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Analytical Data Package Prepared For

Brown and Caldwell

Yerington Air Quality - Event #86

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.: 32989

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
32139		000509	J6G180211-9	H9GAJ1AG	9H9GAJ10	6200121
		000509	J6G180211-9	H9GAJ1AA	9H9GAJ10	6200122
		000509	J6G180211-9	H9GAJ1AE	9H9GAJ10	6200124
		000509	J6G180211-9	H9GAJ1AF	9H9GAJ10	6200128
		000509	J6G180211-9	H9GAJ1AC	9H9GAJ10	6200133
		000509	J6G180211-9	H9GAJ1AD	9H9GAJ10	6200134
		000510	J6G180211-10	H9GAK1AG	9H9GAK10	6200121
		000510	J6G180211-10	H9GAK1AA	9H9GAK10	6200122
		000510	J6G180211-10	H9GAK1AE	9H9GAK10	6200124
		000510	J6G180211-10	H9GAK1AF	9H9GAK10	6200128
		000510	J6G180211-10	H9GAK1AC	9H9GAK10	6200133
		000510	J6G180211-10	H9GAK1AD	9H9GAK10	6200134
		000511	J6G180211-11	H9GAL1AG	9H9GAL10	6200121
		000511	J6G180211-11	H9GAL1AA	9H9GAL10	6200122
		000511	J6G180211-11	H9GAL1AE	9H9GAL10	6200124
		000511	J6G180211-11	H9GAL1AF	9H9GAL10	6200128
		000511	J6G180211-11	H9GAL1AC	9H9GAL10	6200133
		000511	J6G180211-11	H9GAL1AD	9H9GAL10	6200134
		000512	J6G180211-12	H9GAM1AG	9H9GAM10	6200121
		000512	J6G180211-12	H9GAM1AA	9H9GAM10	6200122
		000512	J6G180211-12	H9GAM1AE	9H9GAM10	6200124
		000512	J6G180211-12	H9GAM1AF	9H9GAM10	6200128
		000512	J6G180211-12	H9GAM1AC	9H9GAM10	6200133
		000512	J6G180211-12	H9GAM1AD	9H9GAM10	6200134
		000513	J6G180211-13	H9GAN1AG	9H9GAN10	6200121
		000513	J6G180211-13	H9GAN1AA	9H9GAN10	6200122

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
32139		000513	J6G180211-13	H9GAN1AE	9H9GAN10	6200124
		000513	J6G180211-13	H9GAN1AF	9H9GAN10	6200128
		000513	J6G180211-13	H9GAN1AC	9H9GAN10	6200133
		000513	J6G180211-13	H9GAN1AD	9H9GAN10	6200134
		000514	J6G180211-14	H9GAP1AG	9H9GAP10	6200121
		000514	J6G180211-14	H9GAP1AA	9H9GAP10	6200122
		000514	J6G180211-14	H9GAP1AE	9H9GAP10	6200124
		000514	J6G180211-14	H9GAP1AF	9H9GAP10	6200128
		000514	J6G180211-14	H9GAP1AC	9H9GAP10	6200133
		000514	J6G180211-14	H9GAP1AD	9H9GAP10	6200134
		000515	J6G180211-15	H9GAT1AG	9H9GAT10	6200121
		000515	J6G180211-15	H9GAT1AA	9H9GAT10	6200122
		000515	J6G180211-15	H9GAT1AE	9H9GAT10	6200124
		000515	J6G180211-15	H9GAT1AF	9H9GAT10	6200128
		000515	J6G180211-15	H9GAT1AC	9H9GAT10	6200133
		000515	J6G180211-15	H9GAT1AD	9H9GAT10	6200134
		P-0683	J6G180211-1	H9F9W1AG	9H9F9W10	6200121
		P-0683	J6G180211-1	H9F9W1AA	9H9F9W10	6200122
		P-0683	J6G180211-1	H9F9W1AE	9H9F9W10	6200124
		P-0683	J6G180211-1	H9F9W1AF	9H9F9W10	6200128
		P-0683	J6G180211-1	H9F9W1AC	9H9F9W10	6200133
		P-0683	J6G180211-1	H9F9W1AD	9H9F9W10	6200134
		P-0684	J6G180211-2	H9F921AG	9H9F9210	6200121
		P-0684	J6G180211-2	H9F921AA	9H9F9210	6200122
		P-0684	J6G180211-2	H9F921AE	9H9F9210	6200124
		P-0684	J6G180211-2	H9F921AF	9H9F9210	6200128
		P-0684	J6G180211-2	H9F921AC	9H9F9210	6200133
		P-0684	J6G180211-2	H9F921AD	9H9F9210	6200134
		P-0685	J6G180211-3	H9F951AG	9H9F9510	6200121
		P-0685	J6G180211-3	H9F951AA	9H9F9510	6200122
		P-0685	J6G180211-3	H9F951AE	9H9F9510	6200124
		P-0685	J6G180211-3	H9F951AF	9H9F9510	6200128
		P-0685	J6G180211-3	H9F951AC	9H9F9510	6200133
		P-0685	J6G180211-3	H9F951AD	9H9F9510	6200134
		P-0686	J6G180211-4	H9F981AG	9H9F9810	6200121
		P-0686	J6G180211-4	H9F981AA	9H9F9810	6200122
		P-0686	J6G180211-4	H9F981AE	9H9F9810	6200124
		P-0686	J6G180211-4	H9F981AF	9H9F9810	6200128
		P-0686	J6G180211-4	H9F981AC	9H9F9810	6200133

Report No.: 32989

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
32139		P-0686	J6G180211-4	H9F981AD	9H9F9810	6200134
		P-0687	J6G180211-5	H9GAA1AG	9H9GAA10	6200121
		P-0687	J6G180211-5	H9GAA1AA	9H9GAA10	6200122
		P-0687	J6G180211-5	H9GAA1AE	9H9GAA10	6200124
		P-0687	J6G180211-5	H9GAA1AF	9H9GAA10	6200128
		P-0687	J6G180211-5	H9GAA1AC	9H9GAA10	6200133
		P-0687	J6G180211-5	H9GAA1AD	9H9GAA10	6200134
		P-0688	J6G180211-6	H9GAC1AG	9H9GAC10	6200121
		P-0688	J6G180211-6	H9GAC1AA	9H9GAC10	6200122
		P-0688	J6G180211-6	H9GAC1AE	9H9GAC10	6200124
		P-0688	J6G180211-6	H9GAC1AF	9H9GAC10	6200128
		P-0688	J6G180211-6	H9GAC1AC	9H9GAC10	6200133
		P-0688	J6G180211-6	H9GAC1AD	9H9GAC10	6200134
		P-0689	J6G180211-7	H9GAE1AG	9H9GAE10	6200121
		P-0689	J6G180211-7	H9GAE1AA	9H9GAE10	6200122
		P-0689	J6G180211-7	H9GAE1AE	9H9GAE10	6200124
		P-0689	J6G180211-7	H9GAE1AF	9H9GAE10	6200128
		P-0689	J6G180211-7	H9GAE1AC	9H9GAE10	6200133
		P-0689	J6G180211-7	H9GAE1AD	9H9GAE10	6200134
		P-0690	J6G180211-8	H9GAG1AG	9H9GAG10	6200121
		P-0690	J6G180211-8	H9GAG1AA	9H9GAG10	6200122
		P-0690	J6G180211-8	H9GAG1AE	9H9GAG10	6200124
		P-0690	J6G180211-8	H9GAG1AF	9H9GAG10	6200128
		P-0690	J6G180211-8	H9GAG1AC	9H9GAG10	6200133
		P-0690	J6G180211-8	H9GAG1AD	9H9GAG10	6200134

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	:	86
PO Number	:	129682.001
Sample Type	:	Fifteen (15) Filters
SDG Number	:	32139

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 J6G180211.

II. Sample Receipt

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

III. Analytical Results/Methodology

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

The analysis requested was:

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

IV. Quality Control

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

V. Comments

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

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

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

Gross Beta Analysis:
All of the samples do not meet CRDL but their results >MDA>CRDL. Except as noted, the LCS, batch blank and sample results are within acceptance limits.

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

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

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

Reviewed and approved:

Sherryl A. Adam
Project Manager

Drinking Water Method Cross References

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

Uncertainty Estimation

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

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

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

Report Definitions

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

Sample Results Summary

STL Richland STLR

Ordered by Client Sample ID, Batch No.

Date: 15-Aug-06

Report No. : 32989

SDG No: 32139

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RER2
000509	H9GAJ1AG	U-234	-0.0203 +- 0.0407	ND	pCi/sample	96%	0.486	
		U-235	0.00000 +- 0.248	ND	pCi/sample	96%	0.275	
		U-238	0.0811 +- 0.207	ND	pCi/sample	96%	0.486	
000509	H9GAJ1AA	TH-228	0.136 +- 0.159	ND	pCi/sample	105%	0.123	
		TH-230	0.523 +- 0.316	=	pCi/sample	105%	0.118	
		TH-232	0.0871 +- 0.124	ND	pCi/sample	105%	0.118	
000509	H9GAJ1AE	ALPHA	2.23 +- 2.88	ND	pCi/sample	100%	5.47	
000509	H9GAJ1AF	BETA	27.0 +- 5.46	=	pCi/sample	100%	5.43	
000509	H9GAJ1AC	RA-226	0.00893 +- 0.173	ND	pCi/sample	101%	0.342	
000509	H9GAJ1AD	RA-228	-0.2170 +- 0.801	ND	pCi/sample	87%	2.13	
000510	H9GAK1AG	U-234	0.00000 +- 0.240	ND	pCi/sample	91%	0.266	
		U-235	-0.0196 +- 0.0394	ND	pCi/sample	91%	0.47	
		U-238	0.0785 +- 0.201	ND	pCi/sample	91%	0.47	
000510	H9GAK1AA	TH-228	0.146 +- 0.174	ND	pCi/sample	92%	0.25	
		TH-230	0.441 +- 0.277	=	pCi/sample	92%	0.109	
		TH-232	0.0601 +- 0.121	ND	pCi/sample	92%	0.24	
000510	H9GAK1AE	ALPHA	0.754 +- 2.39	ND	pCi/sample	100%	5.36	
000510	H9GAK1AF	BETA	30.0 +- 5.82	=	pCi/sample	100%	5.35	
000510	H9GAK1AC	RA-226	-0.1300 +- 0.119	ND	pCi/sample	103%	0.292	
000510	H9GAK1AD	RA-228	1.07 +- 0.866	ND	pCi/sample	92%	1.79	
000511	H9GAL1AG	U-234	0.102 +- 0.205	ND	pCi/sample	97%	0.277	
		U-235	0.00000 +- 0.250	ND	pCi/sample	97%	0.277	
		U-238	0.184 +- 0.293	ND	pCi/sample	97%	0.489	
000511	H9GAL1AA	TH-228	0.0976 +- 0.171	ND	pCi/sample	117%	0.328	
		TH-230	0.319 +- 0.235	=	pCi/sample	117%	0.225	
		TH-232	0.00000063 +- 0.0920	ND	pCi/sample	117%	0.276	
000511	H9GAL1AE	ALPHA	2.03 +- 2.84	ND	pCi/sample	100%	5.51	
000511	H9GAL1AF	BETA	29.1 +- 5.58	=	pCi/sample	100%	5.1	
000511	H9GAL1AC	RA-226	0.139 +- 0.143	ND	pCi/sample	97%	0.217	
000511	H9GAL1AD	RA-228	0.638 +- 0.885	ND	pCi/sample	84%	2.01	

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. : 32989

SDG No: 32139

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RER2
000512	H9GAM1AG	U-234	0.206 +- 0.334	ND	pCi/sample	83%	0.584	
		U-235	0.206 +- 0.334	ND	pCi/sample	83%	0.584	
		U-238	0.0609 +- 0.239	ND	pCi/sample	83%	0.694	
000512	H9GAM1AA	TH-228	0.0214 +- 0.0956	ND	pCi/sample	99%	0.256	
		TH-230	0.164 +- 0.167	ND	pCi/sample	99%	0.111	
		TH-232	0.0411 +- 0.0825	ND	pCi/sample	99%	0.111	
000512	H9GAM1AE	ALPHA	6.59 +- 3.83	=	pCi/sample	100%	4.79	
000512	H9GAM1AF	BETA	32.0 +- 5.99	=	pCi/sample	100%	5.2	
000512	H9GAM1AC	RA-226	0.0586 +- 0.189	ND	pCi/sample	102%	0.362	
000512	H9GAM1AD	RA-228	1.64 +- 0.880	=	pCi/sample	92%	1.6	
000513	H9GAN1AG	U-234	0.0517 +- 0.203	ND	pCi/sample	100%	0.591	
		U-235	-0.0239 +- 0.0279	ND	pCi/sample	100%	0.497	
		U-238	0.0597 +- 0.202	ND	pCi/sample	100%	0.563	
000513	H9GAN1AA	TH-228	0.261 +- 0.221	=	pCi/sample	89%	0.241	
		TH-230	0.0580 +- 0.116	ND	pCi/sample	89%	0.232	
		TH-232	-0.0386 +- 0.0551	ND	pCi/sample	89%	0.284	
000513	H9GAN1AE	ALPHA	0.755 +- 2.37	ND	pCi/sample	100%	5.32	
000513	H9GAN1AF	BETA	27.5 +- 5.34	=	pCi/sample	100%	5.0	
000513	H9GAN1AC	RA-226	1.64 +- 0.541	=	pCi/sample	98%	0.399	
000513	H9GAN1AD	RA-228	1.73 +- 1.00	ND	pCi/sample	87%	1.87	
000514	H9GAP1AG	U-234	0.203 +- 0.329	ND	pCi/sample	90%	0.575	
		U-235	-0.0185 +- 0.0263	ND	pCi/sample	90%	0.527	
		U-238	0.328 +- 0.404	ND	pCi/sample	90%	0.527	
000514	H9GAP1AA	TH-228	0.0360 +- 0.0724	ND	pCi/sample	95%	0.0977	
		TH-230	0.312 +- 0.215	=	pCi/sample	95%	0.0939	
		TH-232	0.0173 +- 0.0776	ND	pCi/sample	95%	0.208	
000514	H9GAP1AE	ALPHA	5.96 +- 3.91	=	pCi/sample	100%	5.53	
000514	H9GAP1AF	BETA	33.8 +- 6.18	=	pCi/sample	100%	4.97	
000514	H9GAP1AC	RA-226	0.219 +- 0.223	ND	pCi/sample	96%	0.345	
000514	H9GAP1AD	RA-228	0.580 +- 0.830	ND	pCi/sample	86%	1.9	

STL Richland

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

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

Sample Results Summary

STL Richland STLR

Ordered by Client Sample ID, Batch No.

Date: 15-Aug-06

Report No. : 32989

SDG No: 32139

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RER2
000515	H9GAT1AG	U-234	0.0541 +- 0.212	ND	pCi/sample	102%	0.618	
		U-235	-0.00834 +- 0.0167	ND	pCi/sample	102%	0.419	
		U-238	-0.0167 +- 0.0237	ND	pCi/sample	102%	0.476	
000515	H9GAT1AA	TH-228	0.0000131 +- 0.160	ND	pCi/sample	68%	0.482	
		TH-230	0.0944 +- 0.190	ND	pCi/sample	68%	0.378	
		TH-232	-0.0315 +- 0.0632	ND	pCi/sample	68%	0.378	
000515	H9GAT1AE	ALPHA	-1.7700 +- 1.50	ND	pCi/sample	100%	5.39	
000515	H9GAT1AF	BETA	1.93 +- 2.64	ND	pCi/sample	100%	5.32	
000515	H9GAT1AC	RA-226	0.0855 +- 0.130	ND	pCi/sample	105%	0.224	
000515	H9GAT1AD	RA-228	0.187 +- 0.815	ND	pCi/sample	98%	1.94	
P-0683	H9F9W1AG	U-234	0.462 +- 0.459	ND	pCi/sample	98%	0.567	
		U-235	0.0602 +- 0.209	ND	pCi/sample	98%	0.567	
		U-238	-0.0804 +- 0.0814	ND	pCi/sample	98%	0.69	
P-0683	H9F9W1AA	TH-228	0.0755 +- 0.152	ND	pCi/sample	84%	0.302	
		TH-230	0.00000 +- 0.119	ND	pCi/sample	84%	0.131	
		TH-232	0.00000 +- 0.119	ND	pCi/sample	84%	0.131	
P-0683	H9F9W1AE	ALPHA	3.49 +- 3.23	ND	pCi/sample	100%	5.44	
P-0683	H9F9W1AF	BETA	23.6 +- 4.91	=	pCi/sample	100%	5.07	
P-0683	H9F9W1AC	RA-226	0.349 +- 0.216	=	pCi/sample	106%	0.254	
P-0683	H9F9W1AD	RA-228	0.347 +- 1.18	ND	pCi/sample	96%	2.74	
P-0684	H9F921AG	U-234	-0.0394 +- 0.223	ND	pCi/sample	99%	0.808	
		U-235	0.0393 +- 0.208	ND	pCi/sample	99%	0.621	
		U-238	-0.0197 +- 0.219	ND	pCi/sample	99%	0.768	
P-0684	H9F921AA	TH-228	0.162 +- 0.168	ND	pCi/sample	104%	0.216	
		TH-230	0.0867 +- 0.126	ND	pCi/sample	104%	0.208	
		TH-232	0.00000058 +- 0.0850	ND	pCi/sample	104%	0.255	
P-0684	H9F921AE	ALPHA	1.99 +- 2.55	ND	pCi/sample	100%	4.8	
P-0684	H9F921AF	BETA	22.2 +- 5.03	=	pCi/sample	100%	5.81	
P-0684	H9F921AC	RA-226	0.0283 +- 0.174	ND	pCi/sample	103%	0.335	
P-0684	H9F921AD	RA-228	1.26 +- 1.25	ND	pCi/sample	93%	2.69	

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.

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Sample Results Summary

STL Richland STLR

Ordered by Client Sample ID, Batch No.

Date: 15-Aug-06

Report No. : 32989

SDG No: 32139

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RER2
P-0685	H9F951AG	U-234	-0.1230 +- 0.103	ND	pCi/sample	92%	0.803	
		U-235	0.103 +- 0.206	ND	pCi/sample	92%	0.279	
		U-238	-0.0823 +- 0.240	ND	pCi/sample	92%	0.921	
P-0685	H9F951AA	TH-228	0.00000 +- 0.106	ND	pCi/sample	79%	0.118	
		TH-230	1.17 +- 0.490	=	pCi/sample	79%	0.113	
		TH-232	0.0209 +- 0.0936	ND	pCi/sample	79%	0.251	
P-0685	H9F951AE	ALPHA	-0.7360 +- 1.78	ND	pCi/sample	100%	5.19	
P-0685	H9F951AF	BETA	30.8 +- 5.97	=	pCi/sample	100%	5.46	
P-0685	H9F951AC	RA-226	-0.0198 +- 0.197	ND	pCi/sample	97%	0.391	
P-0685	H9F951AD	RA-228	1.33 +- 1.38	ND	pCi/sample	88%	2.99	
P-0686	H9F981AG	U-234	0.244 +- 0.390	ND	pCi/sample	98%	0.771	
		U-235	-0.0376 +- 0.0535	ND	pCi/sample	98%	0.531	
		U-238	0.263 +- 0.389	ND	pCi/sample	98%	0.733	
P-0686	H9F981AA	TH-228	0.194 +- 0.230	ND	pCi/sample	92%	0.357	
		TH-230	0.210 +- 0.217	ND	pCi/sample	92%	0.28	
		TH-232	-0.0233 +- 0.0469	ND	pCi/sample	92%	0.28	
P-0686	H9F981AE	ALPHA	0.776 +- 2.46	ND	pCi/sample	100%	5.51	
P-0686	H9F981AF	BETA	28.9 +- 5.61	=	pCi/sample	100%	5.3	
P-0686	H9F981AC	RA-226	0.247 +- 0.176	=	pCi/sample	100%	0.237	
P-0686	H9F981AD	RA-228	0.349 +- 1.06	ND	pCi/sample	90%	2.49	
P-0687	H9GAA1AG	U-234	0.160 +- 0.321	ND	pCi/sample	60%	0.433	
		U-235	-0.0320 +- 0.0642	ND	pCi/sample	60%	0.766	
		U-238	0.0959 +- 0.333	ND	pCi/sample	60%	0.904	
P-0687	H9GAA1AA	TH-228	-0.00000177 +- 0.184	ND	pCi/sample	87%	0.494	
		TH-230	0.154 +- 0.180	ND	pCi/sample	87%	0.139	
		TH-232	0.00000 +- 0.125	ND	pCi/sample	87%	0.139	
P-0687	H9GAA1AE	ALPHA	2.18 +- 2.82	ND	pCi/sample	100%	5.34	
P-0687	H9GAA1AF	BETA	20.9 +- 4.57	=	pCi/sample	100%	5.14	
P-0687	H9GAA1AC	RA-226	-0.0785 +- 0.163	ND	pCi/sample	90%	0.357	
P-0687	H9GAA1AD	RA-228	0.869 +- 1.20	ND	pCi/sample	84%	2.71	

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Sample Results Summary

STL Richland STLR

Ordered by Client Sample ID, Batch No.

Date: 15-Aug-06

Report No. : 32989

SDG No: 32139

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RER2
P-0688	H9GAC1AG	U-234	0.0819 +- 0.209	ND	pCi/sample	99%	0.491	
		U-235	0.00000 +- 0.251	ND	pCi/sample	99%	0.278	
		U-238	0.184 +- 0.294	ND	pCi/sample	99%	0.491	
P-0688	H9GAC1AA	TH-228	0.00000198 +- 0.168	ND	pCi/sample	102%	0.425	
		TH-230	0.361 +- 0.252	=	pCi/sample	102%	0.228	
		TH-232	0.00000 +- 0.0931	ND	pCi/sample	102%	0.103	
P-0688	H9GAC1AE	ALPHA	2.84 +- 3.13	ND	pCi/sample	100%	5.63	
P-0688	H9GAC1AF	BETA	19.0 +- 4.45	=	pCi/sample	100%	5.42	
P-0688	H9GAC1AC	RA-226	-0.1050 +- 0.143	ND	pCi/sample	109%	0.327	
P-0688	H9GAC1AD	RA-228	0.673 +- 0.978	ND	pCi/sample	100%	2.19	
P-0689	H9GAE1AG	U-234	0.00000 +- 0.242	ND	pCi/sample	94%	0.268	
		U-235	-0.0198 +- 0.0397	ND	pCi/sample	94%	0.473	
		U-238	0.0989 +- 0.198	ND	pCi/sample	94%	0.268	
P-0689	H9GAE1AA	TH-228	-0.0811 +- 0.129	ND	pCi/sample	93%	0.436	
		TH-230	0.215 +- 0.199	ND	pCi/sample	93%	0.234	
		TH-232	0.00000065 +- 0.0955	ND	pCi/sample	93%	0.287	
P-0689	H9GAE1AE	ALPHA	3.40 +- 2.97	ND	pCi/sample	100%	4.79	
P-0689	H9GAE1AF	BETA	24.6 +- 5.00	=	pCi/sample	100%	4.98	
P-0689	H9GAE1AC	RA-226	0.0371 +- 0.201	ND	pCi/sample	98%	0.384	
P-0689	H9GAE1AD	RA-228	0.0841 +- 0.894	ND	pCi/sample	92%	2.2	
P-0690	H9GAG1AG	U-234	-0.0399 +- 0.0567	ND	pCi/sample	100%	0.563	
		U-235	0.00000 +- 0.244	ND	pCi/sample	100%	0.27	
		U-238	-0.0399 +- 0.0567	ND	pCi/sample	100%	0.563	
P-0690	H9GAG1AA	TH-228	0.0253 +- 0.113	ND	pCi/sample	88%	0.304	
		TH-230	0.439 +- 0.303	=	pCi/sample	88%	0.132	
		TH-232	0.00000 +- 0.119	ND	pCi/sample	88%	0.132	
P-0690	H9GAG1AE	ALPHA	0.00000 +- 2.11	ND	pCi/sample	100%	5.32	
P-0690	H9GAG1AF	BETA	1.44 +- 2.70	ND	pCi/sample	100%	5.53	
P-0690	H9GAG1AC	RA-226	-0.00263 +- 0.0864	ND	pCi/sample	103%	0.193	
P-0690	H9GAG1AD	RA-228	1.45 +- 0.987	ND	pCi/sample	92%	1.96	

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

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Sample Results Summary

STL Richland STLR

Ordered by Client Sample ID, Batch No.

Date: 15-Aug-06

Report No. : 32989

SDG No: 32139

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. : 32989

SDG No.: 32139

QC Type	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	Recovery	Bias	MDC|MDA
BLANK QC	H9HV71AA	U-234	-0.00155 +- 0.00221	N	pCi/sample	90%			0.0442
		U-235	0.00813 +- 0.0195	N	pCi/sample	90%			0.0442
		U-238	-0.00155 +- 0.00221	N	pCi/sample	90%			0.0442
BLANK QC	H9HWD1AA	TH-228	0.00909 +- 0.0204	N	pCi/sample	86%			0.0422
		TH-230	0.00874 +- 0.0125	N	pCi/sample	86%			0.0118
		TH-232	0.00437 +- 0.00878	N	pCi/sample	86%			0.0118
BLANK QC	H9HWF1AA	ALPHA	0.0109 +- 0.0491	N	pCi/sample	100%			0.114
BLANK QC	H9HWL1AA	BETA	-0.0154 +- 0.194	N	pCi/sample	100%			0.416
BLANK QC	H9HWQ1AA	RA-226	-0.0122 +- 0.0327	N	pCi/sample	82%			0.0799
BLANK QC	H9HWV1AA	RA-228	-0.0235 +- 0.234	N	pCi/sample	75%			0.599
LCS	H9HV71AC	U-234	0.964 +- 0.235	=	pCi/sample	81%	98%	0.0	0.0514
		U-238	0.952 +- 0.233	=	pCi/sample	81%	93%	-0.1	0.0221
LCS	H9HWD1AC	TH-230	2.03 +- 0.397	=	pCi/sample	95%	112%	0.1	0.0227
LCS	H9HWF1AC	ALPHA	2.34 +- 0.539	=	pCi/sample	100%	99%	0.0	0.099
LCS	H9HWL1AC	BETA	4.86 +- 0.752	=	pCi/sample	100%	106%	0.1	0.419
LCS	H9HWQ1AC	RA-226	1.44 +- 0.336	=	pCi/sample	100%	103%	0.0	0.0615
LCS	H9HWV1AC	RA-228	4.39 +- 0.749	=	pCi/sample	89%	87%	-0.1	0.536

Number of Results: 17

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

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland | **SDG:** 32139 | **Collection Date:** 6/27/2006 10:40:00 AM

Lot-Sample No.: J6G180211-9 | **Report No. :** 32989 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: 000509 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #86

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: 6200121	**Work Order:** H9GAJ1AG			**Report DB ID:** 9H9GAJ10								
U-234	-0.0203	ND	0.041	0.041	0.486	pCi/sample	96%	*-0.04*	7/30/06 02:28 p	1.0	0.06284	E908.0
						0.106	1.0	*-1.*		Sample	Sample	ALP10
U-235	0.00000	ND	0.0000	0.25	0.275	pCi/sample	96%	*0.*	7/30/06 02:28 p	1.0	0.06284	E908.0
							1.0	*0.*		Sample	Sample	ALP10
U-238	0.0811	ND	0.21	0.21	0.486	pCi/sample	96%	*0.17*	7/30/06 02:28 p	1.0	0.06284	E908.0
						0.106	1.0	*0.78*		Sample	Sample	ALP10
								Ratio U-234/238 = -0.3				
Batch: 6200122	**Work Order:** H9GAJ1AA			**Report DB ID:** 9H9GAJ10								
TH-228	0.136	ND	0.16	0.16	0.123	pCi/sample	105%	*(1.1)*	7/30/06 01:46 p	1.0	0.08346	ISOTH
							1.0	*(1.7)*		Sample	Sample	ALP174
TH-230	0.523	=	0.30	0.32	0.118	pCi/sample	105%	*(4.4)*	7/30/06 01:46 p	1.0	0.08346	ISOTH
							1.0	*(3.3)*		Sample	Sample	ALP174
TH-232	0.0871	ND	0.12	0.12	0.118	pCi/sample	105%	*0.74*	7/30/06 01:46 p	1.0	0.08346	ISOTH
							1.0	*(1.4)*		Sample	Sample	ALP174
Batch: 6200124	**Work Order:** H9GAJ1AE			**Report DB ID:** 9H9GAJ10								
ALPHA	2.23	ND	2.8	2.9	5.47	pCi/sample	100%	*0.41*	8/4/06 04:26 p	1.0	0.0208	E900.0
						2.24	20.0	*(1.6)*		Sample	Sample	GPC10A
Batch: 6200128	**Work Order:** H9GAJ1AF			**Report DB ID:** 9H9GAJ10								
BETA	27.0	=	3.9	5.5	5.43	pCi/sample	100%	*(5.)*	8/3/06 07:32 a	1.0	0.08498	E900.0
						2.61	5.0	*(9.9)*		Sample	Sample	GPC26B
Batch: 6200133	**Work Order:** H9GAJ1AC			**Report DB ID:** 9H9GAJ10								

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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 | **SDG:** 32139 | **Collection Date:** 6/27/2006 10:40:00 AM

Lot-Sample No.: J6G180211-9 | **Report No. :** 32989 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: 000509 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #86

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	**0.00893**	ND	0.17	0.17	0.342	pCi/sample	101%	*0.03*	8/10/06 12:51 p	0.833	0.25042	E903.1
						0.147	1.0	*0.1*		Sample	Sample	ASC4UA
Batch: 6200134	**Work Order:** H9GAJ1AD			**Report DB ID:** 9H9GAJ10								
RA-228	**-0.2170**	ND	0.80	0.80	2.13	pCi/sample	87%	*-0.1*	8/12/06 08:24 a	1.0	0.25042	E904.0
						0.916	3.1	*-0.54*		Sample	Sample	GPC2C

Number of Results: 10

Comments:

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FORM I

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland | **SDG:** 32139 | **Collection Date:** 6/27/2006 10:55:00 AM

Lot-Sample No.: J6G180211-10 | **Report No. :** 32989 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: 000510 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #86

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: 6200121	**Work Order:** H9GAK1AG			**Report DB ID:** 9H9GAK10								
U-234	0.00000	ND	0.0000	0.24	0.266	pCi/sample	91%	*0.*	7/30/06 02:28 p	1.0	0.06168	E908.0
							1.0	*0.*		Sample	Sample	ALP11
U-235	-0.0196	ND	0.039	0.039	0.47	pCi/sample	91%	*-0.04*	7/30/06 02:28 p	1.0	0.06168	E908.0
						0.102	1.0	*-1.*		Sample	Sample	ALP11
U-238	0.0785	ND	0.20	0.20	0.47	pCi/sample	91%	*0.17*	7/30/06 02:28 p	1.0	0.06168	E908.0
						0.102	1.0	*0.78*		Sample	Sample	ALP11
Batch: 6200122	**Work Order:** H9GAK1AA			**Report DB ID:** 9H9GAK10								
TH-228	0.146	ND	0.17	0.17	0.25	pCi/sample	92%	*0.58*	7/30/06 01:46 p	1.0	0.08313	ISOTH
						0.0685	1.0	*(1.7)*		Sample	Sample	ALP175
TH-230	0.441	=	0.27	0.28	0.109	pCi/sample	92%	*(4.1)*	7/30/06 01:46 p	1.0	0.08313	ISOTH
							1.0	*(3.2)*		Sample	Sample	ALP175
TH-232	0.0601	ND	0.12	0.12	0.24	pCi/sample	92%	*0.25*	7/30/06 01:46 p	1.0	0.08313	ISOTH
						0.0659	1.0	*1.*		Sample	Sample	ALP175
Batch: 6200124	**Work Order:** H9GAK1AE			**Report DB ID:** 9H9GAK10								
ALPHA	0.754	ND	2.4	2.4	5.36	pCi/sample	100%	*0.14*	8/4/06 04:26 p	1.0	0.02096	E900.0
						2.19	20.0	*0.63*		Sample	Sample	GPC10B
Batch: 6200128	**Work Order:** H9GAK1AF			**Report DB ID:** 9H9GAK10								
BETA	30.0	=	4.1	5.8	5.35	pCi/sample	100%	*(5.6)*	8/3/06 07:32 a	1.0	0.08457	E900.0
						2.56	5.0	*(10.3)*		Sample	Sample	GPC26C
Batch: 6200133	**Work Order:** H9GAK1AC			**Report DB ID:** 9H9GAK10								

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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.: J6G180211-10
Client Sample ID: 000510
Yerington Air Quality - Event #86

SDG: 32139
Report No. : 32989
COC No. :

Collection Date: 6/27/2006 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
RA-226	-0.1300	ND	0.12	0.12	0.292	pCi/sample	103%	*-0.44*	8/10/06 12:50 p	0.833	0.24927	E903.1
						0.126	1.0	*-(2.2)*		Sample	Sample	ASC6MB
Batch: 6200134	**Work Order:** H9GAK1AD			**Report DB ID:** 9H9GAK10								
RA-228	1.07	ND	0.84	0.87	1.79	pCi/sample	92%	*0.6*	8/12/06 08:24 a	1.0	0.24927	E904.0
						0.753	3.1	*(2.5)*		Sample	Sample	GPC2D

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 | **SDG:** 32139 | **Collection Date:** 6/27/2006 11:15:00 AM

Lot-Sample No.: J6G180211-11 | **Report No. :** 32989 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: 000511 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #86

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: 6200121	**Work Order:** H9GAL1AG			**Report DB ID:** 9H9GAL10								
U-234	**0.102**	ND	0.20	0.20	0.277	pCi/sample	97%	*0.37*	7/30/06 02:29 p	1.0	0.06205	E908.0
							1.0	*1.*		Sample	Sample	ALP12
U-235	**0.00000**	ND	0.0000	0.25	0.277	pCi/sample	97%	*0.*	7/30/06 02:29 p	1.0	0.06205	E908.0
							1.0	*0.*		Sample	Sample	ALP12
U-238	**0.184**	ND	0.29	0.29	0.489	pCi/sample	97%	*0.38*	7/30/06 02:29 p	1.0	0.06205	E908.0
						0.106	1.0	*(1.3)*		Sample	Sample	ALP12
								Ratio U-234/238 = 0.6				
Batch: 6200122	**Work Order:** H9GAL1AA			**Report DB ID:** 9H9GAL10								
TH-228	**0.0976**	ND	0.17	0.17	0.328	pCi/sample	117%	*0.3*	7/30/06 01:46 p	1.0	0.0824	ISOTH
						0.111	1.0	*(1.1)*		Sample	Sample	ALP176
TH-230	**0.319**	=	0.23	0.24	0.225	pCi/sample	117%	*(1.4)*	7/30/06 01:46 p	1.0	0.0824	ISOTH
						0.0618	1.0	*(2.7)*		Sample	Sample	ALP176
TH-232	**0.00000063**	ND	0.092	0.092	0.276	pCi/sample	117%	*0.*	7/30/06 01:46 p	1.0	0.0824	ISOTH
						0.0874	1.0	*0.*		Sample	Sample	ALP176
Batch: 6200124	**Work Order:** H9GAL1AE			**Report DB ID:** 9H9GAL10								
ALPHA	**2.03**	ND	2.8	2.8	5.51	pCi/sample	100%	*0.37*	8/4/06 04:26 p	1.0	0.02068	E900.0
						2.25	20.0	*(1.4)*		Sample	Sample	GPC10C
Batch: 6200128	**Work Order:** H9GAL1AF			**Report DB ID:** 9H9GAL10								
BETA	**29.1**	=	3.9	5.6	5.1	pCi/sample	100%	*(5.7)*	8/3/06 07:32 a	1.0	0.08322	E900.0
						2.43	5.0	*(10.4)*		Sample	Sample	GPC26D
Batch: 6200133	**Work Order:** H9GAL1AC			**Report DB ID:** 9H9GAL10								

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: 32139
Collection Date: 6/27/2006 11:15:00 AM
Lot-Sample No.: J6G180211-11
Report No. : 32989
Received Date: 7/18/2006 10:00:00 AM
Client Sample ID: 000511
COC No. :
Matrix: FILTER AIR

Yerington Air Quality - Event #86

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	0.139	ND	0.14	0.14	0.217	pCi/sample	97%	*0.64*	8/10/06 12:50 p	0.833	0.25136	E903.1
						0.0843	1.0	*(1.9)*		Sample	Sample	ASC7UA
Batch: 6200134	**Work Order:** H9GAL1AD			**Report DB ID:** 9H9GAL10								
RA-228	0.638	ND	0.86	0.89	2.01	pCi/sample	84%	*0.32*	8/12/06 08:24 a	1.0	0.25136	E904.0
						0.861	3.1	*(1.4)*		Sample	Sample	GPC3A

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 | **SDG:** 32139 | **Collection Date:** 6/27/2006 11:35:00 AM

Lot-Sample No.: J6G180211-12 | **Report No. :** 32989 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: 000512 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #86

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: 6200121	**Work Order:** H9GAM1AG			**Report DB ID:** 9H9GAM10								
U-234	**0.206**	ND	0.33	0.33	0.584	pCi/sample	83%	*0.35*	7/30/06 02:29 p	1.0	0.06188	E908.0
						0.133	1.0	*(1.2)*		Sample	Sample	ALP69
U-235	**0.206**	ND	0.33	0.33	0.584	pCi/sample	83%	*0.35*	7/30/06 02:29 p	1.0	0.06188	E908.0
						0.133	1.0	*(1.2)*		Sample	Sample	ALP69
U-238	**0.0609**	ND	0.24	0.24	0.694	pCi/sample	83%	*0.09*	7/30/06 02:29 p	1.0	0.06188	E908.0
						0.189	1.0	*0.51*		Sample	Sample	ALP69
								Ratio U-234/238 = 3.4				
Batch: 6200122	**Work Order:** H9GAM1AA			**Report DB ID:** 9H9GAM10								
TH-228	**0.0214**	ND	0.095	0.096	0.256	pCi/sample	99%	*0.08*	7/30/06 01:46 p	1.0	0.08471	ISOTH
						0.0702	1.0	*0.45*		Sample	Sample	ALP177
TH-230	**0.164**	ND	0.16	0.17	0.111	pCi/sample	99%	*(1.5)*	7/30/06 01:46 p	1.0	0.08471	ISOTH
							1.0	*(2.)*		Sample	Sample	ALP177
TH-232	**0.0411**	ND	0.082	0.082	0.111	pCi/sample	99%	*0.37*	7/30/06 01:46 p	1.0	0.08471	ISOTH
							1.0	*1.*		Sample	Sample	ALP177
Batch: 6200124	**Work Order:** H9GAM1AE			**Report DB ID:** 9H9GAM10								
ALPHA	**6.59**	=	3.6	3.8	4.79	pCi/sample	100%	*(1.4)*	8/4/06 04:26 p	1.0	0.02071	E900.0
						1.92	20.0	*(3.4)*		Sample	Sample	GPC10D
Batch: 6200128	**Work Order:** H9GAM1AF			**Report DB ID:** 9H9GAM10								
BETA	**32.0**	=	4.1	6.0	5.2	pCi/sample	100%	*(6.2)*	8/3/06 07:32 a	1.0	0.08263	E900.0
						2.49	5.0	*(10.7)*		Sample	Sample	GPC27A
Batch: 6200133	**Work Order:** H9GAM1AC			**Report DB ID:** 9H9GAM10								

STL Richland
rptSTLRchSample
V4.15.0 A97

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

FORM I

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180211-12
Client Sample ID: 000512
Yerington Air Quality - Event #86

SDG: 32139
Report No. : 32989
COC No. :

Collection Date: 6/27/2006 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	0.0586	ND	0.19	0.19	0.362	pCi/sample	102%	*0.16*	8/10/06 12:51 p	0.833	0.24958	E903.1
						0.149	1.0	*0.62*		Sample	Sample	ASC8RD
Batch: 6200134	**Work Order:** H9GAM1AD			**Report DB ID:** 9H9GAM10								
RA-228	1.64	=	0.85	0.88	1.6	pCi/sample	92%	*(1.)*	8/12/06 08:24 a	1.0	0.24958	E904.0
						0.669	3.1	*(3.7)*		Sample	Sample	GPC3B

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

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FORM I

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180211-13
Client Sample ID: 000513
Yerington Air Quality - Event #86

SDG: 32139
Report No. : 32989
COC No. :

Collection Date: 6/27/2006 12:00:00 PM
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: 6200121	**Work Order:** H9GAN1AG			**Report DB ID:** 9H9GAN10								
U-234	**0.0517**	ND	0.20	0.20	0.591	pCi/sample	100%	*0.09*	7/30/06 02:29 p	1.0	0.0619	E908.0
						0.16	1.0	*0.51*		Sample	Sample	ALP71
U-235	**-0.0239**	ND	0.028	0.028	0.497	pCi/sample	100%	*-0.05*	7/30/06 02:29 p	1.0	0.0619	E908.0
						0.113	1.0	*-(1.7)*		Sample	Sample	ALP71
U-238	**0.0597**	ND	0.20	0.20	0.563	pCi/sample	100%	*0.11*	7/30/06 02:29 p	1.0	0.0619	E908.0
						0.146	1.0	*0.59*		Sample	Sample	ALP71
								Ratio U-234/238 = 0.9				
Batch: 6200122	**Work Order:** H9GAN1AA			**Report DB ID:** 9H9GAN10								
TH-228	**0.261**	=	0.22	0.22	0.241	pCi/sample	89%	*(1.1)*	7/30/06 01:46 p	1.0	0.08342	ISOTH
						0.0661	1.0	*(2.4)*		Sample	Sample	ALP178
TH-230	**0.0580**	ND	0.12	0.12	0.232	pCi/sample	89%	*0.25*	7/30/06 01:46 p	1.0	0.08342	ISOTH
						0.0636	1.0	*1.*		Sample	Sample	ALP178
TH-232	**-0.0386**	ND	0.055	0.055	0.284	pCi/sample	89%	*-0.14*	7/30/06 01:46 p	1.0	0.08342	ISOTH
						0.0899	1.0	*-(1.4)*		Sample	Sample	ALP178
Batch: 6200124	**Work Order:** H9GAN1AE			**Report DB ID:** 9H9GAN10								
ALPHA	**0.755**	ND	2.4	2.4	5.32	pCi/sample	100%	*0.14*	8/4/06 04:26 p	1.0	0.02078	E900.0
						2.15	20.0	*0.64*		Sample	Sample	GPC10E
Batch: 6200128	**Work Order:** H9GAN1AF			**Report DB ID:** 9H9GAN10								
BETA	**27.5**	=	3.8	5.3	5.0	pCi/sample	100%	*(5.5)*	8/3/06 07:32 a	1.0	0.08284	E900.0
						2.39	5.0	*(10.3)*		Sample	Sample	GPC27C
Batch: 6200133	**Work Order:** H9GAN1AC			**Report DB ID:** 9H9GAN10								

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: 32139
Collection Date: 6/27/2006 12:00:00 PM
Lot-Sample No.: J6G180211-13
Report No. : 32989
Received Date: 7/18/2006 10:00:00 AM
Client Sample ID: 000513
COC No. :
Matrix: FILTER AIR

Yerington Air Quality - Event #86

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	**1.64**	=	0.42	0.54	0.399	pCi/sample	98%	*(4.1)*	8/10/06 01:11 p	0.833	0.24815	E903.1
						0.171	1.0	*(6.1)*		Sample	Sample	ASC9RC
Batch: 6200134	**Work Order:** H9GAN1AD			**Report DB ID:** 9H9GAN10								
RA-228	**1.73**	ND	0.98	1.0	1.87	pCi/sample	87%	*0.92*	8/12/06 08:24 a	1.0	0.24815	E904.0
						0.798	3.1	*(3.4)*		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 | **SDG:** 32139 | **Collection Date:** 6/27/2006 12:10:00 PM

Lot-Sample No.: J6G180211-14 | **Report No. :** 32989 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: 000514 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #86

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: 6200121	**Work Order:** H9GAP1AG			**Report DB ID:** 9H9GAP10								
U-234	**0.203**	ND	0.33	0.33	0.575	pCi/sample	90%	*0.35*	7/30/06 02:30 p	1.0	0.06204	E908.0
						0.131	1.0	*(1.2)*		Sample	Sample	ALP83
U-235	**-0.0185**	ND	0.026	0.026	0.527	pCi/sample	90%	*-0.04*	7/30/06 02:30 p	1.0	0.06204	E908.0
						0.107	1.0	*-(1.4)*		Sample	Sample	ALP83
U-238	**0.328**	ND	0.40	0.40	0.527	pCi/sample	90%	*0.62*	7/30/06 02:30 p	1.0	0.06204	E908.0
						0.107	1.0	*(1.6)*		Sample	Sample	ALP83
								Ratio U-234/238 = 0.6				
Batch: 6200122	**Work Order:** H9GAP1AA			**Report DB ID:** 9H9GAP10								
TH-228	**0.0360**	ND	0.072	0.072	0.0977	pCi/sample	95%	*0.37*	7/30/06 01:47 p	1.0	0.08325	ISOTH
							1.0	*1.*		Sample	Sample	ALP114
TH-230	**0.312**	=	0.21	0.22	0.0939	pCi/sample	95%	*(3.3)*	7/30/06 01:47 p	1.0	0.08325	ISOTH
							1.0	*(2.9)*		Sample	Sample	ALP114
TH-232	**0.0173**	ND	0.078	0.078	0.208	pCi/sample	95%	*0.08*	7/30/06 01:47 p	1.0	0.08325	ISOTH
						0.057	1.0	*0.45*		Sample	Sample	ALP114
Batch: 6200124	**Work Order:** H9GAP1AE			**Report DB ID:** 9H9GAP10								
ALPHA	**5.96**	=	3.7	3.9	5.53	pCi/sample	100%	*(1.1)*	8/4/06 07:15 p	1.0	0.02075	E900.0
						2.26	20.0	*(3.)*		Sample	Sample	GPC10A
Batch: 6200128	**Work Order:** H9GAP1AF			**Report DB ID:** 9H9GAP10								
BETA	**33.8**	=	4.0	6.2	4.97	pCi/sample	100%	*(6.8)*	8/3/06 07:32 a	1.0	0.08531	E900.0
						2.38	5.0	*(10.9)*		Sample	Sample	GPC27D
Batch: 6200133	**Work Order:** H9GAP1AC			**Report DB ID:** 9H9GAP10								

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:** 32139 | **Collection Date:** 6/27/2006 12:10:00 PM

Lot-Sample No.: J6G180211-14 | **Report No. :** 32989 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: 000514 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #86

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	**0.219**	ND	0.22	0.22	0.345	pCi/sample	96%	*0.63*	8/10/06 01:10 p	0.833	0.24951	E903.1
						0.141	1.0	*(2.)*		Sample	Sample	ASCASC
Batch: 6200134	**Work Order:** H9GAP1AD			**Report DB ID:** 9H9GAP10								
RA-228	**0.580**	ND	0.80	0.83	1.9	pCi/sample	86%	*0.31*	8/12/06 08:24 a	1.0	0.24951	E904.0
						0.807	3.1	*(1.4)*		Sample	Sample	GPC3D

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

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

FORM I

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland
SDG: 32139
Collection Date: 6/27/2006 11:40:00 AM
Lot-Sample No.: J6G180211-15
Report No. : 32989
Received Date: 7/18/2006 10:00:00 AM
Client Sample ID: 000515
COC No. :
Matrix: FILTER AIR

Yerington Air Quality - Event #86

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: 6200121	**Work Order:** H9GAT1AG			**Report DB ID:** 9H9GAT10								
U-234	**0.0541**	ND	0.21	0.21	0.618	pCi/sample	102%	*0.09*	7/30/06 02:30 p	1.0	0.06201	E908.0
						0.168	1.0	*0.51*		Sample	Sample	ALP84
U-235	**-0.00834**	ND	0.017	0.017	0.419	pCi/sample	102%	*-0.02*	7/30/06 02:30 p	1.0	0.06201	E908.0
						0.0686	1.0	*-1.*		Sample	Sample	ALP84
U-238	**-0.0167**	ND	0.024	0.024	0.476	pCi/sample	102%	*-0.04*	7/30/06 02:30 p	1.0	0.06201	E908.0
						0.097	1.0	*-(1.4)*		Sample	Sample	ALP84
								Ratio U-234/238 = -3.2				
Batch: 6200122	**Work Order:** H9GAT1AA			**Report DB ID:** 9H9GAT10								
TH-228	**0.0000131**	ND	0.16	0.16	0.482	pCi/sample	68%	*0.*	7/30/06 01:47 p	1.0	0.08329	ISOTH
						0.152	1.0	*0.*		Sample	Sample	ALP119
TH-230	**0.0944**	ND	0.19	0.19	0.378	pCi/sample	68%	*0.25*	7/30/06 01:47 p	1.0	0.08329	ISOTH
						0.104	1.0	*1.*		Sample	Sample	ALP119
TH-232	**-0.0315**	ND	0.063	0.063	0.378	pCi/sample	68%	*-0.08*	7/30/06 01:47 p	1.0	0.08329	ISOTH
						0.104	1.0	*-1.*		Sample	Sample	ALP119
Batch: 6200124	**Work Order:** H9GAT1AE			**Report DB ID:** 9H9GAT10								
ALPHA	**-1.7700**	ND	1.5	1.5	5.39	pCi/sample	100%	*-0.33*	8/4/06 07:15 p	1.0	0.02085	E900.0
						2.21	20.0	*-(2.4)*		Sample	Sample	GPC10B
Batch: 6200128	**Work Order:** H9GAT1AF			**Report DB ID:** 9H9GAT10								
BETA	**1.93**	ND	2.6	2.6	5.32	pCi/sample	100%	*0.36*	8/3/06 07:32 a	1.0	0.08316	E900.0
						2.55	5.0	*(1.5)*		Sample	Sample	GPC31A
Batch: 6200133	**Work Order:** H9GAT1AC			**Report DB ID:** 9H9GAT10								

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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: 32139
Collection Date: 6/27/2006 11:40:00 AM
Lot-Sample No.: J6G180211-15
Report No. : 32989
Received Date: 7/18/2006 10:00:00 AM
Client Sample ID: 000515
COC No. :
Matrix: FILTER AIR

Yerington Air Quality - Event #86

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	0.0855	ND	0.13	0.13	0.224	pCi/sample	105%	*0.38*	8/10/06 01:10 p	0.833	0.2482	E903.1
						0.089	1.0	*(1.3)*		Sample	Sample	ASCCSA
Batch: 6200134	**Work Order:** H9GAT1AD			**Report DB ID:** 9H9GAT10								
RA-228	0.187	ND	0.81	0.81	1.94	pCi/sample	98%	*0.1*	8/12/06 08:24 a	1.0	0.2482	E904.0
						0.846	3.1	*0.46*		Sample	Sample	GPC4A

Number of Results: 10

Comments:

STL Richland
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V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
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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.: J6G180211-1
Client Sample ID: P-0683
Yerington Air Quality - Event #86

