATA23499	BA-133	**7.5662E+02**	± **1.391E+00**	DPM	0.0769	g	7/19/2006	7/19/2006	Armstron	9.8390E+03	± 0.000E+00	DPM/G
RATA23500	BA-133	**7.5268E+02**	± **1.391E+00**	DPM	0.0765	g	7/19/2006	7/19/2006	Armstron	9.8390E+03	± 0.000E+00	DPM/G
RATA23501	BA-133	**7.5367E+02**	± **1.391E+00**	DPM	0.0766	g	7/19/2006	7/19/2006	Armstron	9.8390E+03	± 0.000E+00	DPM/G
RATA23502	BA-133	**7.5760E+02**	± **1.391E+00**	DPM	0.077	g	7/19/2006	7/19/2006	Armstron	9.8390E+03	± 0.000E+00	DPM/G
RATA23503	BA-133	**7.5268E+02**	± **1.391E+00**	DPM	0.0765	g	7/19/2006	7/19/2006	Armstron	9.8390E+03	± 0.000E+00	DPM/G
RATA23504	BA-133	**7.5367E+02**	± **1.391E+00**	DPM	0.0766	g	7/19/2006	7/19/2006	Armstron	9.8390E+03	± 0.000E+00	DPM/G
RATA23505	BA-133	**7.5367E+02**	± **1.391E+00**	DPM	0.0766	g	7/19/2006	7/19/2006	Armstron	9.8390E+03	± 0.000E+00	DPM/G
RATA23506	BA-133	**7.5367E+02**	± **1.391E+00**	DPM	0.0766	g	7/19/2006	7/19/2006	Armstron	9.8390E+03	± 0.000E+00	DPM/G
RATA23507	BA-133	**7.5367E+02**	± **1.391E+00**	DPM	0.0766	g	7/19/2006	7/19/2006	Armstron	9.8390E+03	± 0.000E+00	DPM/G
RATA23508	BA-133	**7.5465E+02**	± **1.391E+00**	DPM	0.0767	g	7/19/2006	7/19/2006	Armstron	9.8390E+03	± 0.000E+00	DPM/G
RATA23509	BA-133	**7.4776E+02**	± **1.391E+00**	DPM	0.076	g	7/19/2006	7/19/2006	Armstron	9.8390E+03	± 0.000E+00	DPM/G
RATA23510	BA-133	**7.5170E+02**	± **1.391E+00**	DPM	0.0764	g	7/19/2006	7/19/2006	Armstron	9.8390E+03	± 0.000E+00	DPM/G
RATA23511	BA-133	**7.5268E+02**	± **1.391E+00**	DPM	0.0765	g	7/19/2006	7/19/2006	Armstron	9.8390E+03	± 0.000E+00	DPM/G
RATA23512	BA-133	**7.5563E+02**	± **1.391E+00**	DPM	0.0768	g	7/19/2006	7/19/2006	Armstron	9.8390E+03	± 0.000E+00	DPM/G
RATA23513	BA-133	**7.4875E+02**	± **1.391E+00**	DPM	0.0761	g	7/19/2006	7/19/2006	Armstron	9.8390E+03	± 0.000E+00	DPM/G
RATA23514	BA-133	**7.5367E+02**	± **1.391E+00**	DPM	0.0766	g	7/19/2006	7/19/2006	Armstron	9.8390E+03	± 0.000E+00	DPM/G
		7.5330E+002 ± 2.486E+000 (16)			0.330%		7.4776E+002 , 7.5760E+002					

* - Isotope is an Impurity

7/28/2006 4:40:33 PM

Standard Material Fractions (Vials)

Vial Prep: 7/27/05 to 7/29/06,SMFractionIdentifier Between RASC4147 and RASC4147, 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			
RASC4147	BA	**3.0212E+01**	± **1.994E-01**	mg	1.0382	g	6/13/2006	6/13/2006	Armstron		±	mg/g
		3.0212E+001	± 3.021E+001	(1)			3.0212E+001 , 3.0212E+001					

* - Isotope is an Impurity

Vial Identifier	Constituent	Prep Activity/Concentration		Std Wt Used		Prep,Decayed To Date		Prep by	Std Decayed Activity/Concentration		
	Parent Standard:	BA13306A000	Ref:	10/4/2004		1.1069E+04	±		DPM/G		
RASC4147	BA-133	**7.5164E+02**	± **1.401E+00** DPM	0.0759	g	6/13/2006	6/13/2006	Armstron	9.9030E+03	± 0.000E+00	DPM/G
		7.5164E+002	± 7.516E+002 (1)			7.5164E+002 , 7.5164E+002					

* - Isotope is an Impurity

Vial Identifier	Constituent	Prep Activity/Concentration			Std Wt Used		Prep,Decayed To Date		Prep by	Std Decayed Activity/Concentration		
	Parent Standard:	Ra22606A100		Ref:	11/1/2001		2.1060E+01	± 3.234E-01		DPM/G		
RASC4147	RA-226	**3.0770E+00**	**± 4.734E-02**	DPM	0.1464	g	6/13/2006	6/13/2006	Armstron	2.1018E+01	± 3.228E-01	DPM/G
		3.0770E+000	± 3.077E+000	(1)			3.0770E+000 , 3.0770E+000					

* - Isotope is an Impurity

Vial Identifier	Constituent	Prep Activity/Concentration			Std Wt Used		Prep,Decayed To Date		Prep by	Std Decayed Activity/Concentration		
	Parent Standard:	RA22806A000		Ref:	12/15/2003		4.4881E+02	±		DPM/G		
RASC4147	RA-228	**1.1301E+01**	**± 4.701E-02**	DPM	0.034	g	6/13/2006	6/13/2006	Armstron	3.3238E+02	± 0.000E+00	DPM/G
		1.1301E+001	± 1.130E+001	(1)			1.1301E+001 , 1.1301E+001					

* - Isotope is an Impurity