SDG: 32139
Report No. : 32989
COC No. :

Collection Date: 6/27/2006 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
Batch: 6200121	**Work Order:** H9F9W1AG			**Report DB ID:** 9H9F9W10								
U-234	0.462	ND	0.45	0.46	0.567	pCi/sample	98%	*0.81*	7/30/06 02:24 p	1.0	0.06241	E908.0
						0.148	1.0	*(2.)*		Sample	Sample	ALP1
U-235	0.0602	ND	0.21	0.21	0.567	pCi/sample	98%	*0.11*	7/30/06 02:24 p	1.0	0.06241	E908.0
						0.148	1.0	*0.58*		Sample	Sample	ALP1
U-238	-0.0804	ND	0.080	0.081	0.69	pCi/sample	98%	*-0.12*	7/30/06 02:24 p	1.0	0.06241	E908.0
						0.209	1.0	*-(2.)*		Sample	Sample	ALP1
								Ratio U-234/238 = -5.7				
Batch: 6200122	**Work Order:** H9F9W1AA			**Report DB ID:** 9H9F9W10								
TH-228	0.0755	ND	0.15	0.15	0.302	pCi/sample	84%	*0.25*	7/29/06 01:47 p	1.0	0.08437	ISOTH
						0.0828	1.0	*1.*		Sample	Sample	ALP177
TH-230	0.00000	ND	0.0000	0.12	0.131	pCi/sample	84%	*0.*	7/29/06 01:47 p	1.0	0.08437	ISOTH
							1.0	*0.*		Sample	Sample	ALP177
TH-232	0.00000	ND	0.0000	0.12	0.131	pCi/sample	84%	*0.*	7/29/06 01:47 p	1.0	0.08437	ISOTH
							1.0	*0.*		Sample	Sample	ALP177
Batch: 6200124	**Work Order:** H9F9W1AE			**Report DB ID:** 9H9F9W10								
ALPHA	3.49	ND	3.1	3.2	5.44	pCi/sample	100%	*0.64*	8/4/06 10:54 a	1.0	0.02096	E900.0
						2.22	20.0	*(2.2)*		Sample	Sample	GPC10C
Batch: 6200128	**Work Order:** H9F9W1AF			**Report DB ID:** 9H9F9W10								
BETA	23.6	=	3.6	4.9	5.07	pCi/sample	100%	*(4.6)*	8/2/06 06:58 p	1.0	0.08614	E900.0
						2.43	5.0	*(9.6)*		Sample	Sample	GPC31D
Batch: 6200133	**Work Order:** H9F9W1AC			**Report DB ID:** 9H9F9W10								

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:** 32139 | **Collection Date:** 6/27/2006 10:35:00 AM

Lot-Sample No.: J6G180211-1 | **Report No. :** 32989 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: P-0683 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #86

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	**0.349**	=	0.20	0.22	0.254	pCi/sample	106%	*(1.4)*	8/9/06 01:42 p	0.833	0.25042	E903.1
						0.101	1.0	*(3.2)*		Sample	Sample	ASCKMD
Batch: 6200134	**Work Order:** H9F9W1AD			**Report DB ID:** 9H9F9W10								
RA-228	**0.347**	ND	0.98	1.2	2.74	pCi/sample	96%	*0.13*	8/12/06 08:24 a	1.0	0.25042	E904.0
						1.26	3.1	*0.59*		Sample	Sample	GPC7A

Number of Results: 10

Comments:

STL Richland
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MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
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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:** 32139 **Collection Date:** 6/27/2006 10:50:00 AM

Lot-Sample No.: J6G180211-2 **Report No. :** 32989 **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: P-0684 **COC No. :** **Matrix:** FILTER AIR

Yerington Air Quality - Event #86

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: 6200121	**Work Order:** H9F921AG			**Report DB ID:** 9H9F9210								
U-234	-0.0394	ND	0.22	0.22	0.808	pCi/sample	99%	*-0.05*	7/30/06 02:25 p	1.0	0.0617	E908.0
						0.271	1.0	*-0.35*		Sample	Sample	ALP3
U-235	0.0393	ND	0.21	0.21	0.621	pCi/sample	99%	*0.06*	7/30/06 02:25 p	1.0	0.0617	E908.0
						0.177	1.0	*0.38*		Sample	Sample	ALP3
U-238	-0.0197	ND	0.22	0.22	0.768	pCi/sample	99%	*-0.03*	7/30/06 02:25 p	1.0	0.0617	E908.0
						0.251	1.0	*-0.18*		Sample	Sample	ALP3
								Ratio U-234/238 = 2.0				
Batch: 6200122	**Work Order:** H9F921AA			**Report DB ID:** 9H9F9210								
TH-228	0.162	ND	0.17	0.17	0.216	pCi/sample	104%	*0.75*	7/29/06 01:47 p	1.0	0.08298	ISOTH
						0.0593	1.0	*(1.9)*		Sample	Sample	ALP178
TH-230	0.0867	ND	0.13	0.13	0.208	pCi/sample	104%	*0.42*	7/29/06 01:47 p	1.0	0.08298	ISOTH
						0.0571	1.0	*(1.4)*		Sample	Sample	ALP178
TH-232	0.00000058	ND	0.085	0.085	0.255	pCi/sample	104%	*0.*	7/29/06 01:47 p	1.0	0.08298	ISOTH
						0.0807	1.0	*0.*		Sample	Sample	ALP178
Batch: 6200124	**Work Order:** H9F921AE			**Report DB ID:** 9H9F9210								
ALPHA	1.99	ND	2.5	2.6	4.8	pCi/sample	100%	*0.41*	8/4/06 10:54 a	1.0	0.02059	E900.0
						1.92	20.0	*(1.6)*		Sample	Sample	GPC10D
Batch: 6200128	**Work Order:** H9F921AF			**Report DB ID:** 9H9F9210								
BETA	22.2	=	3.8	5.0	5.81	pCi/sample	100%	*(3.8)*	8/2/06 06:59 p	1.0	0.0824	E900.0
						2.8	5.0	*(8.9)*		Sample	Sample	GPC26A
Batch: 6200133	**Work Order:** H9F921AC			**Report DB ID:** 9H9F9210								

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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 **SDG:** 32139 **Collection Date:** 6/27/2006 10:50:00 AM

Lot-Sample No.: J6G180211-2 **Report No. :** 32989 **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: P-0684 **COC No. :** **Matrix:** FILTER AIR

Yerington Air Quality - Event #86

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	0.0283	ND	0.17	0.17	0.335	pCi/sample	103%	*0.08*	8/9/06 01:41 p	0.833	0.24782	E903.1
						0.144	1.0	*0.33*		Sample	Sample	ASCMRA
Batch: 6200134	**Work Order:** H9F921AD			**Report DB ID:** 9H9F9210								
RA-228	1.26	ND	1.3	1.3	2.69	pCi/sample	93%	*0.47*	8/12/06 08:24 a	1.0	0.24782	E904.0
						1.23	3.1	*(2.)*		Sample	Sample	GPC7B

Number of Results: 10

Comments:

STL Richland
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FORM I

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland | **SDG:** 32139 | **Collection Date:** 6/27/2006 11:10:00 AM

Lot-Sample No.: J6G180211-3 | **Report No. :** 32989 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: P-0685 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #86

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: 6200121	**Work Order:** H9F951AG			**Report DB ID:** 9H9F9510								
U-234	-0.1230	ND	0.10	0.10	0.803	pCi/sample	92%	-0.15	7/30/06 02:25 p	1.0	0.06238	E908.0
						0.262	1.0	-(2.4)		Sample	Sample	ALP4
U-235	0.103	ND	0.21	0.21	0.279	pCi/sample	92%	0.37	7/30/06 02:25 p	1.0	0.06238	E908.0
							1.0	1.		Sample	Sample	ALP4
U-238	-0.0823	ND	0.24	0.24	0.921	pCi/sample	92%	-0.09	7/30/06 02:25 p	1.0	0.06238	E908.0
						0.321	1.0	-0.68		Sample	Sample	ALP4
								Ratio U-234/238 = 1.5				
Batch: 6200122	**Work Order:** H9F951AA			**Report DB ID:** 9H9F9510								
TH-228	0.00000	ND	0.0000	0.11	0.118	pCi/sample	79%	0.	7/29/06 01:49 p	1.0	0.08326	ISOTH
							1.0	0.		Sample	Sample	ALP114
TH-230	1.17	=	0.44	0.49	0.113	pCi/sample	79%	(10.3)	7/29/06 01:49 p	1.0	0.08326	ISOTH
							1.0	(4.8)		Sample	Sample	ALP114
TH-232	0.0209	ND	0.094	0.094	0.251	pCi/sample	79%	0.08	7/29/06 01:49 p	1.0	0.08326	ISOTH
						0.0688	1.0	0.45		Sample	Sample	ALP114
Batch: 6200124	**Work Order:** H9F951AE			**Report DB ID:** 9H9F9510								
ALPHA	-0.7360	ND	1.8	1.8	5.19	pCi/sample	100%	-0.14	8/4/06 10:54 a	1.0	0.02131	E900.0
						2.1	20.0	-0.83		Sample	Sample	GPC10E
Batch: 6200128	**Work Order:** H9F951AF			**Report DB ID:** 9H9F9510								
BETA	30.8	=	4.1	6.0	5.46	pCi/sample	100%	(5.6)	8/2/06 06:59 p	1.0	0.08328	E900.0
						2.62	5.0	(10.3)		Sample	Sample	GPC26B
Batch: 6200133	**Work Order:** H9F951AC			**Report DB ID:** 9H9F9510								

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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: 32139
Collection Date: 6/27/2006 11:10:00 AM
Lot-Sample No.: J6G180211-3
Report No. : 32989
Received Date: 7/18/2006 10:00:00 AM
Client Sample ID: P-0685
COC No. :
Matrix: FILTER AIR

Yerington Air Quality - Event #86

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	-0.0198	ND	0.20	0.20	0.391	pCi/sample	97%	*-0.05*	8/9/06 01:40 p	0.833	0.2504	E903.1
						0.172	1.0	*-0.2*		Sample	Sample	ASCNMA
Batch: 6200134	**Work Order:** H9F951AD			**Report DB ID:** 9H9F9510								
RA-228	1.33	ND	1.4	1.4	2.99	pCi/sample	88%	*0.45*	8/12/06 08:24 a	1.0	0.2504	E904.0
						1.37	3.1	*(1.9)*		Sample	Sample	GPC7C

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:** 32139 | **Collection Date:** 6/27/2006 11:30:00 AM

Lot-Sample No.: J6G180211-4 | **Report No. :** 32989 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: P-0686 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #86

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: 6200121	**Work Order:** H9F981AG			**Report DB ID:** 9H9F9810								
U-234	**0.244**	ND	0.39	0.39	0.771	pCi/sample	98%	*0.32*	7/30/06 02:25 p	1.0	0.06241	E908.0
						0.258	1.0	*(1.3)*		Sample	Sample	ALP5
U-235	**-0.0376**	ND	0.053	0.053	0.531	pCi/sample	98%	*-0.07*	7/30/06 02:25 p	1.0	0.06241	E908.0
						0.138	1.0	*-(1.4)*		Sample	Sample	ALP5
U-238	**0.263**	ND	0.39	0.39	0.733	pCi/sample	98%	*0.36*	7/30/06 02:25 p	1.0	0.06241	E908.0
						0.239	1.0	*(1.4)*		Sample	Sample	ALP5
								Ratio U-234/238 = 0.9				
Batch: 6200122	**Work Order:** H9F981AA			**Report DB ID:** 9H9F9810								
TH-228	**0.194**	ND	0.23	0.23	0.357	pCi/sample	92%	*0.54*	7/29/06 01:49 p	1.0	0.08351	ISOTH
						0.113	1.0	*(1.7)*		Sample	Sample	ALP119
TH-230	**0.210**	ND	0.21	0.22	0.28	pCi/sample	92%	*0.75*	7/29/06 01:49 p	1.0	0.08351	ISOTH
						0.0768	1.0	*(1.9)*		Sample	Sample	ALP119
TH-232	**-0.0233**	ND	0.047	0.047	0.28	pCi/sample	92%	*-0.08*	7/29/06 01:49 p	1.0	0.08351	ISOTH
						0.0768	1.0	*-1.*		Sample	Sample	ALP119
Batch: 6200124	**Work Order:** H9F981AE			**Report DB ID:** 9H9F9810								
ALPHA	**0.776**	ND	2.5	2.5	5.51	pCi/sample	100%	*0.14*	8/4/06 01:41 p	1.0	0.02073	E900.0
						2.26	20.0	*0.63*		Sample	Sample	GPC10A
Batch: 6200128	**Work Order:** H9F981AF			**Report DB ID:** 9H9F9810								
BETA	**28.9**	=	4.0	5.6	5.3	pCi/sample	100%	*(5.5)*	8/2/06 06:59 p	1.0	0.08323	E900.0
						2.54	5.0	*(10.3)*		Sample	Sample	GPC26D
Batch: 6200133	**Work Order:** H9F981AC			**Report DB ID:** 9H9F9810								

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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.: J6G180211-4
Client Sample ID: P-0686
Yerington Air Quality - Event #86

SDG: 32139
Report No. : 32989
COC No. :

Collection Date: 6/27/2006 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	**0.247**	=	0.17	0.18	0.237	pCi/sample	100%	*(1.)*	8/9/06 01:42 p	0.833	0.25213	E903.1
						0.0966	1.0	*(2.8)*		Sample	Sample	ASCQMB
Batch: 6200134	**Work Order:** H9F981AD			**Report DB ID:** 9H9F9810								
RA-228	**0.349**	ND	1.0	1.1	2.49	pCi/sample	90%	*0.14*	8/12/06 08:24 a	1.0	0.25213	E904.0
						1.13	3.1	*0.66*		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 | **SDG:** 32139 | **Collection Date:** 6/27/2006 11:55:00 AM

Lot-Sample No.: J6G180211-5 | **Report No. :** 32989 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: P-0687 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #86

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: 6200121	**Work Order:** H9GAA1AG			**Report DB ID:** 9H9GAA10								
U-234	**0.160**	ND	0.32	0.32	0.433	pCi/sample	60%	*0.37*	7/30/06 02:26 p	1.0	0.06247	E908.0
							1.0	*1.*		Sample	Sample	ALP6
U-235	**-0.0320**	ND	0.064	0.064	0.766	pCi/sample	60%	*-0.04*	7/30/06 02:26 p	1.0	0.06247	E908.0
						0.166	1.0	*-1.*		Sample	Sample	ALP6
U-238	**0.0959**	ND	0.33	0.33	0.904	pCi/sample	60%	*0.11*	7/30/06 02:26 p	1.0	0.06247	E908.0
						0.235	1.0	*0.58*		Sample	Sample	ALP6
								Ratio U-234/238 = 1.7				
Batch: 6200122	**Work Order:** H9GAA1AA			**Report DB ID:** 9H9GAA10								
TH-228	**-0.00000177**	ND	0.18	0.18	0.494	pCi/sample	87%	*0.*	7/29/06 01:50 p	1.0	0.08356	ISOTH
						0.175	1.0	*0.*		Sample	Sample	ALP120
TH-230	**0.154**	ND	0.18	0.18	0.139	pCi/sample	87%	*(1.1)*	7/29/06 01:50 p	1.0	0.08356	ISOTH
							1.0	*(1.7)*		Sample	Sample	ALP120
TH-232	**0.00000**	ND	0.0000	0.13	0.139	pCi/sample	87%	*0.*	7/29/06 01:50 p	1.0	0.08356	ISOTH
							1.0	*0.*		Sample	Sample	ALP120
Batch: 6200124	**Work Order:** H9GAA1AE			**Report DB ID:** 9H9GAA10								
ALPHA	**2.18**	ND	2.8	2.8	5.34	pCi/sample	100%	*0.41*	8/4/06 01:41 p	1.0	0.02104	E900.0
						2.19	20.0	*(1.6)*		Sample	Sample	GPC10B
Batch: 6200128	**Work Order:** H9GAA1AF			**Report DB ID:** 9H9GAA10								
BETA	**20.9**	=	3.6	4.6	5.14	pCi/sample	100%	*(4.1)*	8/2/06 06:59 p	1.0	0.08325	E900.0
						2.46	5.0	*(9.1)*		Sample	Sample	GPC27A
Batch: 6200133	**Work Order:** H9GAA1AC			**Report DB ID:** 9H9GAA10								

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
SDG: 32139
Collection Date: 6/27/2006 11:55:00 AM
Lot-Sample No.: J6G180211-5
Report No. : 32989
Received Date: 7/18/2006 10:00:00 AM
Client Sample ID: P-0687
COC No. :
Matrix: FILTER AIR

Yerington Air Quality - Event #86

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	-0.0785	ND	0.16	0.16	0.357	pCi/sample	90%	*-0.22*	8/9/06 01:41 p	0.833	0.25086	E903.1
						0.154	1.0	*-0.96*		Sample	Sample	ASCHAC
Batch: 6200134	**Work Order:** H9GAA1AD			**Report DB ID:** 9H9GAA10								
RA-228	0.869	ND	1.1	1.2	2.71	pCi/sample	84%	*0.32*	8/12/06 08:24 a	1.0	0.25086	E904.0
						1.22	3.1	*(1.4)*		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.
= 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.: J6G180211-6
Client Sample ID: P-0688
Yerington Air Quality - Event #86

SDG: 32139
Report No. : 32989
COC No. :

Collection Date: 6/27/2006 12:05:00 PM
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: 6200121	**Work Order:** H9GAC1AG			**Report DB ID:** 9H9GAC10								
U-234	0.0819	ND	0.21	0.21	0.491	pCi/sample	99%	*0.17*	7/30/06 02:26 p	1.0	0.06125	E908.0
						0.107	1.0	*0.78*		Sample	Sample	ALP7
U-235	0.00000	ND	0.0000	0.25	0.278	pCi/sample	99%	*0.*	7/30/06 02:26 p	1.0	0.06125	E908.0
							1.0	*0.*		Sample	Sample	ALP7
U-238	0.184	ND	0.29	0.29	0.491	pCi/sample	99%	*0.38*	7/30/06 02:26 p	1.0	0.06125	E908.0
						0.107	1.0	*(1.3)*		Sample	Sample	ALP7
								Ratio U-234/238 = 0.4				
Batch: 6200122	**Work Order:** H9GAC1AA			**Report DB ID:** 9H9GAC10								
TH-228	0.00000198	ND	0.17	0.17	0.425	pCi/sample	102%	*0.*	7/30/06 01:46 p	1.0	0.08155	ISOTH
						0.159	1.0	*0.*		Sample	Sample	ALP171
TH-230	0.361	=	0.24	0.25	0.228	pCi/sample	102%	*(1.6)*	7/30/06 01:46 p	1.0	0.08155	ISOTH
						0.0625	1.0	*(2.9)*		Sample	Sample	ALP171
TH-232	0.00000	ND	0.0000	0.093	0.103	pCi/sample	102%	*0.*	7/30/06 01:46 p	1.0	0.08155	ISOTH
							1.0	*0.*		Sample	Sample	ALP171
Batch: 6200124	**Work Order:** H9GAC1AE			**Report DB ID:** 9H9GAC10								
ALPHA	2.84	ND	3.1	3.1	5.63	pCi/sample	100%	*0.5*	8/4/06 01:41 p	1.0	0.0203	E900.0
						2.3	20.0	*(1.8)*		Sample	Sample	GPC10C
Batch: 6200128	**Work Order:** H9GAC1AF			**Report DB ID:** 9H9GAC10								
BETA	19.0	=	3.6	4.4	5.42	pCi/sample	100%	*(3.5)*	8/2/06 06:59 p	1.0	0.08162	E900.0
						2.6	5.0	*(8.6)*		Sample	Sample	GPC27C
Batch: 6200133	**Work Order:** H9GAC1AC			**Report DB ID:** 9H9GAC10								

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:** 32139 | **Collection Date:** 6/27/2006 12:05:00 PM

Lot-Sample No.: J6G180211-6 | **Report No. :** 32989 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: P-0688 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #86

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	-0.1050	ND	0.14	0.14	0.327	pCi/sample	109%	*-0.32*	8/9/06 01:42 p	0.833	0.24566	E903.1
						0.141	1.0	*-(1.5)*		Sample	Sample	ASCLMD
Batch: 6200134	**Work Order:** H9GAC1AD			**Report DB ID:** 9H9GAC10								
RA-228	0.673	ND	0.98	0.98	2.19	pCi/sample	100%	*0.31*	8/12/06 08:24 a	1.0	0.24566	E904.0
						0.986	3.1	*(1.4)*		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.: J6G180211-7
Client Sample ID: P-0689
Yerington Air Quality - Event #86

SDG: 32139
Report No. : 32989
COC No. :

Collection Date: 6/27/2006 10:45:00 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: 6200121	**Work Order:** H9GAE1AG			**Report DB ID:** 9H9GAE10								
U-234	0.00000	ND	0.0000	0.24	0.268	pCi/sample	94%	*0.*	7/30/06 02:27 p	1.0	0.06199	E908.0
							1.0	*0.*		Sample	Sample	ALP8
U-235	-0.0198	ND	0.040	0.040	0.473	pCi/sample	94%	*-0.04*	7/30/06 02:27 p	1.0	0.06199	E908.0
						0.103	1.0	*-1.*		Sample	Sample	ALP8
U-238	0.0989	ND	0.20	0.20	0.268	pCi/sample	94%	*0.37*	7/30/06 02:27 p	1.0	0.06199	E908.0
							1.0	*1.*		Sample	Sample	ALP8
Batch: 6200122	**Work Order:** H9GAE1AA			**Report DB ID:** 9H9GAE10								
TH-228	-0.0811	ND	0.13	0.13	0.436	pCi/sample	93%	*-0.19*	7/30/06 01:46 p	1.0	0.08279	ISOTH
						0.163	1.0	*-(1.3)*		Sample	Sample	ALP172
TH-230	0.215	ND	0.20	0.20	0.234	pCi/sample	93%	*0.92*	7/30/06 01:46 p	1.0	0.08279	ISOTH
						0.0642	1.0	*(2.2)*		Sample	Sample	ALP172
TH-232	0.00000065	ND	0.096	0.096	0.287	pCi/sample	93%	*0.*	7/30/06 01:46 p	1.0	0.08279	ISOTH
						0.0907	1.0	*0.*		Sample	Sample	ALP172
Batch: 6200124	**Work Order:** H9GAE1AE			**Report DB ID:** 9H9GAE10								
ALPHA	3.40	ND	2.9	3.0	4.79	pCi/sample	100%	*0.71*	8/4/06 01:41 p	1.0	0.0206	E900.0
						1.92	20.0	*(2.3)*		Sample	Sample	GPC10D
Batch: 6200128	**Work Order:** H9GAE1AF			**Report DB ID:** 9H9GAE10								
BETA	24.6	=	3.6	5.0	4.98	pCi/sample	100%	*(4.9)*	8/2/06 06:59 p	1.0	0.08559	E900.0
						2.39	5.0	*(9.9)*		Sample	Sample	GPC27D
Batch: 6200133	**Work Order:** H9GAE1AC			**Report DB ID:** 9H9GAE10								

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: 32139
Collection Date: 6/27/2006 10:45:00 AM
Lot-Sample No.: J6G180211-7
Report No. : 32989
Received Date: 7/18/2006 10:00:00 AM
Client Sample ID: P-0689
COC No. :
Matrix: FILTER AIR

Yerington Air Quality - Event #86

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	0.0371	ND	0.20	0.20	0.384	pCi/sample	98%	*0.1*	8/10/06 12:50 p	0.833	0.25172	E903.1
						0.167	1.0	*0.37*		Sample	Sample	ASC2RC
Batch: 6200134	**Work Order:** H9GAE1AD			**Report DB ID:** 9H9GAE10								
RA-228	0.0841	ND	0.89	0.89	2.2	pCi/sample	92%	*0.04*	8/12/06 08:24 a	1.0	0.25172	E904.0
						0.956	3.1	*0.19*		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.
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FORM I

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland | **SDG:** 32139 | **Collection Date:** 6/27/2006 11:00:00 AM

Lot-Sample No.: J6G180211-8 | **Report No. :** 32989 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: P-0690 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #86

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: 6200121	**Work Order:** H9GAG1AG			**Report DB ID:** 9H9GAG10								
U-234	-0.0399	ND	0.056	0.057	0.563	pCi/sample	100%	-0.07	7/30/06 02:27 p	1.0	0.06163	E908.0
						0.147	1.0	-(1.4)		Sample	Sample	ALP9
U-235	0.00000	ND	0.0000	0.24	0.27	pCi/sample	100%	0.	7/30/06 02:27 p	1.0	0.06163	E908.0
							1.0	0.		Sample	Sample	ALP9
U-238	-0.0399	ND	0.056	0.057	0.563	pCi/sample	100%	-0.07	7/30/06 02:27 p	1.0	0.06163	E908.0
						0.147	1.0	-(1.4)		Sample	Sample	ALP9
								Ratio U-234/238 = 1.0				
Batch: 6200122	**Work Order:** H9GAG1AA			**Report DB ID:** 9H9GAG10								
TH-228	0.0253	ND	0.11	0.11	0.304	pCi/sample	88%	0.08	7/30/06 01:46 p	1.0	0.08254	ISOTH
						0.0834	1.0	0.45		Sample	Sample	ALP173
TH-230	0.439	=	0.29	0.30	0.132	pCi/sample	88%	(3.3)	7/30/06 01:46 p	1.0	0.08254	ISOTH
							1.0	(2.9)		Sample	Sample	ALP173
TH-232	0.00000	ND	0.0000	0.12	0.132	pCi/sample	88%	0.	7/30/06 01:46 p	1.0	0.08254	ISOTH
							1.0	0.		Sample	Sample	ALP173
Batch: 6200124	**Work Order:** H9GAG1AE			**Report DB ID:** 9H9GAG10								
ALPHA	0.00000	ND	0.0000	2.1	5.32	pCi/sample	100%	0.	8/4/06 01:41 p	1.0	0.02079	E900.0
						2.15	20.0	0.		Sample	Sample	GPC10E
Batch: 6200128	**Work Order:** H9GAG1AF			**Report DB ID:** 9H9GAG10								
BETA	1.44	ND	2.7	2.7	5.53	pCi/sample	100%	0.26	8/3/06 07:32 a	1.0	0.08239	E900.0
						2.66	5.0	(1.1)		Sample	Sample	GPC26A
Batch: 6200133	**Work Order:** H9GAG1AC			**Report DB ID:** 9H9GAG10								

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.: J6G180211-8
Client Sample ID: P-0690
Yerington Air Quality - Event #86

SDG: 32139
Report No. : 32989
COC No. :

Collection Date: 6/27/2006 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	-0.00263	ND	0.086	0.086	0.193	pCi/sample	103%	*-0.01*	8/10/06 12:50 p	0.833	0.24846	E903.1
						0.075	1.0	*-0.06*		Sample	Sample	ASC3MA
Batch: 6200134	**Work Order:** H9GAG1AD			**Report DB ID:** 9H9GAG10								
RA-228	1.45	ND	0.97	0.99	1.96	pCi/sample	92%	*0.74*	8/12/06 08:24 a	1.0	0.24846	E904.0
						0.84	3.1	*(2.9)*		Sample	Sample	GPC2B

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
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:** 32139

Lot-Sample No.: J6G190000-121 **Report No. :** 32989 **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: 6200121	**Work Order:** H9HV71AA			**Report DB ID:** H9HV71AB								
U-234	-0.00155	ND	0.0022	0.0022	0.0442	pCi/sample	90%	-0.04	7/30/06 02:31 p	1.0	1.0	E908.0
					0.00901	1.0		-(1.4)		Sample	Sample	ALP85
U-235	0.00813	ND	0.019	0.020	0.0442	pCi/sample	90%	0.18	7/30/06 02:31 p	1.0	1.0	E908.0
					0.00901	1.0		0.83		Sample	Sample	ALP85
U-238	-0.00155	ND	0.0022	0.0022	0.0442	pCi/sample	90%	-0.04	7/30/06 02:31 p	1.0	1.0	E908.0
					0.00901	1.0		-(1.4)		Sample	Sample	ALP85

Ratio U-234/238 = 1.0

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:** 32139

Lot-Sample No.: J6G190000-122 **Report No. :** 32989 **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: 6200122	Work Order:	H9HWD1AA		Report DB ID:	H9HWD1AB							
TH-228	0.00909	ND	0.020	0.020	0.0422	pCi/sample	86%	0.22	7/30/06 01:49 p	1.0	1.0	ISOTH
					0.0149	1.0		0.89		Sample	Sample	ALP120
TH-230	0.00874	ND	0.012	0.012	0.0118	pCi/sample	86%	0.74	7/30/06 01:49 p	1.0	1.0	ISOTH
						1.0		(1.4)		Sample	Sample	ALP120
TH-232	0.00437	ND	0.0087	0.0088	0.0118	pCi/sample	86%	0.37	7/30/06 01:49 p	1.0	1.0	ISOTH
						1.0		1.		Sample	Sample	ALP120

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:** 32139

Lot-Sample No.: J6G190000-124 **Report No. :** 32989 **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: 6200124	**Work Order:**	H9HWF1AA		**Report DB ID:**	H9HWF1AB							
ALPHA	0.0109	ND	0.049	0.049	0.114	pCi/sample	100%	0.1	8/4/06 07:15 p	1.0	1.0	E900.0
					0.0464	20.0		0.44		Sample	Sample	GPC10C

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: 32139

Lot-Sample No.: J6G190000-128

Report No. : 32989

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: 6200128	Work Order:	H9HWL1AA		Report DB ID:	H9HWL1AB							
BETA	-0.0154	ND	0.19	0.19	0.416	pCi/sample	100%	-0.04	8/3/06 07:32 a	1.0	1.0	E900.0
					0.199	5.0		-0.16		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:** 32139

Lot-Sample No.: J6G190000-133 **Report No. :** 32989 **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: 6200133	Work Order:	H9HWQ1AA		Report DB ID:	H9HWQ1AB							
RA-226	-0.0122	ND	0.033	0.033	0.0799	pCi/sample	82%	-0.15	8/10/06 01:11 p	1.0	1.0	E903.1
					0.0317	1.0		-0.75		Sample	Sample	ASCBMA

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: 32139

Lot-Sample No.: J6G190000-134

Report No. : 32989

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: 6200134	Work Order:	H9HWV1AA		Report DB ID:	H9HWV1AB							
RA-228	-0.0235	ND	0.18	0.23	0.599	pCi/sample	75%	-0.04	8/12/06 08:24 a	1.0	1.0	E904.0
					0.259	3.1		-0.2		Sample	Sample	GPC4B

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

LCS RESULTS

Date: 15-Aug-06

Lab Name: STL Richland

SDG: 32139

Lot-Sample No.: J6G190000-121

Report No. : 32989

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: 6200121	Work Order: H9HV71AC			Report DB ID: H9HV71CS									
U-234	0.964	=	0.18	0.24	0.0514	pCi/sample	81.08%	0.980	0.0057	98%	7/30/06 02:31 p	1.0	E908.0
						Rec Limits:				0.0		Sample	ALP87
U-238	0.952	=	0.18	0.23	0.0221	pCi/sample	81.08%	1.03	0.006	93%	7/30/06 02:31 p	1.0	E908.0
						Rec Limits:				-0.1		Sample	ALP87

Number of Results: 2

Comments:

STL Richland
rptSTLRchLcs
V4.15.0 A97

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

FORM II

LCS RESULTS

Date: 15-Aug-06

Lab Name: STL Richland **SDG:** 32139

Lot-Sample No.: J6G190000-122 **Report No. :** 32989 **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: 6200122	**Work Order:** H9HWD1AC			**Report DB ID:** H9HWD1CS									
TH-230	2.03	=	0.18	0.40	0.0227	pCi/sample	94.62%	1.81	0.06	112%	7/31/06 04:15 p	1.0	ISOTH
						Rec Limits:		70.	130.	0.1		Sample	ALP119

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:** 32139

Lot-Sample No.: J6G190000-124 **Report No. :** 32989 **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: 6200124	**Work Order:** H9HWF1AC			**Report DB ID:** H9HWF1CS									
ALPHA	2.34	=	0.26	0.54	0.099	pCi/sample	100.00%	2.36	0.074	99%	8/4/06 07:15 p	1.0	E900.0
							Rec Limits:			0.0		Sample	GPC10D

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:** 32139

Lot-Sample No.: J6G190000-128 **Report No. :** 32989 **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: 6200128	Work Order: H9HWL1AC			Report DB ID: H9HWL1CS									
BETA	4.86	=	0.41	0.75	0.419	pCi/sample	100.00%	4.59	0.037	106%	8/3/06 07:32 a	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: 32139

Lot-Sample No.: J6G190000-133

Report No. : 32989

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: 6200133	Work Order: H9HWQ1AC			Report DB ID: H9HWQ1CS									
RA-226	1.44	=	0.17	0.34	0.0615	pCi/sample	100.22%	1.39	0.021	103%	8/10/06 01:12 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:** 32139

Lot-Sample No.: J6G190000-134 **Report No. :** 32989 **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: 6200134	Work Order: H9HWV1AC			Report DB ID: H9HWV1CS									
RA-228	4.39	=	0.56	0.75	0.536	pCi/sample	88.57%	5.03	0.021	87%	8/12/06 08:24 a	1.0	E904.0
							Rec Limits:	70.	130.	-0.1		Sample	GPC4D

Number of Results: 1

Comments:

STL Richland
rptSTLRchLcs
V4.15.0 A97

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

CHAIN OF CUSTODY

STL RICHLAND

BROWN AND CALDWELL

CHAIN OF CUSTODY RECORD

J6G180211
32139
Due 8.15.06

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: Farrington Air Qlty

LABORATORY NAME & ADDRESS: SEVERN TRENT LABS, WEST SACRAMENTO

PROJECT NUMBER: [illegible]

SACRAMENTO LOT #

1/6 OF THE EXPOSED FILTER WAS UTILIZED FOR THE METALS ANALYSIS. G6F290300

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-0683	[illegible]	10:35	MS	1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9F9W			0.29		----	
02	P-0684		10:50		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9F92			0.26		----	
03	P-0685		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) H9F95			0.28		----	
04	P-0686		11:30		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9F98			0.32		----	
05	P-0687		11:55		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9GAA			0.24		----	
06	P-0688		12:05		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9GAC			0.21		----	
07	P-0689		10:45		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9GAE			0.36		----	
08	P-0690		11:00		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9GAG			[illegible]		----	
09														----	
10														----	

RECEIVED IN GOOD CONDITION UNDER COC
JUN 29 2006

COLLECTED & RELEASED BY:	DATE	TIME	COOLER I.D.:	DATE	TIME	COMMENTS (see note on back):
[illegible]	[illegible]	[illegible]				ML
RECEIVED BY: [illegible]	DATE 6/29/06	TIME 12:05	RELINQUISHED BY:	DATE / /	TIME :	
			Steve Valmore	7/17/06	180	
S. Welch	7/18/06	10:00				
RECORD RETURNED BY:	DATE / /	TIME :				
COURIER:			SHIPPING NUMBER: [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.

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: Yerington Air Qlty

PROJECT NUMBER: 121243

LABORATORY NAME & ADDRESS: SEVERN TRENT LABS, WEST SACRAMENTO

SACRAMENTO LOT # GLF290300

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	000509	6/27/06	10:40	[illegible]	1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9GAJ			0.26		----	
02	000510		10:55		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9GAK			0.25		----	
03	000511		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) H9GAL			0.25		----	
04	000512		11:35		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9GAM			0.36		----	
05	000513		12:00		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9GAN			0.28		----	
06	000514		12:10		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9GAP			0.30		----	
07	000515		11:40		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9GAT			0.35		----	
08														----	
09														----	
10														----	

RECEIVED IN GOOD CONDITION UNDER COC
JUN 29 2006

	DATE	TIME		DATE	TIME
COLLECTED & RELEASED BY: [illegible]	6/17	6:17	COOLER I.D.:		
RECEIVED BY: [illegible]	6/29/06	13:05	RELINQUISHED BY:		
			Steve Valmors	7/17/06	AW
S. Welch	7/18/06	10:00			
RECORD RETURNED BY:	DATE / /	TIME :			
COURIER: [illegible]			SHIPPING NUMBER: [illegible]		

COMMENTS (see note on back):

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 #: 32139 NA [ ] SAF #: _____ NA [✓]

Work Order Number: J6G180211 Chain of Custody # _____

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 [✓] Yes [✓] No [ ]
5. Vermiculite/packing materials is NA [✓] Wet [ ] Dry [ ]
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

8/1/2006 10:47:13 AM

Lot No., Due Date: J6G180211; 08/15/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6200122; RTHISO Thiso by ALP

SDG, Matrix: 32139; 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** 8-1-06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6200122

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: 8-2-06

STL RICHLAND

7/26/2006 2:29:45 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: 6200122 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: None

Sep2 DT/Tm Tech: MJF 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 **H9F9W-1-AA** J6G180211-1-SAMP 06/27/2006 10:35	0.833sa	500.75sa	50.72g,in	0.0844g	THTF0740 07/21/06,pd 10/04/04,r					
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
2 **H9F92-1-AA** J6G180211-2-SAMP 06/27/2006 10:50	0.833sa,g	507.26sa,g	50.53g,in	0.083g	THTF0741 07/21/06,pd 10/04/04,r					
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
3 **H9F95-1-AA** J6G180211-3-SAMP 06/27/2006 11:10	0.833sa,g	501.93sa,g	50.17g,in	0.0833g	THTF0742 07/21/06,pd 10/04/04,r					
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
4 **H9F98-1-AA** J6G180211-4-SAMP 06/27/2006 11:30	0.833sa,g	501.85sa,g	50.31g,in	0.0835g	THTF0743 07/21/06,pd 10/04/04,r					
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
5 **H9GAA-1-AA** J6G180211-5-SAMP 06/27/2006 11:55	0.833sa,g	501.93sa,g	50.35g,in	0.0836g	THTF0744 07/21/06,pd 10/04/04,r					
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
6 **H9GAC-1-AA** J6G180211-6-SAMP 06/27/2006 12:05	0.833sa,g	512.87sa,g	50.21g,in	0.0816g	THTF0745 07/21/06,pd 10/04/04,r					
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
7 **H9GAE-1-AA** J6G180211-7-SAMP 06/27/2006 10:45	0.833sa,g	505.38sa,g	50.23g,in	0.0828g	THTF0746 07/21/06,pd 10/04/04,r					
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:

STL RICHLAND

7/26/2006 2:29:46 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: 6200122 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
173 8 H9GAG-1-AA J6G180211-8-SAMP 06/27/2006 11:00	0.833sa,g	507.15sa,g	50.25g,in	0.0825g	THTF0747 07/21/06,pd 10/04/04,r					
			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:
174 9 H9GAJ-1-AA J6G180211-9-SAMP 06/27/2006 10:40	0.833sa,g	500.13sa,g	50.11g,in	0.0835g	THTF0748 07/21/06,pd 10/04/04,r					
			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:
175 10 H9GAK-1-AA J6G180211-10-SAMP 06/27/2006 10:55	0.833sa,g	507.15sa,g	50.61g,in	0.0831g	THTF0749 07/21/06,pd 10/04/04,r					
			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:
176 11 H9GAL-1-AA J6G180211-11-SAMP 06/27/2006 11:15	0.833sa,g	505.87sa,g	50.04g,in	0.0824g	THTF0750 07/21/06,pd 10/04/04,r					
			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:
177 12 H9GAM-1-AA J6G180211-12-SAMP 06/27/2006 11:35	0.833sa,g	505.07sa,g	51.36g,in	0.0847g	THTF0751 07/21/06,pd 10/04/04,r					
			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:
178 13 H9GAN-1-AA J6G180211-13-SAMP 06/27/2006 12:00	0.833sa,g	504.67sa,g	50.54g,in	0.0834g	THTF0752 07/21/06,pd 10/04/04,r					
			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:
114 14 H9GAP-1-AA J6G180211-14-SAMP 06/27/2006 12:10	0.833sa,g	505.49sa,g	50.52g,in	0.0833g	THTF0753 07/21/06,pd 10/04/04,r					
			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:

STL RICHLAND

7/26/2006 2:29:47 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: 6200122 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:
15H9GAT-1-AA J6G180211-15-SAMP 06/27/2006 11:40	0.833sa,g	504.54sa,g	50.45g,in	0.0833g	THTF0754 07/21/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
16H9HWD-1-AA-B J6G190000-122-BLK 06/27/2006 10:35			1.00sa,in	1.00sa	THTF0755 07/21/06,pd 10/04/04,r					
		AmtRec:		#Containers: 1				Scr:	Alpha:	Beta:
17H9HWD-1-AC-C J6G190000-122-LCS 06/27/2006 10:35			1.00sa,in	1.00sa	THSO0085 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

H9F9W1AA-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

H9HWD1AA-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

H9HWD1AC-LCS:

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

H9F9W1AA-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H9HWD1AA-BLK:

66

8/1/2006 10:24:05 AM

ICOC Fraction Transfer/Status Report

ByDate: 8/1/2005, 8/6/2006, Batch: '6200122', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6200122						
AC		**CalcC**	**HansenM**	7/20/2006 1:20:25 PM		
SC			wagarr	IsBatched	7/19/2006 8:00:26 AM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	7/20/2006 1:20:25 PM	RICH-RC-5016 REVISION 5
SC			HansenM	Prep2C	7/27/2006 7:12:47 AM	RICH-RC-5016 REVISION 5
SC			AndersonE	Sep1C	7/28/2006 8:23:18 AM	RICH-RC-5087 REV0
SC			FABREM	Sep2C	7/28/2006 3:36:41 PM	RICH-RC-5039 REV 6
SC			DAWKINSO	InCnt1	7/28/2006 3:51:06 PM	RICH-RD-0008 REVISION 4
SC			BlackCL	CalcC	8/1/2006 6:23:24 AM	RICH-RD-0008 REVISION 4
AC			**HansenM**	7/27/2006 7:12:47		
AC			**AndersonE**	7/28/2006 8:23:18		
AC			**FABREM**	7/28/2006 3:36:41 PM		
AC			**DAWKINSO**	7/28/2006 3:51:06 PM		
AC			**BlackCL**	8/1/2006 6:23:24 AM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 6

ICOCFractions v4.8.18

8/1/2006 10:24:04 AM

Rpt DB Transfer log (Batch Results)

SEVERN TRENT STL

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Mda	Sample Date / Units	Expected	Yield	Volumes
32139	**9H9F9210**			**J6G1802112**	P-0684	FILTER	7/18/2006 10:00:00		6/27/2006 10:50:00 AM			
TH-228	9NS1	0		7/29/2006 1:47:52 PM	**1.6209E-01**	8.253E-02	8.375E-02	2.161E-01	PCI/SA	1.044	1.0E+0	3.298E-2
TH-230	9NS1	0		7/29/2006 1:47:52 PM	**8.6705E-02**	6.252E-02	6.299E-02	2.08E-01	PCI/SA	1.044	1.0E+0	3.298E-2
TH-232	9NS1	0		7/29/2006 1:47:52 PM	**5.7864E-07**	4.248E-02	4.248E-02	2.553E-01	PCI/SA	1.044	1.0E+0	3.298E-2
U-234	7YSR	0		7/30/2006 2:25:08 PM	**-3.9387E-02**	1.113E-01	1.113E-01	8.078E-01	PCI/SA	0.985	1.0E+0	3.17E-2
U-235	7YSR	0		7/30/2006 2:25:08 PM	**3.9328E-02**	1.041E-01	1.042E-01	6.209E-01	PCI/SA	0.985	1.0E+0	3.17E-2
U-238	7YSR	0		7/30/2006 2:25:08 PM	**-1.9708E-02**	1.095E-01	1.096E-01	7.677E-01	PCI/SA	0.985	1.0E+0	3.17E-2
32139	**9H9F9510**			**J6G1802113**	P-0685	FILTER	7/18/2006 10:00:00		6/27/2006 11:10:00 AM			
TH-228	9NS1	0		7/29/2006 1:49:16 PM	**0.0E+00**	0.0E+00	5.32E-02	1.177E-01	PCI/SA	0.787	1.0E+0	3.326E-2
TH-230	9NS1	0		7/29/2006 1:49:16 PM	**1.171E+00**	2.213E-01	2.451E-01	1.133E-01	PCI/SA	0.787	1.0E+0	3.326E-2
TH-232	9NS1	0		7/29/2006 1:49:16 PM	**2.091E-02**	4.676E-02	4.68E-02	2.508E-01	PCI/SA	0.787	1.0E+0	3.326E-2
U-234	7YSR	0		7/30/2006 2:25:26 PM	**-1.2345E-01**	5.04E-02	5.137E-02	8.03E-01	PCI/SA	0.924	1.0E+0	3.238E-2
U-235	7YSR	0		7/30/2006 2:25:26 PM	**1.0291E-01**	1.029E-01	1.032E-01	2.789E-01	PCI/SA	0.924	1.0E+0	3.238E-2
U-238	7YSR	0		7/30/2006 2:25:26 PM	**-8.2269E-02**	1.2E-01	1.202E-01	9.208E-01	PCI/SA	0.924	1.0E+0	3.238E-2
32139	**9H9F9810**			**J6G1802114**	P-0686	FILTER	7/18/2006 10:00:00		6/27/2006 11:30:00 AM			
TH-228	9NS1	0		7/29/2006 1:49:53 PM	**1.9396E-01**	1.137E-01	1.151E-01	3.568E-01	PCI/SA	0.919	1.0E+0	3.351E-2
TH-230	9NS1	0		7/29/2006 1:49:53 PM	**2.1009E-01**	1.07E-01	1.087E-01	2.8E-01	PCI/SA	0.919	1.0E+0	3.351E-2
TH-232	9NS1	0		7/29/2006 1:49:53 PM	**-2.3338E-02**	2.334E-02	2.343E-02	2.8E-01	PCI/SA	0.919	1.0E+0	3.351E-2
U-234	7YSR	0		7/30/2006 2:25:59 PM	**2.4413E-01**	1.942E-01	1.952E-01	7.71E-01	PCI/SA	0.98	1.0E+0	3.241E-2
U-235	7YSR	0		7/30/2006 2:25:59 PM	**-3.7556E-02**	2.656E-02	2.673E-02	5.306E-01	PCI/SA	0.98	1.0E+0	3.241E-2
U-238	7YSR	0		7/30/2006 2:25:59 PM	**2.6291E-01**	1.933E-01	1.945E-01	7.327E-01	PCI/SA	0.98	1.0E+0	3.241E-2
32139	**9H9F9W10**			**J6G1802111**	P-0683	FILTER	7/18/2006 10:00:00		6/27/2006 10:35:00 AM			
TH-228	9NS1	0		7/29/2006 1:47:52 PM	**7.5472E-02**	7.547E-02	7.579E-02	3.018E-01	PCI/SA	0.844	1.0E+0	3.437E-2
TH-230	9NS1	0		7/29/2006 1:47:52 PM	**0.0E+00**	0.0E+00	5.933E-02	1.313E-01	PCI/SA	0.844	1.0E+0	3.437E-2
TH-232	9NS1	0		7/29/2006 1:47:52 PM	**0.0E+00**	0.0E+00	5.933E-02	1.313E-01	PCI/SA	0.844	1.0E+0	3.437E-2
U-234	7YSR	0		7/30/2006 2:24:42 PM	**4.6182E-01**	2.263E-01	2.293E-01	5.674E-01	PCI/SA	0.982	1.0E+0	3.241E-2
U-235	7YSR	0		7/30/2006 2:24:42 PM	**6.0222E-02**	1.043E-01	1.045E-01	5.674E-01	PCI/SA	0.982	1.0E+0	3.241E-2
U-238	7YSR	0		7/30/2006 2:24:42 PM	**-8.0358E-02**	4.018E-02	4.07E-02	6.898E-01	PCI/SA	0.982	1.0E+0	3.241E-2
32139	**9H9GAA10**			**J6G1802115**	P-0687	FILTER	7/18/2006 10:00:00		6/27/2006 11:55:00 AM			
TH-228	9NS1	0		7/29/2006 1:50:24 PM	**-1.7717E-06**	9.207E-02	9.207E-02	4.936E-01	PCI/SA	0.875	1.0E+0	3.356E-2
TH-230	9NS1	0		7/29/2006 1:50:24 PM	**1.5356E-01**	8.866E-02	8.979E-02	1.387E-01	PCI/SA	0.875	1.0E+0	3.356E-2
TH-232	9NS1	0		7/29/2006 1:50:24 PM	**0.0E+00**	0.0E+00	6.269E-02	1.387E-01	PCI/SA	0.875	1.0E+0	3.356E-2
U-234	7YSR	0		7/30/2006 2:26:30 PM	**1.5989E-01**	1.599E-01	1.605E-01	4.333E-01	PCI/SA	0.599	1.0E+0	3.247E-2
U-235	7YSR	0		7/30/2006 2:26:30 PM	**-3.1994E-02**	3.199E-02	3.211E-02	7.659E-01	PCI/SA	0.599	1.0E+0	3.247E-2
U-238	7YSR	0		7/30/2006 2:26:30 PM	**9.5901E-02**	1.662E-01	1.664E-01	9.036E-01	PCI/SA	0.599	1.0E+0	3.247E-2
32139	**9H9GAC10**			**J6G1802116**	P-0688	FILTER	7/18/2006 10:00:00		6/27/2006 12:05:00 PM			
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**1.9783E-06**	8.385E-02	8.385E-02	4.254E-01	PCI/SA	1.021	1.0E+0	3.155E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**3.612E-01**	1.217E-01	1.259E-01	2.28E-01	PCI/SA	1.021	1.0E+0	3.155E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**0.0E+00**	0.0E+00	4.657E-02	1.03E-01	PCI/SA	1.021	1.0E+0	3.155E-2
U-234	7YSR	0		7/30/2006 2:26:46 PM	**8.1919E-02**	1.044E-01	1.047E-01	4.906E-01	PCI/SA	0.988	1.0E+0	3.125E-2
U-235	7YSR	0		7/30/2006 2:26:46 PM	**0.0E+00**	0.0E+00	1.254E-01	2.775E-01	PCI/SA	0.988	1.0E+0	3.125E-2
U-238	7YSR	0		7/30/2006 2:26:46 PM	**1.8433E-01**	1.463E-01	1.47E-01	4.906E-01	PCI/SA	0.988	1.0E+0	3.125E-2
32139	**9H9GAE10**			**J6G1802117**	P-0689	FILTER	7/18/2006 10:00:00		6/27/2006 10:45:00 AM			
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**-8.1095E-02**	6.411E-02	6.452E-02	4.365E-01	PCI/SA	0.933	1.0E+0	3.279E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**2.1452E-01**	9.751E-02	9.937E-02	2.339E-01	PCI/SA	0.933	1.0E+0	3.279E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**6.5073E-07**	4.777E-02	4.777E-02	2.871E-01	PCI/SA	0.933	1.0E+0	3.279E-2
U-234	7YSR	0		7/30/2006 2:27:07 PM	**0.0E+00**	0.0E+00	1.211E-01	2.679E-01	PCI/SA	0.941	1.0E+0	3.199E-2
U-235	7YSR	0		7/30/2006 2:27:07 PM	**-1.9769E-02**	1.977E-02	1.983E-02	4.735E-01	PCI/SA	0.941	1.0E+0	3.199E-2
U-238	7YSR	0		7/30/2006 2:27:07 PM	**9.8858E-02**	9.886E-02	9.918E-02	2.679E-01	PCI/SA	0.941	1.0E+0	3.199E-2
32139	**9H9GAG10**			**J6G1802118**	P-0690	FILTER	7/18/2006 10:00:00		6/27/2006 11:00:00 AM			
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**2.5345E-02**	5.667E-02	5.672E-02	3.04E-01	PCI/SA	0.883	1.0E+0	3.254E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**4.3882E-01**	1.463E-01	1.517E-01	1.321E-01	PCI/SA	0.883	1.0E+0	3.254E-2

6200122, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 49 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H9HWD1AA=> , mat:FILTER | Air *wo:H9HWD1AA=> , mat:FILTER | Air *wo:H9HWD1AA=> , 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		7/30/2006 1:46:15 PM	**0.0E+00**	0.0E+00	5.972E-02	1.321E-01	PCI/SA	0.883	1.0E+0	3.254E-2
U-234	7YSR	0		7/30/2006 2:27:27 PM	**-3.9864E-02**	2.819E-02	2.837E-02	5.629E-01	PCI/SA	1.004	1.0E+0	3.163E-2
U-235	7YSR	0		7/30/2006 2:27:27 PM	**0.0E+00**	0.0E+00	1.22E-01	2.699E-01	PCI/SA	1.004	1.0E+0	3.163E-2
U-238	7YSR	0		7/30/2006 2:27:27 PM	**-3.9864E-02**	2.819E-02	2.837E-02	5.629E-01	PCI/SA	1.004	1.0E+0	3.163E-2
32139	**9H9GAJ10**			**J6G1802119**	000509	FILTER	7/18/2006 10:00:00	6/27/2006 10:40:00 AM				
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**1.3582E-01**	7.842E-02	7.936E-02	1.227E-01	PCI/SA	1.045	1.0E+0	3.346E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**5.2256E-01**	1.509E-01	1.58E-01	1.18E-01	PCI/SA	1.045	1.0E+0	3.346E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**8.7094E-02**	6.158E-02	6.208E-02	1.18E-01	PCI/SA	1.045	1.0E+0	3.346E-2
U-234	7YSR	0		7/30/2006 2:28:10 PM	**-2.0287E-02**	2.029E-02	2.035E-02	4.858E-01	PCI/SA	0.957	1.0E+0	3.284E-2
U-235	7YSR	0		7/30/2006 2:28:10 PM	**0.0E+00**	0.0E+00	1.242E-01	2.749E-01	PCI/SA	0.957	1.0E+0	3.284E-2
U-238	7YSR	0		7/30/2006 2:28:10 PM	**8.1144E-02**	1.034E-01	1.036E-01	4.858E-01	PCI/SA	0.957	1.0E+0	3.284E-2
32139	**9H9GAK10**			**J6G18021110**	000510	FILTER	7/18/2006 10:00:00	6/27/2006 10:55:00 AM				
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**1.4573E-01**	8.584E-02	8.682E-02	2.497E-01	PCI/SA	0.923	1.0E+0	3.313E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**4.4055E-01**	1.328E-01	1.386E-01	1.085E-01	PCI/SA	0.923	1.0E+0	3.313E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**6.0076E-02**	6.008E-02	6.032E-02	2.402E-01	PCI/SA	0.923	1.0E+0	3.313E-2
U-234	7YSR	0		7/30/2006 2:28:28 PM	**0.0E+00**	0.0E+00	1.202E-01	2.66E-01	PCI/SA	0.909	1.0E+0	3.168E-2
U-235	7YSR	0		7/30/2006 2:28:28 PM	**-1.9627E-02**	1.963E-02	1.969E-02	4.701E-01	PCI/SA	0.909	1.0E+0	3.168E-2
U-238	7YSR	0		7/30/2006 2:28:28 PM	**7.8518E-02**	1.001E-01	1.003E-01	4.701E-01	PCI/SA	0.909	1.0E+0	3.168E-2
32139	**9H9GAL10**			**J6G18021111**	000511	FILTER	7/18/2006 10:00:00	6/27/2006 11:15:00 AM				
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**9.7601E-02**	8.509E-02	8.551E-02	3.281E-01	PCI/SA	1.166	1.0E+0	3.24E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**3.192E-01**	1.142E-01	1.176E-01	2.252E-01	PCI/SA	1.166	1.0E+0	3.24E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**6.2653E-07**	4.599E-02	4.599E-02	2.764E-01	PCI/SA	1.166	1.0E+0	3.24E-2
U-234	7YSR	0		7/30/2006 2:29:01 PM	**1.0205E-01**	1.021E-01	1.024E-01	2.766E-01	PCI/SA	0.968	1.0E+0	3.205E-2
U-235	7YSR	0		7/30/2006 2:29:01 PM	**0.0E+00**	0.0E+00	1.25E-01	2.766E-01	PCI/SA	0.968	1.0E+0	3.205E-2
U-238	7YSR	0		7/30/2006 2:29:01 PM	**1.837E-01**	1.458E-01	1.465E-01	4.888E-01	PCI/SA	0.968	1.0E+0	3.205E-2
32139	**9H9GAM10**			**J6G18021112**	000512	FILTER	7/18/2006 10:00:00	6/27/2006 11:35:00 AM				
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**2.1352E-02**	4.774E-02	4.778E-02	2.561E-01	PCI/SA	0.992	1.0E+0	3.471E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**1.6431E-01**	8.216E-02	8.348E-02	1.113E-01	PCI/SA	0.992	1.0E+0	3.471E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**4.1078E-02**	4.108E-02	4.124E-02	1.113E-01	PCI/SA	0.992	1.0E+0	3.471E-2
U-234	7YSR	0		7/30/2006 2:29:43 PM	**2.0602E-01**	1.663E-01	1.672E-01	5.84E-01	PCI/SA	0.831	1.0E+0	3.188E-2
U-235	7YSR	0		7/30/2006 2:29:43 PM	**2.0602E-01**	1.663E-01	1.672E-01	5.84E-01	PCI/SA	0.831	1.0E+0	3.188E-2
U-238	7YSR	0		7/30/2006 2:29:43 PM	**6.0851E-02**	1.193E-01	1.194E-01	6.944E-01	PCI/SA	0.831	1.0E+0	3.188E-2
32139	**9H9GAN10**			**J6G18021113**	000513	FILTER	7/18/2006 10:00:00	6/27/2006 12:00:00 PM				
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**2.611E-01**	1.082E-01	1.106E-01	2.409E-01	PCI/SA	0.893	1.0E+0	3.342E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**5.7961E-02**	5.796E-02	5.819E-02	2.318E-01	PCI/SA	0.893	1.0E+0	3.342E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**-3.864E-02**	2.732E-02	2.754E-02	2.844E-01	PCI/SA	0.893	1.0E+0	3.342E-2
U-234	7YSR	0		7/30/2006 2:29:59 PM	**5.1741E-02**	1.014E-01	1.015E-01	5.905E-01	PCI/SA	1.0	1.0E+0	3.19E-2
U-235	7YSR	0		7/30/2006 2:29:59 PM	**-2.39E-02**	1.38E-02	1.393E-02	4.966E-01	PCI/SA	1.0	1.0E+0	3.19E-2
U-238	7YSR	0		7/30/2006 2:29:59 PM	**5.9708E-02**	1.011E-01	1.012E-01	5.626E-01	PCI/SA	1.0	1.0E+0	3.19E-2
32139	**9H9GAP10**			**J6G18021114**	000514	FILTER	7/18/2006 10:00:00	6/27/2006 12:10:00 PM				
TH-228	9NS1	0		7/30/2006 1:47:26 PM	**3.6037E-02**	3.604E-02	3.618E-02	9.766E-02	PCI/SA	0.95	1.0E+0	3.325E-2
TH-230	9NS1	0		7/30/2006 1:47:26 PM	**3.1199E-01**	1.04E-01	1.076E-01	9.394E-02	PCI/SA	0.95	1.0E+0	3.325E-2
TH-232	9NS1	0		7/30/2006 1:47:26 PM	**1.7331E-02**	3.876E-02	3.879E-02	2.079E-01	PCI/SA	0.95	1.0E+0	3.325E-2
U-234	7YSR	0		7/30/2006 2:30:15 PM	**2.03E-01**	1.639E-01	1.647E-01	5.754E-01	PCI/SA	0.905	1.0E+0	3.204E-2
U-235	7YSR	0		7/30/2006 2:30:15 PM	**-1.8459E-02**	1.305E-02	1.314E-02	5.271E-01	PCI/SA	0.905	1.0E+0	3.204E-2
U-238	7YSR	0		7/30/2006 2:30:15 PM	**3.2757E-01**	2.002E-01	2.02E-01	5.271E-01	PCI/SA	0.905	1.0E+0	3.204E-2
32139	**9H9GAT10**			**J6G18021115**	000515	FILTER	7/18/2006 10:00:00	6/27/2006 11:40:00 AM				
TH-228	9NS1	0		7/30/2006 1:47:57 PM	**1.3083E-05**	8.013E-02	8.013E-02	4.816E-01	PCI/SA	0.683	1.0E+0	3.329E-2
TH-230	9NS1	0		7/30/2006 1:47:57 PM	**9.4419E-02**	9.441E-02	9.484E-02	3.775E-01	PCI/SA	0.683	1.0E+0	3.329E-2
TH-232	9NS1	0		7/30/2006 1:47:57 PM	**-3.1465E-02**	3.146E-02	3.161E-02	3.775E-01	PCI/SA	0.683	1.0E+0	3.329E-2
U-234	7YSR	0		7/30/2006 2:30:47 PM	**5.4144E-02**	1.062E-01	1.062E-01	6.18E-01	PCI/SA	1.021	1.0E+0	3.201E-2
U-235	7YSR	0		7/30/2006 2:30:47 PM	**-8.3387E-03**	8.339E-03	8.366E-03	4.194E-01	PCI/SA	1.021	1.0E+0	3.201E-2
U-238	7YSR	0		7/30/2006 2:30:47 PM	**-1.6677E-02**	1.179E-02	1.187E-02	4.761E-01	PCI/SA	1.021	1.0E+0	3.201E-2
32139	**H9HWD1AB**			**J6G190000122**	INTRA-LAB BLANK	FILTER	7/18/2006 10:00:00	6/27/2006 10:35:00 AM				

6200122, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 49 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H9HWD1AA=> , mat:FILTER | Air *wo:H9HWD1AA=> , mat:FILTER | Air *wo:H9HWD1AA=> , mat:FILTER | Air

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Mda	Sample Date / Units	Expected	Yield	Volumes	
TH-228	9NS1	0	B	7/30/2006 1:49:18 PM	**9.0886E-03**	1.016E-02	1.019E-02	4.219E-02	PCI/SA		0.856	1.0E+0	1.0E+0
TH-230	9NS1	0	B	7/30/2006 1:49:18 PM	**8.7411E-03**	6.181E-03	6.231E-03	1.184E-02	PCI/SA		0.856	1.0E+0	1.0E+0
TH-232	9NS1	0	B	7/30/2006 1:49:18 PM	**4.3705E-03**	4.371E-03	4.388E-03	1.184E-02	PCI/SA		0.856	1.0E+0	1.0E+0
32139	**H9HWD1CS**			**J6G190000122**	INTRA-LAB CHECK	FILTER	7/18/2006 10:00:00		6/27/2006 10:35:00 AM				
TH-230	9NS1	0	S	7/31/2006 4:15:14 PM	**2.0264E+00**	8.763E-02	1.987E-01	2.27E-02	PCI/SA	1.814E+00	0.946	1.0E+0	1.0E+0

6200122, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 49 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H9HWD1AA=> , mat:FILTER | Air *wo:H9HWD1AA=> , mat:FILTER | Air *wo:H9HWD1AA=> , mat:FILTER | Air

Batch Nbr: 6200122

Alpha Spec, Thlso by ALP , Results

8/1/2006 6:23:12 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	H9F9W1AA	TH-228	7.55E-02	(7.58E-02)	U4	PCI/SA	R	8.28E-02	3.02E-01	CRDl 2nd	84%	
Calc	S1	FILTER	H9F9W1AA	TH-230	0.00E+00	(5.93E-02)	U4	PCI/SA	R		1.31E-01		84%	
Calc	S1	FILTER	H9F9W1AA	TH-232	0.00E+00	(5.93E-02)	U4	PCI/SA	R		1.31E-01		84%	
Calc	S1	FILTER	H9F921AA	TH-228	1.62E-01	(8.38E-02)		PCI/SA	R	5.93E-02	2.16E-01		104%	
Calc	S1	FILTER	H9F921AA	TH-230	8.67E-02	(6.30E-02)	U4	PCI/SA	R	5.71E-02	2.08E-01		104%	
Calc	S1	FILTER	H9F921AA	TH-232	5.79E-07	(4.25E-02)	U4	PCI/SA	R	8.07E-02	2.55E-01		104%	
Calc	S1	FILTER	H9F951AA	TH-228	0.00E+00	(5.32E-02)	U4	PCI/SA	R		1.18E-01		79%	
Calc	S1	FILTER	H9F951AA	TH-230	1.17E+00	(2.45E-01)		PCI/SA	R		1.13E-01		79%	
Calc	S1	FILTER	H9F951AA	TH-232	2.09E-02	(4.68E-02)	U4	PCI/SA	R	6.88E-02	2.51E-01		79%	
Calc	S1	FILTER	H9F981AA	TH-228	1.94E-01	(1.15E-01)		PCI/SA	R	1.13E-01	3.57E-01		92%	
Calc	S1	FILTER	H9F981AA	TH-230	2.10E-01	(1.09E-01)		PCI/SA	R	7.68E-02	2.80E-01		92%	
Calc	S1	FILTER	H9F981AA	TH-232	-2.33E-02	(2.34E-02)	U4	PCI/SA	R	7.68E-02	2.80E-01		92%	
Calc	S1	FILTER	H9GAA1AA	TH-228	-1.77E-06	(9.21E-02)	U4	PCI/SA	R	1.75E-01	4.94E-01		87%	
Calc	S1	FILTER	H9GAA1AA	TH-230	1.54E-01	(8.98E-02)		PCI/SA	R		1.39E-01		87%	
Calc	S1	FILTER	H9GAA1AA	TH-232	0.00E+00	(6.27E-02)	U4	PCI/SA	R		1.39E-01		87%	
Calc	S1	FILTER	H9GAC1AA	TH-228	1.98E-06	(8.38E-02)	U4	PCI/SA	R	1.59E-01	4.25E-01		102%	
Calc	S1	FILTER	H9GAC1AA	TH-230	3.61E-01	(1.26E-01)		PCI/SA	R	6.25E-02	2.28E-01		102%	
Calc	S1	FILTER	H9GAC1AA	TH-232	0.00E+00	(4.66E-02)	U4	PCI/SA	R		1.03E-01		102%	
Calc	S1	FILTER	H9GAE1AA	TH-228	-8.11E-02	(6.45E-02)	U4	PCI/SA	R	1.63E-01	4.36E-01		93%	
Calc	S1	FILTER	H9GAE1AA	TH-230	2.15E-01	(9.94E-02)		PCI/SA	R	6.42E-02	2.34E-01		93%	
Calc	S1	FILTER	H9GAE1AA	TH-232	6.51E-07	(4.78E-02)	U4	PCI/SA	R	9.07E-02	2.87E-01		93%	
Calc	S1	FILTER	H9GAG1AA	TH-228	2.53E-02	(5.67E-02)	U4	PCI/SA	R	8.34E-02	3.04E-01		88%	
Calc	S1	FILTER	H9GAG1AA	TH-230	4.39E-01	(1.52E-01)		PCI/SA	R		1.32E-01		88%	
Calc	S1	FILTER	H9GAG1AA	TH-232	0.00E+00	(5.97E-02)	U4	PCI/SA	R		1.32E-01		88%	
Calc	S1	FILTER	H9GAJ1AA	TH-228	1.36E-01	(7.94E-02)		PCI/SA	R		1.23E-01		105%	
Calc	S1	FILTER	H9GAJ1AA	TH-230	5.23E-01	(1.58E-01)		PCI/SA	R		1.18E-01		105%	
Calc	S1	FILTER	H9GAJ1AA	TH-232	8.71E-02	(6.21E-02)	U4	PCI/SA	R		1.18E-01		105%	
Calc	S1	FILTER	H9GAK1AA	TH-228	1.46E-01	(8.68E-02)		PCI/SA	R	6.85E-02	2.50E-01		92%	
Calc	S1	FILTER	H9GAK1AA	TH-230	4.41E-01	(1.39E-01)		PCI/SA	R		1.09E-01		92%	
Calc	S1	FILTER	H9GAK1AA	TH-232	6.01E-02	(6.03E-02)	U4	PCI/SA	R	6.59E-02	2.40E-01		92%	
Calc	S1	FILTER	H9GAL1AA	TH-228	9.76E-02	(8.55E-02)	U4	PCI/SA	R	1.11E-01	3.28E-01		117%	
Calc	S1	FILTER	H9GAL1AA	TH-230	3.19E-01	(1.18E-01)		PCI/SA	R	6.18E-02	2.25E-01		117%	
Calc	S1	FILTER	H9GAL1AA	TH-232	6.27E-07	(4.60E-02)	U4	PCI/SA	R	8.74E-02	2.76E-01		117%	
Calc	S1	FILTER	H9GAM1AA	TH-228	2.14E-02	(4.78E-02)	U4	PCI/SA	R	7.02E-02	2.56E-01		99%	
Calc	S1	FILTER	H9GAM1AA	TH-230	1.64E-01	(8.35E-02)		PCI/SA	R		1.11E-01		99%	
Calc	S1	FILTER	H9GAM1AA	TH-232	4.11E-02	(4.12E-02)	U4	PCI/SA	R		1.11E-01		99%	
Calc	S1	FILTER	H9GAN1AA	TH-228	2.61E-01	(1.11E-01)		PCI/SA	R	6.61E-02	2.41E-01		89%	

() - (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

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Calc	S1	FILTER	**H9GAN1AA**	TH-230	**5.80E-02**	**(5.82E-02)**	**U4**	PCI/SA	R	6.36E-02	2.32E-01		89%	
Calc	S1	FILTER	**H9GAN1AA**	TH-232	**-3.86E-02**	**(2.75E-02)**	**U4**	PCI/SA	R	8.99E-02	2.84E-01		89%	
Calc	S1	FILTER	**H9GAP1AA**	TH-228	**3.60E-02**	**(3.62E-02)**	**U4**	PCI/SA	R		9.77E-02		95%	
Calc	S1	FILTER	**H9GAP1AA**	TH-230	**3.12E-01**	**(1.08E-01)**		PCI/SA	R		9.39E-02		95%	
Calc	S1	FILTER	**H9GAP1AA**	TH-232	**1.73E-02**	**(3.88E-02)**	**U4**	PCI/SA	R	5.70E-02	2.08E-01		95%	
Calc	S1	FILTER	**H9GAT1AA**	TH-228	**1.31E-05**	**(8.01E-02)**	**U4**	PCI/SA	R	1.52E-01	4.82E-01		68%	
Calc	S1	FILTER	**H9GAT1AA**	TH-230	**9.44E-02**	**(9.48E-02)**	**U4**	PCI/SA	R	1.04E-01	3.78E-01		68%	
Calc	S1	FILTER	**H9GAT1AA**	TH-232	**-3.15E-02**	**(3.16E-02)**	**U4**	PCI/SA	R	1.04E-01	3.78E-01		68%	
Calc	S1	FILTER	**H9HWD1AA**	TH-228	**9.09E-03**	**(1.02E-02)**	**U4**	PCI/SA	R	1.49E-02	4.22E-02	**B**	86%	
Calc	S1	FILTER	**H9HWD1AA**	TH-230	**8.74E-03**	**(6.23E-03)**	**U4**	PCI/SA	R		1.18E-02	**B**	86%	
Calc	S1	FILTER	**H9HWD1AA**	TH-232	**4.37E-03**	**(4.39E-03)**	**U4**	PCI/SA	R		1.18E-02	**B**	86%	
Calc	S1	FILTER	**H9HWD1AC**	TH-230	**2.03E+00**	**(1.99E-01)**		PCI/SA	R	6.22E-03	2.27E-02	**S**	95%	112%

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: 6200122

Alpha Spec, ThIso by ALP , Calculated Results

8/1/2006 6:23:13 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	**H9F9W1AA**	**PCI/SA**		06/27/06 10:35	07/29/06 13:47			1	1.00 Sa	
536403,P-0683					,J6G180211-1 v4.8.18		FILTER					THTF0740 Alq		0.084373 Sa	

Sq	Cnt Date	Parameter	Sample 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 09:38	TH-228	2	1	ALP177	ED	N	N	2.6130E-01		N	84%	N		1.0000E+00	4.5045E-01	1.0324E+00	
			499.4666666	998.95			Y		(7.839E-03)			5%			(0.000E+00)	11.852138		
1	07/29/06 09:38	TH-229	444	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)	11.852138		
2	07/29/06 09:38	TH-230	0	0	ALP177	ED	N	N	2.6130E-01		N	84%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.839E-03)			5%			(0.000E+00)	11.852138		
3	07/29/06 09:38	TH-232	0	0	ALP177	ED	N	N	2.6130E-01		N	84%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.839E-03)			5%			(0.000E+00)	11.852138		

Sq	Calc Date	Parameter	Avg	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	**0.075472**	**U4**	3.00322E-03	0.013693	0.013693	1.00 Sa	84%		0.301787		
				(0.075789)		(3.0032E-03)	(0.013728)	(0.013728)	(0.028284)			0.082767		
	08/01/06	TH-229	R	**18.162609**		8.88948E-01	3.402005	3.402005	1.00 Sa	84%				
				(1.458928)		(4.2188E-02)	(0.191005)	(0.191005)	(0.028284)					
	08/01/06	TH-230	R	**0.00E00**	**U4**	0.00000E+00	0.00E00	0.00E00	1.00 Sa	84%		0.131283		
				(0.059332)		(0.0000E+00)	(0.011113)	(0.011113)	(0.028284)					
	08/01/06	TH-232	R	**0.00E00**	**U4**	0.00000E+00	0.00E00	0.00E00	1.00 Sa	84%		0.131283		
				(0.059332)		(0.0000E+00)	(0.011113)	(0.011113)	(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	**H9F921AA**	**PCI/SA**		06/27/06 10:50	07/29/06 13:47			1	1.00 Sa	
536403,P-0684					,J6G180211-2 v4.8.18		FILTER					THTF0741 Alq		0.082978 Sa	

Sq	Cnt Date	Parameter	Sample 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 09:38	TH-228	5	1	ALP178	ED	N	N	3.1338E-01		N	104%	N		1.0000E+00	4.5045E-01	1.0324E+00	
			499.4666666	998.95			Y		(9.401E-03)			6%			(0.000E+00)	12.051367		
1	07/29/06 09:38	TH-229	656	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)	12.051367		
2	07/29/06 09:38	TH-230	3	1	ALP178	ED	N	N	3.1338E-01		N	104%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(9.401E-03)			6%			(0.000E+00)	12.051367		
3	07/29/06 09:38	TH-232	1	2	ALP178	ED	N	N	3.1338E-01		N	104%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(9.401E-03)			6%			(0.000E+00)	12.051367		

() - (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: 6200122 Alpha Spec, Thlso by ALP , Calculated Results 8/1/2006 6:23:13 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	**0.162093**		9.00963E-03	0.028923	0.028923	1.00 Sa	104%		0.216052		
				(0.083753)		(4.5875E-03)	(0.014852)	(0.014852)	(0.028284)			0.059253		
	08/01/06	TH-229	R	**22.734003**		1.31240E+00	4.187868	4.187868	1.00 Sa	104%				
				(1.720485)		(5.1289E-02)	(0.206326)	(0.206326)	(0.028284)					
	08/01/06	TH-230	R	**0.086705**	U4	5.00536E-03	0.015972	0.015972	1.00 Sa	104%		0.208023		
				(0.062986)		(3.6094E-03)	(0.011566)	(0.011566)	(0.028284)			0.057051		
	08/01/06	TH-232	R	**5.7864E-07**	U4	3.34040E-08	1.0659E-07	1.0659E-07	1.00 Sa	104%		0.255258		
				(0.042476)		(2.4521E-03)	(0.007825)	(0.007825)	(0.028284)			0.080683		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9F951AA**	**PCI/SA**		06/27/06 11:10	07/29/06 13:49			1	1.00 Sa	
536403,P-0685					,J6G180211-3 v4.8.18		FILTER					THTF0742 Alq		0.083262 Sa	

Sq	Cnt Date	Parameter	Sample 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 09:39	TH-228	0	0	ALP114	ED	N	N	3.2873E-01		N	79%	N		1.0000E+00	4.5045E-01	1.0324E+00	
			500.0166666	1000.0166			Y		(9.862E-03)			5%			(0.000E+00)	12.010305		
1	07/29/06 09:39	TH-229	527	0	ALP114	ED	Y	N	3.2873E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0166666	1000.0166			Y		(9.862E-03)						(0.000E+00)	12.010305		
2	07/29/06 09:39	TH-230	28	0	ALP114	ED	N	N	3.2873E-01		N	79%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0166666	1000.0166			Y		(9.862E-03)			5%			(0.000E+00)	12.010305		
3	07/29/06 09:39	TH-232	1	1	ALP114	ED	N	N	3.2873E-01		N	79%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0166666	1000.0166			Y		(9.862E-03)			5%			(0.000E+00)	12.010305		

Sq	Calc Date	Parameter	Avg	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	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 Sa	79%		0.117708		
				(0.053196)		(0.0000E+00)	(0.009525)	(0.009525)	(0.028284)					
	08/01/06	TH-229	R	**17.345467**		1.05396E+00	3.206161	3.206161	1.00 Sa	79%				
				(1.35445)		(4.5911E-02)	(0.169579)	(0.169579)	(0.028284)					
	08/01/06	TH-230	R	**1.170988**		5.59981E-02	0.216447	0.216447	1.00 Sa	79%		0.113335		
				(0.245072)		(1.0583E-02)	(0.04356)	(0.04356)	(0.028284)					
	08/01/06	TH-232	R	**0.02091**	U4	9.99950E-04	0.003865	0.003865	1.00 Sa	79%		0.250845		
				(0.046795)		(2.2360E-03)	(0.008647)	(0.008647)	(0.028284)			0.068796		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9F981AA**	**PCI/SA**		06/27/06 11:30	07/29/06 13:49			1	1.00 Sa	
536403,P-0686					,J6G180211-4 v4.8.18		FILTER					THTF0743 Alq		0.083507 Sa	

Sq	Cnt Date	Parameter	Sample 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 09:39	TH-228	5	2	ALP119	ED	N	N	2.5157E-01		N	92%	N		1.0000E+00	4.5045E-01	1.0323E+00	
			500.0166666	1000.2666			Y		(7.547E-03)			6%			(0.000E+00)	11.974975		

() - (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: 6200122 Alpha Spec, ThIso by ALP , Calculated Results 8/1/2006 6:23:13 AM

1	07/29/06 09:39	TH-229	466	2	ALP119	ED	Y	N	2.5157E-01	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00
			500.0166666	1000.2666			Y		(7.547E-03)				(0.000E+00)	11.974975	
2	07/29/06 09:39	TH-230	5	1	ALP119	ED	N	N	2.5157E-01	N	92%	N	1.0000E+00	4.5045E-01	1.0000E+00
			500.0166666	1000.2666			Y		(7.547E-03)		6%		(0.000E+00)	11.974975	
3	07/29/06 09:39	TH-232	0	1	ALP119	ED	N	N	2.5157E-01	N	92%	N	1.0000E+00	4.5045E-01	1.0000E+00
			500.0166666	1000.2666			Y		(7.547E-03)		6%		(0.000E+00)	11.974975	

Sq	Calc Date	Parameter	Avg	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	**0.193958**		8.00020E-03	0.034831	0.034831	1.00 Sa	92%		0.356836		
				(0.115081)		(4.6902E-03)	(0.020569)	(0.020569)	(0.028284)			0.112785		
	08/01/06	TH-229	R	**19.940086**		9.29969E-01	3.696629	3.696629	1.00 Sa	92%				
				(1.589898)		(4.3196E-02)	(0.204403)	(0.204403)	(0.028284)					
	08/01/06	TH-230	R	**0.210092**		8.99993E-03	0.038948	0.038948	1.00 Sa	92%		0.280006		
				(0.108678)		(4.5824E-03)	(0.020023)	(0.020023)	(0.028284)			0.076789		
	08/01/06	TH-232	R	**-0.023338**	U4	-9.99733E-04	-0.004326	-0.004326	1.00 Sa	92%		0.280006		
				(0.023435)		(9.9973E-04)	(0.004337)	(0.004337)	(0.028284)			0.076789		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAA1AA**	**PCI/SA**		06/27/06 11:55	07/29/06 13:50			1	1.00 Sa	
536403,P-0687					,J6G180211-5 v4.8.18		FILTER					THTF0744 Alq		0.083561 Sa	

Sq	Cnt Date	Parameter	Sample 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 09:40	TH-228	2	4	ALP120	ED	N	N	2.4073E-01		N	87%	N		1.0000E+00	4.5045E-01	1.0323E+00	
			500.0833333	1000.15			Y		(7.222E-03)			6%			(0.000E+00)	11.967369		
1	07/29/06 09:40	TH-229	423	1	ALP120	ED	Y	N	2.4073E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0833333	1000.15			Y		(7.222E-03)						(0.000E+00)	11.967369		
2	07/29/06 09:40	TH-230	3	0	ALP120	ED	N	N	2.4073E-01		N	87%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0833333	1000.15			Y		(7.222E-03)			6%			(0.000E+00)	11.967369		
3	07/29/06 09:40	TH-232	0	0	ALP120	ED	N	N	2.4073E-01		N	87%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0833333	1000.15			Y		(7.222E-03)			6%			(0.000E+00)	11.967369		

Sq	Calc Date	Parameter	Avg	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	**-1.7717E-06**	U4	-6.66456E-08	-3.1837E-07	-3.1837E-07	1.00 Sa	87%		0.493641		
				(0.092074)		(3.4635E-03)	(0.016545)	(0.016545)	(0.028284)			0.174894		
	08/01/06	TH-229	R	**18.918909**		8.44859E-01	3.509545	3.509545	1.00 Sa	87%				
				(1.533607)		(4.1139E-02)	(0.200722)	(0.200722)	(0.028284)					
	08/01/06	TH-230	R	**0.153556**		5.99900E-03	0.028485	0.028485	1.00 Sa	87%		0.138713		
				(0.089787)		(3.4635E-03)	(0.016575)	(0.016575)	(0.028284)					
	08/01/06	TH-232	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 Sa	87%		0.138713		
				(0.062689)		(0.0000E+00)	(0.011629)	(0.011629)	(0.028284)					

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

RecCnt:6 RADCALC v4.8.18

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

STL Richland

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: 6200122 — Alpha Spec, Thlso by ALP , Calculated Results — 8/1/2006 6:23:13 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	H9GAC1AA	PCI/SA		06/27/06 12:05	07/30/06 13:46			1	1.00 Sa	
536403,P-0688					,J6G180211-6 v4.8.18		FILTER					THTF0745 Alq		0.081551 Sa	

Sq	Cnt Date	Parameter	Sample 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	07/30/06 09:36	TH-228	3	6	ALP171	ED	N	N	2.9087E-01		N	102%	N		1.0000E+00	4.5045E-01	1.0333E+00	
			499.4666666	998.95			Y		(8.726E-03)			6%			(0.000E+00)	12.262304		
1	07/30/06 09:36	TH-229	601	3	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)	12.262304		
2	07/30/06 09:36	TH-230	10	1	ALP171	ED	N	N	2.9087E-01		N	102%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.726E-03)			6%			(0.000E+00)	12.262304		
3	07/30/06 09:36	TH-232	0	0	ALP171	ED	N	N	2.9087E-01		N	102%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.726E-03)			6%			(0.000E+00)	12.262304		

Sq	Calc Date	Parameter	Avg	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	**1.9783E-06**	U4	1.00212E-07	3.4661E-07	3.4661E-07	1.00 Sa	102%		0.425448		
				(0.083845)		(4.2471E-03)	(0.01469)	(0.01469)	(0.028284)			0.159262		
	08/01/06	TH-229	R	**22.793301**		1.20028E+00	4.126564	4.126564	1.00 Sa	102%				
				(1.746972)		(4.9114E-02)	(0.209372)	(0.209372)	(0.028284)					
	08/01/06	TH-230	R	**0.361195**		1.90203E-02	0.065392	0.065392	1.00 Sa	102%		0.228048		
				(0.125868)		(6.4100E-03)	(0.022476)	(0.022476)	(0.028284)			0.062543		
	08/01/06	TH-232	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 Sa	102%		0.103036		
				(0.046565)		(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
7	Calc	S1	FILTER	*STLE	AlpIsoWoBS	H9GAE1AA	PCI/SA		06/27/06 10:45	07/30/06 13:46			1	1.00 Sa	
536403,P-0689					,J6G180211-7 v4.8.18		FILTER					THTF0746 Alq		0.082792 Sa	

Sq	Cnt Date	Parameter	Sample 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	07/30/06 09:36	TH-228	1	6	ALP172	ED	N	N	2.9949E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0334E+00	
			499.4666666	998.95			Y		(8.985E-03)			6%			(0.000E+00)	12.078413		
1	07/30/06 09:36	TH-229	567	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)	12.078413		
2	07/30/06 09:36	TH-230	6	1	ALP172	ED	N	N	2.9949E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.985E-03)			6%			(0.000E+00)	12.078413		
3	07/30/06 09:36	TH-232	1	2	ALP172	ED	N	N	2.9949E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.985E-03)			6%			(0.000E+00)	12.078413		

() - (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: 6200122 — Alpha Spec, Thiso by ALP , Calculated Results — 8/1/2006 6:23:13 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	**-0.081095**	U4	-4.00417E-03	-0.014424	-0.014424	1.00 Sa	93%		0.436464		
				(0.06452)		(3.1656E-03)	(0.011446)	(0.011446)	(0.028284)			0.163385		
	08/01/06	TH-229	R	**20.495586**		1.12820E+00	3.767072	3.767072	1.00 Sa	93%				
				(1.586411)		(4.7748E-02)	(0.195422)	(0.195422)	(0.028284)					
	08/01/06	TH-230	R	**0.214516**		1.10118E-02	0.039428	0.039428	1.00 Sa	93%		0.23394		
				(0.099372)		(5.0053E-03)	(0.018124)	(0.018124)	(0.028284)			0.064159		
	08/01/06	TH-232	R	**6.5073E-07**	U4	3.34040E-08	1.196E-07	1.196E-07	1.00 Sa	93%		0.287059		
				(0.047768)		(2.4521E-03)	(0.00878)	(0.00878)	(0.028284)			0.090735		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAG1AA**	**PCI/SA**		06/27/06 11:00	07/30/06 13:46			1	1.00 Sa	
536403,P-0690					,J6G180211-8 v4.8.18		FILTER					THTF0747 Alq		0.082536 Sa	

Sq	Cnt Date	Parameter	Sample 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	07/30/06 09:36	TH-228	1	1	ALP173	ED	N	N	2.5374E-01		N	88%	N		1.0000E+00	4.5045E-01	1.0334E+00	
			499.4666666	998.95			Y		(7.612E-03)			6%			(0.000E+00)	12.115891		
1	07/30/06 09:36	TH-229	457	2	ALP173	ED	Y	N	2.5374E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.612E-03)						(0.000E+00)	12.115891		
2	07/30/06 09:36	TH-230	9	0	ALP173	ED	N	N	2.5374E-01		N	88%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.612E-03)			6%			(0.000E+00)	12.115891		
3	07/30/06 09:36	TH-232	0	0	ALP173	ED	N	N	2.5374E-01		N	88%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.612E-03)			6%			(0.000E+00)	12.115891		

Sq	Calc Date	Parameter	Avg	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	**0.025345**	U4	1.00108E-03	0.004494	0.004494	1.00 Sa	88%		0.304035		
				(0.05672)		(2.2384E-03)	(0.010054)	(0.010054)	(0.028284)			0.083383		
	08/01/06	TH-229	R	**19.63662**		9.12974E-01	3.59803	3.59803	1.00 Sa	88%				
				(1.570954)		(4.2824E-02)	(0.200336)	(0.200336)	(0.028284)					
	08/01/06	TH-230	R	**0.438817**		1.80192E-02	0.080405	0.080405	1.00 Sa	88%		0.132133		
				(0.151694)		(6.0064E-03)	(0.027409)	(0.027409)	(0.028284)					
	08/01/06	TH-232	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 Sa	88%		0.132133		
				(0.059715)		(0.0000E+00)	(0.010942)	(0.010942)	(0.028284)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
9	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H9GAJ1AA**	**PCI/SA**		06/27/06 10:40	07/30/06 13:46			1	1.00 Sa	
536403,000509					,J6G180211-9 v4.8.18		FILTER					THTF0748 Alq		0.083462 Sa	

Sq	Cnt Date	Parameter	Sample 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	07/30/06 09:36	TH-228	3	0	ALP174	ED	N	N	2.4814E-01		N	105%	N		1.0000E+00	4.5045E-01	1.0334E+00	
			499.4666666	998.95			Y		(7.444E-03)			7%			(0.000E+00)	11.981564		

() - (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: 6200122 Alpha Spec, ThIso by ALP , Calculated Results 8/1/2006 6:23:13 AM

1	07/30/06 09:36	TH-229	527	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)	11.981564	
2	07/30/06 09:36	TH-230	12	0	ALP174	ED	N	N	2.4814E-01	N	105%	N	1.0000E+00	4.5045E-01	1.0000E+00
			499.4666666	998.95			Y		(7.444E-03)		7%		(0.000E+00)	11.981564	
3	07/30/06 09:36	TH-232	2	0	ALP174	ED	N	N	2.4814E-01	N	105%	N	1.0000E+00	4.5045E-01	1.0000E+00
			499.4666666	998.95			Y		(7.444E-03)		7%		(0.000E+00)	11.981564	

Sq	Calc Date	Parameter	Avg	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	**0.135819**		6.00641E-03	0.024352	0.024352	1.00 Sa	105%		0.12269		
				(0.079362)		(3.4678E-03)	(0.01416)	(0.01416)	(0.028284)					
	08/01/06	TH-229	R	**22.88397**		1.05212E+00	4.240053	4.240053	1.00 Sa	105%				
				(1.78892)		(4.5995E-02)	(0.224807)	(0.224807)	(0.028284)					
	08/01/06	TH-230	R	**0.522564**		2.40256E-02	0.096823	0.096823	1.00 Sa	105%		0.118012		
				(0.158013)		(6.9356E-03)	(0.028744)	(0.028744)	(0.028284)					
	08/01/06	TH-232	R	**0.087094**	U4	4.00427E-03	0.016137	0.016137	1.00 Sa	105%		0.118012		
				(0.062082)		(2.8314E-03)	(0.011465)	(0.011465)	(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	**H9GAK1AA**	**PCI/SA**		06/27/06 10:55	07/30/06 13:46			1	1.00 Sa	
536403,000510					,J6G180211-10 v4.8.18		FILTER					THTF0749 Alq		0.083128 Sa	

Sq	Cnt Date	Parameter	Sample 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	07/30/06 09:36	TH-228	4	1	ALP175	ED	N	N	2.9360E-01		N	92%	N		1.0000E+00	4.5045E-01	1.0334E+00	
			499.4666666	998.95			Y		(8.808E-03)			6%			(0.000E+00)	12.029708		
1	07/30/06 09:36	TH-229	549	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)	12.029708		
2	07/30/06 09:36	TH-230	11	0	ALP175	ED	N	N	2.9360E-01		N	92%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.808E-03)			6%			(0.000E+00)	12.029708		
3	07/30/06 09:36	TH-232	2	1	ALP175	ED	N	N	2.9360E-01		N	92%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.808E-03)			6%			(0.000E+00)	12.029708		

Sq	Calc Date	Parameter	Avg	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	**0.145731**		7.00749E-03	0.026025	0.026025	1.00 Sa	92%		0.249741		
				(0.086824)		(4.1275E-03)	(0.015433)	(0.015433)	(0.028284)			0.068493		
	08/01/06	TH-229	R	**20.249784**		1.09717E+00	3.736962	3.736962	1.00 Sa	92%				
				(1.572433)		(4.6933E-02)	(0.195247)	(0.195247)	(0.028284)					
	08/01/06	TH-230	R	**0.440553**		2.20235E-02	0.081301	0.081301	1.00 Sa	92%		0.108536		
				(0.138566)		(6.6403E-03)	(0.025141)	(0.025141)	(0.028284)					
	08/01/06	TH-232	R	**0.060076**	U4	3.00322E-03	0.011087	0.011087	1.00 Sa	92%		0.240222		
				(0.060316)		(3.0032E-03)	(0.011113)	(0.011113)	(0.028284)			0.065882		

() - (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: 6200122

Alpha Spec, Thiso by ALP , Calculated Results

8/1/2006 6:23:14 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	**H9GAL1AA**	**PCI/SA**		06/27/06 11:15	07/30/06 13:46			1	1.00 Sa	
536403,000511					,J6G180211-11 v4.8.18		FILTER					THTF0750 Alq		0.082399 Sa	

Sq	Cnt Date	Parameter	Sample 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	07/30/06 09:36	TH-228	4	3	ALP176	ED	N	N	2.9146E-01		N	117%	N		1.0000E+00	4.5045E-01	1.0334E+00	
			499.4666666	998.95			Y		(8.744E-03)			7%			(0.000E+00)	12.136029		
1	07/30/06 09:36	TH-229	687	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)	12.136029		
2	07/30/06 09:36	TH-230	9	1	ALP176	ED	N	N	2.9146E-01		N	117%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.744E-03)			7%			(0.000E+00)	12.136029		
3	07/30/06 09:36	TH-232	1	2	ALP176	ED	N	N	2.9146E-01		N	117%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.744E-03)			7%			(0.000E+00)	12.136029		

Sq	Calc Date	Parameter	Avg	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	**0.097601**	**U4**	5.00539E-03	0.017277	0.017277	1.00 Sa	117%		0.32813		
				(0.085512)		(4.3635E-03)	(0.015105)	(0.015105)	(0.028284)			0.111232		
	08/01/06	TH-229	R	**25.760931**		1.37347E+00	4.712359	4.712359	1.00 Sa	117%				
				(1.938228)		(5.2496E-02)	(0.22897)	(0.22897)	(0.028284)					
	08/01/06	TH-230	R	**0.319196**		1.70182E-02	0.058389	0.058389	1.00 Sa	117%		0.22524		
				(0.117574)		(6.0893E-03)	(0.021244)	(0.021244)	(0.028284)			0.061773		
	08/01/06	TH-232	R	**6.2653E-07**	**U4**	3.34040E-08	1.1461E-07	1.1461E-07	1.00 Sa	117%		0.276384		
				(0.045992)		(2.4521E-03)	(0.008413)	(0.008413)	(0.028284)			0.08736		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAM1AA**	**PCI/SA**		06/27/06 11:35	07/30/06 13:46			1	1.00 Sa	
536403,000512					,J6G180211-12 v4.8.18		FILTER					THTF0751 Alq		0.084707 Sa	

Sq	Cnt Date	Parameter	Sample 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	07/30/06 09:36	TH-228	1	1	ALP177	ED	N	N	2.6130E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0334E+00	
			499.4666666	998.95			Y		(7.839E-03)			6%			(0.000E+00)	11.805423		
1	07/30/06 09:36	TH-229	524	1	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)	11.805423		
2	07/30/06 09:36	TH-230	4	0	ALP177	ED	N	N	2.6130E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.839E-03)			6%			(0.000E+00)	11.805423		
3	07/30/06 09:36	TH-232	1	0	ALP177	ED	N	N	2.6130E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.839E-03)			6%			(0.000E+00)	11.805423		

() - (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: 6200122 — Alpha Spec, ThIso by ALP , Calculated Results — 8/1/2006 6:23:14 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	**0.021352**	U4	1.00108E-03	0.003886	0.003886	1.00 Sa	99%		0.25614		
				(0.047783)		(2.2384E-03)	(0.008693)	(0.008693)	(0.028284)			0.070248		
	08/01/06	TH-229	R	**21.330292**		1.04812E+00	4.011148	4.011148	1.00 Sa	99%				
				(1.667717)		(4.5842E-02)	(0.21274)	(0.21274)	(0.028284)					
	08/01/06	TH-230	R	**0.164311**		8.00854E-03	0.030898	0.030898	1.00 Sa	99%		0.11132		
				(0.083476)		(4.0043E-03)	(0.015597)	(0.015597)	(0.028284)					
	08/01/06	TH-232	R	**0.041078**	U4	2.00214E-03	0.007725	0.007725	1.00 Sa	99%		0.11132		
				(0.041244)		(2.0021E-03)	(0.007743)	(0.007743)	(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	**H9GAN1AA**	**PCI/SA**		06/27/06 12:00	07/30/06 13:46			1	1.00 Sa	
536403,000513					,J6G180211-13 v4.8.18		FILTER					THTF0752 Alq		0.08342 Sa	

Sq	Cnt Date	Parameter	Sample 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	07/30/06 09:36	TH-228	7	1	ALP178	ED	N	N	3.1338E-01		N	89%	N		1.0000E+00	4.5045E-01	1.0333E+00	
			499.4666666	998.95			Y		(9.401E-03)			5%			(0.000E+00)	11.987462		
1	07/30/06 09:36	TH-229	565	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)	11.987462		
2	07/30/06 09:36	TH-230	2	1	ALP178	ED	N	N	3.1338E-01		N	89%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(9.401E-03)			5%			(0.000E+00)	11.987462		
3	07/30/06 09:36	TH-232	0	2	ALP178	ED	N	N	3.1338E-01		N	89%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(9.401E-03)			5%			(0.000E+00)	11.987462		

Sq	Calc Date	Parameter	Avg	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	**0.261105**		1.30139E-02	0.046795	0.046795	1.00 Sa	89%		0.24094		
				(0.110642)		(5.3909E-03)	(0.019646)	(0.019646)	(0.028284)			0.066079		
	08/01/06	TH-229	R	**19.474131**		1.13021E+00	3.606486	3.606486	1.00 Sa	89%				
				(1.505167)		(4.7601E-02)	(0.186488)	(0.186488)	(0.028284)					
	08/01/06	TH-230	R	**0.057961**	U4	3.00322E-03	0.010734	0.010734	1.00 Sa	89%		0.231767		
				(0.058191)		(3.0032E-03)	(0.010759)	(0.010759)	(0.028284)			0.063563		
	08/01/06	TH-232	R	**-0.03864**	U4	-2.00210E-03	-0.007156	-0.007156	1.00 Sa	89%		0.284393		
				(0.027539)		(1.4157E-03)	(0.005084)	(0.005084)	(0.028284)			0.089892		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAP1AA**	**PCI/SA**		06/27/06 12:10	07/30/06 13:47			1	1.00 Sa	
536403,000514					,J6G180211-14 v4.8.18		FILTER					THTF0753 Alq		0.083252 Sa	

Sq	Cnt Date	Parameter	Sample 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	07/30/06 09:37	TH-228	1	0	ALP114	ED	N	N	3.2873E-01		N	95%	N		1.0000E+00	4.5045E-01	1.0333E+00	
			500.05	1000.0166			Y		(9.862E-03)			6%			(0.000E+00)	12.011693		

() - (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: 6200122 — Alpha Spec, ThIso by ALP , Calculated Results — 8/1/2006 6:23:14 AM

1	07/30/06 09:37	TH-229	631	1	ALP114	ED	Y	N	3.2873E-01	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00
			500.05	1000.0166			Y		(9.862E-03)				(0.000E+00)	12.011693	
2	07/30/06 09:37	TH-230	9	0	ALP114	ED	N	N	3.2873E-01	N	95%	N	1.0000E+00	4.5045E-01	1.0000E+00
			500.05	1000.0166			Y		(9.862E-03)		6%		(0.000E+00)	12.011693	
3	07/30/06 09:37	TH-232	1	1	ALP114	ED	N	N	3.2873E-01	N	95%	N	1.0000E+00	4.5045E-01	1.0000E+00
			500.05	1000.0166			Y		(9.862E-03)		6%		(0.000E+00)	12.011693	

Sq	Calc Date	Parameter	Avg	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	**0.036037**	U4	1.99980E-03	0.006446	0.006446	1.00 Sa	95%		0.097661		
				(0.036177)		(1.9998E-03)	(0.00646)	(0.00646)	(0.028284)					
	08/01/06	TH-229	R	**20.753037**		1.26087E+00	3.835578	3.835578	1.00 Sa	95%				
				(1.578859)		(5.0244E-02)	(0.191315)	(0.191315)	(0.028284)					
	08/01/06	TH-230	R	**0.311991**		1.79982E-02	0.057662	0.057662	1.00 Sa	95%		0.093944		
				(0.107575)		(5.9994E-03)	(0.019604)	(0.019604)	(0.028284)					
	08/01/06	TH-232	R	**0.017331**	U4	9.99817E-04	0.003203	0.003203	1.00 Sa	95%		0.207931		
				(0.038788)		(2.2359E-03)	(0.007166)	(0.007166)	(0.028284)			0.057027		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAT1AA**	**PCI/SA**		06/27/06 11:40	07/30/06 13:47			1	1.00 Sa	
536403,000515					,J6G180211-15 v4.8.18		FILTER					THTF0754 Alq		0.083293 Sa	

Sq	Cnt Date	Parameter	Sample 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	07/30/06 09:37	TH-228	1	2	ALP119	ED	N	N	2.5157E-01		N	68%	N		1.0000E+00	4.5045E-01	1.0334E+00	
			500.0333333	1000.2666			Y		(7.547E-03)			5%			(0.000E+00)	12.005754		
1	07/30/06 09:37	TH-229	349	2	ALP119	ED	Y	N	2.5157E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0333333	1000.2666			Y		(7.547E-03)						(0.000E+00)	12.005754		
2	07/30/06 09:37	TH-230	2	1	ALP119	ED	N	N	2.5157E-01		N	68%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0333333	1000.2666			Y		(7.547E-03)			5%			(0.000E+00)	12.005754		
3	07/30/06 09:37	TH-232	0	1	ALP119	ED	N	N	2.5157E-01		N	68%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0333333	1000.2666			Y		(7.547E-03)			5%			(0.000E+00)	12.005754		

Sq	Calc Date	Parameter	Avg	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	**1.3083E-05**	U4	3.99867E-07	2.3412E-06	2.3412E-06	1.00 Sa	68%		0.481565		
				(0.080135)		(2.4492E-03)	(0.01434)	(0.01434)	(0.028284)			0.152209		
	08/01/06	TH-229	R	**14.960761**		6.95954E-01	2.766417	2.766417	1.00 Sa	68%				
				(1.259368)		(3.7387E-02)	(0.170218)	(0.170218)	(0.028284)					
	08/01/06	TH-230	R	**0.094419**	U4	3.00000E-03	0.017459	0.017459	1.00 Sa	68%		0.377508		
				(0.094838)		(2.9997E-03)	(0.017508)	(0.017508)	(0.028284)			0.103529		
	08/01/06	TH-232	R	**-0.031465**	U4	-9.99733E-04	-0.005818	-0.005818	1.00 Sa	68%		0.377508		
				(0.031607)		(9.9973E-04)	(0.005835)	(0.005835)	(0.028284)			0.103529		

() - (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: 6200122 — Alpha Spec, Thlso by ALP , Calculated Results — 8/1/2006 6:23:14 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	**H9HWD1AA**	**PCI/SA**	**B**	06/27/06 10:35	07/30/06 13:49			1	1.00 Sa	
0,INTRA-LAB BLANK					,J6G190000-122		FILTER					THTF0755 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	07/30/06 09:39	TH-228	4	4	ALP120	ED	N	N	2.4073E-01		N	86%	N		1.0000E+00	4.5045E-01	1.0334E+00	
			500.0166666	1000.15			Y		(7.222E-03)			6%			(0.000E+00)	1.00		
1	07/30/06 09:39	TH-229	417	0	ALP120	ED	Y	N	2.4073E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0166666	1000.15			Y		(7.222E-03)						(0.000E+00)	1.00		
2	07/30/06 09:39	TH-230	2	0	ALP120	ED	N	N	2.4073E-01		N	86%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0166666	1000.15			Y		(7.222E-03)			6%			(0.000E+00)	1.00		
3	07/30/06 09:39	TH-232	1	0	ALP120	ED	N	N	2.4073E-01		N	86%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0166666	1000.15			Y		(7.222E-03)			6%			(0.000E+00)	1.00		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/01/06	TH-228	R	**0.009089**	**U4**	4.00033E-03	0.019525	0.019525	1.00 SA	86%		0.042192		
				(0.010193)		(4.4719E-03)	(0.021872)	(0.021872)	(0.017321)			0.014948		
	08/01/06	TH-229	R	**1.560503**		8.33972E-01	3.464321	3.464321	1.00 SA	86%				
				(0.12186)		(4.0840E-02)	(0.198952)	(0.198952)	(0.017321)					
	08/01/06	TH-230	R	**0.008741**	**U4**	3.99987E-03	0.019405	0.019405	1.00 SA	86%		0.011844		
				(0.006231)		(2.8283E-03)	(0.013794)	(0.013794)	(0.017321)					
	08/01/06	TH-232	R	**0.004371**	**U4**	1.99993E-03	0.009703	0.009703	1.00 SA	86%		0.011844		
				(0.004388)		(1.9999E-03)	(0.009728)	(0.009728)	(0.017321)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9HWD1AC**	**PCI/SA**	**S**	06/27/06 10:35	07/31/06 16:15		THSO0085	1	1.00 SA	
0,INTRA-LAB CHECK					,J6G190000-122		FILTER					THSO0085 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	489	2	ALP119	ED	Y	N	2.5157E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.1	1000.2666			Y		(7.547E-03)						(0.000E+00)	1.00		
7	07/31/06 12:05	TH-230	536	1	ALP119	ED	N	N	2.5157E-01		N	95%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.1	1000.2666			Y		(7.547E-03)			6%			(0.000E+00)	1.00		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/01/06	TH-229	R	**1.747217**		9.75805E-01	3.878825	3.878825	1.00 SA	95%				
				(0.132552)		(4.4240E-02)	(0.21087)	(0.21087)	(0.017321)					
	08/01/06	TH-230	R	**2.026391**		1.07079E+00	4.498594	4.498594	1.00 SA	95%	112%	0.022697		
				(0.198695)		(4.6305E-02)	(0.371358)	(0.371358)	(0.017321)			0.006225		

() - (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

SEVERN TRENT **STL**

THORIUM ISOTOPIC COUNTING REQUEST

1800
7/29/06

C.R. Technician: RS
Date Counted: 7/29/06
C.R. Analyst: S
Date Analyzed: 7/31/06

Counting Time: 500 Minutes
Sample
Background: See Alpha Analysis Report 6/27/06

SOP's
Operating: RICHRD008
Review: RICHRD0016 BRC 6200122

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)		
H9F9W1AA		10		0	See Alpha Analysis Report for ROI Information			177	
H9F921AA		10		0	See Alpha Analysis Report for ROI Information			178	
H9F951AA		10		0	See Alpha Analysis Report for ROI Information			114	
H9F981AA		10		0	See Alpha Analysis Report for ROI Information			119	
H9GAA1AA		10		0	See Alpha Analysis Report for ROI Information			120	
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				

Comments:

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

Approved by: S

Date: 7/31/06

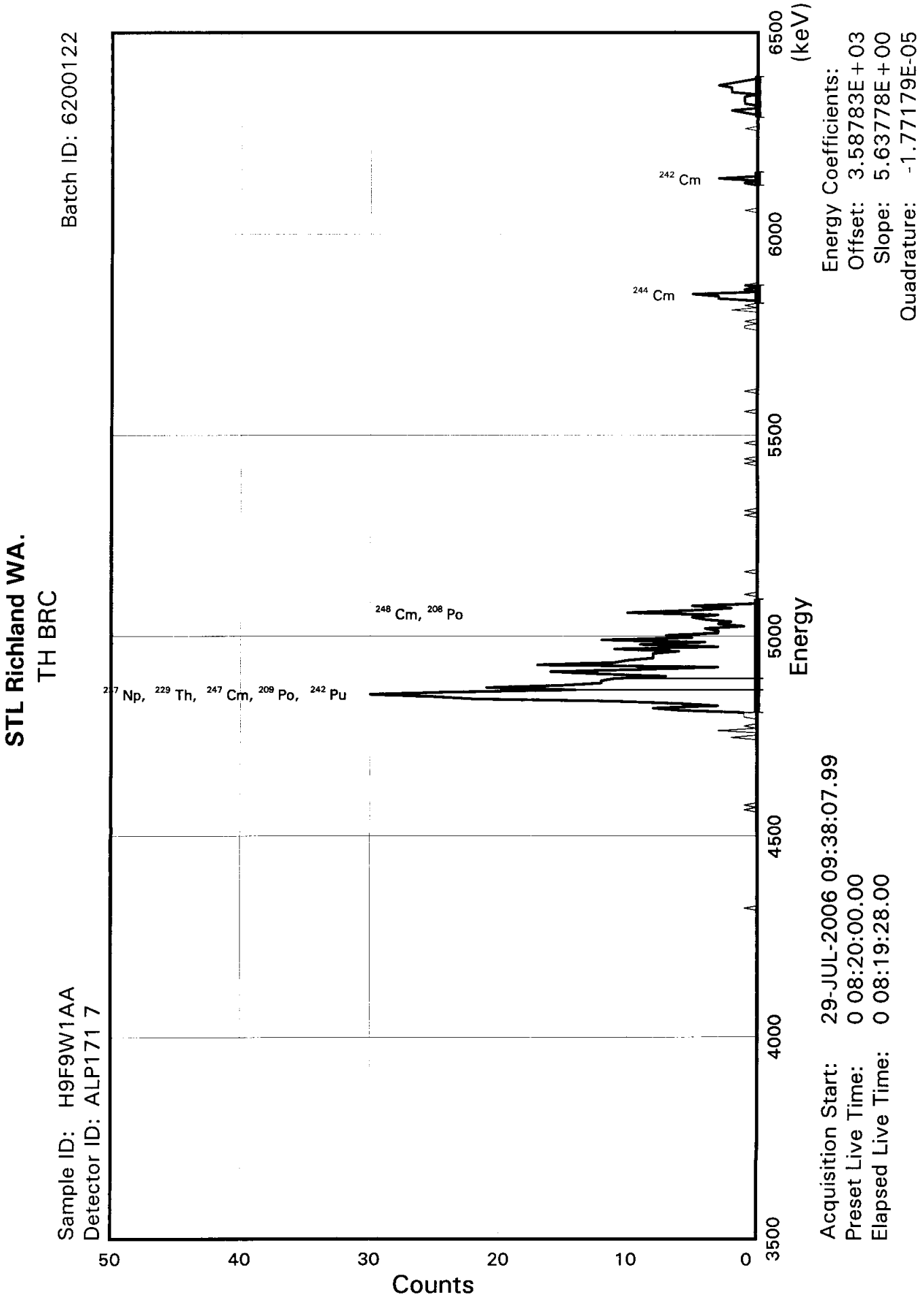
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H9F9W1AA

Detector: ALP171 7
Report Date: 31-Jul-06 06:23 AM
Acquire Date: 29-JUL-2006 09:38:07.99
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	112.5	311	331
TH-229	444	0	0.889	4845.3	349.0	208	270
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: 6200122
Sample ID: H9F9W1AA
Detector ID: ALP171 7
^{237}Np, ^{229}Th, ^{247}Cm, ^{209}Po, ^{242}Pu
^{248}Cm, ^{208}Po
^{244}Cm
^{242}Cm
Counts
50
40
30
20
10
0
Energy
3500
4000
4500
5000
5500
6000
6500
(keV)
Acquisition Start: 29-JUL-2006 09:38:07.99
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: H9F9W1AA

TITLE : TH BRC

DETECTOR : ALP171 7
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9F9W1AA_290760938G.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 29-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 29-JUL-2006 09:38:07 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: H9F9W1AA

Detector: ALP171 7
Report Date: 29-Jul-06 05:59 PM
Acquire Date: 29-JUL-2006 09:38:07.99
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	111	0	0	0.222	5124.8	225.2	227	267	0.00	0.00	P
PO-209	322	0	0	0.645	4893.1	84.4	217	232	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5314.3	84.4	299	314	0.00	0.00	M
AC-227	1	0	0	0.002	6048.0	84.3	429	444	0.00	0.00	
TH-227	1	0	0	0.002	6048.0	84.3	429	444	0.00	0.00	
TH-228	-9999	-9999	0	-10.010	5433.1	84.4	320	335	0.00	0.00	M
TH-229	322	0	0	0.645	4855.2	84.4	217	232	0.00	0.00	P
TH-230	0	0	0	0.000	4697.6	84.5	189	204	0.00	0.00	
TH-232	0	0	0	0.000	4022.9	84.5	69	84	0.00	0.00	
U-232	-9999	-9999	0	-10.010	5330.1	84.4	301	316	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4784.5	84.5	204	219	0.00	0.00	I
U-235	0	1	0	-0.001	4407.7	84.5	138	153	0.00	0.00	
PU-236	5	18	0	-0.008	5777.6	84.4	381	396	0.00	0.00	
NP-237	322	0	0	0.645	4797.9	84.4	217	232	0.00	0.00	P
PU-238	-9999	-9999	0	-10.010	5509.0	84.4	333	348	0.00	0.00	M
U-238	0	0	0	0.000	4207.9	84.5	102	117	0.00	0.00	
PU-239	1	0	0	0.002	5166.5	84.4	272	287	0.00	0.00	S
AM-241	-9999	-9999	0	-10.010	5495.5	84.4	331	346	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5216.7	84.4	281	296	0.00	0.00	M
CM-242	4	1	0	0.007	6122.7	33.7	450	456	0.00	0.00	P
PU-242	322	0	0	0.645	4910.4	84.4	217	232	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5285.2	84.4	293	308	0.00	0.00	M
CM-244	12	36	0	-0.012	5814.8	45.0	398	406	0.00	0.00	P
CM-246	-9999	-9999	0	-10.010	5396.4	84.4	313	328	0.00	0.00	M
CM-247	322	0	0	0.645	4880.3	84.4	217	232	0.00	0.00	P
CM-248	111	0	0	0.222	5088.5	225.2	227	267	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9F9W1AA
Detector: ALP171 7
Report Date: 29-Jul-06 05:59 PM
Acquire Date: 29-JUL-2006 09:38:07.99

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	3	+	401	1	+	451	0		501
		2	0		52	0	+	102	0	+	152	0	+	202	3	@	252	0	@	302	0		352	5	+	402	0	+	452	0		502
0		3	0		53	0	+	103	0	+	153	0	+	203	3	@	253	0	@	303	0		353	0	+	403	3	+	453	0		503
0		4	0		54	0	+	104	0		154	0	@	204	4	@	254	1	@	304	0		354	1	+	404	0	+	454	0		504
0		5	0		55	0	+	105	0		155	0	+	205	1	@	255	0	@	305	0		355	0	+	405	0	+	455	0		505
0		6	0		56	0	+	106	0		156	2	+	206	3	@	256	1	@	306	0		356	1		406	0		456	0		506
0		7	0		57	0	+	107	0		157	0	+	207	2	@	257	0	@	307	0		357	0		407	0		457	0		507
0		8	0		58	0	+	108	0		158	0	+	208	4	@	258	0	@	308	0		358	0		408	0		458	0		508
0		9	0		59	0	+	109	0		159	3	+	209	5	@	259	0	@	309	1		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	1	+	211	10	@	261	0	@	311	0		361	0		411	0		461	0		511
0		12	0		62	0	+	112	0		162	0	+	212	5	@	262	0	@	312	0		362	0		412	0		462	0		512
0		13	0		63	0	+	113	0		163	0	+	213	2	@	263	0	-	313	0		363	0		413	0		463			
0		14	0		64	0	+	114	0		164	0	+	214	5	@	264	0	@	314	0		364	0		414	0		464			
0		15	0		65	0	+	115	0		165	1	+	215	0	@	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	1	+	217	0		267	0	-	317	0		367	0		417	0		467			
0		18	0		68	0		118	0		168	6	@	218	0		268	0	-	318	0		368	0		418	0		468			
0		19	0	+	69	0		119	0		169	8	@	219	1		269	0	-	319	0		369	0		419	0		469			
0		20	0	+	70	0		120	0		170	3	@	220	0		270	0	@	320	0		370	0		420	0		470			
0		21	0	+	71	0		121	0		171	6	@	221	0		271	0	@	321	0		371	0		421	0		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	22	@	223	0	+	273	0	@	323	0		373	0		423	0		473			
0		24	0	+	74	0		124	1		174	25	@	224	0	+	274	0	@	324	0		374	0		424	0		474			
0		25	0	+	75	0		125	0		175	30	@	225	0	+	275	0	@	325	0		375	0		425	1		475			
0		26	0	+	76	0		126	1		176	24	@	226	0	+	276	0	@	326	0		376	0		426	0		476			
0		27	0	+	77	0		127	0		177	14	-	227	0	+	277	1	@	327	0		377	0		427	0		477			
0		28	0	+	78	0		128	0		178	21	@	228	0	+	278	0	@	328	0		378	0		428	0		478			
0		29	0	+	79	0		129	0		179	15	@	229	1	+	279	1	+	329	0		379	0	@	429	0		479			
0		30	0	+	80	1		130	0		180	12	@	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	11	@	232	0	@	282	0	@	332	0	+	382	0	@	432	1		482			
0		33	0	+	83	0		133	0		183	7	@	233	0	@	283	0	@	333	0	+	383	0	@	433	2		483			
0		34	0	+	84	0		134	0		184	12	@	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	9	@	236	0	@	286	1	@	336	0	+	386	0	@	436	1		486			
0		37	0		87	0		137	0		187	3	@	237	0	@	287	0	@	337	1	+	387	0	@	437	1		487			
0		38	0		88	0	+	138	0		188	17	@	238	0	-	288	0	@	338	1	+	388	0	@	438	1		488			
0		39	0		89	0	+	139	0	+	189	11	@	239	0	-	289	0	@	339	0	+	389	1	@	439	1		489			
0		40	0		90	0	+	140	0	+	190	10	@	240	0	-	290	0	@	340	1	+	390	0	@	440	0		490			
0		41	0		91	0	+	141	0	+	191	8	@	241	0	-	291	0	@	341	0	+	391	0	@	441	2		491			
0		42	0		92	0	+	142	0	+	192	8	@	242	0	-	292	0	@	342	0	+	392	0	@	442	2		492			
0		43	0		93	0	+	143	0	+	193	8	@	243	0	@	293	0	@	343	0	+	393	0	@	443	2		493			
0		44	0		94	0	+	144	0	+	194	6	@	244	0	@	294	0	@	344	0	+	394	0	@	444	3		494			
0		45	0		95	0	+	145	0	+	195	11	@	245	0	@	295	0	@	345	2	+	395	0		445	2		495			
0		46	0		96	0	+	146	0	+	196	3	@	246	0	@	296	0	@	346	0	+	396	0		446	1		496			
0		47	0		97	0	+	147	0	+	197	9	@	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	12	@	249	0	@	299	0		349	0	+	399	0		449	0		499			
0		50	0		100	0	+	150	0	+	200	5	@	250	0	@	300	1		350	3	+	400	0	+	450	0		500			

VMS Peak Search Report V1.9 Generated 29-JUL-2006 17:59:14

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9F9W1AA_290760938G.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 09:38:07
Sample ID         : H9F9W1AA             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	4855.24	322	0	28.19	224.97	217	15	1.07E-02	5.6	
2	0	5054.61	111	0	39.46	260.38	227	40	3.70E-03	9.5	
3	0	5848.55	12	0	22.55	401.50	398	8	4.00E-04	28.9	
4	0	6135.30	4	0	22.55	452.50	450	6	1.33E-04	50.0	
5	0	6365.45	20	0	22.55	493.44	480	18	6.67E-04	22.4	

VMS Nuclide Identification Report V3.0 Generated 29-JUL-2006 17:59:17

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9F9W1AA_290760938G.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 09:38:07
Sample ID         : H9F9W1AA             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	1.02	0.000E+00	0.000E+00	0.000E+00	0.00	
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
NP-237	2.14E+06Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-242	162.80D	1.15	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	
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]H9F9W1AA_290760938G.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4855.24	217	232	322	221	5.63		
5054.61	227	267	111	301	-18.03	85	-0.19
5848.54	398	406	12	13	-0.29		
6135.30	450	456	4	4	0.00		
6365.45	480	498	20	19	0.22		

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

End of Report

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

Sample Identity: H9F921AA

Detector: ALP171 8
Report Date: 31-Jul-06 06:24 AM
Acquire Date: 29-JUL-2006 09:38:07.99
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	117.6	307	327
TH-229	656	1	1.312	4845.3	353.2	209	269
TH-230	3	1	0.005	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)

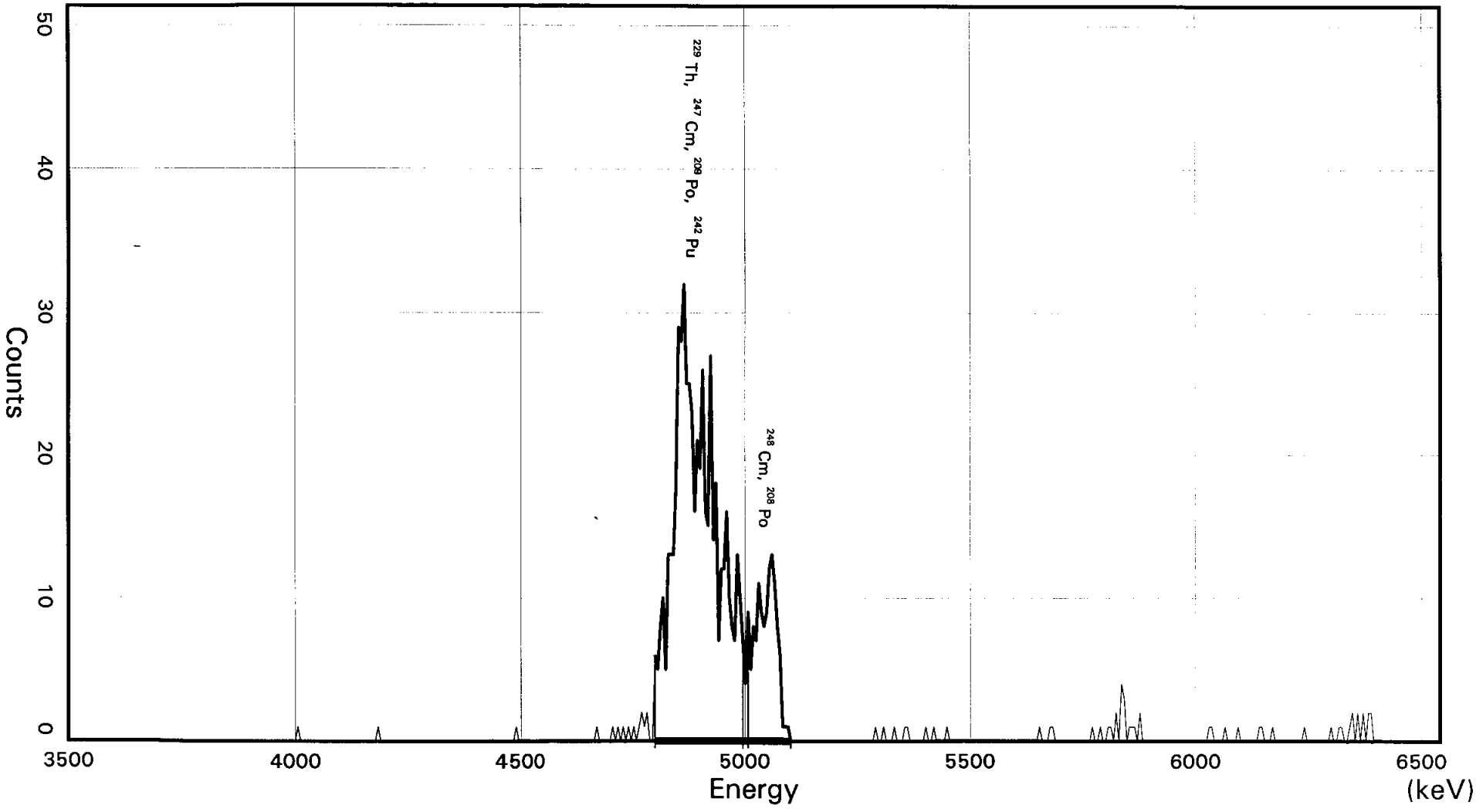
STL Richland WA.

TH BRC

Sample ID: H9F921AA

Detector ID: ALP171 8

Batch ID: 6200122



Acquisition Start: 29-JUL-2006 09:38:07.99

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: H9F921AA

TITLE : TH BRC

DETECTOR : ALP171 8
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9F921AA_290760938H.CN
F;1
ACQUIRE DATE of BACKGROUND: 09-JUL-2006 10:13:03

REPORT DATE : 29-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 29-JUL-2006 09:38:07 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: H9F921AA

Detector: ALP171 8
Report Date: 29-Jul-06 05:59 PM
Acquire Date: 29-JUL-2006 09:38:07.99
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	107	0	0	0.214	5153.6	105.9	249	267	0.00	0.00	P
PO-209	541	1	0	1.082	4921.9	206.0	216	251	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5343.1	205.9	294	329	0.00	0.00	M
AC-227	5	8	5	0.001	6076.7	205.7	419	454	0.00	0.00	S
TH-227	5	8	5	0.001	6076.7	205.7	419	454	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5461.9	205.8	314	349	0.00	0.00	M
TH-229	541	1	0	1.082	4884.0	206.0	216	251	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4726.4	206.1	189	224	0.00	0.00	M I
TH-232	1	3	0	-0.001	4051.7	206.3	75	110	0.00	0.00	S
U-232	-9999	-9999	0	-10.010	5358.8	205.9	297	332	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4813.3	206.1	204	239	0.00	0.00	M I
U-235	1	3	0	-0.001	4436.5	206.2	140	175	0.00	0.00	S
PU-236	9	31	18	-0.013	5806.3	205.7	373	408	0.00	0.00	S
NP-237	-9999	-9999	0	-10.010	4826.7	206.0	206	241	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.010	5537.7	205.8	327	362	0.00	0.00	M
U-238	-9999	-9999	0	-10.010	4236.7	206.2	106	141	0.00	0.00	M
PU-239	-9999	-9999	0	-10.010	5195.3	205.9	269	304	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5524.3	205.8	325	360	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5245.5	205.9	277	312	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6151.4	211.5	431	467	0.00	0.00	M
PU-242	541	1	0	1.082	4939.2	206.0	216	251	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5314.0	205.9	289	324	0.00	0.00	M
CM-244	9	29	18	-0.011	5843.5	205.7	379	414	0.00	0.00	S
CM-246	-9999	-9999	0	-10.010	5425.2	205.9	308	343	0.00	0.00	M
CM-247	541	1	0	1.082	4909.1	206.0	216	251	0.00	0.00	P
CM-248	107	0	0	0.214	5117.3	105.9	249	267	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9F921AA
Detector: ALP171 8
Report Date: 29-Jul 06 05:59 PM
Acquire Date: 29 JUL-2006 09:38:07.99

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	0	@	451	0		501
		2	0		52	0	+	102	0	+	152	1	+	202	5	@	252	1	@	302	0	@	352	0	@	402	0	@	452	0		502
0		3	0		53	0	+	103	0	+	153	0	+	203	8	@	253	0	@	303	0	@	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	11	@	255	0	@	305	0	@	355	0	@	405	0	-	455	0		505
0		6	0		56	0	@	106	0	+	156	1	-	206	9	@	256	1	@	306	0	@	356	0	@	406	0	-	456	0		506
0		7	0		57	0	@	107	0	+	157	0	@	207	8	@	257	0	@	307	0	@	357	0	@	407	0	-	457	0		507
0		8	0		58	0	@	108	0	+	158	1	@	208	9	@	258	0	-	308	0	@	358	0	@	408	0	-	458	0		508
0		9	0		59	0	@	109	0	+	159	0	@	209	12	@	259	0	@	309	0	@	359	0	-	409	0	-	459	0		509
0		10	0		60	0	@	110	0	+	160	1	@	210	13	@	260	1	@	310	0	@	360	0	-	410	0	-	460	0		510
0		11	0		61	1	-	111	0	+	161	2	@	211	11	@	261	1	@	311	1	+	361	0	-	411	1	-	461	0		511
0		12	0		62	0	-	112	0	+	162	1	@	212	8	@	262	0	@	312	0	+	362	0	-	412	0	-	462	0		512
0		13	0		63	0	-	113	1	+	163	2	@	213	6	@	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	0	@	215	1	@	265	0	@	315	1		365	0		415	0	-	465			
0		16	0		66	0	-	116	0	+	166	6	@	216	1	@	266	0	@	316	1		366	0		416	0	-	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	8	@	218	0		268	1	@	318	0		368	0		418	0		468			
0		19	0		69	0	-	119	0	+	169	10	@	219	0	+	269	0	@	319	0		369	0	@	419	0		469			
0		20	0		70	0	-	120	0	+	170	5	@	220	0	+	270	0	@	320	0		370	0	@	420	0		470			
0		21	0		71	0	-	121	0	+	171	13	@	221	0	+	271	1	@	321	0		371	0	@	421	1		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	13	@	223	0	+	273	0	@	323	0	+	373	0	@	423	0		473			
0		24	0		74	0	-	124	0	+	174	18	@	224	0	+	274	0	@	324	0	+	374	0	@	424	1		474			
0		25	0	+	75	0	-	125	0	+	175	29	@	225	0	+	275	0	@	325	0	+	375	1	@	425	1		475			
0		26	0	+	76	0	-	126	0		176	28	@	226	0	+	276	1	@	326	0	+	376	1	@	426	0		476			
0		27	0	+	77	0	-	127	0		177	32	@	227	0	@	277	0	@	327	0	+	377	0	@	427	0		477			
0		28	0	+	78	0	-	128	0		178	25	@	228	0	@	278	0	@	328	0	+	378	0	@	428	1		478			
0		29	0	+	79	0	-	129	0		179	25	@	229	0	@	279	0	@	329	0	@	379	0	@	429	2		479			
0		30	0	+	80	0	-	130	0		180	23	@	230	0	@	280	0	@	330	0	@	380	0	@	430	0		480			
0		31	1	+	81	0	-	131	0		181	16	@	231	0	@	281	0	@	331	1	@	381	1	-	431	2		481			
0		32	0	+	82	0	-	132	0		182	21	@	232	0	@	282	0	@	332	0	@	382	0	@	432	0		482			
0		33	0	+	83	0	-	133	0		183	19	@	233	0	@	283	0	@	333	0	@	383	0	@	433	2		483			
0		34	0	+	84	0	-	134	0		184	26	@	234	0	@	284	0	@	334	1	@	384	0	@	434	0		484			
0		35	0	+	85	0	-	135	0		185	16	@	235	0	@	285	0	@	335	0	@	385	0	@	435	2		485			
0		36	0	+	86	0	-	136	0		186	15	@	236	0	@	286	0	@	336	0	@	386	1	@	436	2		486			
0		37	0	+	87	0	-	137	0		187	27	@	237	0	@	287	0	@	337	1	@	387	0	@	437	0		487			
0		38	0	+	88	0	-	138	0		188	14	@	238	0	@	288	0	@	338	1	@	388	0	@	438	0		488			
0		39	0	+	89	0	-	139	0	+	189	18	@	239	0	-	289	0	@	339	0	@	389	0	@	439	0		489			
0		40	0	+	90	0	@	140	0	+	190	7	@	240	0	@	290	0	@	340	2	@	390	0	@	440	0		490			
0		41	0	+	91	0	@	141	0	+	191	12	@	241	0	@	291	0	@	341	0	@	391	0	@	441	0		491			
0		42	0	+	92	0	+	142	0	+	192	12	@	242	0	@	292	0	@	342	4	@	392	0	@	442	0		492			
0		43	0	+	93	0	+	143	0	+	193	16	@	243	0	@	293	0	@	343	3	@	393	0	@	443	0		493			
0		44	0	+	94	0	+	144	1	+	194	10	@	244	0	@	294	0	@	344	0	@	394	1	@	444	0		494			
0		45	0	+	95	0	+	145	0	+	195	8	@	245	0	@	295	0	@	345	1	@	395	1	@	445	0		495			
0		46	0	+	96	0	+	146	0	+	196	7	@	246	0	@	296	0	@	346	1	@	396	0	@	446	0		496			
0		47	0	+	97	0	+	147	0	+	197	13	@	247	0	@	297	0	@	347	1	@	397	0	@	447	0		497			
0		48	0	+	98	0	+	148	0	+	198	10	@	248	0	@	298	0	@	348	0	@	398	0	@	448	0		498			
0		49	0	+	99	0	+	149	0	+	199	7	-	249	1	@	299	0	@	349	2	@	399	1	@	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 29-JUL-2006 17:59:19

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9F921AA_290760938H.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 09:38:07
Sample ID         : H9F921AA             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	4883.98	541	0	94.38	230.13	216	35	1.81E-02	4.3	
2	0	5044.41	107	0	64.89	257.39	249	18	3.57E-03	9.7	

VMS Nuclide Identification Report V3.0 Generated 29-JUL-2006 17:59:22

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9F921AA_290760938H.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 09:38:07
Sample ID         : H9F921AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP171 1             Detector geometry:
Elapsed live time: 0 08:19:28.00         Elapsed real time: 0 08:19:28.00   0.0%
Energy tolerance :    80.00 keV          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    70.00
```

Summary of Nuclide Activity

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

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-208	2.90Y	1.02	0.000E+00	0.000E+00	0.000E+00	0.00	
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			

Nuclide Type : AP

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

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

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

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

Configuration: $DISK1:[ALP171.SAMPLE]H9F921AA_290760938H.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4883.97	216	251	541	540	0.04		
5044.41	249	267	107	130	-2.22	20	-0.08

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

End of Report

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

Sample Identity: H9F951AA

Detector: ALP114 1
Report Date: 31-Jul-06 06:25 AM
Acquire Date: 29-JUL-2006 09:39:15.21
Tracer Nuclide: TH-229
Sample Live Time: 500 minutes
Bkgrnd Live Time: 1000 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	0	0	0.000	5423.2	151.1	312	332
TH-229	527	0	1.054	4845.3	303.6	226	266
TH-230	28	0	0.056	4687.7	98.8	215	228
TH-232	1	1	0.001	4013.0	152.9	126	146

End of Alpha Region Report
(Produced by ANAL Report)

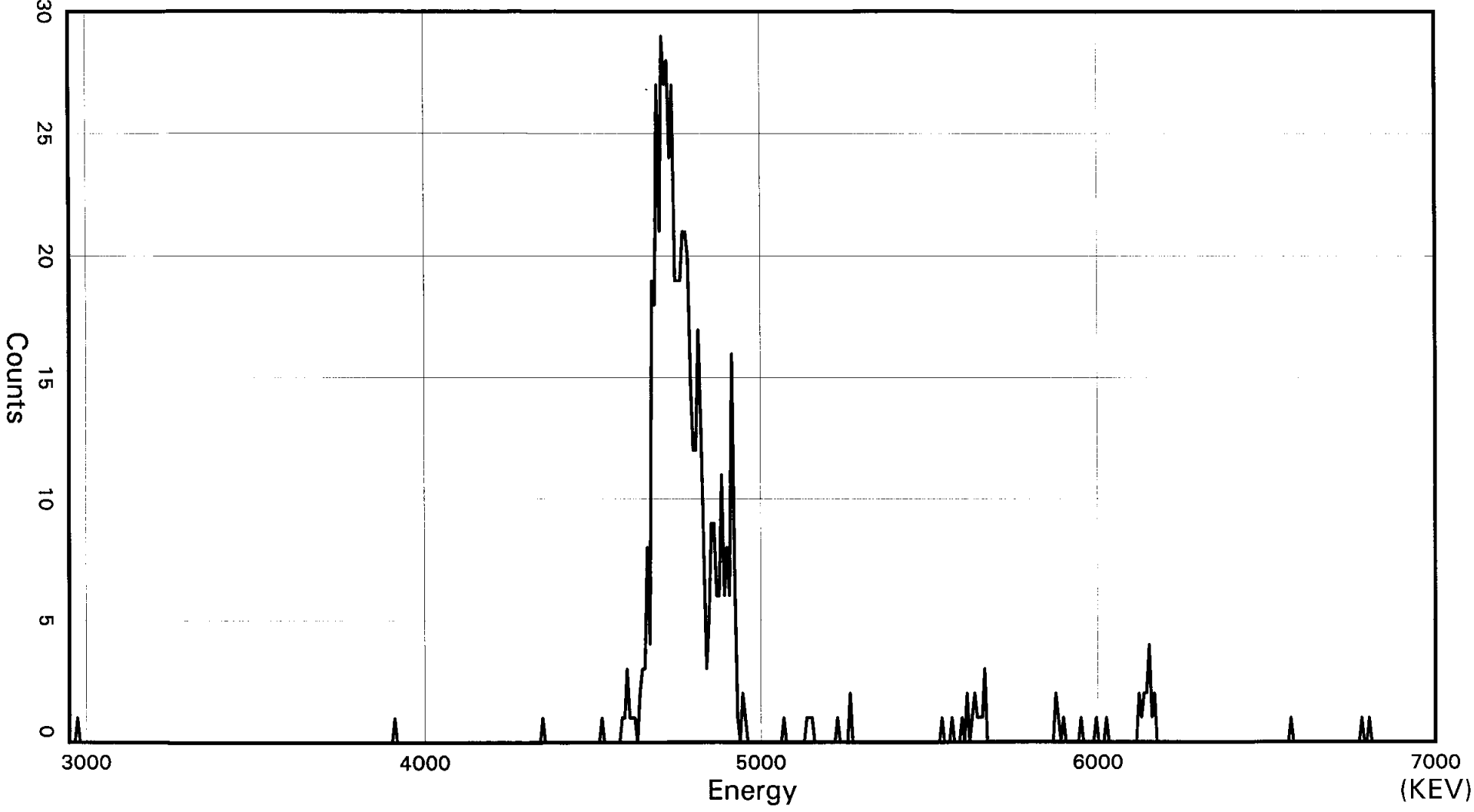
STL Richland WA.

TH BRC

Sample ID: H9F951AA

Detector ID: ALP114 1

Batch ID: 6200122



Acquisition Start: 29-JUL-2006 09:39:15.21

Preset Live Time: 0 08:20:00.00

Elapsed Live Time: 0 08:20:01.00

Energy Coefficients:

Offset: 2.92767E+03

Slope: 7.71015E+00

Quadrature: -2.44061E-04

SAMPLE IDENTIITY: H9F951AA

TITLE : TH BRC

DETECTOR : ALP114 1
CONFIGURATION NAME : RDND06$DKA100:[ALP114.SAMPLE]H9F951AA_290760
939.CNF;1
ACQUIRE DATE of BACKGROUND: 21-JUL-2006 09:20:15

REPORT DATE : 29-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 29-JUL-2006 09:39:15 CALIB DATE : 22-JUN-2006 09:29:59

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

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

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

Sample Identity: H9F951AA
Detector: ALP114 1
Report Date: 29-Jul-06 05:59 PM
Acquire Date: 29-JUL-2006 09:39:15.21

Flags Key

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

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

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

VMS Peak Search Report V1.9 Generated 29-JUL-2006 17:59:19

```
Configuration     : RDND06$DKA100:[ALP114.SAMPLE]H9F951AA_290760939.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 09:39:15
Sample ID         : H9F951AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP114               Detector geometry:
Elapsed live time: 0 08:20:01.00         Elapsed real time: 0 08:20:01.00   0.0%
Start energy      :  2950.80 KEV         End energy       :  6811.29 KEV
Sensitivity       :     6.00             Sum Sensitivity  :     0.10
No peaks were found
```

VMS Nuclide Identification Report V3.1 Generated 29-JUL-2006 17:59:20

```
Configuration     : RDND06$DKA100:[ALP114.SAMPLE]H9F951AA_290760939.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : TH BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 09:39:15
Sample ID         : H9F951AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP114               Detector geometry:
Elapsed live time: 0 08:20:01.00         Elapsed real time: 0 08:20:01.00   0.0%
Energy tolerance :    80.00 KEV          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :     0.00
```

Summary of Nuclide Activity

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

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

```
  Error Report  (Date: 29-Jul-06  05:59 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
```

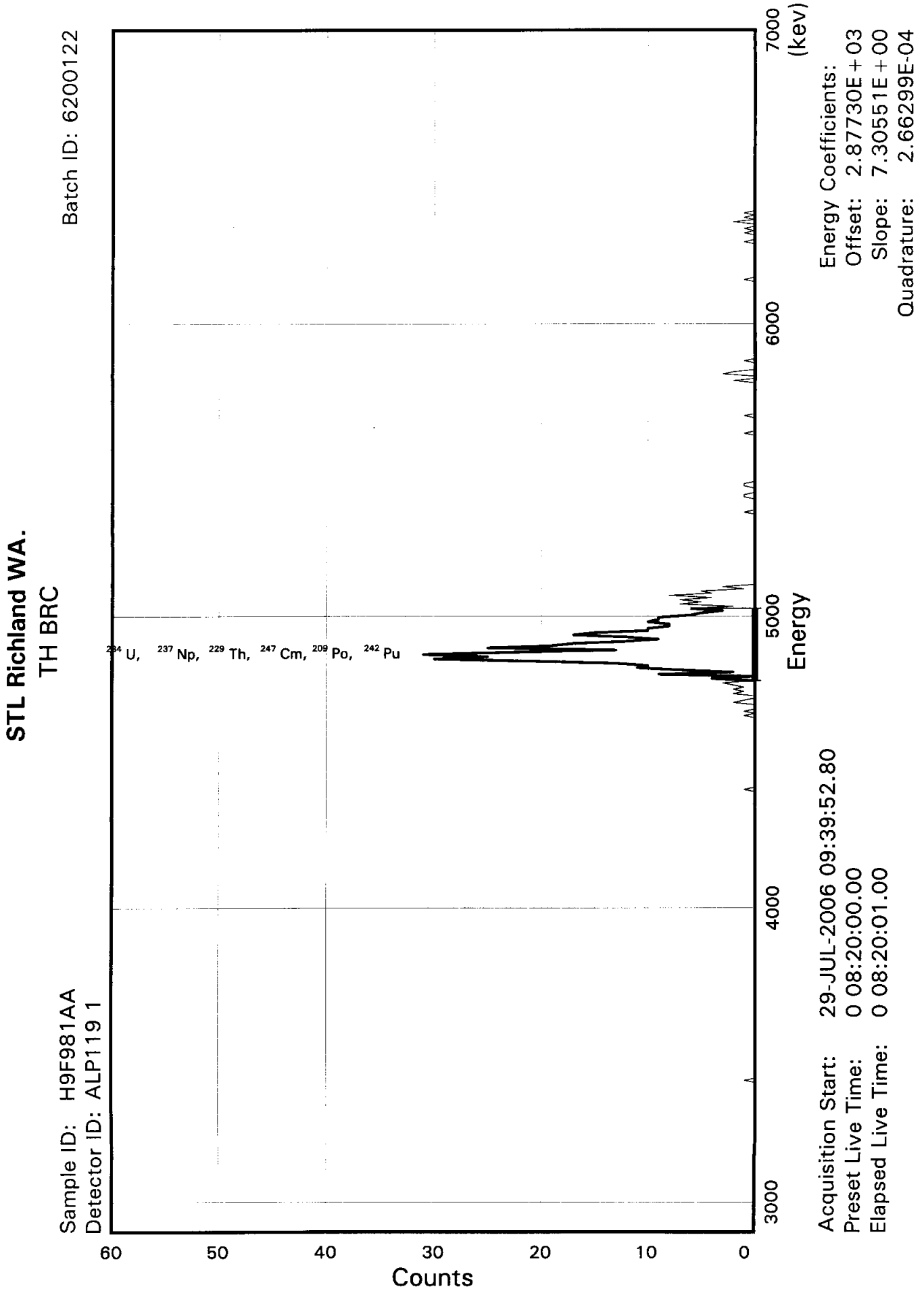
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H9F981AA

Detector: ALP119 1
Report Date: 31-Jul-06 06:25 AM
Acquire Date: 29-JUL-2006 09:39:52.80
Tracer Nuclide: TH-229
Sample Live Time: 500 minutes
Bkgrnd Live Time: 1000 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	5	2	0.008	5423.2	149.7	329	349
TH-229	466	2	0.930	4845.3	380.1	252	303
TH-230	5	1	0.009	4687.7	148.7	231	251
TH-232	0	1	-0.001	4013.0	147.7	140	160

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6200122
Sample ID: H9F981AA
Detector ID: ALP119 1
234 U, 237 Np, 229 Th, 247 Cm, 209 Po, 242 Pu
Counts
60
50
40
30
20
10
0
3000
4000
5000
6000
7000
(kev)
Energy
Acquisition Start: 29-JUL-2006 09:39:52.80
Preset Live Time: 0 08:20:00.00
Elapsed Live Time: 0 08:20:01.00
Energy Coefficients:
Offset: 2.87730E+03
Slope: 7.30551E+00
Quadrature: 2.66299E-04

SAMPLE IDENTIITY: H9F981AA

TITLE : TH BRC

DETECTOR : ALP119 1
CONFIGURATION NAME : RDND06$DKA100:[ALP119.SAMPLE]H9F981AA_290760
939.CNF;1
ACQUIRE DATE of BACKGROUND: 21-JUL-2006 09:20:24

REPORT DATE : 29-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 29-JUL-2006 09:39:52 CALIB DATE : 21-JUL-2006 01:15:00

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

OFFSET : 2877.30 keV CONSTANT FWHM : 9.33333 Channels
SLOPE : 7.30551 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 2.662990E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H9F981AA

Detector: ALP119 1
Report Date: 29-Jul-06 05:59 PM
Acquire Date: 29-JUL-2006 09:39:52.80
Tracer Nuclide: TH-229
High Counts Limit: 36
Sample Live Time: 500 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

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

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
PO-208	-9999	-9999	0	-10.001	5143.7	246.5	294	327	0.00	0.00	M
PO-209	410	0	0	0.820	4912.0	245.9	258	291	0.00	0.00	P
PO-210	-9999	-9999	0	-10.001	5333.2	239.5	320	352	0.00	0.00	M
AC-227	-9999	-9999	0	-10.001	6066.8	248.7	417	450	0.00	0.00	M
TH-227	-9999	-9999	0	-10.001	6066.8	248.7	417	450	0.00	0.00	M
TH-228	-9999	-9999	0	-10.001	5452.0	247.3	335	368	0.00	0.00	M
TH-229	410	0	0	0.820	4874.1	245.9	258	291	0.00	0.00	P
TH-230	-9999	-9999	0	-10.001	4716.5	245.5	237	270	0.00	0.00	I
TH-232	0	0	0	0.000	4041.8	243.9	146	179	0.00	0.00	S
U-232	-9999	-9999	0	-10.001	5349.0	247.0	322	355	0.00	0.00	M
U-234	410	0	0	0.820	4803.4	245.9	258	291	0.00	0.00	P
U-235	1	1	0	0.001	4426.6	244.9	198	231	0.00	0.00	S
PU-236	4	16	8	-0.008	5796.5	248.1	381	414	0.00	0.00	S
NP-237	410	0	0	0.820	4816.8	245.9	258	291	0.00	0.00	P
PU-238	-9999	-9999	0	-10.001	5527.9	239.9	346	378	0.00	0.00	M
U-238	-9999	-9999	0	-10.001	4226.8	244.4	171	204	0.00	0.00	M
PU-239	-9999	-9999	0	-10.001	5185.4	246.6	300	333	0.00	0.00	M
AM-241	-9999	-9999	0	-10.001	5514.4	247.4	344	377	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.001	5235.6	246.8	306	339	0.00	0.00	M
CM-242	-9999	-9999	0	-10.001	6141.5	248.9	427	460	0.00	0.00	M
PU-242	410	0	0	0.820	4929.3	245.9	258	291	0.00	0.00	P
AM-243	-9999	-9999	0	-10.001	5304.1	246.9	316	349	0.00	0.00	M
CM-244	-9999	-9999	0	-10.001	5833.6	248.2	386	419	0.00	0.00	M
CM-246	-9999	-9999	0	-10.001	5415.3	239.7	331	363	0.00	0.00	M
CM-247	410	0	0	0.820	4899.2	245.9	258	291	0.00	0.00	P
CM-248	-9999	-9999	0	-10.001	5107.4	246.5	289	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: H9F981AA
Detector: ALP119 1
Report Date: 29-Jul-06 06:00 PM
Acquire Date: 29-JUL-2006 09:39:52.80

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

```
Configuration     : RDND06$DKA100:[ALP119.SAMPLE]H9F981AA_290760939.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 09:39:52
Sample ID         : H9F981AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP119               Detector geometry:
Elapsed live time: 0 08:20:01.00         Elapsed real time: 0 08:20:01.00   0.0%
Start energy      :  2899.22 kev         End energy       :  6687.53 kev
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4874.13	410	0	80.36	270.66	258	33	1.37E-02	4.9	

VMS Nuclide Identification Report V3.1 Generated 29-JUL-2006 17:59:59

```
Configuration     : RDND06$DKA100:[ALP119.SAMPLE]H9F981AA_290760939.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : TH BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 09:39:52
Sample ID         : H9F981AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP119               Detector geometry:
Elapsed live time: 0 08:20:01.00         Elapsed real time: 0 08:20:01.00   0.0%
Energy tolerance :   100.00 kev          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :     0.00
```

Summary of Nuclide Activity

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

Nuclide Type : NP

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

Nuclide Type : AP

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

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

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

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

Configuration: RDND06$DKA100:[ALP119.SAMPLE]H9F981AA_290760939.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4874.12	258	291	410	409	0.05		

End of Report

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

Sample Identity: H9GAA1AA

Detector: ALP120 1
Report Date: 31-Jul-06 06:25 AM
Acquire Date: 29-JUL-2006 09:40:21.76
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	2	4	0.000	5423.2	147.9	331	351
TH-229	423	1	0.845	4845.3	325.1	260	304
TH-230	3	0	0.006	4687.7	147.7	232	252
TH-232	0	0	0.000	4013.0	147.5	140	160

End of Alpha Region Report
(Produced by ANAL Report)

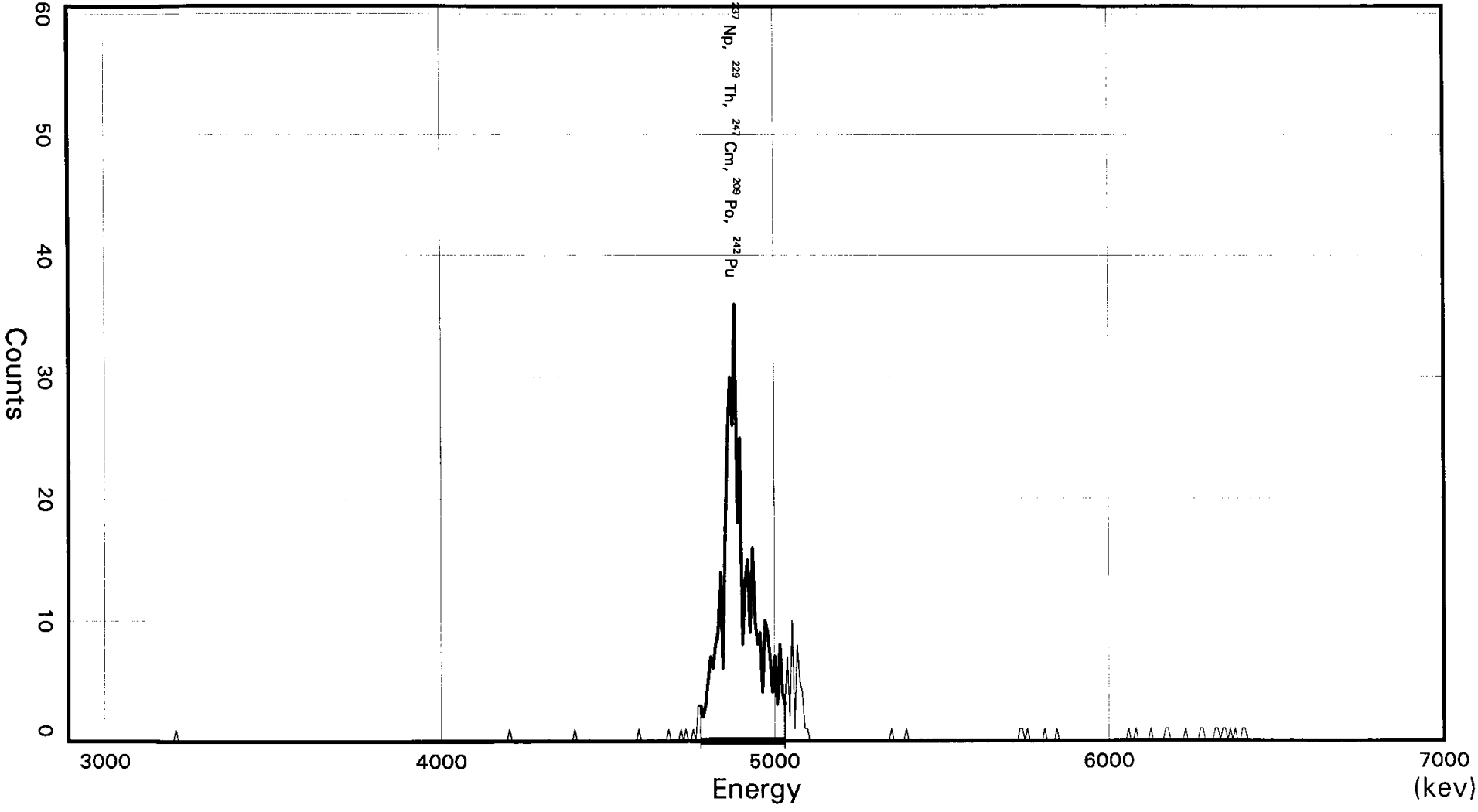
STL Richland WA.

TH BRC

Sample ID: H9GAA1AA

Detector ID: ALP120 1

Batch ID: 6200122



Acquisition Start: 29-JUL-2006 09:40:21.76

Preset Live Time: 0 08:20:00.00

Elapsed Live Time: 0 08:20:05.00

Energy Coefficients:

Offset: 2.87004E+03

Slope: 7.35695E+00

Quadrature: 5.42554E-05

SAMPLE IDENTIITY: H9GAA1AA

TITLE : TH BRC

DETECTOR : ALP120 1
CONFIGURATION NAME : RDND06$DKA100:[ALP120.SAMPLE]H9GAA1AA_290760
940.CNF;1
ACQUIRE DATE of BACKGROUND: 23-JUL-2006 06:44:58

REPORT DATE : 29-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 29-JUL-2006 09:40:21 CALIB DATE : 22-JUL-2006 23:05:18

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

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: H9GAA1AA

Detector: ALP120 1
Report Date: 29-Jul-06 06:00 PM
Acquire Date: 29-JUL-2006 09:40:21.76
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	-9.997	5145.3	251.3	295	329	0.00	0.00	M
PO-209	391	0	0	0.782	4913.6	251.2	259	293	0.00	0.00	P
PO-210	-9999	-9999	0	-9.997	5334.8	251.4	321	355	0.00	0.00	M
AC-227	-9999	-9999	0	-9.997	6068.4	251.7	420	454	0.00	0.00	M
TH-227	-9999	-9999	0	-9.997	6068.4	251.7	420	454	0.00	0.00	M
TH-228	-9999	-9999	0	-9.997	5453.6	251.4	337	371	0.00	0.00	M
TH-229	391	0	0	0.782	4875.7	251.2	259	293	0.00	0.00	P
TH-230	-9999	-9999	0	-9.997	4718.1	251.1	238	272	0.00	0.00	S I
TH-232	0	0	0	0.000	4043.4	250.7	146	180	0.00	0.00	S
U-232	-9999	-9999	0	-9.997	5350.6	251.4	323	357	0.00	0.00	M
U-234	-9999	-9999	0	-9.997	4805.0	251.1	249	283	0.00	0.00	S I
U-235	1	0	0	0.002	4428.2	250.9	198	232	0.00	0.00	S
PU-236	3	18	4	-0.011	5798.1	251.6	384	418	0.00	0.00	S
NP-237	391	0	0	0.782	4818.4	251.2	259	293	0.00	0.00	P
PU-238	-9999	-9999	0	-9.997	5529.4	251.5	347	381	0.00	0.00	M
U-238	-9999	-9999	0	-9.997	4228.4	250.8	171	205	0.00	0.00	M
PU-239	-9999	-9999	0	-9.997	5187.0	251.3	301	335	0.00	0.00	M
AM-241	-9999	-9999	0	-9.997	5516.0	251.5	346	380	0.00	0.00	M
AM-242M	-9999	-9999	0	-9.997	5237.2	251.3	308	342	0.00	0.00	M
CM-242	-9999	-9999	0	-9.997	6143.1	251.8	430	464	0.00	0.00	M
PU-242	391	0	0	0.782	4930.9	251.2	259	293	0.00	0.00	P
AM-243	-9999	-9999	0	-9.997	5305.7	251.4	317	351	0.00	0.00	M
CM-244	-9999	-9999	0	-9.997	5835.2	251.6	389	423	0.00	0.00	M
CM-246	-9999	-9999	0	-9.997	5416.9	251.4	332	366	0.00	0.00	M
CM-247	391	0	0	0.782	4900.8	251.2	259	293	0.00	0.00	P
CM-248	-9999	-9999	0	-9.997	5109.0	251.3	291	325	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: H9GAA1AA
Detector: ALP120 1
Report Date: 29-Jul-06 06:00 PM
Acquire Date: 29-JUL-2006 09:40:21.76

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

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

VMS Peak Search Report V1.9 Generated 29-JUL-2006 18:00:29

```
Configuration     : RDND06$DKA100:[ALP120.SAMPLE]H9GAA1AA_290760940.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 09:40:21
Sample ID         : H9GAA1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP120               Detector geometry:
Elapsed live time: 0 08:20:05.00         Elapsed real time: 0 08:20:05.00   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	4875.71	391	0	51.50	272.08	259	34	1.30E-02	5.1	

VMS Nuclide Identification Report V3.1 Generated 29-JUL-2006 18:00:30

```
Configuration     : RDND06$DKA100:[ALP120.SAMPLE]H9GAA1AA_290760940.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : TH BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 29-JUL-2006 09:40:21
Sample ID         : H9GAA1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP120               Detector geometry:
Elapsed live time: 0 08:20:05.00         Elapsed real time: 0 08:20:05.00   0.0%
Energy tolerance :   100.00 kev          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :     0.00
```

Summary of Nuclide Activity

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

Nuclide Type : NP

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

Nuclide Type : AP

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

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

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

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

Configuration: RDND06$DKA100:[ALP120.SAMPLE]H9GAA1AA_290760940.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4875.71	259	293	391	387	0.20		

End of Report

SEVERN TRENT **STL**

STL RICHLAND

THORIUM ISOTOPIC COUNTING REQUEST

1756
7/30/06

C.R. Technician: RS
Date Counted: 7/30/06
C.R. Analyst: CS
Date Analyzed: 7/31/06

Counting Time: 500 Minutes
Sample
Background: See Alpha Analysis Report
6/27/06 TH BRC

SOP's
Operating: RICHRD008
Review: RICHRD0016
Q200122

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)		
H9GACIAA		10		0	See Alpha Analysis Report for ROI Information			171	
H9GAEIAA		10		0	See Alpha Analysis Report for ROI Information			172	
H9GAGIAA		10		0	See Alpha Analysis Report for ROI Information			173	
H9GAJIAA		10		0	See Alpha Analysis Report for ROI Information			174	
H9GAKIAA		10		0	See Alpha Analysis Report for ROI Information			175	
H9GALIAA		10		0	See Alpha Analysis Report for ROI Information			176	
H9GAMIAA		10		0	See Alpha Analysis Report for ROI Information			177	
H9GANIAA		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: S

Date: 7/31/06

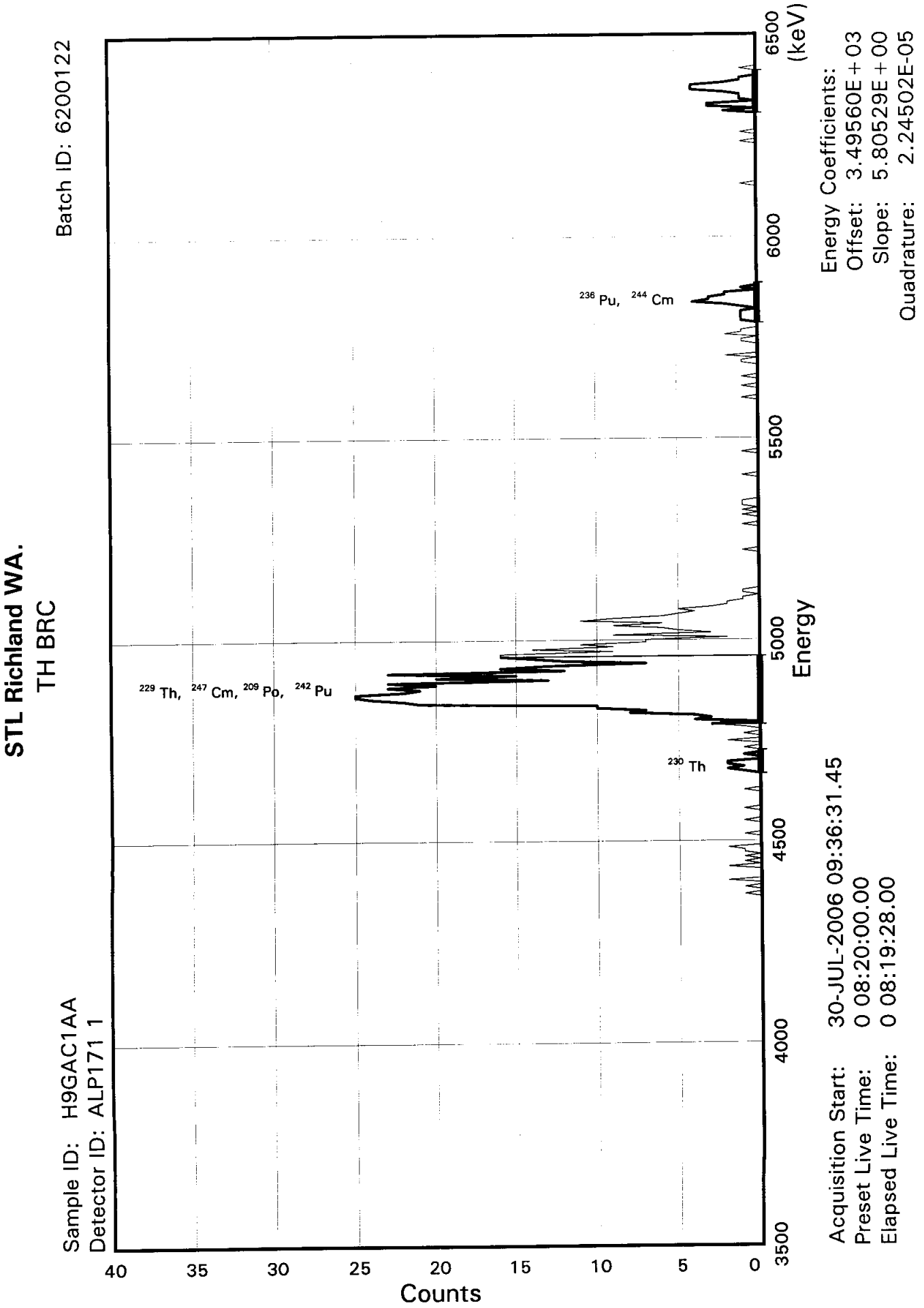
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H9GAC1AA

Detector: ALP171 1
Report Date: 31-Jul-06 06:09 AM
Acquire Date: 30-JUL-2006 09:36:31.45
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	6	0.000	5423.2	116.4	317	337
TH-229	601	3	1.200	4845.3	354.8	221	282
TH-230	10	1	0.019	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: 6200122
Sample ID: H9GAC1AA
Detector ID: ALP171 1
229 Th, 247 Cm, 209 Po, 242 Pu
230 Th
236 Pu, 244 Cm
Counts
40
35
30
25
20
15
10
5
0
Energy
3500
4000
4500
5000
5500
6000
6500
(keV)
Acquisition Start: 30-JUL-2006 09:36:31.45
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: H9GAC1AA

TITLE : TH BRC

DETECTOR : ALP171 1
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9GAC1AA_300760936A.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 30-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 09:36:31 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: H9GAC1AA

Detector: ALP171 1
Report Date: 30-Jul-06 05:57 PM
Acquire Date: 30-JUL-2006 09:36:31.45
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	5151.7	168.7	269	298	0.00	0.00	M
PO-209	419	3	0	0.836	4920.0	168.7	223	252	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5341.1	168.8	302	331	0.00	0.00	M
AC-227	1	7	1	-0.006	6074.8	168.9	428	457	0.00	0.00	S
TH-227	1	7	1	-0.006	6074.8	168.9	428	457	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5460.0	168.8	322	351	0.00	0.00	M
TH-229	419	3	0	0.836	4882.1	168.7	223	252	0.00	0.00	P
TH-230	9	0	0	0.018	4724.5	58.1	202	212	0.00	0.00	P
TH-232	0	2	0	-0.002	4049.8	168.5	80	109	0.00	0.00	
U-232	-9999	-9999	0	-10.010	5356.9	168.8	305	334	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4811.4	168.6	211	240	0.00	0.00	S I
U-235	12	1	0	0.023	4434.6	168.6	146	175	0.00	0.00	
PU-236	22	65	0	-0.021	5804.4	99.0	394	411	0.00	0.00	P
NP-237	-9999	-9999	0	-10.010	4824.8	168.6	213	242	0.00	0.00	S I
PU-238	-9999	-9999	0	-10.010	5535.8	168.8	335	364	0.00	0.00	M
U-238	0	0	0	0.000	4234.8	168.5	112	141	0.00	0.00	
PU-239	-9999	-9999	0	-10.010	5193.3	168.7	277	306	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5522.4	168.8	333	362	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5243.6	168.7	285	314	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6149.5	168.9	441	470	0.00	0.00	M
PU-242	419	3	0	0.836	4937.3	168.7	223	252	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5312.1	168.8	297	326	0.00	0.00	M
CM-244	22	65	0	-0.021	5841.6	99.0	394	411	0.00	0.00	P
CM-246	-9999	-9999	0	-10.010	5423.3	168.8	316	345	0.00	0.00	M
CM-247	419	3	0	0.836	4907.2	168.7	223	252	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5115.4	168.7	263	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: H9GAC1AA
Detector: ALP171 1
Report Date: 30-Jul-06 05:57 PM
Acquire Date: 30-JUL-2006 09:36:31.45

Flags Key

Intersect Region: @
Non-Intersect Region: +,

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

VMS Peak Search Report V1.9 Generated 30-JUL-2006 17:57:04

Configuration : $DISK1:[ALP171.SAMPLE]H9GAC1AA_300760936A.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 09:36:31
Sample ID : H9GAC1AA 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	4685.66	9	0	23.22	204.83	202	10	3.00E-04	33.3	
2	0	4882.05	419	0	98.69	238.61	223	29	1.40E-02	4.9	
3	0	5844.60	22	0	29.03	404.00	394	17	7.34E-04	21.3	
4	0	6368.89	30	0	29.03	494.00	483	18	1.00E-03	18.3	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 17:57:08

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GAC1AA_300760936A.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 09:36:31
Sample ID         : H9GAC1AA             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	
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	1.02	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]H9GAC1AA_300760936A.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4685.65	202	212	9	9	0.00		
4882.05	223	252	419	436	-0.83		
5844.59	394	411	22	23	-0.21		
6368.88	483	501	30	29	0.18		

End of Report

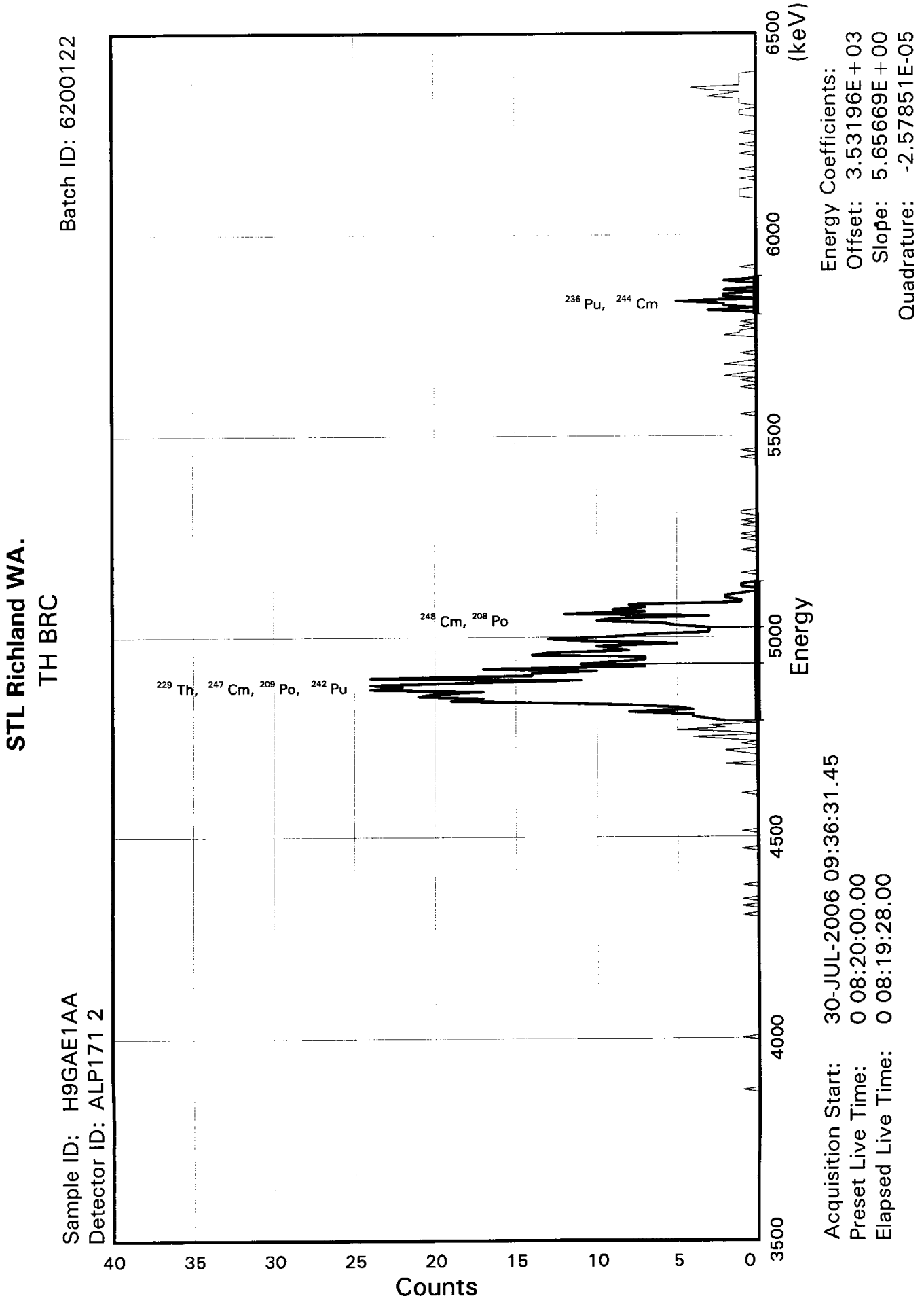
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H9GAE1AA

Detector: ALP171 2
Report Date: 31-Jul-06 06:11 AM
Acquire Date: 30-JUL-2006 09:36:31.45
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	6	-0.004	5423.2	112.8	320	340
TH-229	567	7	1.128	4845.3	395.1	217	287
TH-230	6	1	0.011	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
Batch ID: 6200122
Sample ID: H9GAE1AA
Detector ID: ALP171 2
229 Th, 247 Cm, 209 Po, 242 Pu
248 Cm, 208 Po
236 Pu, 244 Cm
Counts
40
35
30
25
20
15
10
5
0
Energy
3500
4000
4500
5000
5500
6000
6500
(keV)
Acquisition Start: 30-JUL-2006 09:36:31.45
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: H9GAE1AA

TITLE : TH BRC

DETECTOR : ALP171 2
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9GAE1AA_300760936B.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 30-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 09:36:31 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: H9GAE1AA

Detector: ALP171 2
Report Date: 30-Jul-06 05:57 PM
Acquire Date: 30-JUL-2006 09:36:31.45
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	104	4	0	0.204	5145.7	203.1	248	284	0.00	0.00	P
PO-209	448	5	0	0.892	4914.0	231.4	223	264	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5335.2	231.2	304	345	0.00	0.00	M
AC-227	4	3	7	0.004	6068.8	236.6	434	476	0.00	0.00	S
TH-227	4	3	7	0.004	6068.8	236.6	434	476	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5454.0	231.2	325	366	0.00	0.00	M
TH-229	448	5	0	0.892	4876.1	231.4	223	264	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4718.5	231.5	195	236	0.00	0.00	M I
TH-232	1	0	0	0.002	4043.8	231.7	76	117	0.00	0.00	S
U-232	-9999	-9999	0	-10.010	5351.0	231.2	307	348	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4805.4	231.4	210	251	0.00	0.00	M I
U-235	4	1	1	0.006	4428.6	231.6	144	185	0.00	0.00	S
PU-236	19	48	0	-0.010	5798.5	95.8	402	419	0.00	0.00	P
NP-237	-9999	-9999	0	-10.010	4818.8	231.4	213	254	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.010	5529.9	231.2	339	380	0.00	0.00	M
U-238	-9999	-9999	0	-10.010	4228.8	231.7	108	149	0.00	0.00	M
PU-239	-9999	-9999	0	-10.010	5187.4	231.3	278	319	0.00	0.00	M I
AM-241	-9999	-9999	0	-10.010	5516.4	236.8	336	378	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5237.6	231.3	287	328	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6143.5	230.9	448	489	0.00	0.00	M
PU-242	448	5	0	0.892	4931.3	231.4	223	264	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5306.1	231.2	299	340	0.00	0.00	M
CM-244	19	48	0	-0.010	5835.6	95.8	402	419	0.00	0.00	P
CM-246	-9999	-9999	0	-10.010	5417.3	231.2	319	360	0.00	0.00	M
CM-247	448	5	0	0.892	4901.2	231.4	223	264	0.00	0.00	P
CM-248	104	4	0	0.204	5109.4	203.1	248	284	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GAE1AA
Detector: ALP171 2
Report Date: 30-Jul-06 05:57 PM
Acquire Date: 30-JUL-2006 09:36:31.45

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

VMS Peak Search Report V1.9 Generated 30-JUL-2006 17:57:13

Configuration : $DISK1:[ALP171.SAMPLE]H9GAE1AA_300760936B.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 09:36:31
Sample ID : H9GAE1AA Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP171 1 Detector geometry:
Elapsed live time: 0 08:19:28.00 Elapsed real time: 0 08:19:28.00 0.0%
Start energy : 3548.93 keV End energy : 6421.43 keV
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4876.12	448	0	84.85	237.88	223	41	1.49E-02	4.7	
2	0	5041.45	104	0	62.22	267.18	248	36	3.47E-03	9.8	
3	0	5829.56	19	0	45.25	406.93	402	17	6.34E-04	22.9	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 17:57:16

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GAE1AA_300760936B.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 09:36:31
Sample ID         : H9GAE1AA             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-208	2.90Y	1.02	0.000E+00	0.000E+00	0.000E+00	0.00	
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-236	2.86Y	1.02	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	
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]H9GAE1AA_300760936B.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4876.12	223	264	448	471	-1.09		
5041.45	248	284	104	226	-11.96	141	-0.17
5829.56	402	419	19	20	-0.23		

End of Report

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

Sample Identity: H9GAG1AA

Detector: ALP171 3
Report Date: 31-Jul-06 06:11 AM
Acquire Date: 30-JUL-2006 09:36:31.45
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	457	2	0.913	4845.3	316.2	216	269
TH-230	9	0	0.018	4687.7	119.4	185	205
TH-232	0	0	0.000	4013.0	119.5	72	92

End of Alpha Region Report
(Produced by ANAL Report)

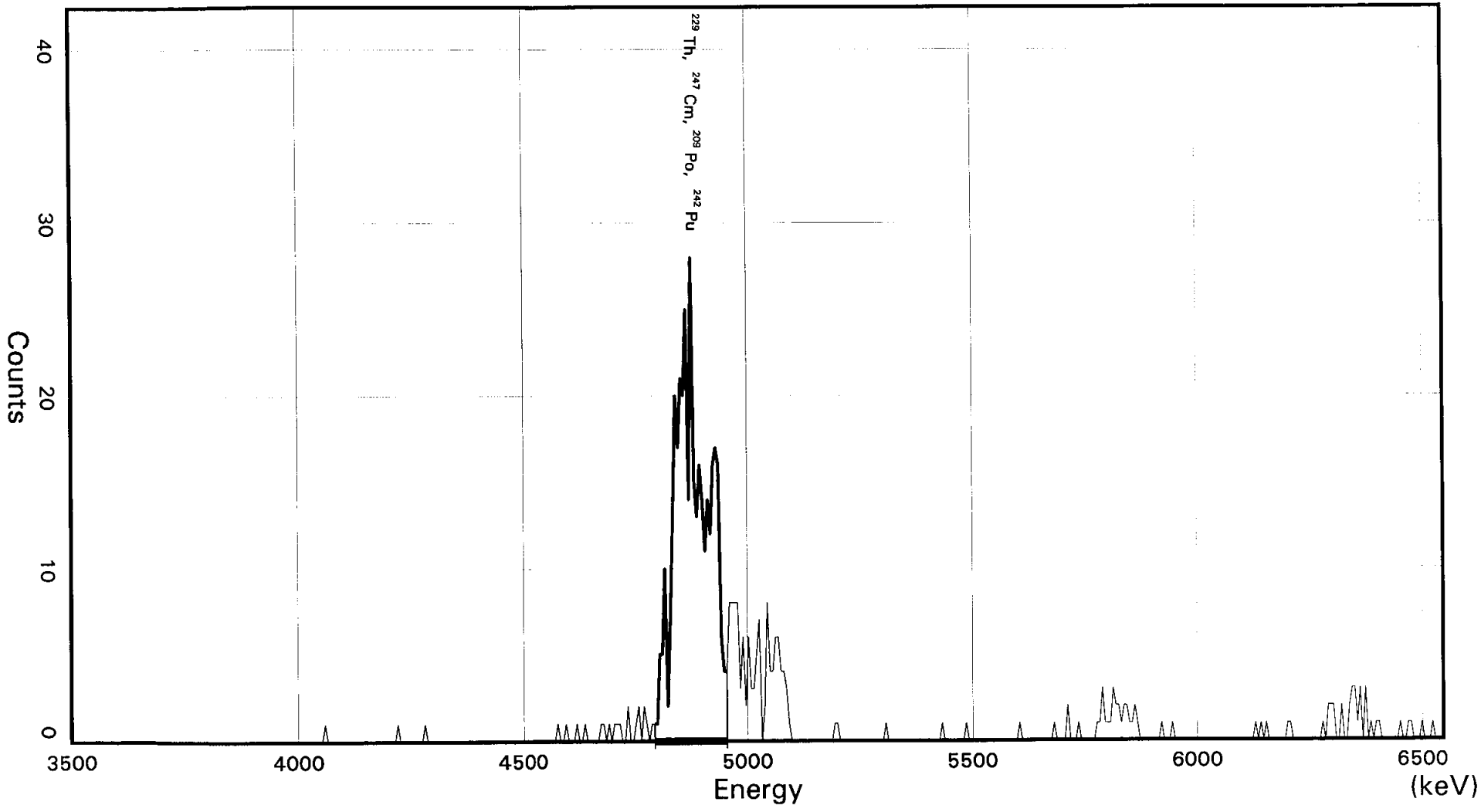
STL Richland WA.

TH BRC

Sample ID: H9GAG1AA

Detector ID: ALP171 3

Batch ID: 6200122



Acquisition Start: 30-JUL-2006 09:36:31.45

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: H9GAG1AA

TITLE : TH BRC

DETECTOR : ALP171 3
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9GAG1AA_300760936C.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 30-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 09:36:31 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: H9GAG1AA

Detector: ALP171 3
Report Date: 30-Jul-06 05:57 PM
Acquire Date: 30-JUL-2006 09:36:31.45
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	5152.6	161.1	263	290	0.00	0.00	M
PO-209	349	1	0	0.698	4920.9	161.1	218	245	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5342.1	161.0	295	322	0.00	0.00	M
AC-227	1	3	2	-0.001	6075.7	160.8	418	445	0.00	0.00	S
TH-227	1	3	2	-0.001	6075.7	160.8	418	445	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5460.9	161.0	315	342	0.00	0.00	M
TH-229	349	1	0	0.698	4883.0	161.1	218	245	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4725.4	161.2	192	219	0.00	0.00	M I
TH-232	1	1	0	0.001	4050.7	161.3	79	106	0.00	0.00	
U-232	-9999	-9999	0	-10.010	5357.9	161.0	298	325	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4812.3	161.1	206	233	0.00	0.00	M I
U-235	0	1	0	-0.001	4435.5	161.2	143	170	0.00	0.00	
PU-236	14	33	25	-0.006	5805.4	160.9	373	400	0.00	0.00	S
NP-237	-9999	-9999	0	-10.010	4825.7	161.1	208	235	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.010	5536.7	161.0	328	355	0.00	0.00	M
U-238	2	1	0	0.003	4235.7	161.3	110	137	0.00	0.00	
PU-239	-9999	-9999	0	-10.010	5194.3	161.0	270	297	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5523.3	161.0	325	352	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5244.5	161.0	279	306	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6150.4	160.8	431	458	0.00	0.00	M
PU-242	349	1	0	0.698	4938.2	161.1	218	245	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5313.0	161.0	290	317	0.00	0.00	M
CM-244	13	29	25	-0.004	5842.5	160.9	379	406	0.00	0.00	S
CM-246	-9999	-9999	0	-10.010	5424.2	161.0	309	336	0.00	0.00	M
CM-247	349	1	0	0.698	4908.1	161.1	218	245	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5116.3	161.1	257	284	0.00	0.00	M

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GAG1AA
Detector: ALP171 3
Report Date: 30-Jul-06 05:57 PM
Acquire Date: 30-JUL-2006 09:36:31.45

Flags Key

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

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

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		451	0		501						
		452	0		502						
		453	0		503						
		454	1		504						
		455	0		505						
		456	0		506						
		457	0		507						
		458	1		508						
		459	0		509						
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VMS Peak Search Report V1.9 Generated 30-JUL-2006 17:57:19

Configuration	: $DISK1:[ALP171.SAMPLE]H9GAG1AA_300760936C.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: TH BRC		
Sample date	: 27-JUN-2006 12:00:00	Acquisition date	: 30-JUL-2006 09:36:31
Sample ID	: H9GAG1AA	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	4883.02	349	0107.64		232.97	218	27	1.16E-02	5.4	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 17:57:21

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GAG1AA_300760936C.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 09:36:31
Sample ID         : H9GAG1AA             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]H9GAG1AA_300760936C.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4883.01	218	245	349	347	0.11		

End of Report

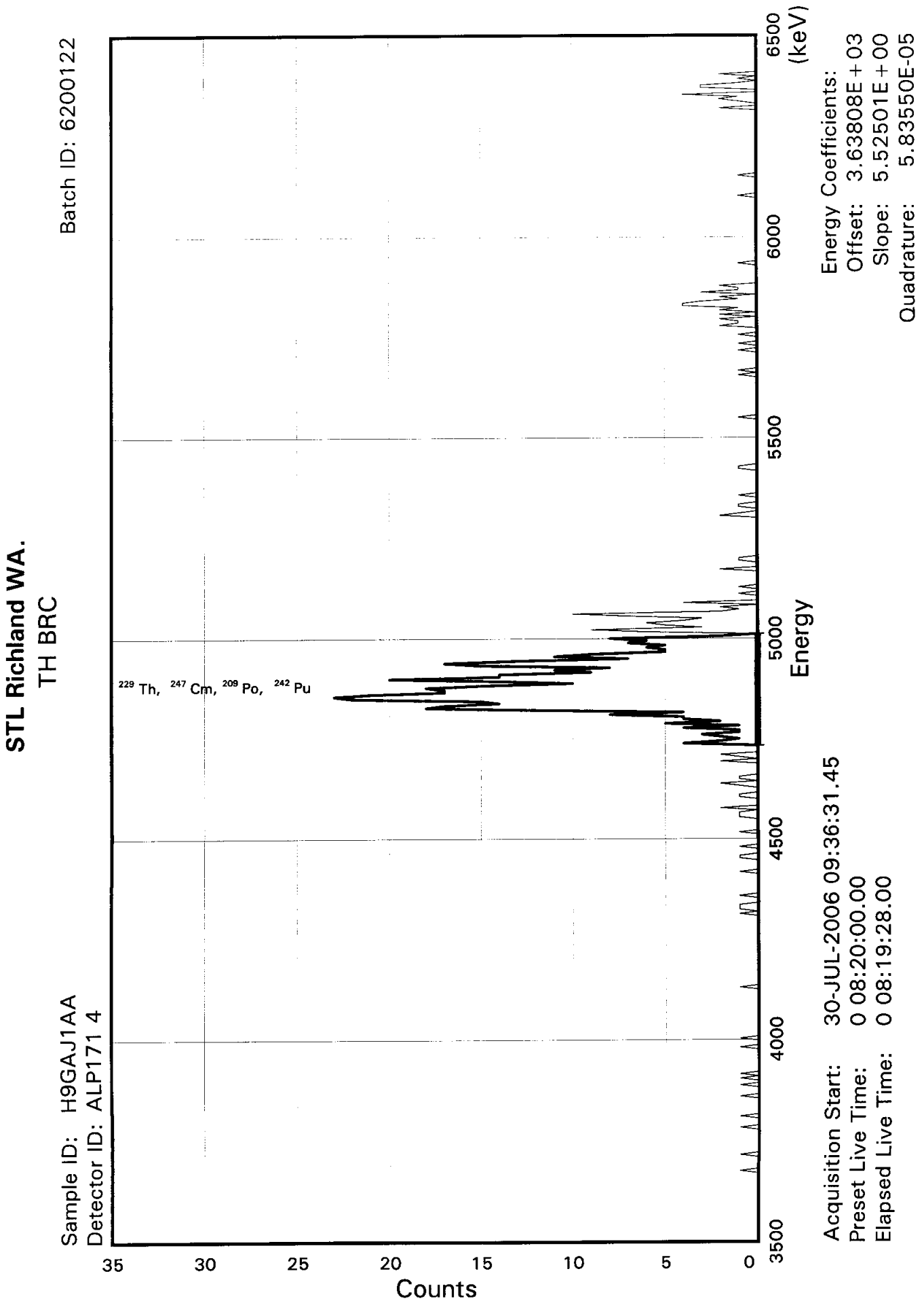
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H9GAJ1AA

Detector: ALP171 4
Report Date: 31-Jul-06 06:11 AM
Acquire Date: 30-JUL-2006 09:36:31.45
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	3	0	0.006	5423.2	111.2	307	327
TH-229	527	3	1.052	4845.3	344.2	201	263
TH-230	12	0	0.024	4687.7	110.9	175	195
TH-232	2	0	0.004	4013.0	110.6	53	73

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6200122
Sample ID: H9GAJ1AA
Detector ID: ALP171 4
229 Th, 247 Cm, 209 Po, 242 Pu
Counts
35
30
25
20
15
10
5
0
3500
4000
4500
5000
5500
6000
6500
Energy
(keV)
Acquisition Start: 30-JUL-2006 09:36:31.45
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 IDENTIITY: H9GAJ1AA

TITLE : TH BRC

DETECTOR : ALP171 4
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9GAJ1AA_300760936D.CN
F;1
ACQUIRE DATE of BACKGROUND: 08-JUL-2006 07:53:15

REPORT DATE : 30-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 09:36:31 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: H9GAJ1AA

Detector: ALP171 4
Report Date: 30-Jul-06 05:57 PM
Acquire Date: 30-JUL-2006 09:36:31.45
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	5152.2	277.8	247	297	0.00	0.00	M
PO-209	475	2	0	0.949	4920.5	277.6	198	248	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5341.7	278.0	281	331	0.00	0.00	M
AC-227	-9999	-9999	0	-10.010	6075.3	278.8	412	462	0.00	0.00	M
TH-227	-9999	-9999	0	-10.010	6075.3	278.8	412	462	0.00	0.00	M
TH-228	-9999	-9999	0	-10.010	5460.5	278.2	302	352	0.00	0.00	M
TH-229	475	2	0	0.949	4882.6	277.6	198	248	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4725.0	277.4	170	220	0.00	0.00	M I
TH-232	5	0	1	0.009	4050.3	276.7	48	98	0.00	0.00	S
U-232	-9999	-9999	0	-10.010	5357.5	272.5	284	333	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4811.9	277.5	185	235	0.00	0.00	M I
U-235	10	3	5	0.016	4435.1	277.1	117	167	0.00	0.00	S
PU-236	-9999	-9999	0	-10.010	5805.0	278.5	364	414	0.00	0.00	M
NP-237	-9999	-9999	0	-10.010	4825.3	277.5	188	238	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.010	5536.3	278.2	316	366	0.00	0.00	M
U-238	-9999	-9999	0	-10.010	4235.3	276.9	81	131	0.00	0.00	M
PU-239	-9999	-9999	0	-10.010	5193.9	277.9	254	304	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5522.9	278.2	313	363	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5244.1	277.9	263	313	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6150.0	278.9	426	476	0.00	0.00	M
PU-242	475	2	0	0.949	4937.8	277.6	198	248	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5312.6	278.0	275	325	0.00	0.00	M
CM-244	-9999	-9999	0	-10.010	5842.1	273.0	371	420	0.00	0.00	M
CM-246	-9999	-9999	0	-10.010	5423.8	278.1	295	345	0.00	0.00	M
CM-247	475	2	0	0.949	4907.7	277.6	198	248	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5115.9	277.8	240	290	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: H9GAJ1AA
Detector: ALP171 4
Report Date: 30-Jul-06 05:57 PM
Acquire Date: 30-JUL-2006 09:36:31.45

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

VMS Peak Search Report V1.9 Generated 30-JUL-2006 17:57:24

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GAJ1AA_300760936D.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 09:36:31
Sample ID         : H9GAJ1AA             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	4882.60	475	0132.60	224.72		198	50	1.59E-02	4.6	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 17:57:26

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GAJ1AA_300760936D.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 09:36:31
Sample ID         : H9GAJ1AA             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]H9GAJ1AA_300760936D.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4882.59	198	248	475	471	0.18		

End of Report

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

Sample Identity: H9GAK1AA

Detector: ALP171 5
Report Date: 31-Jul-06 06:11 AM
Acquire Date: 30-JUL-2006 09:36:31.45
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	1	0.007	5423.2	118.0	301	321
TH-229	549	2	1.097	4845.3	366.2	203	265
TH-230	11	0	0.022	4687.7	118.2	176	196
TH-232	2	1	0.003	4013.0	118.4	62	82

End of Alpha Region Report
(Produced by ANAL Report)

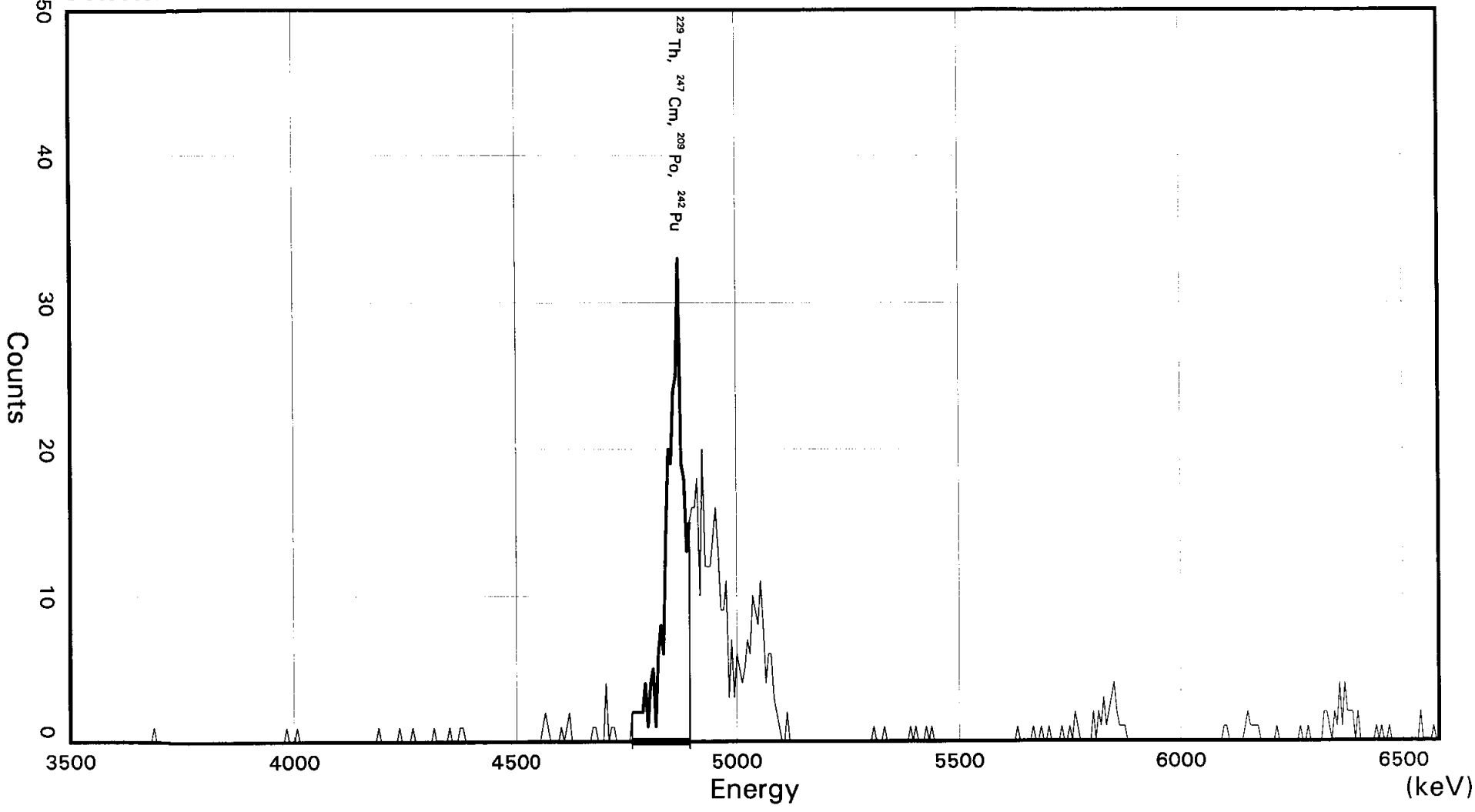
STL Richland WA.

TH BRC

Sample ID: H9GAK1AA

Detector ID: ALP171 5

Batch ID: 6200122



Acquisition Start: 30-JUL-2006 09:36:31.45

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: H9GAK1AA

TITLE : TH BRC

DETECTOR : ALP171 5
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9GAK1AA_300760936E.CN
F;1
ACQUIRE DATE of BACKGROUND: 08-JUL-2006 07:53:15

REPORT DATE : 30-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 09:36:31 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: H9GAK1AA

Detector: ALP171 5
Report Date: 30-Jul-06 05:57 PM
Acquire Date: 30-JUL-2006 09:36:31.45
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	5138.5	129.9	250	272	0.00	0.00	M
PO-209	244	0	0	0.489	4906.8	130.0	204	226	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5327.9	129.8	282	304	0.00	0.00	M
AC-227	0	2	0	-0.002	6061.6	129.6	406	428	0.00	0.00	S
TH-227	0	2	0	-0.002	6061.6	129.6	406	428	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5446.8	129.8	302	324	0.00	0.00	M
TH-229	244	0	0	0.489	4868.9	130.0	204	226	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4711.3	130.0	177	199	0.00	0.00	M
TH-232	2	1	0	0.003	4036.6	130.3	63	85	0.00	0.00	
U-232	-9999	-9999	0	-10.010	5343.7	129.8	284	306	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4798.2	130.0	192	214	0.00	0.00	M I
U-235	4	0	0	0.008	4421.4	130.1	128	150	0.00	0.00	
PU-236	7	16	9	-0.003	5791.2	129.7	360	382	0.00	0.00	S
NP-237	-9999	-9999	0	-10.010	4811.6	130.0	194	216	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.010	5522.6	129.7	315	337	0.00	0.00	M
U-238	2	0	0	0.004	4221.6	130.2	95	117	0.00	0.00	
PU-239	-9999	-9999	0	-10.010	5180.2	129.9	257	279	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5509.2	129.8	312	334	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5230.4	129.9	265	287	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6136.3	129.5	419	441	0.00	0.00	M
PU-242	244	0	0	0.489	4924.1	130.0	204	226	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5298.9	129.8	277	299	0.00	0.00	M
CM-244	21	40	9	0.002	5828.4	129.6	367	389	0.00	0.00	S
CM-246	-9999	-9999	0	-10.010	5410.1	129.8	296	318	0.00	0.00	M
CM-247	244	0	0	0.489	4894.0	130.0	204	226	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5102.2	135.8	243	266	0.00	0.00	M

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GAK1AA
Detector: ALP171 5
Report Date: 30-Jul-06 05:57 PM
Acquire Date: 30-JUL-2006 09:36:31.45

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

VMS Peak Search Report V1.9 Generated 30-JUL-2006 17:57:28

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GAK1AA_300760936E.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 09:36:31
Sample ID         : H9GAK1AA             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	4868.86	244	0	53.36	221.75	204	22	8.14E-03	6.4	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 17:57:30

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GAK1AA_300760936E.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 09:36:31
Sample ID         : H9GAK1AA             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]H9GAK1AA_300760936E.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4868.86	204	226	244	245	-0.06		

End of Report

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

Sample Identity: H9GAL1AA

Detector: ALP171 6
Report Date: 31-Jul-06 06:12 AM
Acquire Date: 30-JUL-2006 09:36:31.45
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	4	3	0.005	5423.2	120.8	322	342
TH-229	687	2	1.373	4845.3	368.8	229	290
TH-230	9	1	0.017	4687.7	121.0	200	220
TH-232	1	2	0.000	4013.0	121.2	89	109

End of Alpha Region Report
(Produced by ANAL Report)

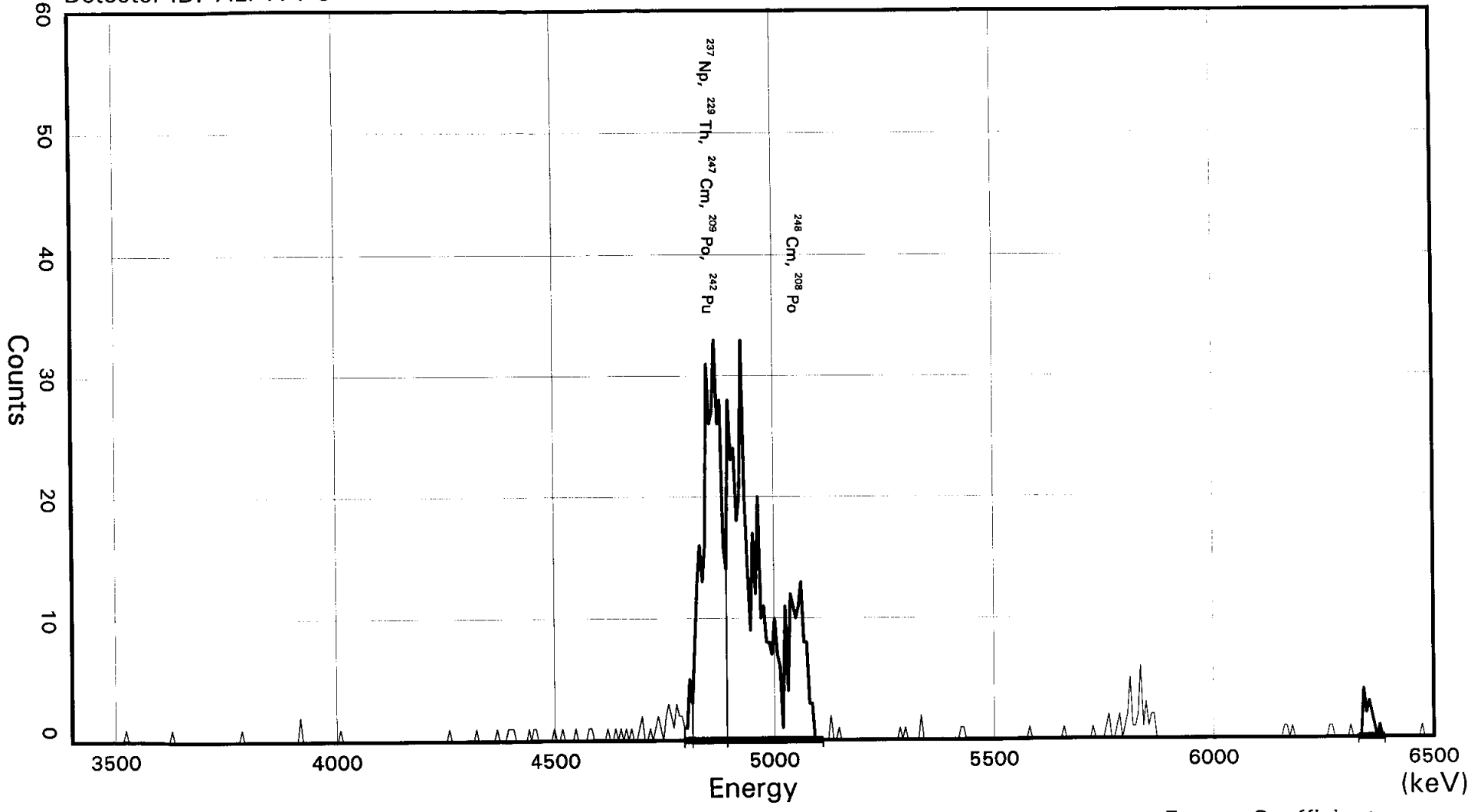
STL Richland WA.

TH BRC

Sample ID: H9GAL1AA

Detector ID: ALP171 6

Batch ID: 6200122



Acquisition Start: 30-JUL-2006 09:36:31.45

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: H9GAL1AA

TITLE : TH BRC

DETECTOR : ALP171 6
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9GAL1AA_300760936F.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 30-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 09:36:31 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: H9GAL1AA

Detector: ALP171 6
Report Date: 30-Jul-06 05:57 PM
Acquire Date: 30-JUL-2006 09:36:31.45
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	255	1	0	0.510	5126.2	314.4	233	285	0.00	0.00	P
PO-209	421	0	0	0.843	4894.5	78.6	236	249	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5315.7	78.5	312	325	0.00	0.00	M
AC-227	0	4	0	-0.004	6049.3	84.4	433	447	0.00	0.00	S
TH-227	0	4	0	-0.004	6049.3	84.4	433	447	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5434.5	78.5	332	345	0.00	0.00	M
TH-229	421	0	0	0.843	4856.6	78.6	236	249	0.00	0.00	P
TH-230	9	1	0	0.017	4699.0	78.7	210	223	0.00	0.00	
TH-232	1	1	0	0.001	4024.3	78.8	99	112	0.00	0.00	
U-232	-9999	-9999	0	-10.010	5331.5	78.5	315	328	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4785.9	78.6	224	237	0.00	0.00	I
U-235	5	1	0	0.009	4409.1	78.7	162	175	0.00	0.00	
PU-236	9	13	12	0.005	5778.9	78.4	389	402	0.00	0.00	S
NP-237	421	0	0	0.843	4799.3	78.6	236	249	0.00	0.00	P
PU-238	-9999	-9999	0	-10.010	5510.3	78.5	344	357	0.00	0.00	M
U-238	0	0	0	0.000	4209.3	78.8	129	142	0.00	0.00	
PU-239	3	1	0	0.006	5167.9	78.6	287	300	0.00	0.00	S
AM-241	-9999	-9999	0	-10.010	5496.9	78.5	342	355	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5218.1	78.6	296	309	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6124.0	78.4	446	459	0.00	0.00	M
PU-242	421	0	0	0.843	4911.8	78.6	236	249	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5286.6	78.5	307	320	0.00	0.00	M
CM-244	20	49	12	-0.009	5816.1	78.4	395	408	0.00	0.00	S
CM-246	-9999	-9999	0	-10.010	5397.8	78.5	326	339	0.00	0.00	M
CM-247	421	0	0	0.843	4881.7	78.6	236	249	0.00	0.00	P
CM-248	255	1	0	0.510	5089.9	314.4	233	285	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GAL1AA
Detector: ALP171 6
Report Date: 30-Jul-06 05:57 PM
Acquire Date: 30-JUL-2006 09:36:31.45

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

VMS Peak Search Report V1.9 Generated 30-JUL-2006 17:57:33

Configuration : $DISK1:[ALP171.SAMPLE]H9GAL1AA_300760936F.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 09:36:31
Sample ID : H9GAL1AA 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	4856.59	421	0	42.49	243.10	236	13	1.40E-02	4.9	
2	0	5050.20	255	0	54.64	275.12	233	52	8.51E-03	6.3	
3	0	6350.07	13	0	24.28	490.50	487	10	4.34E-04	27.7	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 17:57:35

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GAL1AA_300760936F.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 09:36:31
Sample ID         : H9GAL1AA             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	1.02	0.000E+00	0.000E+00	0.000E+00	0.00	
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
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]H9GAL1AA_300760936F.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4856.58	236	249	421	270	7.36		
5050.20	233	285	255	677	-26.43	277	0.23
6350.06	487	497	13	13	0.00		

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

End of Report

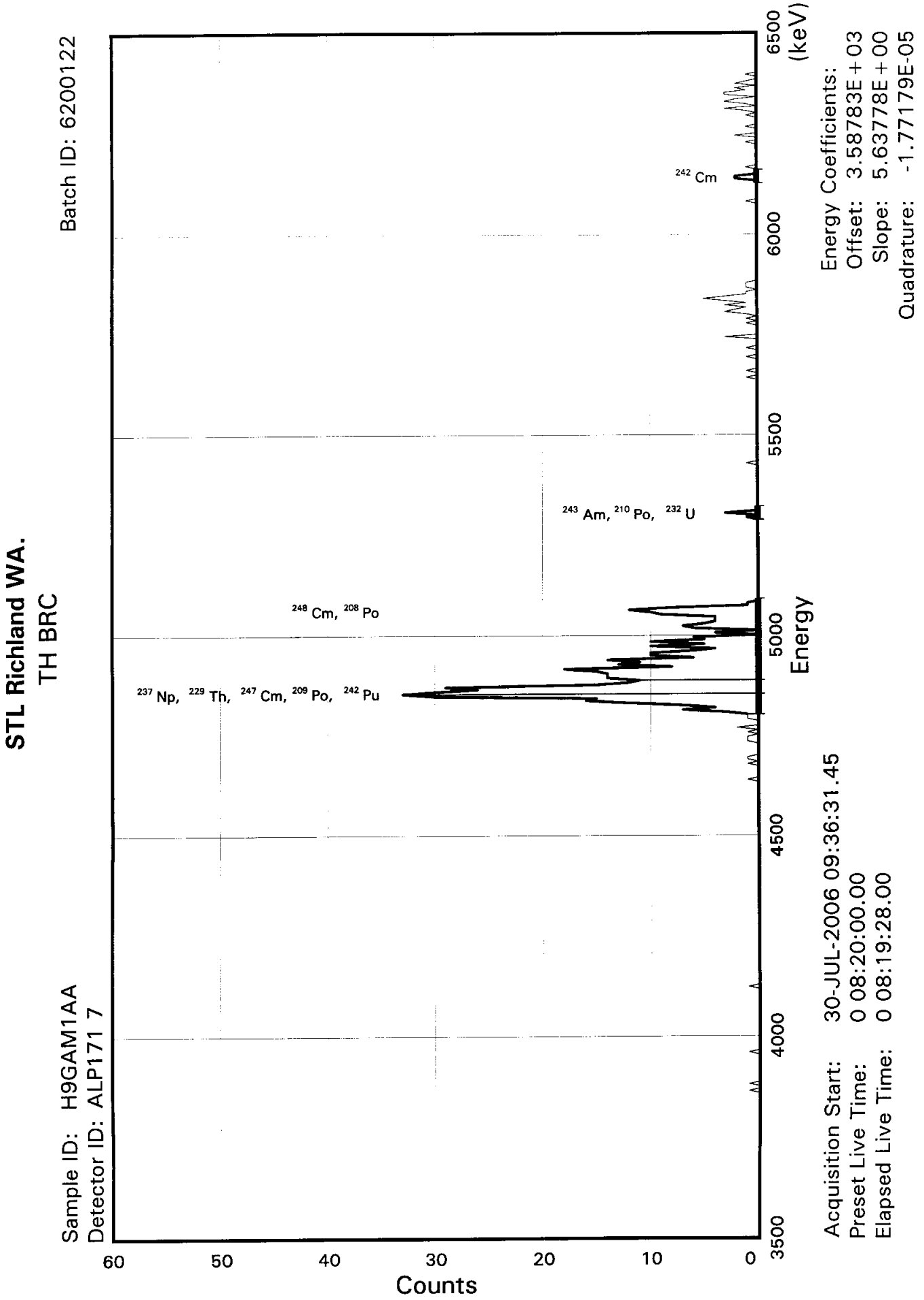
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H9GAM1AA

Detector: ALP171 7
Report Date: 31-Jul-06 06:12 AM
Acquire Date: 30-JUL-2006 09:36:31.45
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	524	1	1.048	4845.3	360.3	208	272
TH-230	4	0	0.008	4687.7	112.6	180	200
TH-232	1	0	0.002	4013.0	112.7	60	80

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6200122
Sample ID: H9GAM1AA
Detector ID: ALP171 7
242 Cm
243 Am, 210 Po, 232 U
248 Cm, 208 Po
237 Np, 229 Th, 247 Cm, 209 Po, 242 Pu
Counts
60
50
40
30
20
10
0
Energy
3500
4000
4500
5000
5500
6000
6500
(keV)
Acquisition Start: 30-JUL-2006 09:36:31.45
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 IDENTITY: H9GAM1AA

TITLE : TH BRC

DETECTOR : ALP171 7
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9GAM1AA_300760936G.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 30-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 09:36:31 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: H9GAM1AA

Detector: ALP171 7
Report Date: 30-Jul-06 05:57 PM
Acquire Date: 30-JUL-2006 09:36:31.45
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	164	0	0	0.328	5125.8	236.4	225	267	0.00	0.00	P
PO-209	358	0	0	0.717	4894.1	84.4	216	231	0.00	0.00	P
PO-210	4	0	0	0.008	5315.3	33.8	302	308	0.00	0.00	P
AC-227	1	0	0	0.002	6048.9	84.3	428	443	0.00	0.00	
TH-227	1	0	0	0.002	6048.9	84.3	428	443	0.00	0.00	
TH-228	-9999	-9999	0	-10.010	5434.1	84.4	319	334	0.00	0.00	M
TH-229	358	0	0	0.717	4856.2	84.4	216	231	0.00	0.00	P
TH-230	3	0	0	0.006	4698.6	84.5	188	203	0.00	0.00	
TH-232	0	0	0	0.000	4023.9	84.5	68	83	0.00	0.00	
U-232	4	0	0	0.008	5331.1	33.8	302	308	0.00	0.00	P
U-234	-9999	-9999	0	-10.010	4785.5	84.5	203	218	0.00	0.00	I
U-235	0	1	0	-0.001	4408.7	84.5	137	152	0.00	0.00	
PU-236	7	9	8	0.005	5778.6	84.4	380	395	0.00	0.00	S
NP-237	358	0	0	0.717	4798.9	84.4	216	231	0.00	0.00	P
PU-238	-9999	-9999	0	-10.010	5509.9	84.4	332	347	0.00	0.00	M
U-238	0	0	0	0.000	4208.9	84.5	101	116	0.00	0.00	
PU-239	0	1	0	-0.001	5167.5	84.4	271	286	0.00	0.00	S
AM-241	-9999	-9999	0	-10.010	5496.5	84.4	330	345	0.00	0.00	M
AM-242M	0	0	0	0.000	5217.7	84.4	280	295	0.00	0.00	S
CM-242	4	4	0	0.004	6123.6	33.7	451	457	0.00	0.00	P
PU-242	358	0	0	0.717	4911.4	84.4	216	231	0.00	0.00	P
AM-243	4	0	0	0.008	5286.2	33.8	302	308	0.00	0.00	P
CM-244	21	40	8	0.002	5815.7	84.4	387	402	0.00	0.00	S
CM-246	1	1	1	0.000	5397.4	84.4	312	327	0.00	0.00	S
CM-247	358	0	0	0.717	4881.3	84.4	216	231	0.00	0.00	P
CM-248	164	0	0	0.328	5089.5	236.4	225	267	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GAM1AA
Detector: ALP171 7
Report Date: 30-Jul-06 05:57 PM
Acquire Date: 30-JUL-2006 09:36:31.45

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

VMS Peak Search Report V1.9 Generated 30-JUL-2006 17:57:37

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GAM1AA_300760936G.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 09:36:31
Sample ID         : H9GAM1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP171 1             Detector geometry:
Elapsed live time: 0 08:19:28.00         Elapsed real time: 0 08:19:28.00   0.0%
Start energy      :  3604.75 keV         End energy       :  6469.73 keV
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4856.22	358	0	39.46	225.14	216	15	1.19E-02	5.3	
2	0	5060.59	164	0	22.55	261.44	225	42	5.47E-03	7.8	
3	0	5302.89	4	0	22.55	304.50	302	6	1.33E-04	50.0	
4	0	6140.92	4	0	22.55	453.50	451	6	1.33E-04	50.0	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 17:57:40

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GAM1AA_300760936G.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 09:36:31
Sample ID         : H9GAM1AA             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	0	
Number of lines tentatively identified by NID	4	100.00%

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-208	2.90Y	1.02	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	
PO-210	138.38D	1.18	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
NP-237	2.14E+06Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-242	162.80D	1.15	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
AM-243	7370.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-247	1.56E+07Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
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]H9GAM1AA_300760936G.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4856.21	216	231	358	251	5.66		
5060.58	225	267	164	424	-20.30	156	0.13
5302.89	302	308	4	4	0.00		
6140.92	451	457	4	4	0.00		

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

End of Report

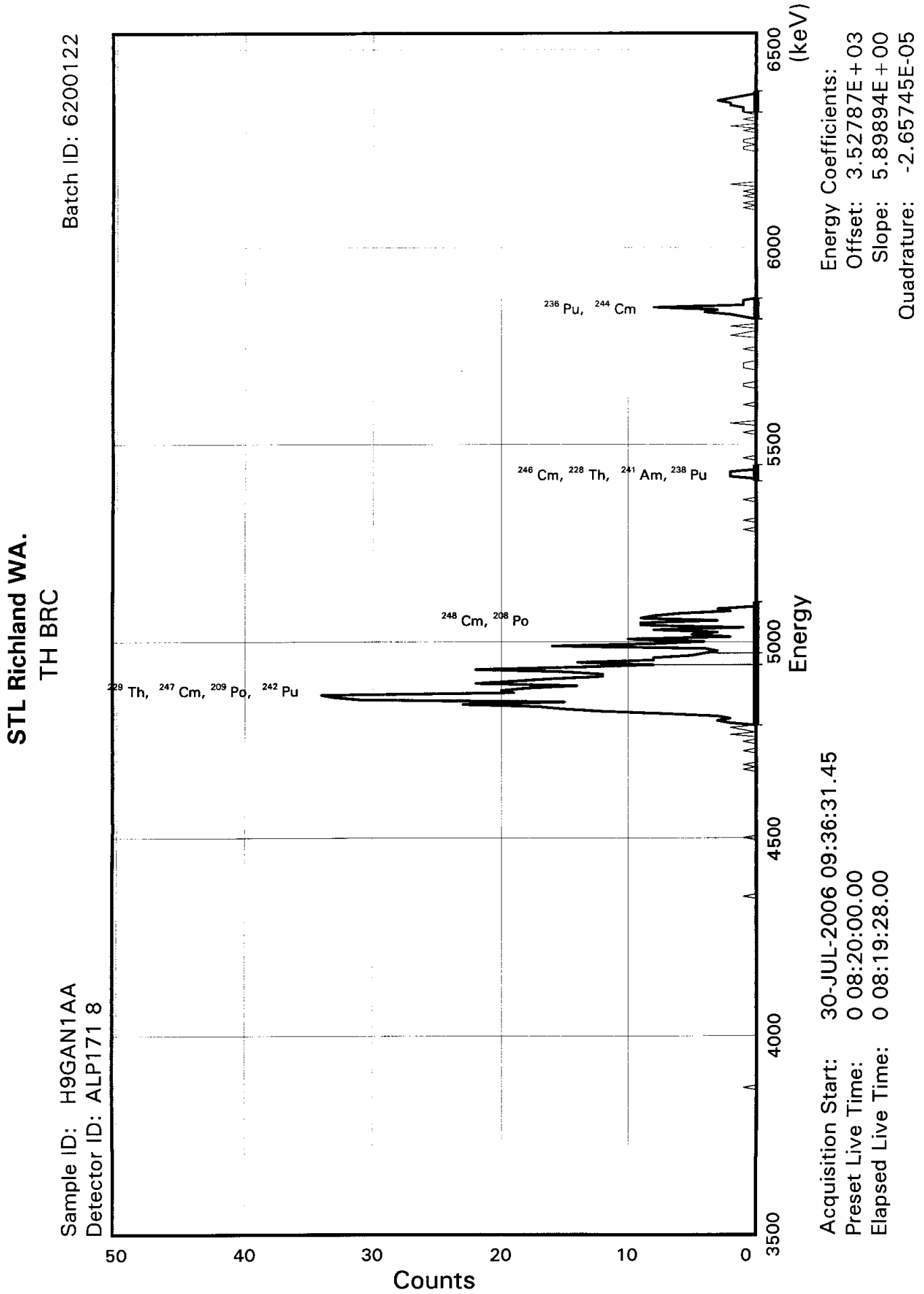
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H9GAN1AA

Detector: ALP171 8
Report Date: 31-Jul-06 06:12 AM
Acquire Date: 30-JUL-2006 09:36:31.45
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	1	0.013	5423.2	117.6	307	327
TH-229	565	1	1.130	4845.3	329.6	209	265
TH-230	2	1	0.003	4687.7	117.8	182	202
TH-232	0	2	-0.002	4013.0	117.9	67	87

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6200122
Sample ID: H9GAN1AA
Detector ID: ALP171 8
229 Th, 247 Cm, 209 Po, 242 Pu
248 Cm, 208 Po
246 Cm, 228 Th, 241 Am, 238 Pu
236 Pu, 244 Cm
Counts
50
40
30
20
10
0
Energy
3500
4000
4500
5000
5500
6000
6500
(keV)
Acquisition Start: 30-JUL-2006 09:36:31.45
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: H9GAN1AA

TITLE : TH BRC

DETECTOR : ALP171 8
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9GAN1AA_300760936H.CN
F;1
ACQUIRE DATE of BACKGROUND: 09-JUL-2006 10:13:03

REPORT DATE : 30-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 09:36:31 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: H9GAN1AA

Detector: ALP171 8
Report Date: 30-Jul-06 05:57 PM
Acquire Date: 30-JUL-2006 09:36:31.45
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	125	0	0	0.250	5146.0	158.9	240	267	0.00	0.00	P
PO-209	439	1	0	0.878	4914.3	182.5	214	245	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5335.5	182.4	292	323	0.00	0.00	M I
AC-227	3	8	6	-0.002	6069.1	182.2	417	448	0.00	0.00	S
TH-227	3	8	6	-0.002	6069.1	182.2	417	448	0.00	0.00	S
TH-228	8	1	0	0.015	5454.3	41.2	319	326	0.00	0.00	P
TH-229	439	1	0	0.878	4876.4	182.5	214	245	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4718.8	182.5	187	218	0.00	0.00	M I
TH-232	0	2	0	-0.002	4044.1	182.7	73	104	0.00	0.00	
U-232	-9999	-9999	0	-10.010	5351.3	182.4	295	326	0.00	0.00	M I
U-234	-9999	-9999	0	-10.010	4805.7	182.5	202	233	0.00	0.00	M I
U-235	2	2	0	0.002	4428.9	182.6	138	169	0.00	0.00	
PU-236	21	49	0	-0.007	5798.7	52.9	389	398	0.00	0.00	P
NP-237	-9999	-9999	0	-10.010	4819.1	182.5	204	235	0.00	0.00	M I
PU-238	8	1	0	0.015	5530.1	41.2	319	326	0.00	0.00	P
U-238	0	2	0	-0.002	4229.1	182.7	104	135	0.00	0.00	
PU-239	-9999	-9999	0	-10.010	5187.7	182.4	267	298	0.00	0.00	M
AM-241	8	1	0	0.015	5516.7	41.2	319	326	0.00	0.00	P
AM-242M	-9999	-9999	0	-10.010	5237.9	182.4	275	306	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6143.8	188.0	429	461	0.00	0.00	M
PU-242	439	1	0	0.878	4931.6	182.5	214	245	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5306.4	182.4	287	318	0.00	0.00	M
CM-244	21	49	0	-0.007	5835.9	52.9	389	398	0.00	0.00	P
CM-246	8	1	0	0.015	5417.6	41.2	319	326	0.00	0.00	P
CM-247	439	1	0	0.878	4901.5	182.5	214	245	0.00	0.00	P
CM-248	125	0	0	0.250	5109.7	158.9	240	267	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GAN1AA
Detector: ALP171 8
Report Date: 30-Jul-06 05:57 PM
Acquire Date: 30-JUL-2006 09:36:31.45

Flags Key

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

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

VMS Peak Search Report V1.9 Generated 30-JUL-2006 17:57:43

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GAN1AA_300760936H.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 09:36:31
Sample ID         : H9GAN1AA             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	4876.39	439	0	106.18	228.84	214	31	1.46E-02	4.8	
2	0	5053.80	125	0	53.09	258.98	240	27	4.17E-03	8.9	
3	0	5422.89	8	0	23.60	321.71	319	7	2.67E-04	35.4	
4	0	5844.25	21	0	23.60	393.37	389	9	7.01E-04	21.8	
5	0	6364.40	11	0	35.39	481.90	478	9	3.67E-04	30.2	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 17:57:46

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GAN1AA_300760936H.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 09:36:31
Sample ID         : H9GAN1AA             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	1.02	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-228	1.91Y	1.03	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-236	2.86Y	1.02	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-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	
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]H9GAN1AA_300760936H.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4876.38	214	245	439	447	-0.38		
5053.80	240	267	125	160	-3.13	47	0.17
5422.89	319	326	8	6	0.71		
5844.25	389	398	21	21	0.00		
6364.39	478	487	11	13	-0.60		

End of Report

SEVERN TRENT **STL**

STL RICHLAND

THORIUM ISOTOPIC COUNTING REQUEST

1759
7/30/06

C.R. Technician: RS
Date Counted: 7/30/06
C.R. Analyst: CP
Date Analyzed: 7/31/06

Counting Time
Sample: 500 Minutes

Background: See Alpha Analysis Report
4/27/06 TH BRC

SOP's
Operating: RICHRD008
Review: RICHRD0016
C6200122

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)		
H9GAP1AA		10		0	See Alpha Analysis Report for ROI Information			114	
H9GAT1AA		10		0	See Alpha Analysis Report for ROI Information			119	
H9HWD1AA		10		0	See Alpha Analysis Report for ROI Information			120	
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				

Comments:

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

Approved by: S

Date: 7/31/06

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

Sample Identity: H9GAP1AA

Detector: ALP114 1
Report Date: 31-Jul-06 06:08 AM
Acquire Date: 30-JUL-2006 09:37:24.41
Tracer Nuclide: TH-229
Sample Live Time: 500 minutes
Bkgrnd Live Time: 1000 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	1	0	0.002	5423.2	151.1	312	332
TH-229	631	1	1.261	4845.3	318.7	228	270
TH-230	9	0	0.018	4687.7	76.0	215	225
TH-232	1	1	0.001	4013.0	152.9	126	146

End of Alpha Region Report
(Produced by ANAL Report)

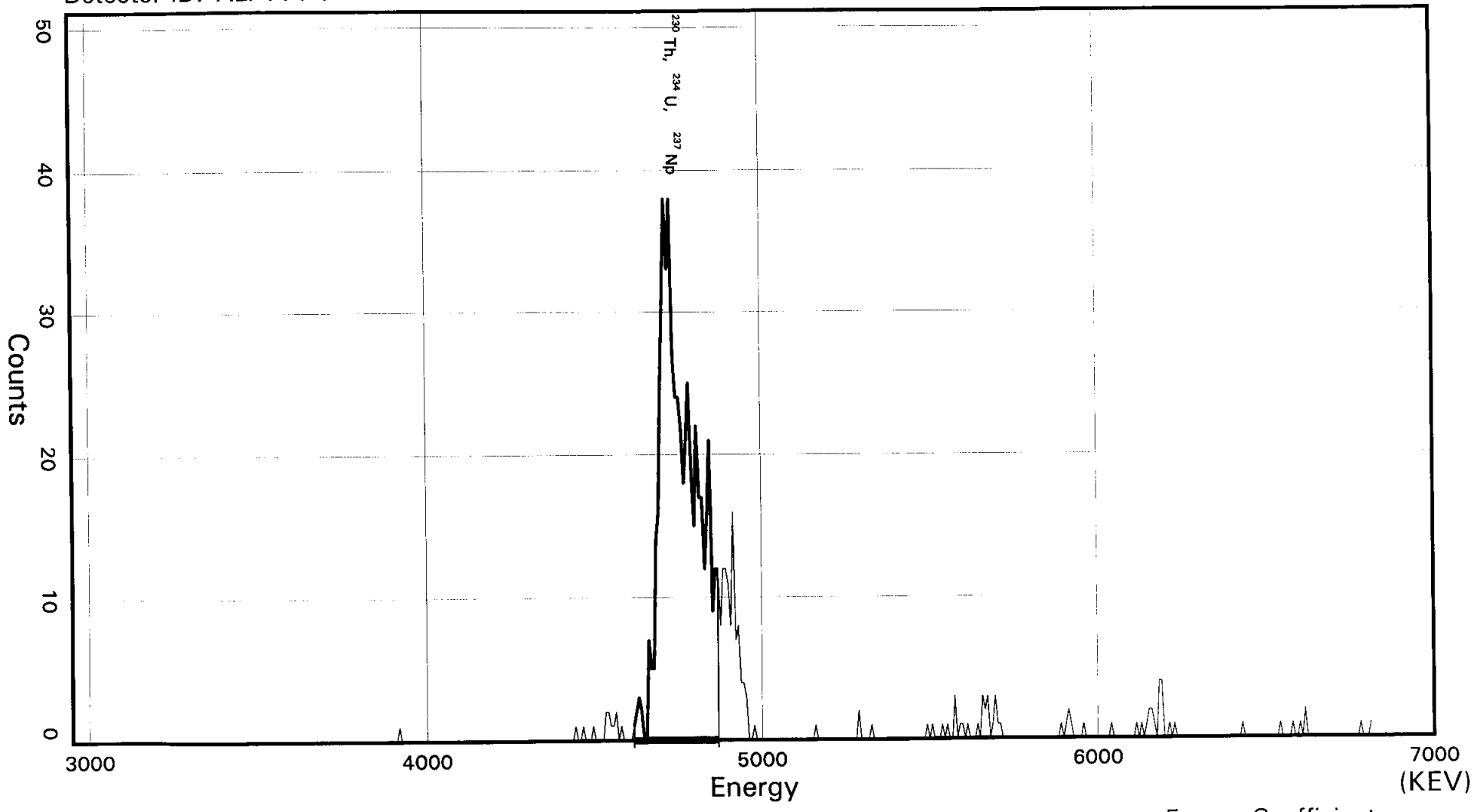
STL Richland WA.

TH BRC

Sample ID: H9GAP1AA

Detector ID: ALP114 1

Batch ID: 6200122



Acquisition Start: 30-JUL-2006 09:37:24.41

Preset Live Time: 0 08:20:00.00

Elapsed Live Time: 0 08:20:03.00

Energy Coefficients:

Offset: 2.92767E+03

Slope: 7.71015E+00

Quadrature: -2.44061E-04

SAMPLE IDENTIITY: H9GAP1AA

TITLE : TH BRC

DETECTOR : ALP114 1
CONFIGURATION NAME : RDND06$DKA100:[ALP114.SAMPLE]H9GAP1AA_300760
937.CNF;1
ACQUIRE DATE of BACKGROUND: 21-JUL-2006 09:20:15

REPORT DATE : 30-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 09:37:24 CALIB DATE : 22-JUN-2006 09:29:59

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

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

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

Sample Identity: H9GAP1AA
Detector: ALP114 1
Report Date: 30-Jul-06 05:57 PM
Acquire Date: 30-JUL-2006 09:37:24.41

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

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

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

VMS Peak Search Report V1.9 Generated 30-JUL-2006 17:57:28

```
Configuration     : RDND06$DKA100:[ALP114.SAMPLE]H9GAP1AA_300760937.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 09:37:24
Sample ID         : H9GAP1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP114               Detector geometry:
Elapsed live time: 0 08:20:03.00         Elapsed real time: 0 08:20:03.00   0.0%
Start energy      :  2950.80 KEV         End energy       :  6811.29 KEV
Sensitivity       :     6.00             Sum Sensitivity  :     0.10
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4747.24	548	0107.94		237.79	221	33	1.83E-02	4.3	

VMS Nuclide Identification Report V3.1 Generated 30-JUL-2006 17:57:29

Configuration : RDND06$DKA100:[ALP114.SAMPLE]H9GAP1AA_300760937.CNF;1
Analyses by : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title : TH BRC
Sample date : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 09:37:24
Sample ID : H9GAP1AA Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP114 Detector geometry:
Elapsed live time: 0 08:20:03.00 Elapsed real time: 0 08:20:03.00 0.0%
Energy tolerance : 80.00 KEV Half life ratio : 1.00
Errors propagated: No Systematic Error : 0.00 %
Efficiency type : Spline Efficiencies at : Peak Energy
Abundance limit : 0.00

Summary of Nuclide Activity

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

Nuclide Type : NP

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

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
NP-237	2.14E+06Y	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: 30-Jul-06 05:57 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: H9GAT1AA

Detector: ALP119 1
Report Date: 31-Jul-06 06:08 AM
Acquire Date: 30-JUL-2006 09:37:55.70
Tracer Nuclide: TH-229
Sample Live Time: 500 minutes
Bkgrnd Live Time: 1000 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	1	2	0.000	5423.2	149.7	329	349
TH-229	349	2	0.696	4845.3	380.1	252	303
TH-230	2	1	0.003	4687.7	148.7	231	251
TH-232	0	1	-0.001	4013.0	147.7	140	160

End of Alpha Region Report
(Produced by ANAL Report)

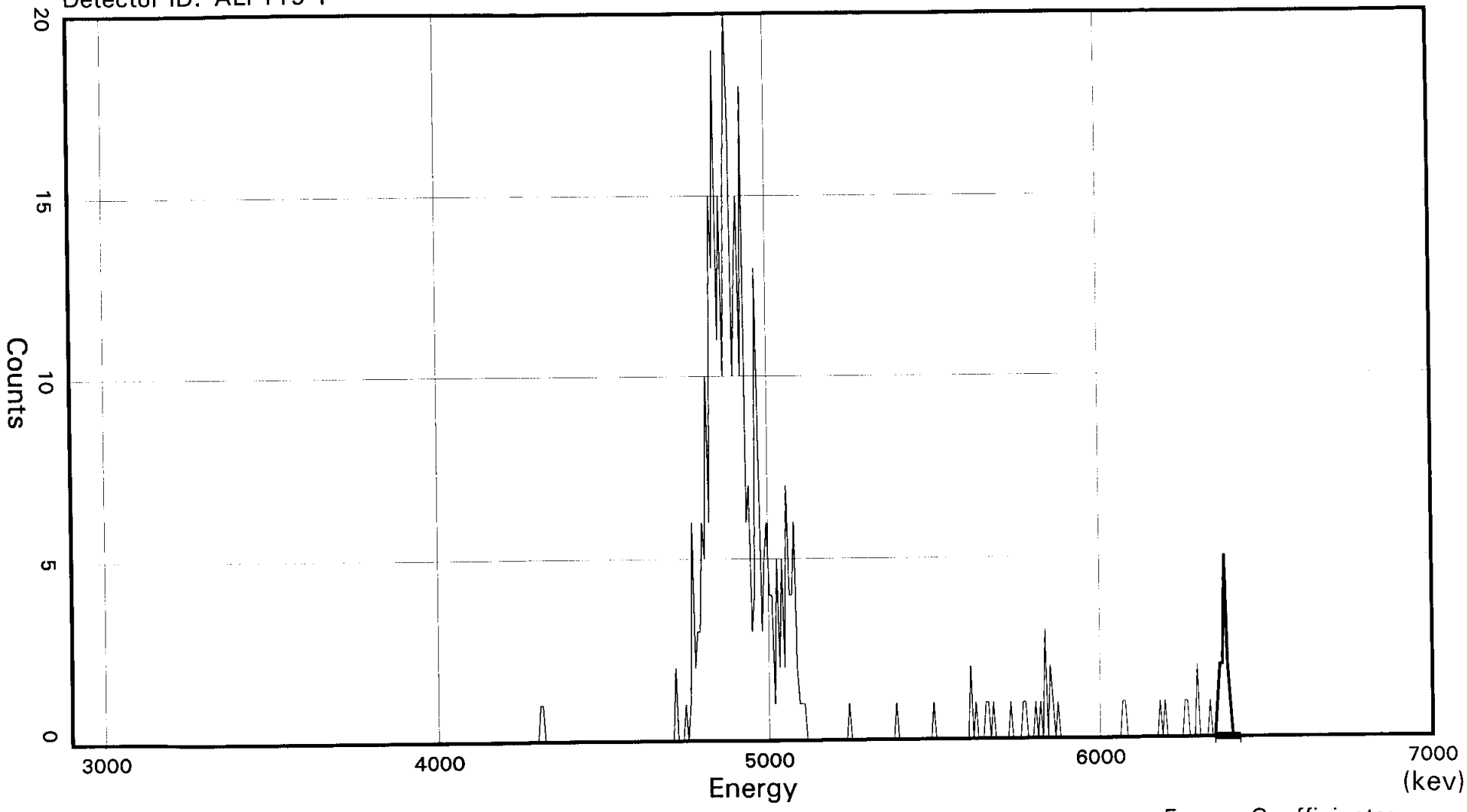
STL Richland WA.

TH BRC

Sample ID: H9GAT1AA

Detector ID: ALP119 1

Batch ID: 6200122



Acquisition Start: 30-JUL-2006 09:37:55.70

Preset Live Time: 0 08:20:00.00

Elapsed Live Time: 0 08:20:02.00

Energy Coefficients:

Offset: 2.87730E+03

Slope: 7.30551E+00

Quadrature: 2.66299E-04

SAMPLE IDENTITY: H9GAT1AA

TITLE : TH BRC

DETECTOR : ALP119 1
CONFIGURATION NAME : RDND06$DKA100:[ALP119.SAMPLE]H9GAT1AA_300760
937.CNF;1
ACQUIRE DATE of BACKGROUND: 21-JUL-2006 09:20:24

REPORT DATE : 30-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 09:37:55 CALIB DATE : 21-JUL-2006 01:15:00

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

OFFSET : 2877.30 keV CONSTANT FWHM : 9.33333 Channels
SLOPE : 7.30551 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 2.662990E-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: H9GAT1AA
Detector: ALP119 1
Report Date: 30-Jul-06 05:58 PM
Acquire Date: 30-JUL-2006 09:37:55.70

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

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

VMS Peak Search Report V1.9 Generated 30-JUL-2006 17:58:00

Configuration : RDND06$DKA100:[ALP119.SAMPLE]H9GAT1AA_300760937.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 09:37:55
Sample ID : H9GAT1AA Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP119 Detector geometry:
Elapsed live time: 0 08:20:02.00 Elapsed real time: 0 08:20:02.00 0.0%
Start energy : 2899.22 kev End energy : 6687.53 kev
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	6376.65	14	0	36.53	470.92	467	10	4.67E-04	26.7	

VMS Nuclide Identification Report V3.1 Generated 30-JUL-2006 17:58:01

```
Configuration     : RDND06$DKA100:[ALP119.SAMPLE]H9GAT1AA_300760937.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : TH BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 09:37:55
Sample ID         : H9GAT1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP119               Detector geometry:
Elapsed live time: 0 08:20:02.00         Elapsed real time: 0 08:20:02.00   0.0%
Energy tolerance :   100.00 kev          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :     0.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                1
 Number of unidentified lines                     1
 Number of lines tentatively identified by NID    0        0.00%
**** There are no nuclides meeting summary criteria ****

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

Error Report (Date: 30-Jul-06 05:58 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: H9HWD1AA

Detector: ALP120 1
Report Date: 31-Jul-06 06:08 AM
Acquire Date: 30-JUL-2006 09:39:17.55
Tracer Nuclide: TH-229
Sample Live Time: 500 minutes
Bkgrnd Live Time: 1000 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	4	4	0.004	5423.2	147.9	331	351
TH-229	417	0	0.834	4845.3	362.0	253	302
TH-230	2	0	0.004	4687.7	147.7	232	252
TH-232	1	0	0.002	4013.0	147.5	140	160

End of Alpha Region Report
(Produced by ANAL Report)

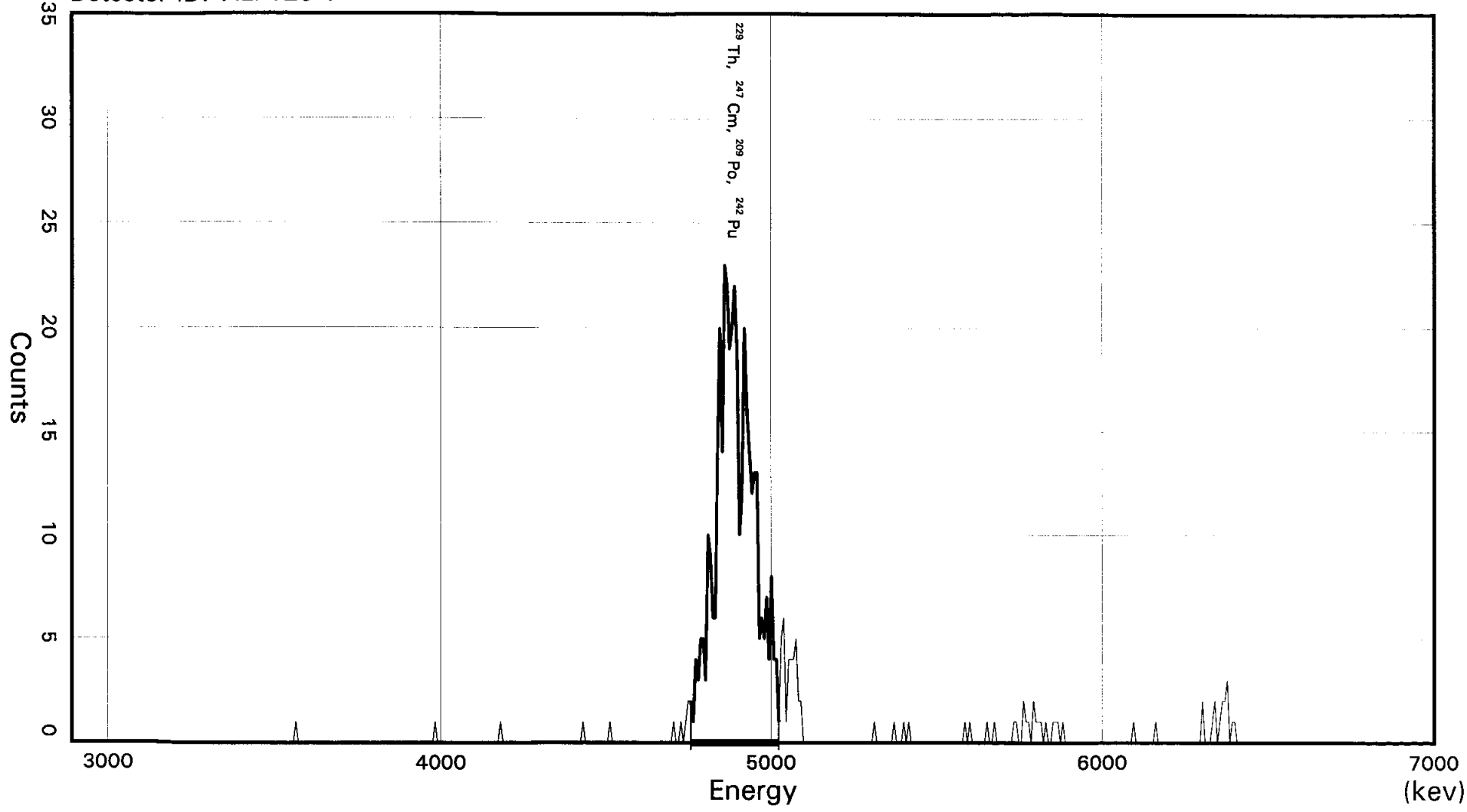
STL Richland WA.

TH BRC

Sample ID: H9HWD1AA

Detector ID: ALP120 1

Batch ID: 6200122



Acquisition Start: 30-JUL-2006 09:39:17.55

Preset Live Time: 0 08:20:00.00

Elapsed Live Time: 0 08:20:01.00

Energy Coefficients:

Offset: 2.87004E+03

Slope: 7.35695E+00

Quadrature: 5.42554E-05

SAMPLE IDENTIITY: H9HWD1AA

TITLE : TH BRC

DETECTOR : ALP120 1
CONFIGURATION NAME : RDND06$DKA100:[ALP120.SAMPLE]H9HWD1AA_300760
939.CNF;1
ACQUIRE DATE of BACKGROUND: 23-JUL-2006 06:44:58

REPORT DATE : 30-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 09:39:17 CALIB DATE : 22-JUL-2006 23:05:18

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

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: H9HWD1AA

Detector: ALP120 1
Report Date: 30-Jul-06 05:59 PM
Acquire Date: 30-JUL-2006 09:39:17.55
Tracer Nuclide: TH-229
High Counts Limit: 36
Sample Live Time: 500 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

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

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
PO-208	-9999	-9999	0	-10.000	5157.7	266.1	292	328	0.00	0.00	M
PO-209	381	0	0	0.762	4926.0	265.9	256	292	0.00	0.00	P
PO-210	-9999	-9999	0	-10.000	5347.2	266.2	318	354	0.00	0.00	M
AC-227	-9999	-9999	0	-10.000	6080.8	266.5	417	453	0.00	0.00	M
TH-227	-9999	-9999	0	-10.000	6080.8	266.5	417	453	0.00	0.00	M
TH-228	-9999	-9999	0	-10.000	5466.0	266.2	334	370	0.00	0.00	M
TH-229	381	0	0	0.762	4888.1	265.9	256	292	0.00	0.00	P
TH-230	-9999	-9999	0	-10.000	4730.5	265.8	235	271	0.00	0.00	M I
TH-232	2	0	1	0.003	4055.8	265.5	143	179	0.00	0.00	S
U-232	-9999	-9999	0	-10.000	5362.9	266.2	320	356	0.00	0.00	M
U-234	-9999	-9999	0	-10.000	4817.4	265.9	246	282	0.00	0.00	M I
U-235	2	0	0	0.004	4440.6	265.7	195	231	0.00	0.00	S
PU-236	8	18	16	-0.001	5810.4	266.4	381	417	0.00	0.00	S
NP-237	-9999	-9999	0	-10.000	4830.8	265.9	248	284	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.000	5541.8	266.3	344	380	0.00	0.00	M
U-238	-9999	-9999	0	-10.000	4240.8	265.6	168	204	0.00	0.00	M
PU-239	-9999	-9999	0	-10.000	5199.4	266.1	298	334	0.00	0.00	M
AM-241	-9999	-9999	0	-10.000	5528.4	266.3	343	379	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.000	5249.6	266.1	305	341	0.00	0.00	M
CM-242	-9999	-9999	0	-10.000	6155.5	266.6	427	463	0.00	0.00	M
PU-242	381	0	0	0.762	4943.3	265.9	256	292	0.00	0.00	P
AM-243	-9999	-9999	0	-10.000	5318.1	266.1	314	350	0.00	0.00	M
CM-244	-9999	-9999	0	-10.000	5847.6	266.4	386	422	0.00	0.00	M
CM-246	-9999	-9999	0	-10.000	5429.3	266.2	329	365	0.00	0.00	M
CM-247	381	0	0	0.762	4913.2	265.9	256	292	0.00	0.00	P
CM-248	-9999	-9999	0	-10.000	5121.4	266.0	288	324	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: H9HWD1AA
Detector: ALP120 1
Report Date: 30-Jul-06 05:59 PM
Acquire Date: 30-JUL-2006 09:39:17.55

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

Cnt	F	Chn	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 30-JUL-2006 17:59:22

```
Configuration     : RDND06$DKA100:[ALP120.SAMPLE]H9HWD1AA_300760939.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 09:39:17
Sample ID         : H9HWD1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP120               Detector geometry:
Elapsed live time: 0 08:20:01.00         Elapsed real time: 0 08:20:01.00   0.0%
Start energy      :  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	4888.07	381	0110.35		273.75	256	36	1.27E-02	5.1	

VMS Nuclide Identification Report V3.1 Generated 30-JUL-2006 17:59:23

```
Configuration     : RDND06$DKA100:[ALP120.SAMPLE]H9HWD1AA_300760939.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : TH BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 09:39:17
Sample ID         : H9HWD1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP120               Detector geometry:
Elapsed live time: 0 08:20:01.00         Elapsed real time: 0 08:20:01.00   0.0%
Energy tolerance :   100.00 kev          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :     0.00
```

Summary of Nuclide Activity

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

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
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: RDND06$DKA100:[ALP120.SAMPLE]H9HWD1AA_300760939.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4888.07	256	292	381	381	0.00		

End of Report

SEVERN TRENT **STL**

THORIUM ISOTOPIC COUNTING REQUEST

20 25

C.R. Technician CS
Date Counted 7/31/02
C.R. Analyst OAP
Date Analyzed 7/31/02

Counting Time
Sample 50 Minutes

Background **See Alpha Analysis Report**

SOP's
Operating: RICHRD008
Review: RICHRD0016

BRC 6/27 6200/22

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)		
179HWD1AC		10		0	See Alpha Analysis Report for ROI Information			119	
		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: OAP

Date: 7/31/02

STL RICHLAND

220

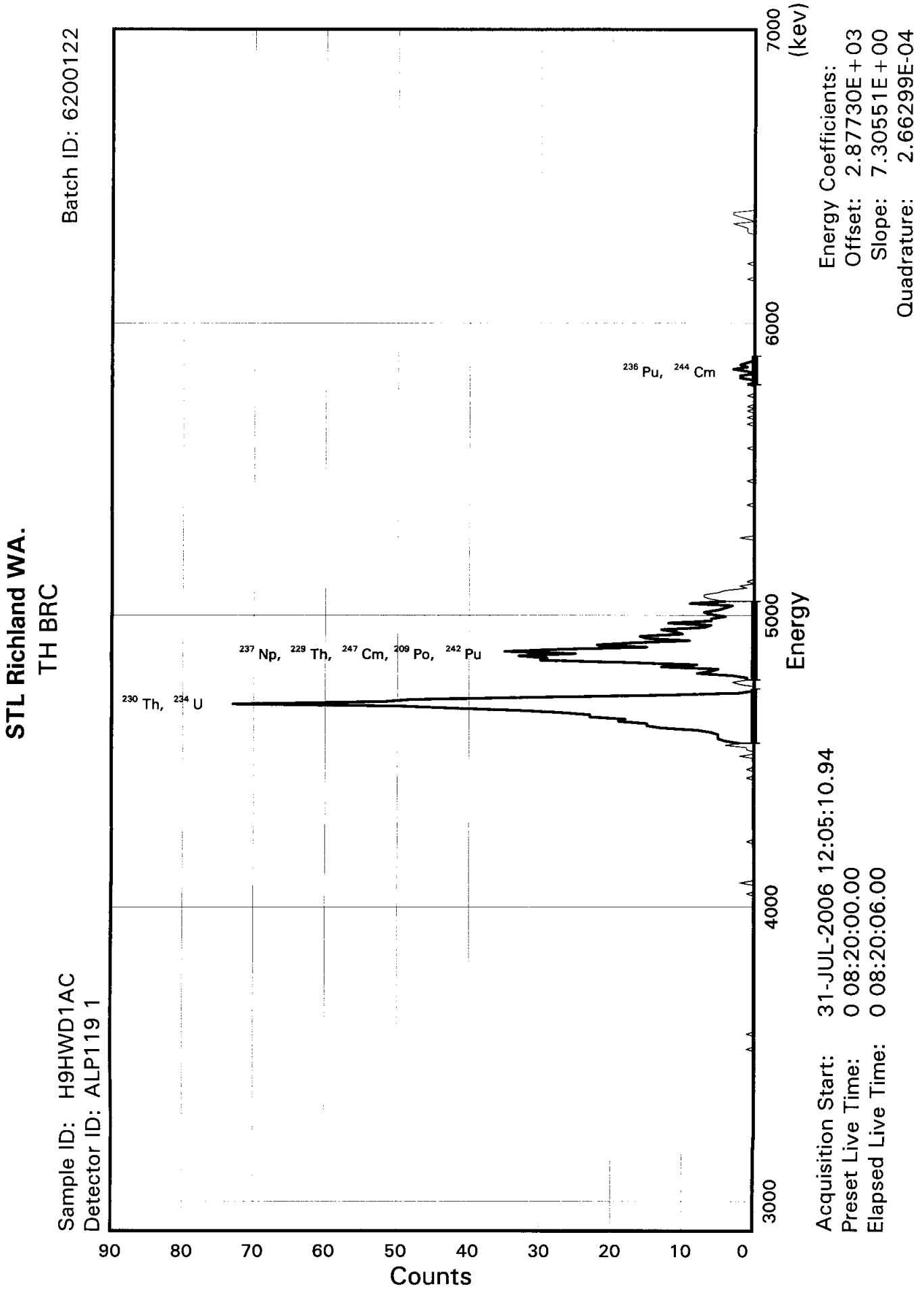
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H9HWD1AC

Detector: ALP119 1
Report Date: 31-Jul-06 08:31 PM
Acquire Date: 31-JUL-2006 12:05:10.94
Tracer Nuclide: TH-229
Sample Live Time: 500 minutes
Bkgrnd Live Time: 1000 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	2	2	0.002	5423.2	164.7	329	351
TH-229	489	2	0.976	4845.3	387.6	252	304
TH-230	536	1	1.071	4687.7	193.2	225	251
TH-232	1	1	0.001	4013.0	147.7	140	160

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6200122
Sample ID: H9HWD1AC
Detector ID: ALP119 1
230 Th, 234 U
237 Np, 229 Th, 247 Cm, 209 Po, 242 Pu
236 Pu, 244 Cm
Counts
90
80
70
60
50
40
30
20
10
0
Energy
3000
4000
5000
6000
7000
(kev)
Acquisition Start: 31-JUL-2006 12:05:10.94
Preset Live Time: 0 08:20:00.00
Elapsed Live Time: 0 08:20:06.00
Energy Coefficients:
Offset: 2.87730E+03
Slope: 7.30551E+00
Quadrature: 2.66299E-04

SAMPLE IDENTIITY: H9HWD1AC

TITLE : TH BRC

DETECTOR : ALP119 1
CONFIGURATION NAME : RDND06$DKA100:[ALP119.SAMPLE]H9HWD1AC_310761
205.CNF;1
ACQUIRE DATE of BACKGROUND: 21-JUL-2006 09:20:24

REPORT DATE : 31-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 31-JUL-2006 12:05:10 CALIB DATE : 21-JUL-2006 01:15:00

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

OFFSET : 2877.30 keV CONSTANT FWHM : 9.33333 Channels
SLOPE : 7.30551 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 2.662990E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H9HWD1AC

Detector: ALP119 1
Report Date: 31-Jul-06 08:25 PM
Acquire Date: 31-JUL-2006 12:05:10.94
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	5138.1	269.0	294	330	0.00	0.00	M
PO-209	447	0	0	0.894	4906.4	268.3	258	294	0.00	0.00	P
PO-210	-9999	-9999	0	-9.998	5327.5	262.0	320	355	0.00	0.00	M
AC-227	1	3	2	-0.001	6061.2	271.3	417	453	0.00	0.00	S
TH-227	1	3	2	-0.001	6061.2	271.3	417	453	0.00	0.00	S
TH-228	-9999	-9999	0	-9.998	5446.4	269.8	335	371	0.00	0.00	M
TH-229	447	0	0	0.894	4868.5	268.3	258	294	0.00	0.00	P
TH-230	536	1	0	1.071	4710.9	185.9	229	254	0.00	0.00	P
TH-232	3	0	0	0.006	4036.2	266.1	146	182	0.00	0.00	S
U-232	-9999	-9999	0	-9.998	5343.3	262.0	322	357	0.00	0.00	M
U-234	536	1	0	1.071	4797.8	185.9	229	254	0.00	0.00	P
U-235	-9999	-9999	0	-9.998	4421.0	267.1	198	234	0.00	0.00	S I
PU-236	14	13	0	0.015	5790.8	97.7	393	406	0.00	0.00	P
NP-237	447	0	0	0.894	4811.2	268.3	258	294	0.00	0.00	P
PU-238	-9999	-9999	0	-9.998	5522.2	262.5	346	381	0.00	0.00	M
U-238	-9999	-9999	0	-9.998	4221.2	266.6	171	207	0.00	0.00	M
PU-239	-9999	-9999	0	-9.998	5179.8	269.1	300	336	0.00	0.00	M
AM-241	-9999	-9999	0	-9.998	5508.8	269.9	344	380	0.00	0.00	M
AM-242M	-9999	-9999	0	-9.998	5230.0	269.2	306	342	0.00	0.00	M
CM-242	-9999	-9999	0	-9.998	6135.9	271.5	427	463	0.00	0.00	M
PU-242	447	0	0	0.894	4923.7	268.3	258	294	0.00	0.00	P
AM-243	-9999	-9999	0	-9.998	5298.5	269.4	316	352	0.00	0.00	M
CM-244	14	13	0	0.015	5828.0	97.7	393	406	0.00	0.00	P
CM-246	-9999	-9999	0	-9.998	5409.7	262.2	331	366	0.00	0.00	M
CM-247	447	0	0	0.894	4893.6	268.3	258	294	0.00	0.00	P
CM-248	-9999	-9999	0	-9.998	5101.8	268.9	289	325	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: H9HWD1AC
Detector: ALP119 1
Report Date: 31-Jul-06 08:25 PM
Acquire Date: 31-JUL-2006 12:05:10.94

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

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
	0	451		0	501																					
	0	452		0	502																					
	0@	453		0	503																					
	0-	454		0	504																					
	0-	455		0	505																					
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VMS Peak Search Report V1.9 Generated 31-JUL-2006 20:25:18

Configuration : RDND06$DKA100:[ALP119.SAMPLE]H9HWD1AC_310761205.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 27-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 12:05:10
Sample ID : H9HWD1AC Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP119 Detector geometry:
Elapsed live time: 0 08:20:06.00 Elapsed real time: 0 08:20:06.00 0.0%
Start energy : 2899.22 kev End energy : 6687.53 kev
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4697.74	536	0	51.14	246.96	229	25	1.79E-02	4.3	
2	0	4868.46	447	0	65.75	269.90	258	36	1.49E-02	4.7	
3	0	5832.86	14	0	65.75	398.77	393	13	4.67E-04	26.7	

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

```
Configuration     : RDND06$DKA100:[ALP119.SAMPLE]H9HWD1AC_310761205.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : TH BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 31-JUL-2006 12:05:10
Sample ID         : H9HWD1AC             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP119               Detector geometry:
Elapsed live time: 0 08:20:06.00         Elapsed real time: 0 08:20:06.00   0.0%
Energy tolerance :   100.00 kev          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :     0.00
```

Summary of Nuclide Activity

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

Nuclide Type : NP

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

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-236	2.86Y	1.02	0.000E+00	0.000E+00	0.000E+00	0.00	
NP-237	2.14E+06Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-244	18.10Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-247	1.56E+07Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			

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

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

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

Configuration: RDND06$DKA100:[ALP119.SAMPLE]H9HWD1AC_310761205.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4697.73	229	254	536	532	0.17		
4868.46	258	294	447	449	-0.09		
5832.86	393	406	14	13	0.27		

End of Report

URANIUM ISOTOPIC

SAMPLE AND QC DATA

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

7/31/2006 3:14:27 PM

Lot No., Due Date: J6G180211; 08/15/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6200121; RUSIO Uiso by ALP

SDG, Matrix: 32139; 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: 6Z00121

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: 8-2-06

STL RICHLAND

7/26/2006 2:29:43 PM

Sample Preparation/Analysis

536403, Brown and Caldwell , Brown & Caldwell

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

Balance Id:1120373922

Pipet #: _____

AnalyDueDate: 08/14/2006

Sep1 DT/Tm Tech:

Batch: 6200121 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: None

Sep2 DT/Tm Tech: 7-29-06 mf

Prep Tech: HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 **H9F9W-1-AG** J6G180211-1-SAMP 06/27/2006 10:35	0.833sa	500.75sa	37.52g,in	0.0624g	UITC16033 07/14/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
2 **H9F92-1-AG** J6G180211-2-SAMP 06/27/2006 10:50	0.833sa,g	507.26sa,g	37.57g,in	0.0617g	UITC16034 07/14/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
3 **H9F95-1-AG** J6G180211-3-SAMP 06/27/2006 11:10	0.833sa,g	501.93sa,g	37.59g,in	0.0624g	UITC16035 07/14/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
4 **H9F98-1-AG** J6G180211-4-SAMP 06/27/2006 11:30	0.833sa,g	501.85sa,g	37.60g,in	0.0624g	UITC16036 07/14/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
5 **H9GAA-1-AG** J6G180211-5-SAMP 06/27/2006 11:55	0.833sa,g	501.93sa,g	37.64g,in	0.0625g	UITC16037 07/14/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
6 **H9GAC-1-AG** J6G180211-6-SAMP 06/27/2006 12:05	0.833sa,g	512.87sa,g	37.71g,in	0.0612g	UITC16038 07/14/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
7 **H9GAE-1-AG** J6G180211-7-SAMP 06/27/2006 10:45	0.833sa,g	505.38sa,g	37.61g,in	0.062g	UITC16039 07/14/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:

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STL RICHLAND

7/26/2006 2:29:44 PM

Sample Preparation/Analysis

536403, Brown and Caldwell , Brown & Caldwell

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

Balance Id:1120373922

Pipet #: _____

AnalyDueDate: 08/14/2006

Sep1 DT/Tm Tech:

Batch: 6200121 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:
9 **8 H9GAG-1-AG** J6G180211-8-SAMP 06/27/2006 11:00	0.833sa,g	507.15sa,g	37.52g,in	0.0616g	UITC16040 07/14/06,pd 01/20/04,r					
			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:
10 **9 H9GAJ-1-AG** J6G180211-9-SAMP 06/27/2006 10:40	0.833sa,g	500.13sa,g	37.73g,in	0.0628g	UITC16041 07/14/06,pd 01/20/04,r					
			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:
11 **10 H9GAK-1-AG** J6G180211-10-SAMP 06/27/2006 10:55	0.833sa,g	507.15sa,g	37.55g,in	0.0617g	UITC16042 07/14/06,pd 01/20/04,r					
			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:
12 **11 H9GAL-1-AG** J6G180211-11-SAMP 06/27/2006 11:15	0.833sa,g	505.87sa,g	37.68g,in	0.062g	UITC16043 07/14/06,pd 01/20/04,r					
			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:
69 **12 H9GAM-1-AG** J6G180211-12-SAMP 06/27/2006 11:35	0.833sa,g	505.07sa,g	37.52g,in	0.0619g	UITC16044 07/14/06,pd 01/20/04,r					
			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:
71 **13 H9GAN-1-AG** J6G180211-13-SAMP 06/27/2006 12:00	0.833sa,g	504.67sa,g	37.50g,in	0.0619g	UITC16045 07/14/06,pd 01/20/04,r					
			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:
83 **14 H9GAP-1-AG** J6G180211-14-SAMP 06/27/2006 12:10	0.833sa,g	505.49sa,g	37.65g,in	0.062g	UITC16046 07/14/06,pd 01/20/04,r					
			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:

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7/31/2006 3:07:01 PM

ICOC Fraction Transfer/Status Report

ByDate: 7/31/2005, 8/5/2006, Batch: '6200121', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6200121						
AC		**CalcC**	**HansenM**	7/20/2006 1:20:13 PM		
SC			wagarr	IsBatched	7/19/2006 8:00:26 AM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	7/20/2006 1:20:13 PM	RICH-RC-5016 REVISION 5
SC			HansenM	Prep2C	7/27/2006 7:12:24 AM	RICH-RC-5016 REVISION 5
SC			AndersonE	Sep1C	7/28/2006 1:38:49 PM	RICH-RC-5067 REV6
SC			FABREM	Sep2C	7/29/2006 1:02:17 PM	RICH-RC-5039 REV 6
SC			StringerR	InCnt1	7/29/2006 1:08:17 PM	RICH-RD-0008 REVISION 4
SC			BlackCL	CalcC	7/31/2006 6:55:15 AM	RICH-RD-0007 REVISION 5
AC			**HansenM**	7/27/2006 7:12:24		
AC			**AndersonE**	7/28/2006 1:38:49 PM		
AC			**FABREM**	7/29/2006 1:02:17 PM		
AC			**StringerR**	7/29/2006 1:08:17 PM		
AC			**BlackCL**	7/31/2006 6:55:15		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 6

ICOCFractions v4.8.18

7/31/2006 3:07:00 PM

Rpt DB Transfer log (Batch Results)

SEVERN TRENT STL

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Mda	Sample Date / Units	Expected	Yield	Volumes
32139	**9H9F9210**			**J6G1802112**	P-0684	FILTER	7/18/2006 10:00:00		6/27/2006 10:50:00 AM			
U-234	7YSR	0		7/30/2006 2:25:08 PM	**-3.9387E-02**	1.113E-01	1.113E-01	8.078E-01	PCI/SA	0.985	1.0E+0	3.17E-2
U-235	7YSR	0		7/30/2006 2:25:08 PM	**3.9328E-02**	1.041E-01	1.042E-01	6.209E-01	PCI/SA	0.985	1.0E+0	3.17E-2
U-238	7YSR	0		7/30/2006 2:25:08 PM	**-1.9708E-02**	1.095E-01	1.096E-01	7.677E-01	PCI/SA	0.985	1.0E+0	3.17E-2
32139	**9H9F9510**			**J6G1802113**	P-0685	FILTER	7/18/2006 10:00:00		6/27/2006 11:10:00 AM			
U-234	7YSR	0		7/30/2006 2:25:26 PM	**-1.2345E-01**	5.04E-02	5.137E-02	8.03E-01	PCI/SA	0.924	1.0E+0	3.238E-2
U-235	7YSR	0		7/30/2006 2:25:26 PM	**1.0291E-01**	1.029E-01	1.032E-01	2.789E-01	PCI/SA	0.924	1.0E+0	3.238E-2
U-238	7YSR	0		7/30/2006 2:25:26 PM	**-8.2269E-02**	1.2E-01	1.202E-01	9.208E-01	PCI/SA	0.924	1.0E+0	3.238E-2
32139	**9H9F9810**			**J6G1802114**	P-0686	FILTER	7/18/2006 10:00:00		6/27/2006 11:30:00 AM			
U-234	7YSR	0		7/30/2006 2:25:59 PM	**2.4413E-01**	1.942E-01	1.952E-01	7.71E-01	PCI/SA	0.98	1.0E+0	3.241E-2
U-235	7YSR	0		7/30/2006 2:25:59 PM	**-3.7556E-02**	2.656E-02	2.673E-02	5.306E-01	PCI/SA	0.98	1.0E+0	3.241E-2
U-238	7YSR	0		7/30/2006 2:25:59 PM	**2.6291E-01**	1.933E-01	1.945E-01	7.327E-01	PCI/SA	0.98	1.0E+0	3.241E-2
32139	**9H9F9W10**			**J6G1802111**	P-0683	FILTER	7/18/2006 10:00:00		6/27/2006 10:35:00 AM			
U-234	7YSR	0		7/30/2006 2:24:42 PM	**4.6182E-01**	2.263E-01	2.293E-01	5.674E-01	PCI/SA	0.982	1.0E+0	3.241E-2
U-235	7YSR	0		7/30/2006 2:24:42 PM	**6.0222E-02**	1.043E-01	1.045E-01	5.674E-01	PCI/SA	0.982	1.0E+0	3.241E-2
U-238	7YSR	0		7/30/2006 2:24:42 PM	**-8.0358E-02**	4.018E-02	4.07E-02	6.898E-01	PCI/SA	0.982	1.0E+0	3.241E-2
32139	**9H9GAA10**			**J6G1802115**	P-0687	FILTER	7/18/2006 10:00:00		6/27/2006 11:55:00 AM			
U-234	7YSR	0		7/30/2006 2:26:30 PM	**1.5989E-01**	1.599E-01	1.605E-01	4.333E-01	PCI/SA	0.599	1.0E+0	3.247E-2
U-235	7YSR	0		7/30/2006 2:26:30 PM	**-3.1994E-02**	3.199E-02	3.211E-02	7.659E-01	PCI/SA	0.599	1.0E+0	3.247E-2
U-238	7YSR	0		7/30/2006 2:26:30 PM	**9.5901E-02**	1.662E-01	1.664E-01	9.036E-01	PCI/SA	0.599	1.0E+0	3.247E-2
32139	**9H9GAC10**			**J6G1802116**	P-0688	FILTER	7/18/2006 10:00:00		6/27/2006 12:05:00 PM			
U-234	7YSR	0		7/30/2006 2:26:46 PM	**8.1919E-02**	1.044E-01	1.047E-01	4.906E-01	PCI/SA	0.988	1.0E+0	3.125E-2
U-235	7YSR	0		7/30/2006 2:26:46 PM	**0.0E+00**	0.0E+00	1.254E-01	2.775E-01	PCI/SA	0.988	1.0E+0	3.125E-2
U-238	7YSR	0		7/30/2006 2:26:46 PM	**1.8433E-01**	1.463E-01	1.47E-01	4.906E-01	PCI/SA	0.988	1.0E+0	3.125E-2
32139	**9H9GAE10**			**J6G1802117**	P-0689	FILTER	7/18/2006 10:00:00		6/27/2006 10:45:00 AM			
U-234	7YSR	0		7/30/2006 2:27:07 PM	**0.0E+00**	0.0E+00	1.211E-01	2.679E-01	PCI/SA	0.941	1.0E+0	3.199E-2
U-235	7YSR	0		7/30/2006 2:27:07 PM	**-1.9769E-02**	1.977E-02	1.983E-02	4.735E-01	PCI/SA	0.941	1.0E+0	3.199E-2
U-238	7YSR	0		7/30/2006 2:27:07 PM	**9.8858E-02**	9.886E-02	9.918E-02	2.679E-01	PCI/SA	0.941	1.0E+0	3.199E-2
32139	**9H9GAG10**			**J6G1802118**	P-0690	FILTER	7/18/2006 10:00:00		6/27/2006 11:00:00 AM			
U-234	7YSR	0		7/30/2006 2:27:27 PM	**-3.9864E-02**	2.819E-02	2.837E-02	5.629E-01	PCI/SA	1.004	1.0E+0	3.163E-2
U-235	7YSR	0		7/30/2006 2:27:27 PM	**0.0E+00**	0.0E+00	1.22E-01	2.699E-01	PCI/SA	1.004	1.0E+0	3.163E-2
U-238	7YSR	0		7/30/2006 2:27:27 PM	**-3.9864E-02**	2.819E-02	2.837E-02	5.629E-01	PCI/SA	1.004	1.0E+0	3.163E-2
32139	**9H9GAJ10**			**J6G1802119**	000509	FILTER	7/18/2006 10:00:00		6/27/2006 10:40:00 AM			
U-234	7YSR	0		7/30/2006 2:28:10 PM	**-2.0287E-02**	2.029E-02	2.035E-02	4.858E-01	PCI/SA	0.957	1.0E+0	3.284E-2
U-235	7YSR	0		7/30/2006 2:28:10 PM	**0.0E+00**	0.0E+00	1.242E-01	2.749E-01	PCI/SA	0.957	1.0E+0	3.284E-2
U-238	7YSR	0		7/30/2006 2:28:10 PM	**8.1144E-02**	1.034E-01	1.036E-01	4.858E-01	PCI/SA	0.957	1.0E+0	3.284E-2
32139	**9H9GAK10**			**J6G18021110**	000510	FILTER	7/18/2006 10:00:00		6/27/2006 10:55:00 AM			
U-234	7YSR	0		7/30/2006 2:28:28 PM	**0.0E+00**	0.0E+00	1.202E-01	2.66E-01	PCI/SA	0.909	1.0E+0	3.168E-2
U-235	7YSR	0		7/30/2006 2:28:28 PM	**-1.9627E-02**	1.963E-02	1.969E-02	4.701E-01	PCI/SA	0.909	1.0E+0	3.168E-2
U-238	7YSR	0		7/30/2006 2:28:28 PM	**7.8518E-02**	1.001E-01	1.003E-01	4.701E-01	PCI/SA	0.909	1.0E+0	3.168E-2
32139	**9H9GAL10**			**J6G18021111**	000511	FILTER	7/18/2006 10:00:00		6/27/2006 11:15:00 AM			
U-234	7YSR	0		7/30/2006 2:29:01 PM	**1.0205E-01**	1.021E-01	1.024E-01	2.766E-01	PCI/SA	0.968	1.0E+0	3.205E-2
U-235	7YSR	0		7/30/2006 2:29:01 PM	**0.0E+00**	0.0E+00	1.25E-01	2.766E-01	PCI/SA	0.968	1.0E+0	3.205E-2
U-238	7YSR	0		7/30/2006 2:29:01 PM	**1.837E-01**	1.458E-01	1.465E-01	4.888E-01	PCI/SA	0.968	1.0E+0	3.205E-2
32139	**9H9GAM10**			**J6G18021112**	000512	FILTER	7/18/2006 10:00:00		6/27/2006 11:35:00 AM			
U-234	7YSR	0		7/30/2006 2:29:43 PM	**2.0602E-01**	1.663E-01	1.672E-01	5.84E-01	PCI/SA	0.831	1.0E+0	3.188E-2
U-235	7YSR	0		7/30/2006 2:29:43 PM	**2.0602E-01**	1.663E-01	1.672E-01	5.84E-01	PCI/SA	0.831	1.0E+0	3.188E-2
U-238	7YSR	0		7/30/2006 2:29:43 PM	**6.0851E-02**	1.193E-01	1.194E-01	6.944E-01	PCI/SA	0.831	1.0E+0	3.188E-2
32139	**9H9GAN10**			**J6G18021113**	000513	FILTER	7/18/2006 10:00:00		6/27/2006 12:00:00 PM			
U-234	7YSR	0		7/30/2006 2:29:59 PM	**5.1741E-02**	1.014E-01	1.015E-01	5.905E-01	PCI/SA	1.0	1.0E+0	3.19E-2
U-235	7YSR	0		7/30/2006 2:29:59 PM	**-2.39E-02**	1.38E-02	1.393E-02	4.966E-01	PCI/SA	1.0	1.0E+0	3.19E-2
U-238	7YSR	0		7/30/2006 2:29:59 PM	**5.9708E-02**	1.011E-01	1.012E-01	5.626E-01	PCI/SA	1.0	1.0E+0	3.19E-2

6200121, **Samples Inserted | Updated | NotUpdated => 17 | 0 | 0,
**Results Inserted | ReTestInserted | Updated | NotInserted => 50 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H9HV71AA=> , mat:FILTER | Air *wo:H9HV71AA=> , mat:FILTER | Air *wo:H9HV71AC=> , mat:FILTER | Air *wo:H9HV71AC=> , 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	
32139	**9H9GAP10**			**J6G18021114**	000514	FILTER	7/18/2006 10:00:00	6/27/2006 12:10:00 PM					
U-234	7YSR	0		7/30/2006 2:30:15 PM	**2.03E-01**	1.639E-01	1.647E-01	5.754E-01	PCI/SA		0.905	1.0E+0	3.204E-2
U-235	7YSR	0		7/30/2006 2:30:15 PM	**-1.8459E-02**	1.305E-02	1.314E-02	5.271E-01	PCI/SA		0.905	1.0E+0	3.204E-2
U-238	7YSR	0		7/30/2006 2:30:15 PM	**3.2757E-01**	2.002E-01	2.02E-01	5.271E-01	PCI/SA		0.905	1.0E+0	3.204E-2
32139	**9H9GAT10**			**J6G18021115**	000515	FILTER	7/18/2006 10:00:00	6/27/2006 11:40:00 AM					
U-234	7YSR	0		7/30/2006 2:30:47 PM	**5.4144E-02**	1.062E-01	1.062E-01	6.18E-01	PCI/SA		1.021	1.0E+0	3.201E-2
U-235	7YSR	0		7/30/2006 2:30:47 PM	**-8.3387E-03**	8.339E-03	8.366E-03	4.194E-01	PCI/SA		1.021	1.0E+0	3.201E-2
U-238	7YSR	0		7/30/2006 2:30:47 PM	**-1.6677E-02**	1.179E-02	1.187E-02	4.761E-01	PCI/SA		1.021	1.0E+0	3.201E-2
32139	**H9HV71AB**			**J6G190000121**	INTRA-LAB BLANK	FILTER	7/18/2006 10:00:00	6/27/2006 10:35:00 AM					
U-234	7YSR	0	B	7/30/2006 2:31:10 PM	**-1.5493E-03**	1.095E-03	1.103E-03	4.425E-02	PCI/SA		0.9	1.0E+0	1.0E+0
U-235	7YSR	0	B	7/30/2006 2:31:10 PM	**8.133E-03**	9.744E-03	9.767E-03	4.425E-02	PCI/SA		0.9	1.0E+0	1.0E+0
U-238	7YSR	0	B	7/30/2006 2:31:10 PM	**-1.5493E-03**	1.095E-03	1.103E-03	4.425E-02	PCI/SA		0.9	1.0E+0	1.0E+0
32139	**H9HV71CS**			**J6G190000121**	INTRA-LAB CHECK	FILTER	7/18/2006 10:00:00	6/27/2006 10:35:00 AM					
U-234	7YSR	0	S	7/30/2006 2:31:31 PM	**9.6386E-01**	8.885E-02	1.176E-01	5.139E-02	PCI/SA	9.7966E-01	0.811	1.0E+0	1.0E+0
U-238	7YSR	0	S	7/30/2006 2:31:31 PM	**9.5247E-01**	8.806E-02	1.164E-01	2.206E-02	PCI/SA	1.026E+00	0.811	1.0E+0	1.0E+0

6200121, **Samples Inserted | Updated | NotUpdated => 17 | 0 | 0,
**Results Inserted | ReTestInserted | Updated | NotInserted => 50 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H9HV71AA=> , mat:FILTER | Air *wo:H9HV71AA=> , mat:FILTER | Air *wo:H9HV71AC=> , mat:FILTER | Air *wo:H9HV71AC=> , mat:FILTER | Air.

Batch Nbr: 6200121

Alpha Spec, UIso by ALP , Results

7/31/2006 6:45:57 AM

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	MLcC	MDC	QC	Yield	RYld
UIso by ALP				Richland Standard AlpIso Wo Blk Subt.										
Calc	SR	FILTER	H9F9W1AG	U-234	4.62E-01	(2.29E-01)		PCI/SA	R	1.48E-01	5.67E-01		98%	
Calc	SR	FILTER	H9F9W1AG	U-235	6.02E-02	(1.04E-01)	U4	PCI/SA	R	1.48E-01	5.67E-01		98%	
Calc	SR	FILTER	H9F9W1AG	U-238	-8.04E-02	(4.07E-02)	U4	PCI/SA	R	2.09E-01	6.90E-01		98%	
Calc	SR	FILTER	H9F921AG	U-234	-3.94E-02	(1.11E-01)	U4	PCI/SA	R	2.71E-01	8.08E-01		99%	
Calc	SR	FILTER	H9F921AG	U-235	3.93E-02	(1.04E-01)	U4	PCI/SA	R	1.77E-01	6.21E-01		99%	
Calc	SR	FILTER	H9F921AG	U-238	-1.97E-02	(1.10E-01)	U4	PCI/SA	R	2.51E-01	7.68E-01		99%	
Calc	SR	FILTER	H9F951AG	U-234	-1.23E-01	(5.14E-02)	U4	PCI/SA	R	2.62E-01	8.03E-01		92%	
Calc	SR	FILTER	H9F951AG	U-235	1.03E-01	(1.03E-01)	U4	PCI/SA	R		2.79E-01		92%	
Calc	SR	FILTER	H9F951AG	U-238	-8.23E-02	(1.20E-01)	U4	PCI/SA	R	3.21E-01	9.21E-01		92%	
Calc	SR	FILTER	H9F981AG	U-234	2.44E-01	(1.95E-01)	U4	PCI/SA	R	2.58E-01	7.71E-01		98%	
Calc	SR	FILTER	H9F981AG	U-235	-3.76E-02	(2.67E-02)	U4	PCI/SA	R	1.38E-01	5.31E-01		98%	
Calc	SR	FILTER	H9F981AG	U-238	2.63E-01	(1.94E-01)	U4	PCI/SA	R	2.39E-01	7.33E-01		98%	
Calc	SR	FILTER	H9GAA1AG	U-234	1.60E-01	(1.60E-01)	U4	PCI/SA	R		4.33E-01		60%	
Calc	SR	FILTER	H9GAA1AG	U-235	-3.20E-02	(3.21E-02)	U4	PCI/SA	R	1.66E-01	7.66E-01		60%	
Calc	SR	FILTER	H9GAA1AG	U-238	9.59E-02	(1.66E-01)	U4	PCI/SA	R	2.35E-01	9.04E-01		60%	
Calc	SR	FILTER	H9GAC1AG	U-234	8.19E-02	(1.05E-01)	U4	PCI/SA	R	1.07E-01	4.91E-01		99%	
Calc	SR	FILTER	H9GAC1AG	U-235	0.00E+00	(1.25E-01)	U4	PCI/SA	R		2.78E-01		99%	
Calc	SR	FILTER	H9GAC1AG	U-238	1.84E-01	(1.47E-01)	U4	PCI/SA	R	1.07E-01	4.91E-01		99%	
Calc	SR	FILTER	H9GAE1AG	U-234	0.00E+00	(1.21E-01)	U4	PCI/SA	R		2.68E-01		94%	
Calc	SR	FILTER	H9GAE1AG	U-235	-1.98E-02	(1.98E-02)	U4	PCI/SA	R	1.03E-01	4.73E-01		94%	
Calc	SR	FILTER	H9GAE1AG	U-238	9.89E-02	(9.92E-02)	U4	PCI/SA	R		2.68E-01		94%	
Calc	SR	FILTER	H9GAG1AG	U-234	-3.99E-02	(2.84E-02)	U4	PCI/SA	R	1.47E-01	5.63E-01		100%	
Calc	SR	FILTER	H9GAG1AG	U-235	0.00E+00	(1.22E-01)	U4	PCI/SA	R		2.70E-01		100%	
Calc	SR	FILTER	H9GAG1AG	U-238	-3.99E-02	(2.84E-02)	U4	PCI/SA	R	1.47E-01	5.63E-01		100%	
Calc	SR	FILTER	H9GAJ1AG	U-234	-2.03E-02	(2.04E-02)	U4	PCI/SA	R	1.06E-01	4.86E-01		96%	
Calc	SR	FILTER	H9GAJ1AG	U-235	0.00E+00	(1.24E-01)	U4	PCI/SA	R		2.75E-01		96%	
Calc	SR	FILTER	H9GAJ1AG	U-238	8.11E-02	(1.04E-01)	U4	PCI/SA	R	1.06E-01	4.86E-01		96%	
Calc	SR	FILTER	H9GAK1AG	U-234	0.00E+00	(1.20E-01)	U4	PCI/SA	R		2.66E-01		91%	
Calc	SR	FILTER	H9GAK1AG	U-235	-1.96E-02	(1.97E-02)	U4	PCI/SA	R	1.02E-01	4.70E-01		91%	
Calc	SR	FILTER	H9GAK1AG	U-238	7.85E-02	(1.00E-01)	U4	PCI/SA	R	1.02E-01	4.70E-01		91%	
Calc	SR	FILTER	H9GAL1AG	U-234	1.02E-01	(1.02E-01)	U4	PCI/SA	R		2.77E-01		97%	
Calc	SR	FILTER	H9GAL1AG	U-235	0.00E+00	(1.25E-01)	U4	PCI/SA	R		2.77E-01		97%	
Calc	SR	FILTER	H9GAL1AG	U-238	1.84E-01	(1.47E-01)	U4	PCI/SA	R	1.06E-01	4.89E-01		97%	
Calc	SR	FILTER	H9GAM1AG	U-234	2.06E-01	(1.67E-01)	U4	PCI/SA	R	1.33E-01	5.84E-01		83%	
Calc	SR	FILTER	H9GAM1AG	U-235	2.06E-01	(1.67E-01)	U4	PCI/SA	R	1.33E-01	5.84E-01		83%	
Calc	SR	FILTER	H9GAM1AG	U-238	6.09E-02	(1.19E-01)	U4	PCI/SA	R	1.89E-01	6.94E-01		83%	
Calc	SR	FILTER	H9GAN1AG	U-234	5.17E-02	(1.02E-01)	U4	PCI/SA	R	1.60E-01	5.91E-01		100%	

() - (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: 6200121

Alpha Spec, Uiso by ALP , Results

7/31/2006 6:45:58 AM

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Calc	SR	FILTER	H9GAN1AG	U-235	-2.39E-02	(1.39E-02)	U4	PCI/SA	R	1.13E-01	4.97E-01		100%	
Calc	SR	FILTER	H9GAN1AG	U-238	5.97E-02	(1.01E-01)	U4	PCI/SA	R	1.46E-01	5.63E-01		100%	
Calc	SR	FILTER	H9GAP1AG	U-234	2.03E-01	(1.65E-01)	U4	PCI/SA	R	1.31E-01	5.75E-01		90%	
Calc	SR	FILTER	H9GAP1AG	U-235	-1.85E-02	(1.31E-02)	U4	PCI/SA	R	1.07E-01	5.27E-01		90%	
Calc	SR	FILTER	H9GAP1AG	U-238	3.28E-01	(2.02E-01)	U4	PCI/SA	R	1.07E-01	5.27E-01		90%	
Calc	SR	FILTER	H9GAT1AG	U-234	5.41E-02	(1.06E-01)	U4	PCI/SA	R	1.68E-01	6.18E-01		102%	
Calc	SR	FILTER	H9GAT1AG	U-235	-8.34E-03	(8.37E-03)	U4	PCI/SA	R	6.86E-02	4.19E-01		102%	
Calc	SR	FILTER	H9GAT1AG	U-238	-1.67E-02	(1.19E-02)	U4	PCI/SA	R	9.70E-02	4.76E-01		102%	
Calc	SR	FILTER	H9HV71AA	U-234	-1.55E-03	(1.10E-03)	U4	PCI/SA	R	9.01E-03	4.42E-02	B	90%	
Calc	SR	FILTER	H9HV71AA	U-235	8.13E-03	(9.77E-03)	U4	PCI/SA	R	9.01E-03	4.42E-02	B	90%	
Calc	SR	FILTER	H9HV71AA	U-238	-1.55E-03	(1.10E-03)	U4	PCI/SA	R	9.01E-03	4.42E-02	B	90%	
Calc	SR	FILTER	H9HV71AC	U-234	9.64E-01	(1.18E-01)		PCI/SA	R	1.47E-02	5.14E-02	S	81%	98%
Calc	SR	FILTER	H9HV71AC	U-235	3.09E-02	(1.65E-02)		PCI/SA	R	8.47E-03	3.90E-02	S	81%	69%
Calc	SR	FILTER	H9HV71AC	U-238	9.52E-01	(1.16E-01)		PCI/SA	R		2.21E-02	S	81%	93%

PHenderson
7-31-06

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

7/26/2006 2:29:45 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:

Batch: 6200121 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:
84 15H9GAT-1-AG J6G180211-15-SAMP 06/27/2006 11:40	0.833sa,g	504.54sa,g	37.56g,in	0.062g	UITC16047 07/14/06,pd 01/20/04,r					
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
85 16H9HV7-1-AA-B J6G190000-121-BLK 06/27/2006 10:35			1.00sa,in	1.00sa	UITC16048 07/14/06,pd 01/20/04,r					
			AmtRec:	#Containers: 1			Scr:	Alpha:		Beta:
87 17H9HV7-1-AC-C J6G190000-121-LCS 06/27/2006 10:35			1.00sa,in	1.00sa	UISF0463 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

H9F9W1AG-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:

H9HV71AA-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:

H9HV71AC-LCS:

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

H9F9W1AG-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H9HV71AA-BLK:

Batch Nbr: 6200121

Alpha Spec, UIso by ALP , Calculated Results

7/31/2006 6:45:58 AM

Detailed Report

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
1	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H9F9W1AG**	**PCI/SA**		06/27/06 10:35	07/30/06 14:24			1	1.00 SA	
536403,P-0683					,J6G180211-1 v4.8.18		FILTER					UITC16033 Alq		0.062415 SA	

Sq	Cnt Date	Parameter	Sample 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	07/30/06 12:44	U-232	724	3	ALP1	ED	Y	N	3.6576E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	1000.1166			Y		(1.097E-02)						(0.000E+00)	16.021867		
1	07/30/06 12:44	U-234	5	2	ALP1	ED	N	N	3.6576E-01		N	98%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	1000.1166			Y		(1.097E-02)			5%			(0.000E+00)	16.021867		
2	07/30/06 12:44	U-235	1	2	ALP1	ED	N	N	3.6576E-01		N	98%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	1000.1166			Y		(1.097E-02)			5%			(0.000E+00)	16.021867		
3	07/30/06 12:44	U-238	0	4	ALP1	ED	N	N	3.6576E-01		N	98%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	1000.1166			Y		(1.097E-02)			5%			(0.000E+00)	16.021867		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/31/06	U-232	R	**71.326893**		3.61489E+00	9.883109	9.883109	1.00 SA	98%				
				(5.32986)		(1.3447E-01)	(0.472299)	(0.472299)	(0.028284)					
	07/31/06	U-234	R	**0.461825**		2.29857E-02	0.063991	0.063991	1.00 SA	98%		0.567425		
				(0.229329)		(1.1263E-02)	(0.031563)	(0.031563)	(0.028284)			0.147757		
	07/31/06	U-235	R	**0.060222**	**U4**	2.99732E-03	0.008344	0.008344	1.00 SA	98%		0.567425		
				(0.104456)		(5.1933E-03)	(0.014466)	(0.014466)	(0.028284)			0.147757		
	07/31/06	U-238	R	**-0.080358**	**U4**	-3.99953E-03	-0.011134	-0.011134	1.00 SA	98%		0.689759		
				(0.040697)		(1.9998E-03)	(0.005603)	(0.005603)	(0.028284)			0.20896		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9F921AG**	**PCI/SA**		06/27/06 10:50	07/30/06 14:25			1	1.00 SA	
536403,P-0684					,J6G180211-2 v4.8.18		FILTER					UITC16034 Alq		0.061696 SA	

Sq	Cnt Date	Parameter	Sample 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	07/30/06 12:45	U-232	748	8	ALP3	ED	Y	N	3.7651E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	1000.0333			Y		(1.130E-02)						(0.000E+00)	16.20856		
1	07/30/06 12:45	U-234	1	7	ALP3	ED	N	N	3.7651E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	1000.0333			Y		(1.130E-02)			5%			(0.000E+00)	16.20856		
2	07/30/06 12:45	U-235	1	3	ALP3	ED	N	N	3.7651E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	1000.0333			Y		(1.130E-02)			5%			(0.000E+00)	16.20856		
3	07/30/06 12:45	U-238	1	6	ALP3	ED	N	N	3.7651E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	1000.0333			Y		(1.130E-02)			5%			(0.000E+00)	16.20856		

() - (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: 6200121 — Alpha Spec, UIso by ALP , Calculated Results — 7/31/2006 6:45:59 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	**72.346196**		3.73075E+00	9.908883	9.908883	1.00 SA	99%				
				(5.386374)		(1.3673E-01)	(0.46931)	(0.46931)	(0.028284)					
	07/31/06	U-234	R	**-0.039387**	U4	-2.00143E-03	-0.005395	-0.005395	1.00 SA	99%		0.807843		
				(0.111339)		(5.6553E-03)	(0.015246)	(0.015246)	(0.028284)			0.270799		
	07/31/06	U-235	R	**0.039328**	U4	1.99843E-03	0.005387	0.005387	1.00 SA	99%		0.620915		
				(0.10415)		(5.2899E-03)	(0.014262)	(0.014262)	(0.028284)			0.17728		
	07/31/06	U-238	R	**-0.019708**	U4	-1.00147E-03	-0.002699	-0.002699	1.00 SA	99%		0.767691		
				(0.109551)		(5.5662E-03)	(0.015004)	(0.015004)	(0.028284)			0.250711		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9F951AG**	**PCI/SA**		06/27/06 11:10	07/30/06 14:25			1	1.00 SA	
536403,P-0685					,J6G180211-3 v4.8.18		FILTER					UITC16035 Alq		0.062384 SA	

Sq	Cnt Date	Parameter	Sample 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	07/30/06 12:45	U-232	707	5	ALP4	ED	Y	N	3.7951E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200	1000.3			Y		(1.139E-02)						(0.000E+00)	16.029716		
1	07/30/06 12:45	U-234	0	6	ALP4	ED	N	N	3.7951E-01		N	92%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200	1000.3			Y		(1.139E-02)			4%			(0.000E+00)	16.029716		
2	07/30/06 12:45	U-235	1	0	ALP4	ED	N	N	3.7951E-01		N	92%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200	1000.3			Y		(1.139E-02)			4%			(0.000E+00)	16.029716		
3	07/30/06 12:45	U-238	1	9	ALP4	ED	N	N	3.7951E-01		N	92%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200	1000.3			Y		(1.139E-02)			4%			(0.000E+00)	16.029716		

Sq	Calc Date	Parameter	Avg	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	**67.162666**		3.53000E+00	9.301554	9.301554	1.00 SA	92%				
				(5.03444)		(1.3297E-01)	(0.44791)	(0.44791)	(0.028284)					
	07/31/06	U-234	R	**-0.12345**	U4	-5.99820E-03	-0.017097	-0.017097	1.00 SA	92%		0.802977		
				(0.051374)		(2.4488E-03)	(0.007047)	(0.007047)	(0.028284)			0.262207		
	07/31/06	U-235	R	**0.102905**	U4	5.00000E-03	0.014252	0.014252	1.00 SA	92%		0.278874		
				(0.10324)		(5.0000E-03)	(0.014275)	(0.014275)	(0.028284)					
	07/31/06	U-238	R	**-0.082269**	U4	-3.99730E-03	-0.011394	-0.011394	1.00 SA	92%		0.920767		
				(0.120182)		(5.8305E-03)	(0.016631)	(0.016631)	(0.028284)			0.321137		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9F981AG**	**PCI/SA**		06/27/06 11:30	07/30/06 14:25			1	1.00 SA	
536403,P-0686					,J6G180211-4 v4.8.18		FILTER					UITC16036 Alq		0.062411 SA	

Sq	Cnt Date	Parameter	Sample 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	07/30/06 12:45	U-232	778	4	ALP5	ED	Y	N	3.9200E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	1000.2			Y		(1.176E-02)						(0.000E+00)	16.022899		

() - (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: 6200121 — Alpha Spec, UIso by ALP , Calculated Results — 7/31/2006 6:45:59 AM

1	07/30/06 12:45	U-234	4	7	ALP5	ED	N	N	3.9200E-01	N	98%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.0333333	1000.2			Y		(1.176E-02)		5%		(0.000E+00)	16.022899	
2	07/30/06 12:45	U-235	0	2	ALP5	ED	N	N	3.9200E-01	N	98%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.0333333	1000.2			Y		(1.176E-02)		5%		(0.000E+00)	16.022899	
3	07/30/06 12:45	U-238	4	6	ALP5	ED	N	N	3.9200E-01	N	98%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.0333333	1000.2			Y		(1.176E-02)		5%		(0.000E+00)	16.022899	

Sq	Calc Date	Parameter	Avg	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	**71.536645**		3.88535E+00	9.911534	9.911534	1.00 SA	98%				
				(5.299634)		(1.3945E-01)	(0.46365)	(0.46365)	(0.028284)					
	07/31/06	U-234	R	**0.244127**	**U4**	1.29981E-02	0.033824	0.033824	1.00 SA	98%		0.771039		
				(0.195225)		(1.0342E-02)	(0.026979)	(0.026979)	(0.028284)			0.258448		
	07/31/06	U-235	R	**-0.037556**	**U4**	-1.99960E-03	-0.005203	-0.005203	1.00 SA	98%		0.530579		
				(0.026725)		(1.4139E-03)	(0.003691)	(0.003691)	(0.028284)			0.138146		
	07/31/06	U-238	R	**0.262905**	**U4**	1.39979E-02	0.036426	0.036426	1.00 SA	98%		0.732719		
				(0.194476)		(1.0294E-02)	(0.026864)	(0.026864)	(0.028284)			0.239276		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAA1AG**	**PCI/SA**		06/27/06 11:55	07/30/06 14:26			1	1.00 SA	
536403,P-0687					,J6G180211-5 v4.8.18		FILTER					UITC16037 Alq		0.062467 SA	

Sq	Cnt Date	Parameter	Sample 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	07/30/06 12:46	U-232	456	4	ALP6	ED	Y	N	3.7594E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1333333	1000.1666			Y		(1.128E-02)						(0.000E+00)	16.008422		
1	07/30/06 12:46	U-234	1	0	ALP6	ED	N	N	3.7594E-01		N	60%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1333333	1000.1666			Y		(1.128E-02)			3%			(0.000E+00)	16.008422		
2	07/30/06 12:46	U-235	0	1	ALP6	ED	N	N	3.7594E-01		N	60%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1333333	1000.1666			Y		(1.128E-02)			3%			(0.000E+00)	16.008422		
3	07/30/06 12:46	U-238	1	2	ALP6	ED	N	N	3.7594E-01		N	60%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1333333	1000.1666			Y		(1.128E-02)			3%			(0.000E+00)	16.008422		

Sq	Calc Date	Parameter	Avg	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	**43.627388**		2.27448E+00	6.050121	6.050121	1.00 SA	60%				
				(3.490593)		(1.0672E-01)	(0.336937)	(0.336937)	(0.028284)					
	07/31/06	U-234	R	**0.159888**	**U4**	4.99667E-03	0.022173	0.022173	1.00 SA	60%		0.433296		
				(0.16047)		(4.9967E-03)	(0.022217)	(0.022217)	(0.028284)					
	07/31/06	U-235	R	**-0.031994**	**U4**	-9.99833E-04	-0.004437	-0.004437	1.00 SA	60%		0.765872		
				(0.03211)		(9.9983E-04)	(0.004446)	(0.004446)	(0.028284)			0.166387		
	07/31/06	U-238	R	**0.095901**	**U4**	2.99700E-03	0.013299	0.013299	1.00 SA	60%		0.90363		
				(0.166368)		(5.1929E-03)	(0.023059)	(0.023059)	(0.028284)			0.235307		

() - (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: 6200121 — Alpha Spec, UIso by ALP , Calculated Results — 7/31/2006 6:45:59 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
6	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H9GAC1AG**	**PCI/SA**		06/27/06 12:05	07/30/06 14:26			1	1.00 SA	
536403,P-0688					,J6G180211-6 v4.8.18		FILTER					UITC16038 Alq		0.061248 SA	

Sq	Cnt Date	Parameter	Sample 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	07/30/06 12:46	U-232	724	1	ALP7	ED	Y	N	3.6324E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.15	1000.1166			Y		(1.090E-02)						(0.000E+00)	16.326976		
1	07/30/06 12:46	U-234	1	1	ALP7	ED	N	N	3.6324E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.15	1000.1166			Y		(1.090E-02)			5%			(0.000E+00)	16.326976		
2	07/30/06 12:46	U-235	0	0	ALP7	ED	N	N	3.6324E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.15	1000.1166			Y		(1.090E-02)			5%			(0.000E+00)	16.326976		
3	07/30/06 12:46	U-238	2	1	ALP7	ED	N	N	3.6324E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.15	1000.1166			Y		(1.090E-02)			5%			(0.000E+00)	16.326976		

Sq	Calc Date	Parameter	Avg	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	**73.218609**		3.61629E+00	9.955639	9.955639	1.00 SA	99%				
				(5.470393)		(1.3444E-01)	(0.475589)	(0.475589)	(0.028284)					
	07/31/06	U-234	R	**0.081919**	**U4**	3.99637E-03	0.011139	0.011139	1.00 SA	99%		0.49059		
				(0.104654)		(5.0953E-03)	(0.014216)	(0.014216)	(0.028284)			0.106586		
	07/31/06	U-235	R	**0.00E00**	**U4**	0.00000E+00	0.00E00	0.00E00	1.00 SA	99%		0.277546		
				(0.125433)		(0.0000E+00)	(0.017055)	(0.017055)	(0.028284)					
	07/31/06	U-238	R	**0.184335**	**U4**	8.99262E-03	0.025064	0.025064	1.00 SA	99%		0.49059		
				(0.147031)		(7.1362E-03)	(0.01994)	(0.01994)	(0.028284)			0.106586		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAE1AG**	**PCI/SA**		06/27/06 10:45	07/30/06 14:27			1	1.00 SA	
536403,P-0689					,J6G180211-7 v4.8.18		FILTER					UITC16039 Alq		0.061991 SA	

Sq	Cnt Date	Parameter	Sample 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	07/30/06 12:47	U-232	742	5	ALP8	ED	Y	N	3.9047E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.2166			Y		(1.171E-02)						(0.000E+00)	16.131313		
1	07/30/06 12:47	U-234	0	0	ALP8	ED	N	N	3.9047E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.2166			Y		(1.171E-02)			4%			(0.000E+00)	16.131313		
2	07/30/06 12:47	U-235	0	1	ALP8	ED	N	N	3.9047E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.2166			Y		(1.171E-02)			4%			(0.000E+00)	16.131313		
3	07/30/06 12:47	U-238	1	0	ALP8	ED	N	N	3.9047E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.2166			Y		(1.171E-02)			4%			(0.000E+00)	16.131313		

() - (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: 6200121 — Alpha Spec, UIso by ALP , Calculated Results — 7/31/2006 6:45:59 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	**68.941065**		3.70469E+00	9.487716	9.487716	1.00 SA	94%				
				(5.136786)		(1.3621E-01)	(0.450213)	(0.450213)	(0.028284)					
	07/31/06	U-234	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	94%		0.267906		
				(0.121076)		(0.0000E+00)	(0.016663)	(0.016663)	(0.028284)					
	07/31/06	U-235	R	**-0.019769**	U4	-9.99783E-04	-0.002721	-0.002721	1.00 SA	94%		0.473473		
				(0.019833)		(9.9978E-04)	(0.002725)	(0.002725)	(0.028284)			0.102844		
	07/31/06	U-238	R	**0.098858**	U4	4.99958E-03	0.013605	0.013605	1.00 SA	94%		0.267906		
				(0.099177)		(4.9996E-03)	(0.013626)	(0.013626)	(0.028284)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
8	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H9GAG1AG**	**PCI/SA**		06/27/06 11:00	07/30/06 14:27			1	1.00 SA	
536403,P-0690					,J6G180211-8 v4.8.18		FILTER					UITC16040 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	07/30/06 12:47	U-232	744	4	ALP9	ED	Y	N	3.6670E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	1000.0333			Y		(1.100E-02)						(0.000E+00)	16.22664		
1	07/30/06 12:47	U-234	0	2	ALP9	ED	N	N	3.6670E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	1000.0333			Y		(1.100E-02)			5%			(0.000E+00)	16.22664		
2	07/30/06 12:47	U-235	0	0	ALP9	ED	N	N	3.6670E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	1000.0333			Y		(1.100E-02)			5%			(0.000E+00)	16.22664		
3	07/30/06 12:47	U-238	0	2	ALP9	ED	N	N	3.6670E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	1000.0333			Y		(1.100E-02)			5%			(0.000E+00)	16.22664		

Sq	Calc Date	Parameter	Avg	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	**74.025698**		3.71383E+00	10.127618	10.127618	1.00 SA	100%				
				(5.513435)		(1.3632E-01)	(0.480104)	(0.480104)	(0.028284)					
	07/31/06	U-234	R	**-0.039864**	U4	-1.99993E-03	-0.005454	-0.005454	1.00 SA	100%		0.562935		
				(0.028369)		(1.4142E-03)	(0.003869)	(0.003869)	(0.028284)			0.146591		
	07/31/06	U-235	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	100%		0.269927		
				(0.12199)		(0.0000E+00)	(0.01669)	(0.01669)	(0.028284)					
	07/31/06	U-238	R	**-0.039864**	U4	-1.99993E-03	-0.005454	-0.005454	1.00 SA	100%		0.562935		
				(0.028369)		(1.4142E-03)	(0.003869)	(0.003869)	(0.028284)			0.146591		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAJ1AG**	**PCI/SA**		06/27/06 10:40	07/30/06 14:28			1	1.00 SA	
536403,000509					,J6G180211-9 v4.8.18		FILTER					UITC16041 Alq		0.062842 SA	

Sq	Cnt Date	Parameter	Sample 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	07/30/06 12:48	U-232	714	3	ALP10	ED	Y	N	3.6914E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	1000.3166			Y		(1.107E-02)						(0.000E+00)	15.912965		

() - (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: 6200121 Alpha Spec, UIso by ALP , Calculated Results 7/31/2006 6:45:59 AM

1	07/30/06 12:48	U-234	0	1	ALP10	ED	N	N	3.6914E-01	N	96%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.0666666	1000.3166			Y		(1.107E-02)		5%		(0.000E+00)	15.912965	
2	07/30/06 12:48	U-235	0	0	ALP10	ED	N	N	3.6914E-01	N	96%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.0666666	1000.3166			Y		(1.107E-02)		5%		(0.000E+00)	15.912965	
3	07/30/06 12:48	U-238	1	1	ALP10	ED	N	N	3.6914E-01	N	96%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.0666666	1000.3166			Y		(1.107E-02)		5%		(0.000E+00)	15.912965	

Sq	Calc Date	Parameter	Avg	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	**69.241275**		3.56581E+00	9.659783	9.659783	1.00 SA	96%				
				(5.183001)		(1.3357E-01)	(0.463584)	(0.463584)	(0.028284)					
	07/31/06	U-234	R	**-0.020287**	U4	-9.99683E-04	-0.00283	-0.00283	1.00 SA	96%		0.48581		
				(0.020352)		(9.9968E-04)	(0.002835)	(0.002835)	(0.028284)			0.105529		
	07/31/06	U-235	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	96%		0.274878		
				(0.124227)		(0.0000E+00)	(0.017331)	(0.017331)	(0.028284)					
	07/31/06	U-238	R	**0.081144**	U4	3.99865E-03	0.01132	0.01132	1.00 SA	96%		0.48581		
				(0.103647)		(5.0973E-03)	(0.014445)	(0.014445)	(0.028284)			0.105529		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAK1AG**	**PCI/SA**		06/27/06 10:55	07/30/06 14:28			1	1.00 SA	
536403,000510					,J6G180211-10 v4.8.18		FILTER					UITC16042 Alq		0.061676 SA	

Sq	Cnt Date	Parameter	Sample 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	07/30/06 12:48	U-232	752	9	ALP11	ED	Y	N	4.0933E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	1000.2833			Y		(1.228E-02)						(0.000E+00)	16.213676		
1	07/30/06 12:48	U-234	0	0	ALP11	ED	N	N	4.0933E-01		N	91%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	1000.2833			Y		(1.228E-02)			4%			(0.000E+00)	16.213676		
2	07/30/06 12:48	U-235	0	1	ALP11	ED	N	N	4.0933E-01		N	91%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	1000.2833			Y		(1.228E-02)			4%			(0.000E+00)	16.213676		
3	07/30/06 12:48	U-238	1	1	ALP11	ED	N	N	4.0933E-01		N	91%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	1000.2833			Y		(1.228E-02)			4%			(0.000E+00)	16.213676		

Sq	Calc Date	Parameter	Avg	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	**66.915443**		3.75038E+00	9.162169	9.162169	1.00 SA	91%				
				(4.979163)		(1.3712E-01)	(0.433325)	(0.433325)	(0.028284)					
	07/31/06	U-234	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	91%		0.265972		
				(0.120202)		(0.0000E+00)	(0.016458)	(0.016458)	(0.028284)					
	07/31/06	U-235	R	**-0.019627**	U4	-9.99717E-04	-0.002687	-0.002687	1.00 SA	91%		0.470056		
				(0.01969)		(9.9972E-04)	(0.002692)	(0.002692)	(0.028284)			0.102103		
	07/31/06	U-238	R	**0.078518**	U4	3.99945E-03	0.010751	0.010751	1.00 SA	91%		0.470056		
				(0.100286)		(5.0981E-03)	(0.013717)	(0.013717)	(0.028284)			0.102103		

() - (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: 6200121 — Alpha Spec, Ulso by ALP , Calculated Results — 7/31/2006 6:46:00 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	**H9GAL1AG**	**PCI/SA**		06/27/06 11:15	07/30/06 14:29			1	1.00 SA	
536403,000511					,J6G180211-11 v4.8.18		FILTER					UITC16043 Alq		0.062046 Sa	

Sq	Cnt Date	Parameter	Sample 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	07/30/06 12:49	U-232	719	5	ALP12	ED	Y	N	3.6724E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.2333			Y		(1.102E-02)						(0.000E+00)	16.116956		
1	07/30/06 12:49	U-234	1	0	ALP12	ED	N	N	3.6724E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.2333			Y		(1.102E-02)			5%			(0.000E+00)	16.116956		
2	07/30/06 12:49	U-235	0	0	ALP12	ED	N	N	3.6724E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.2333			Y		(1.102E-02)			5%			(0.000E+00)	16.116956		
3	07/30/06 12:49	U-238	2	1	ALP12	ED	N	N	3.6724E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.2333			Y		(1.102E-02)			5%			(0.000E+00)	16.116956		

Sq	Calc Date	Parameter	Avg	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	**70.963595**		3.58970E+00	9.774757	9.774757	1.00 SA	97%				
				(5.308098)		(1.3408E-01)	(0.46828)	(0.46828)	(0.028284)					
	07/31/06	U-234	R	**0.102053**	**U4**	4.99958E-03	0.014057	0.014057	1.00 SA	97%		0.276564		
				(0.102384)		(4.9996E-03)	(0.01408)	(0.01408)	(0.028284)					
	07/31/06	U-235	R	**0.00E00**	**U4**	0.00000E+00	0.00E00	0.00E00	1.00 SA	97%		0.276564		
				(0.124989)		(0.0000E+00)	(0.017216)	(0.017216)	(0.028284)					
	07/31/06	U-238	R	**0.183699**	**U4**	8.99940E-03	0.025303	0.025303	1.00 SA	97%		0.488773		
				(0.146511)		(7.1408E-03)	(0.020128)	(0.020128)	(0.028284)			0.106167		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAM1AG**	**PCI/SA**		06/27/06 11:35	07/30/06 14:29			1	1.00 SA	
536403,000512					,J6G180211-12 v4.8.18		FILTER					UITC16044 Alq		0.061881 SA	

Sq	Cnt Date	Parameter	Sample 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	07/30/06 12:49	U-232	629	34	ALP69	ED	Y	N	3.7411E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	2500.1			Y		(1.122E-02)						(0.000E+00)	16.160089		
1	07/30/06 12:49	U-234	2	3	ALP69	ED	N	N	3.7411E-01		N	83%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	2500.1			Y		(1.122E-02)			4%			(0.000E+00)	16.160089		
2	07/30/06 12:49	U-235	2	3	ALP69	ED	N	N	3.7411E-01		N	83%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	2500.1			Y		(1.122E-02)			4%			(0.000E+00)	16.160089		
3	07/30/06 12:49	U-238	1	6	ALP69	ED	N	N	3.7411E-01		N	83%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	2500.1			Y		(1.122E-02)			4%			(0.000E+00)	16.160089		

() - (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: 6200121 — Alpha Spec, UIso by ALP , Calculated Results — 7/31/2006 6:46:00 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	**60.904055**		3.13009E+00	8.366732	8.366732	1.00 SA	83%				
				(4.640004)		(1.2537E-01)	(0.41869)	(0.41869)	(0.028284)					
	07/31/06	U-234	R	**0.206019**	U4	8.79588E-03	0.028302	0.028302	1.00 SA	83%		0.583959		
				(0.167197)		(7.1020E-03)	(0.022911)	(0.022911)	(0.028284)			0.13344		
	07/31/06	U-235	R	**0.206019**	U4	8.79588E-03	0.028302	0.028302	1.00 SA	83%		0.583959		
				(0.167197)		(7.1020E-03)	(0.022911)	(0.022911)	(0.028284)			0.133439		
	07/31/06	U-238	R	**0.060851**	U4	2.59801E-03	0.008359	0.008359	1.00 SA	83%		0.694438		
				(0.119394)		(5.0930E-03)	(0.016395)	(0.016395)	(0.028284)			0.188712		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAN1AG**	**PCI/SA**		06/27/06 12:00	07/30/06 14:29			1	1.00 SA	
536403,000513					,J6G180211-13 v4.8.18		FILTER					UITC16045 Alq		0.061897 SA	

Sq	Cnt Date	Parameter	Sample 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	07/30/06 12:49	U-232	740	29	ALP71	ED	Y	N	3.6536E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	2500.1666			Y		(1.096E-02)						(0.000E+00)	16.155902		
1	07/30/06 12:49	U-234	1	6	ALP71	ED	N	N	3.6536E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	2500.1666			Y		(1.096E-02)			5%			(0.000E+00)	16.155902		
2	07/30/06 12:49	U-235	0	3	ALP71	ED	N	N	3.6536E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	2500.1666			Y		(1.096E-02)			5%			(0.000E+00)	16.155902		
3	07/30/06 12:49	U-238	1	5	ALP71	ED	N	N	3.6536E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	2500.1666			Y		(1.096E-02)			5%			(0.000E+00)	16.155902		

Sq	Calc Date	Parameter	Avg	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	**73.4299**		3.68655E+00	10.090092	10.090092	1.00 SA	100%				
				(5.475434)		(1.3596E-01)	(0.4797)	(0.4797)	(0.028284)					
	07/31/06	U-234	R	**0.051741**	U4	2.59766E-03	0.00711	0.00711	1.00 SA	100%		0.590513		
				(0.101522)		(5.0926E-03)	(0.013944)	(0.013944)	(0.028284)			0.160473		
	07/31/06	U-235	R	**-0.0239**	U4	-1.19992E-03	-0.003284	-0.003284	1.00 SA	100%		0.496566		
				(0.013932)		(6.9277E-04)	(0.001905)	(0.001905)	(0.028284)			0.113471		
	07/31/06	U-238	R	**0.059708**	U4	2.99763E-03	0.008205	0.008205	1.00 SA	100%		0.562566		
				(0.101237)		(5.0769E-03)	(0.013903)	(0.013903)	(0.028284)			0.146491		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAP1AG**	**PCI/SA**		06/27/06 12:10	07/30/06 14:30			1	1.00 SA	
536403,000514					,J6G180211-14 v4.8.18		FILTER					UITC16046 Alq		0.062044 SA	

Sq	Cnt Date	Parameter	Sample 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	07/30/06 12:50	U-232	635	24	ALP83	ED	Y	N	3.4771E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	2500.1333			Y		(1.043E-02)						(0.000E+00)	16.117682		

() - (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: 6200121 Alpha Spec, UIso by ALP , Calculated Results 7/31/2006 6:46:00 AM

1	07/30/06 12:50	U-234	2	3	ALP83	ED	N	N	3.4771E-01	N	90%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.05	2500.1333			Y		(1.043E-02)		5%		(0.000E+00)	16.117682	
2	07/30/06 12:50	U-235	0	2	ALP83	ED	N	N	3.4771E-01	N	90%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.05	2500.1333			Y		(1.043E-02)		5%		(0.000E+00)	16.117682	
3	07/30/06 12:50	U-238	3	2	ALP83	ED	N	N	3.4771E-01	N	90%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.05	2500.1333			Y		(1.043E-02)		5%		(0.000E+00)	16.117682	

Sq	Calc Date	Parameter	Avg	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	**66.078144**		3.16461E+00	9.10141	9.10141	1.00 SA	90%				
				(5.025744)		(1.2598E-01)	(0.453681)	(0.453681)	(0.028284)					
	07/31/06	U-234	R	**0.202999**	**U4**	8.79756E-03	0.02796	0.02796	1.00 SA	90%		0.575362		
				(0.16474)		(7.1032E-03)	(0.022634)	(0.022634)	(0.028284)			0.131469		
	07/31/06	U-235	R	**-0.018459**	**U4**	-7.99957E-04	-0.002542	-0.002542	1.00 SA	90%		0.52714		
				(0.013139)		(5.6566E-04)	(0.001804)	(0.001804)	(0.028284)			0.107344		
	07/31/06	U-238	R	**0.327572**	**U4**	1.41963E-02	0.045119	0.045119	1.00 SA	90%		0.52714		
				(0.20199)		(8.6765E-03)	(0.027701)	(0.027701)	(0.028284)			0.107344		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAT1AG**	**PCI/SA**		06/27/06 11:40	07/30/06 14:30			1	1.00 SA	
536403,000515					,J6G180211-15 v4.8.18		FILTER					UITC16047 Alq		0.062012 SA	

Sq	Cnt Date	Parameter	Sample 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	07/30/06 12:50	U-232	717	15	ALP84	ED	Y	N	3.4843E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	2500.0833			Y		(1.045E-02)						(0.000E+00)	16.125939		
1	07/30/06 12:50	U-234	1	6	ALP84	ED	N	N	3.4843E-01		N	102%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	2500.0833			Y		(1.045E-02)			5%			(0.000E+00)	16.125939		
2	07/30/06 12:50	U-235	0	1	ALP84	ED	N	N	3.4843E-01		N	102%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	2500.0833			Y		(1.045E-02)			5%			(0.000E+00)	16.125939		
3	07/30/06 12:50	U-238	0	2	ALP84	ED	N	N	3.4843E-01		N	102%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	2500.0833			Y		(1.045E-02)			5%			(0.000E+00)	16.125939		

Sq	Calc Date	Parameter	Avg	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	**74.569553**		3.57691E+00	10.265732	10.265732	1.00 SA	102%				
				(5.58006)		(1.3382E-01)	(0.492281)	(0.492281)	(0.028284)					
	07/31/06	U-234	R	**0.054144**	**U4**	2.59717E-03	0.007454	0.007454	1.00 SA	102%		0.618028		
				(0.10625)		(5.0922E-03)	(0.014621)	(0.014621)	(0.028284)			0.167954		
	07/31/06	U-235	R	**-0.008339**	**U4**	-3.99987E-04	-0.001148	-0.001148	1.00 SA	102%		0.419371		
				(0.008366)		(3.9999E-04)	(0.00115)	(0.00115)	(0.028284)			0.068567		
	07/31/06	U-238	R	**-0.016677**	**U4**	-7.99973E-04	-0.002296	-0.002296	1.00 SA	102%		0.47614		
				(0.011869)		(5.6567E-04)	(0.001629)	(0.001629)	(0.028284)			0.096968		

() - (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: 6200121 — Alpha Spec, UIso by ALP , Calculated Results — 7/31/2006 6:46:00 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	**H9HV71AA**	**PCI/SA**	**B**	06/30/06 10:35	07/30/06 14:31			1	1.00 SA	
0,INTRA-LAB BLANK					,J6G190000-121		FILTER					UITC16048 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	07/30/06 12:51	U-232	475	68	ALP85	ED	Y	N	2.5840E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	2500.05			Y		(7.752E-03)						(0.000E+00)	1.00		
1	07/30/06 12:51	U-234	0	2	ALP85	ED	N	N	2.5840E-01		N	90%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	2500.05			Y		(7.752E-03)			5%			(0.000E+00)	1.00		
2	07/30/06 12:51	U-235	1	2	ALP85	ED	N	N	2.5840E-01		N	90%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	2500.05			Y		(7.752E-03)			5%			(0.000E+00)	1.00		
3	07/30/06 12:51	U-238	0	2	ALP85	ED	N	N	2.5840E-01		N	90%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	2500.05			Y		(7.752E-03)			5%			(0.000E+00)	1.00		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/31/06	U-232	R	**4.092438**		2.34760E+00	9.085222	9.085222	1.00 SA	90%				
				(0.31318)		(1.0901E-01)	(0.502266)	(0.502266)	(0.017321)					
	07/31/06	U-234	R	**-0.001549**	**U4**	-7.99984E-04	-0.003439	-0.003439	1.00 SA	90%		0.044249		
				(0.001103)		(5.6567E-04)	(0.002442)	(0.002442)	(0.017321)			0.00901		
	07/31/06	U-235	R	**0.008133**	**U4**	4.19960E-03	0.018055	0.018055	1.00 SA	90%		0.044249		
				(0.009767)		(5.0315E-03)	(0.021662)	(0.021662)	(0.017321)			0.00901		
	07/31/06	U-238	R	**-0.001549**	**U4**	-7.99984E-04	-0.003439	-0.003439	1.00 SA	90%		0.044249		
				(0.001103)		(5.6567E-04)	(0.002442)	(0.002442)	(0.017321)			0.00901		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9HV71AC**	**PCI/SA**	**S**	06/30/06 10:35	07/30/06 14:31		UISF0463	1	1.00 SA	
0,INTRA-LAB CHECK					,J6G190000-121		FILTER					UISF0463 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	07/30/06 12:51	U-232	560	6	ALP87	ED	Y	N	3.4106E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.1			Y		(1.023E-02)						(0.000E+00)	1.00		
1	07/30/06 12:51	U-234	119	3	ALP87	ED	N	N	3.4106E-01		N	81%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.1			Y		(1.023E-02)			4%			(0.000E+00)	1.00		
2	07/30/06 12:51	U-235	4	1	ALP87	ED	N	N	3.4106E-01		N	81%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.1			Y		(1.023E-02)			4%			(0.000E+00)	1.00		
3	07/30/06 12:51	U-238	117	0	ALP87	ED	N	N	3.4106E-01		N	81%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.1			Y		(1.023E-02)			4%			(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: 6200121

Alpha Spec, UIso by ALP , Calculated Results

7/31/2006 6:46:01 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	**3.688243**		2.79260E+00	8.187907	8.187907	1.00 SA	81%				
				(0.273382)		(1.1829E-01)	(0.424996)	(0.424996)	(0.017321)					
	07/31/06	U-234	R	**0.963865**		5.91703E-01	2.139781	2.139781	1.00 SA	81%	98%	0.051389		
				(0.117621)		(5.4544E-02)	(0.235294)	(0.235294)	(0.017321)			0.014673		
	07/31/06	U-235	R	**0.030934**		1.89901E-02	0.068674	0.068674	1.00 SA	81%	69%	0.038994		
				(0.016549)		(1.0045E-02)	(0.036558)	(0.036558)	(0.017321)			0.008471		
	07/31/06	U-238	R	**0.952469**		5.84708E-01	2.114484	2.114484	1.00 SA	81%	93%	0.022061		
				(0.116425)		(5.4056E-02)	(0.232989)	(0.232989)	(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

SEVERN TRENT **STL**

URANIUM ISOTOPIC COUNTING REQUEST

1611
7/30/06

STL RICHLAND

C.R. Technician 7/30/06 RS

Date Counted 7/30/06

Counting Time
Sample 200 Minutes
Background See Alpha Regions Report

SOP's
Operating: RICHRD008
Review: RICHRD0016

6/27/06 4 BRC 6200121

WorkOrder #	U-232 (5320 KeV) Tracer	TOTAL COUNTS U-238 (4196 KeV)	U-235 (4396 KeV)	U-234 (4776 KeV)	Det #	Comments/Edits
H9F9W1AG	See Counting Room Printout for ROI information				1	
H9F921AG	See Counting Room Printout for ROI information				3	
H9F951AG	See Counting Room Printout for ROI information				4	
H9F981AG	See Counting Room Printout for ROI information				5	
H9GAA1AG	See Counting Room Printout for ROI information				6	
H9GAC1AG	See Counting Room Printout for ROI information				7	
H9GAE1AG	See Counting Room Printout for ROI information				8	
H9GAG1AG	See Counting Room Printout for ROI information				9	
	See Counting Room Printout for ROI information					

Comments:

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

Approved by: S

Date: 7/31/06

252

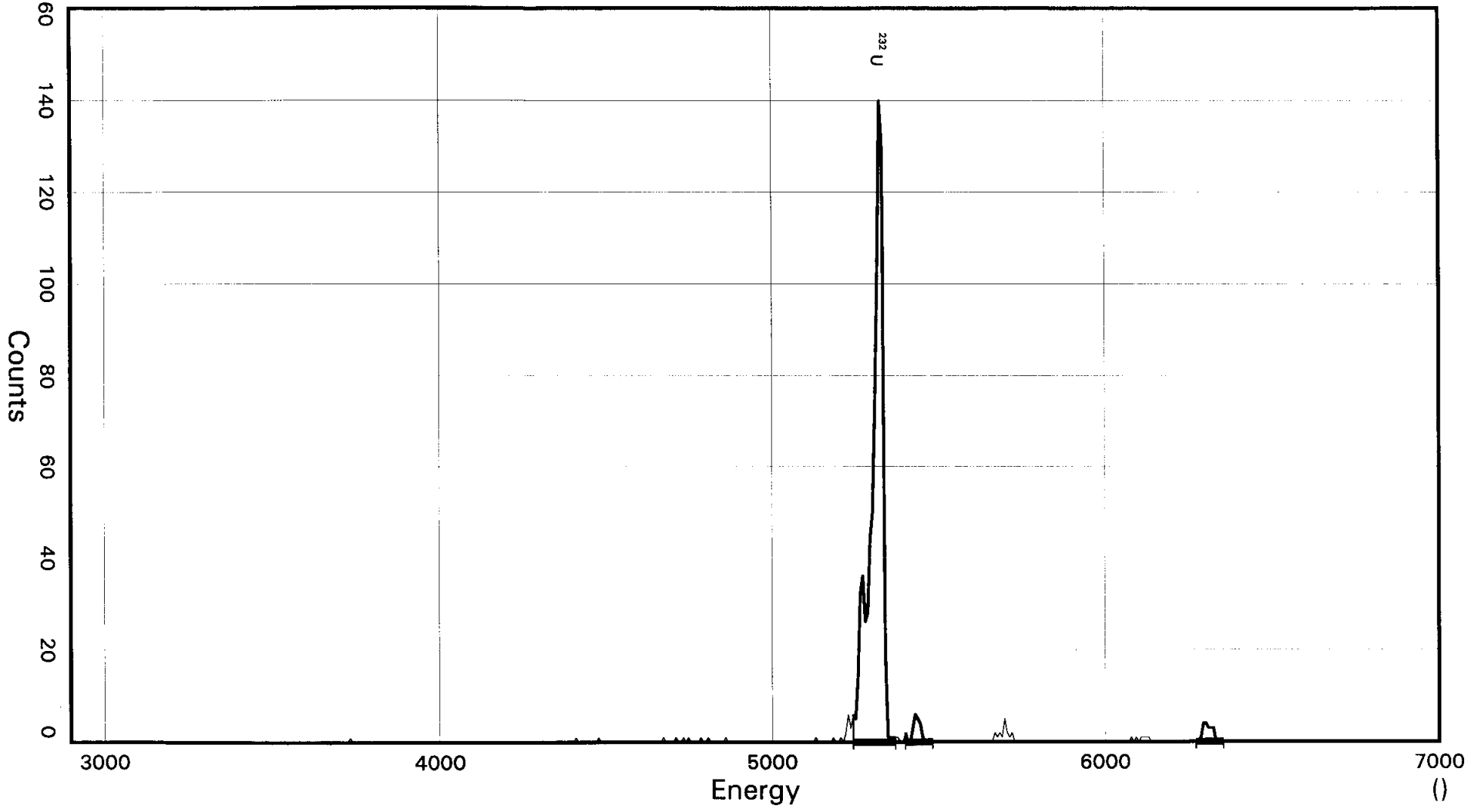
STL Richland WA.

U BRC

Sample ID: H9F9W1AG

Batch ID: 6200121

Detector ID: ALP1 1



Acquisition Start: 30-JUL-2006 12:44:38.42

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:07.00

Energy Coefficients:

Offset: 2.87647E+03

Slope: 7.49971E+00

Quadrature: -4.75056E-05

SAMPLE IDENTIITY: H9F9W1AG

TITLE : U BRC

DETECTOR : ALP1 1
CONFIGURATION NAME : $DISK1:[ALP1.SAMPLE]H9F9W1AG_300761244.CNF;1

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

REPORT DATE : 30-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 12:44:38 CALIB DATE : 06-JUL-2006 01:18:50

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

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: H9F9W1AG

Detector: ALP1 1
Report Date: 30-Jul-06 04:05 PM
Acquire Date: 30-JUL-2006 12:44:38.42
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	724	3	0	3.615	5320.1	127.0	316	333	0.00	0.00	P
U-234	5	2	0	0.023	4774.5	127.1	243	260	0.00	0.00	
U-235	1	2	0	0.003	4397.7	127.2	193	210	0.00	0.00	
U-238	0	4	0	-0.004	4197.9	127.2	166	183	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9F9W1AG
Detector: ALP1 1
Report Date: 30-Jul-06 04:05 PM
Acquire Date: 30-JUL-2006 12:44:38.42

Flags Key

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

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0	+	201	0	+	251	1		301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0	+	202	0	+	252	0		302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0	+	203	0	+	253	0		303	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	1	+	205	1	+	255	0		305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	0		306	0		356	0		406	1		456	0		506
0		7	0		57	0		107	0		157	0	+	207	0	+	257	0		307	0		357	0		407	4		457	0		507
0		8	0		58	0		108	0		158	0	+	208	1	+	258	1		308	0		358	0		408	4		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	0		310	0		360	0		410	3		460	0		510
0		11	0		61	0		111	0		161	0		211	0		261	1		311	0		361	0		411	3		461	0		511
0		12	0		62	0		112	0		162	0		212	0		262	0		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0		213	0		263	2		313	0		363	0		413	0		463			
0		14	0		64	1		114	0		164	1		214	0		264	6		314	0		364	0		414	0		464			
0		15	0		65	0		115	0		165	0		215	1		265	3		315	0		365	0		415	0		465			
0		16	0		66	0		116	0	+	166	0		216	0		266	6	+	316	0		366	0		416	0		466			
0		17	0		67	0		117	0	+	167	0		217	0		267	5	+	317	0		367	0		417	0		467			
0		18	0		68	0		118	0	+	168	0		218	0		268	14	+	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	36	+	320	0		370	0		420	0		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	26	+	321	0		371	0		421	0		471			
0		22	0		72	0		122	0	+	172	0		222	0		272	28	+	322	0		372	0		422	0		472			
0		23	0		73	0		123	0	+	173	0		223	0		273	44	+	323	2		373	0		423	0		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	50	+	324	1		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	72	+	325	2		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	0		276	103	+	326	1		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	140	+	327	5		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	130	+	328	2		378	1		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	19	+	329	1		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	1	+	330	2		380	1		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	1	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	1	+	332	0		382	1		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	1		333	0		383	1		433	0		483			
0		34	0		84	0		134	0		184	0		234	0		284	1		334	0		384	1		434	0		484			
0		35	0		85	0		135	0		185	0		235	0		285	0		335	0		385	1		435	0		485			
0		36	0		86	0		136	0		186	0		236	0		286	0		336	0		386	0		436	0		486			
0		37	0		87	0		137	0		187	0		237	0		287	2		337	0		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	0		288	0		338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	0		289	0		339	0		389	0		439	0		489			
0		40	0		90	0		140	0		190	1		240	0		290	3		340	0		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	0		291	6		341	0		391	0		441	0		491			
0		42	0		92	0		142	0		192	0		242	0		292	5		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	1		344	0		394	0		444	0		494			
0		45	0		95	0		145	0	+	195	1	+	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	1	+	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	1	+	250	0		300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 30-JUL-2006 16:05:01

```
Configuration     : $DISK1:[ALP1.SAMPLE]H9F9W1AG_300761244.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 12:44:38
Sample ID         : H9F9W1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP1                 Detector geometry:
Elapsed live time: 0 03:20:07.00         Elapsed real time: 0 03:20:07.00   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	5320.06	724	0	45.00	326.50	316	17	6.03E-02	3.7	
2	0	5430.55	21	0	37.50	341.29	337	11	1.75E-03	21.8	
3	0	6302.77	20	0	37.50	458.19	454	11	1.67E-03	22.4	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 16:05:03

Configuration	: $DISK1:[ALP1.SAMPLE]H9F9W1AG_300761244.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 27-JUN-2006 12:00:00	Acquisition date	: 30-JUL-2006 12:44:38
Sample ID	: H9F9W1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP1	Detector geometry	:
Elapsed live time	: 0 03:20:07.00	Elapsed real time	: 0 03:20:07.00 0.0%
Energy tolerance	: 40.00	Half life ratio	: 1.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Spline	Efficiencies at	: Peak Energy
Abundance limit	: 60.00		

Summary of Nuclide Activity

Total number of lines in spectrum	3	
Number of unidentified lines	2	
Number of lines tentatively identified by NID	1	33.33%

Nuclide Type : AP

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

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

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

Configuration: $DISK1:[ALP1.SAMPLE]H9F9W1AG_300761244.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5320.05	316	333	724	709	0.56		
5430.54	337	348	21	21	0.00		
6302.77	454	465	20	18	0.45		

End of Report

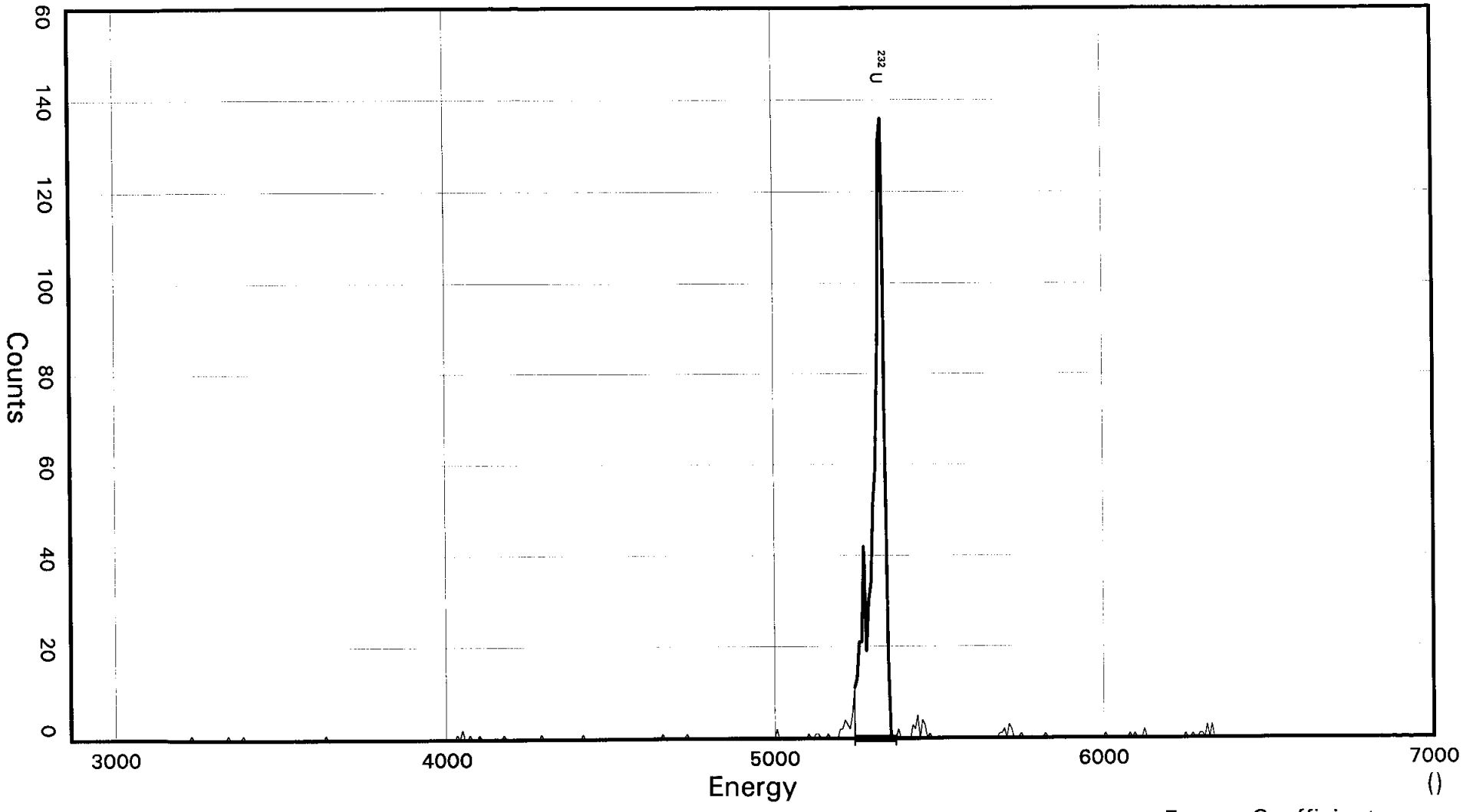
STL Richland WA.

U BRC

Sample ID: H9F921AG

Detector ID: ALP3 1

Batch ID: 6200121



Acquisition Start: 30-JUL-2006 12:45:05.67

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:04.00

Energy Coefficients:

Offset: 2.84210E+03

Slope: 7.41508E+00

Quadrature: -9.63550E-05

SAMPLE IDENTIITY: H9F921AG

TITLE : U BRC

DETECTOR : ALP3 1
CONFIGURATION NAME : $DISK1:[ALP3.SAMPLE]H9F921AG_300761245.CNF;1

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

REPORT DATE : 30-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 12:45:05 CALIB DATE : 06-JUL-2006 01:19:25

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:04

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: H9F921AG

Detector: ALP3 1
Report Date: 30-Jul-06 04:05 PM
Acquire Date: 30-JUL-2006 12:45:05.67
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	748	8	0	3.731	5322.6	125.0	325	342	0.00	0.00	P
U-234	1	7	0	-0.002	4777.0	125.2	251	268	0.00	0.00	
U-235	1	3	0	0.002	4400.2	125.4	200	217	0.00	0.00	
U-238	1	6	0	-0.001	4200.4	125.5	173	190	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9F921AG
Detector: ALP3 1
Report Date: 30-Jul-06 04:05 PM
Acquire Date: 30-JUL-2006 12:45:05.67

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	5		351	0		401	0		451	0		501
		2	1		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	4		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	0	+	254	0		304	3		354	1		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	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	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	1		310	0		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	0		362	0		412	1		462	0		512
0		13	0		63	0		113	2		163	1	+	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	1		465			
0		16	0		66	0		116	1		166	0	+	216	0	+	266	0		316	0		366	0		416	0		466			
0		17	1		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	2		319	0		369	0		419	1		469			
0		20	0		70	0		120	1		170	0		220	0		270	2		320	0		370	0		420	0		470			
0		21	0		71	0		121	0		171	0		221	0		271	4		321	0		371	0		421	3		471			
0		22	0		72	0		122	0		172	0		222	0		272	3		322	0		372	0		422	0		472			
0		23	1		73	0		123	0	+	173	0		223	0		273	2		323	0		373	0		423	3		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	5		324	0		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	11	+	325	0		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	0		276	13	+	326	0		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	21	+	327	0		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	21	+	328	0		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	42	+	329	0		379	1		429	0		479			
0		30	0		80	0		130	1	+	180	0		230	0		280	19	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	30	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	34	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	52	+	333	0		383	0		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	59	+	334	0		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	84	+	335	1		385	0		435	0		485			
0		36	0		86	0		136	0	+	186	0		236	0		286	131	+	336	1		386	0		436	0		486			
0		37	0		87	0		137	0	+	187	0		237	0		287	136	+	337	2		387	0		437	0		487			
0		38	0		88	0		138	0	+	188	0		238	0		288	68	+	338	0		388	0		438	0		488			
0		39	0		89	0		139	0	+	189	0		239	0		289	18	+	339	3		389	1		439	0		489			
0		40	0		90	0		140	0	+	190	0		240	0		290	0	+	340	2		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	0		291	0	+	341	0		391	1		441	0		491			
0		42	0		92	0		142	0		192	0		242	0		292	0		342	0		392	0		442	0		492			
0		43	0		93	0		143	0		193	0		243	2		293	2		343	0		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	0		395	2		445	0		495			
0		46	0		96	0		146	1		196	1		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	3		349	0		399	0		449	0		499			
0		50	0		100	0		150	0	+	200	0		250	0		300	2		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 30-JUL-2006 16:05:25

```
Configuration     : $DISK1:[ALP3.SAMPLE]H9F921AG_300761245.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 12:45:05
Sample ID         : H9F921AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP3                 Detector geometry:
Elapsed live time: 0 03:20:04.00         Elapsed real time: 0 03:20:04.00   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	5322.59	748	0	37.08	335.99	325	17	6.23E-02	3.7	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 16:05:27

Configuration	: $DISK1:[ALP3.SAMPLE]H9F921AG_300761245.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 27-JUN-2006 12:00:00	Acquisition date	: 30-JUL-2006 12:45:05
Sample ID	: H9F921AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP3	Detector geometry	:
Elapsed live time	: 0 03:20:04.00	Elapsed real time	: 0 03:20:04.00 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]H9F921AG_300761245.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5322.59	325	342	748	739	0.33		

End of Report

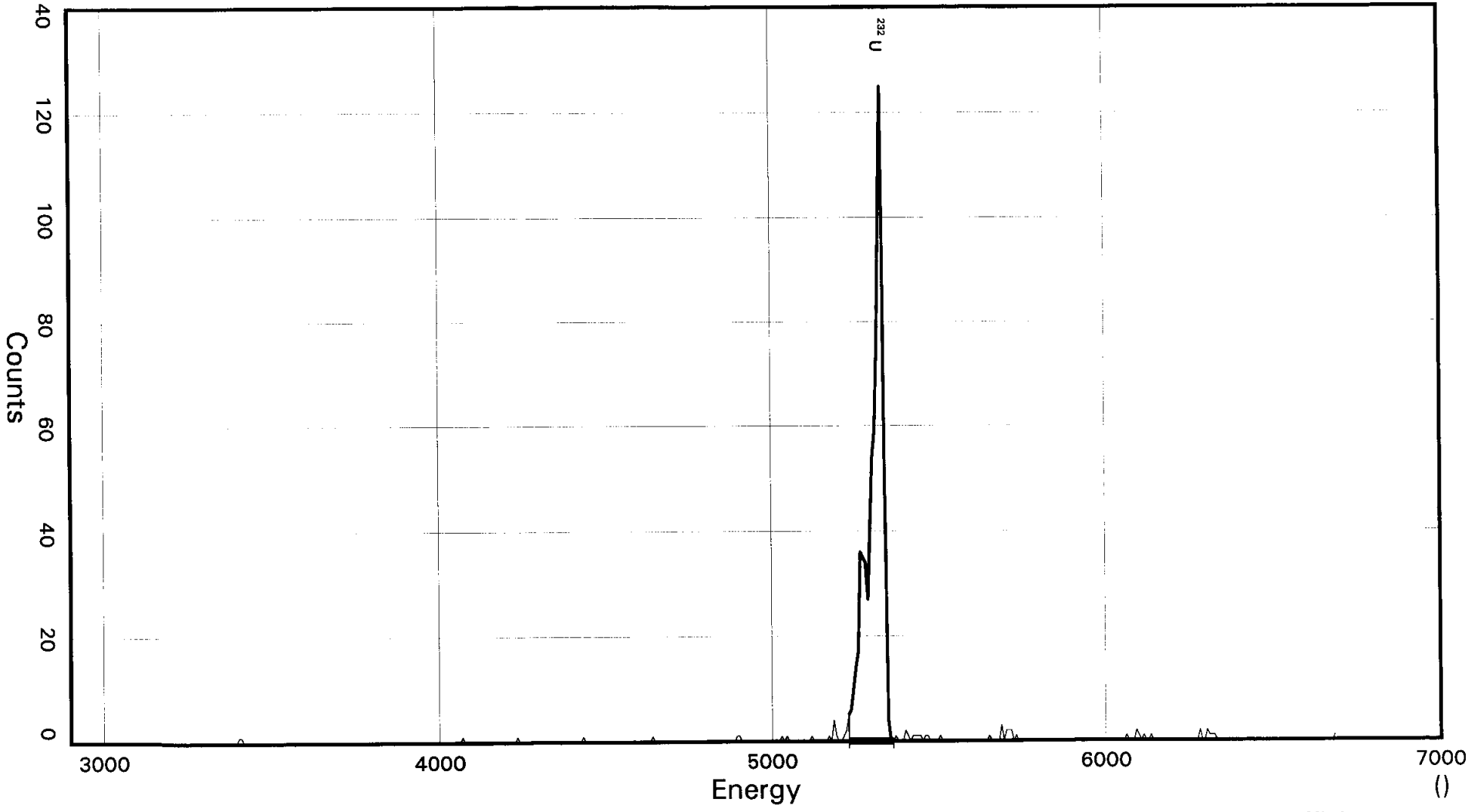
STL Richland WA.

U BRC

Sample ID: H9F951AG

Detector ID: ALP4 1

Batch ID: 6200121



Acquisition Start: 30-JUL-2006 12:45:25.52

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:00.00

Energy Coefficients:

Offset: 2.87930E+03

Slope: 7.56500E+00

Quadrature: -2.63100E-04

SAMPLE IDENTIITY: H9F951AG

TITLE : U BRC

DETECTOR : ALP4 1
CONFIGURATION NAME : $DISK1:[ALP4.SAMPLE]H9F951AG_300761245.CNF;1

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

REPORT DATE : 30-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 12:45:25 CALIB DATE : 06-JUL-2006 01:19:39

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

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: H9F951AG

Detector: ALP4 1
Report Date: 30-Jul-06 04:05 PM
Acquire Date: 30-JUL-2006 12:45:25.52
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	5325.0	133.1	314	332	0.00	0.00	P
U-234	0	6	0	-0.006	4779.4	133.8	240	258	0.00	0.00	
U-235	1	0	0	0.005	4402.6	134.3	190	208	0.00	0.00	
U-238	1	9	0	-0.004	4202.8	134.5	163	181	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9F951AG
Detector: ALP4 1
Report Date: 30-Jul-06 04:05 PM
Acquire Date: 30-JUL-2006 12:45:25.52

Flags Key

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

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0	+	201	0	+	251	0		301	1		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0	+	202	0	+	252	0		302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0	+	203	0	+	253	0		303	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	1	+	207	0	+	257	0		307	0		357	0		407	2		457	0		507
0		8	0		58	0		108	1		158	0	+	208	0	+	258	4		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	2		460	0		510
0		11	0		61	0		111	0		161	0		211	0		261	0		311	0		361	0		411	1		461	0		511
0		12	0		62	0		112	0		162	0		212	0		262	1		312	0		362	0		412	1		462	1		512
0		13	0		63	0		113	0	+	163	0		213	0		263	2		313	0		363	0		413	1		463			
0		14	0		64	0		114	0	+	164	0		214	0		264	5	+	314	0		364	0		414	0		464			
0		15	0		65	0		115	0	+	165	0		215	0		265	6	+	315	0		365	0		415	0		465			
0		16	0		66	0		116	0	+	166	0		216	0		266	10	+	316	0		366	0		416	0		466			
0		17	0		67	0		117	0	+	167	0		217	0		267	14	+	317	0		367	0		417	0		467			
0		18	0		68	0		118	0	+	168	0		218	0		268	17	+	318	0		368	0		418	0		468			
0		19	1		69	0		119	0	+	169	0		219	1		269	36	+	319	0		369	0		419	0		469			
0		20	1		70	0		120	0	+	170	0		220	1		270	35	+	320	0		370	0		420	0		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	34	+	321	1		371	0		421	0		471			
0		22	0		72	0		122	0	+	172	0		222	0		272	27	+	322	0		372	0		422	0		472			
0		23	0		73	0		123	0	+	173	0		223	0		273	41	+	323	0		373	0		423	0		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	54	+	324	0		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	59	+	325	0		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	0		276	75	+	326	3		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	104	+	327	0		377	1		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	125	+	328	2		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	52	+	329	2		379	0		429	0		479			
0		30	0		80	0		130	1	+	180	0		230	0		280	4	+	330	2		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	0	+	331	0		381	2		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	1		434	0		484			
0		35	0		85	0		135	0		185	1		235	0		285	0		335	0		385	0		435	0		485			
0		36	0		86	0		136	0		186	0		236	0		286	0		336	0		386	0		436	0		486			
0		37	0		87	0		137	0		187	0		237	1		287	2		337	0		387	1		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	1		289	0		339	0		389	0		439	0		489			
0		40	0		90	0		140	0	+	190	0	+	240	0		290	1		340	0		390	0		440	0		490			
0		41	0		91	0		141	0	+	191	0	+	241	0		291	1		341	0		391	0		441	0		491			
0		42	0		92	0		142	0	+	192	0	+	242	0		292	1		342	0		392	0		442	0		492			
0		43	0		93	0		143	0	+	193	0	+	243	0		293	1		343	0		393	0		443	0		493			
0		44	0		94	0		144	0	+	194	0	+	244	0		294	0		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	0		348	0		398	0		448	0		498			
0		49	0		99	0		149	0	+	199	0	+	249	1		299	0		349	0		399	0		449	0		499			
0		50	0		100	0		150	0	+	200	0	+	250	0		300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 30-JUL-2006 16:05:42

Configuration	: $DISK1:[ALP4.SAMPLE]H9F951AG_300761245.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: U BRC		
Sample date	: 27-JUN-2006 12:00:00	Acquisition date	: 30-JUL-2006 12:45:25
Sample ID	: H9F951AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP4	Detector geometry	:
Elapsed live time	: 0 03:20:00.00	Elapsed real time	: 0 03:20:00.00 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	5324.95	707	0	37.82	327.00	314	18	5.89E-02	3.8	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 16:05:44

```
Configuration     : $DISK1:[ALP4.SAMPLE]H9F951AG_300761245.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : U BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 12:45:25
Sample ID         : H9F951AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP4                 Detector geometry:
Elapsed live time: 0 03:20:00.00         Elapsed real time: 0 03:20:00.00   0.0%
Energy tolerance :    40.00              Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    60.00
```

Summary of Nuclide Activity

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

Nuclide Type : AP

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

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

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

Configuration: $DISK1:[ALP4.SAMPLE]H9F951AG_300761245.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5324.95	314	332	707	698	0.34		

End of Report

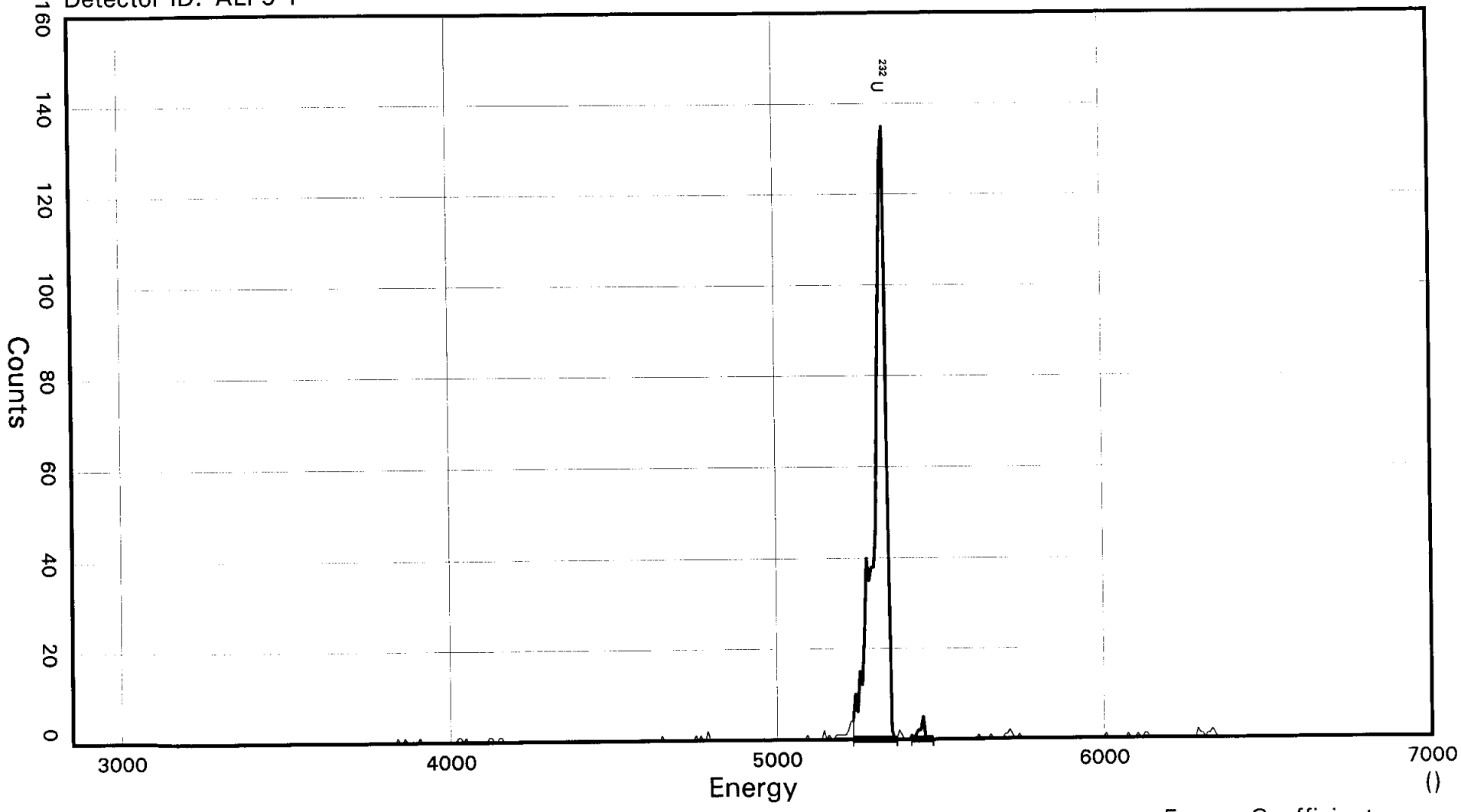
STL Richland WA.

U BRC

Sample ID: H9F981AG

Detector ID: ALP5 1

Batch ID: 6200121



Acquisition Start: 30-JUL-2006 12:45:57.76

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:02.00

Energy Coefficients:

Offset: 2.82947E+03

Slope: 7.36520E+00

Quadrature: 1.24622E-05

SAMPLE IDENTIITY: H9F981AG

TITLE : U BRC

DETECTOR : ALP5 1
CONFIGURATION NAME : $DISK1:[ALP5.SAMPLE]H9F981AG_300761245.CNF;1

ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:10

REPORT DATE : 30-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 12:45:57 CALIB DATE : 06-JUL-2006 01:19:33

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

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: H9F981AG

Detector: ALP5 1
Report Date: 30-Jul-06 04:06 PM
Acquire Date: 30-JUL-2006 12:45:57.76
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

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

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	778	4	0	3.885	5327.2	132.7	326	344	0.00	0.00	P
U-234	4	7	0	0.013	4781.6	132.7	252	270	0.00	0.00	
U-235	0	2	0	-0.002	4404.8	132.7	201	219	0.00	0.00	
U-238	4	6	0	0.014	4205.0	132.7	174	192	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9F981AG
Detector: ALP5 1
Report Date: 30-Jul-06 04:06 PM
Acquire Date: 30-JUL-2006 12:45:57.76

Flags Key

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

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0	+	201	0		251	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	2		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	0	+	254	0		304	2		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0	+	255	0		305	5		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	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	1		162	0	+	212	0	+	262	0		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	1		163	0	+	213	1	+	263	0		313	0		363	0		413	0		463			
0		14	0		64	0		114	0		164	0	+	214	0	+	264	2		314	0		364	0		414	0		464			
0		15	0		65	0		115	1		165	0	+	215	0	+	265	0		315	0		365	0		415	0		465			
0		16	0		66	0		116	0		166	0	+	216	2	+	266	1		316	0		366	0		416	0		466			
0		17	0		67	0		117	0		167	0	+	217	0	+	267	0		317	0		367	0		417	0		467			
0		18	0		68	0		118	0		168	0	+	218	0	+	268	0		318	0		368	0		418	0		468			
0		19	0		69	0		119	0		169	0	+	219	0	+	269	1		319	0		369	0		419	2		469			
0		20	0		70	0		120	0		170	0		220	0	+	270	1		320	0		370	0		420	1		470			
0		21	0		71	0		121	0		171	0		221	0		271	1		321	0		371	0		421	1		471			
0		22	0		72	0		122	0		172	0		222	0		272	1		322	0		372	0		422	0		472			
0		23	0		73	0		123	0		173	0		223	0		273	1		323	0		373	0		423	1		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	2		324	0		374	0		424	1		474			
0		25	0		75	0		125	1	+	175	0		225	0		275	4		325	0		375	0		425	2		475			
0		26	0		76	0		126	1	+	176	0		226	0		276	4	+	326	0		376	0		426	1		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	10	+	327	0		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	6	+	328	1		378	0		428	0		478			
0		29	0		79	0		129	1	+	179	0		229	0		279	15	+	329	0		379	0		429	0		479			
0		30	0		80	0		130	1	+	180	0		230	0		280	12	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	24	+	331	0		381	1		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	40	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	35	+	333	1		383	0		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	38	+	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	0	+	186	0		236	0		286	47	+	336	0		386	0		436	0		486			
0		37	0		87	1		137	0	+	187	0		237	0		287	78	+	337	0		387	0		437	0		487			
0		38	0		88	0		138	0	+	188	0		238	0		288	105	+	338	0		388	0		438	0		488			
0		39	0		89	0		139	0	+	189	0		239	0		289	129	+	339	1		389	0		439	0		489			
0		40	0		90	1		140	0	+	190	0		240	0		290	135	+	340	1		390	1		440	0		490			
0		41	0		91	0		141	0	+	191	0		241	0		291	50	+	341	2		391	0		441	0		491			
0		42	0		92	0		142	0	+	192	0		242	0		292	2	+	342	1		392	0		442	0		492			
0		43	0		93	0		143	0		193	0		243	0		293	0	+	343	0		393	0		443	0		493			
0		44	0		94	0		144	0		194	0		244	0		294	0		344	0		394	1		444	0		494			
0		45	0		95	0		145	0		195	0		245	0		295	2		345	1		395	0		445	0		495			
0		46	0		96	1		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	0		347	0		397	1		447	0		497			
0		48	0		98	0		148	0		198	0		248	0		298	0		348	0		398	1		448	0		498			
0		49	0		99	0		149	0		199	0		249	0		299	0		349	0		399	0		449	0		499			
0		50	0		100	0		150	0		200	0		250	0		300	1		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 30-JUL-2006 16:06:14

Configuration	: $DISK1:[ALP5.SAMPLE]H9F981AG_300761245.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: U BRC		
Sample date	: 27-JUN-2006 12:00:00	Acquisition date	: 30-JUL-2006 12:45:57
Sample ID	: H9F981AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP5	Detector geometry	:
Elapsed live time	: 0 03:20:02.00	Elapsed real time	: 0 03:20:02.00 0.0%
Start energy	: 2851.57	End energy	: 6603.72
Sensitivity	: 4.00	Sum Sensitivity	: 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5327.19	778	0	36.83	338.93	326	18	6.48E-02	3.6	
2	0	5441.59	12	0	29.46	354.44	350	9	1.00E-03	28.9	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 16:06:16

```
Configuration     : $DISK1:[ALP5.SAMPLE]H9F981AG_300761245.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : U BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 12:45:57
Sample ID         : H9F981AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP5                 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                2
 Number of unidentified lines                     1
 Number of lines tentatively identified by NID    1       50.00%
```

Nuclide Type : AP

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

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

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

Configuration: $DISK1:[ALP5.SAMPLE]H9F981AG_300761245.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5327.18	326	344	778	768	0.36		
5441.59	350	359	12	11	0.29		

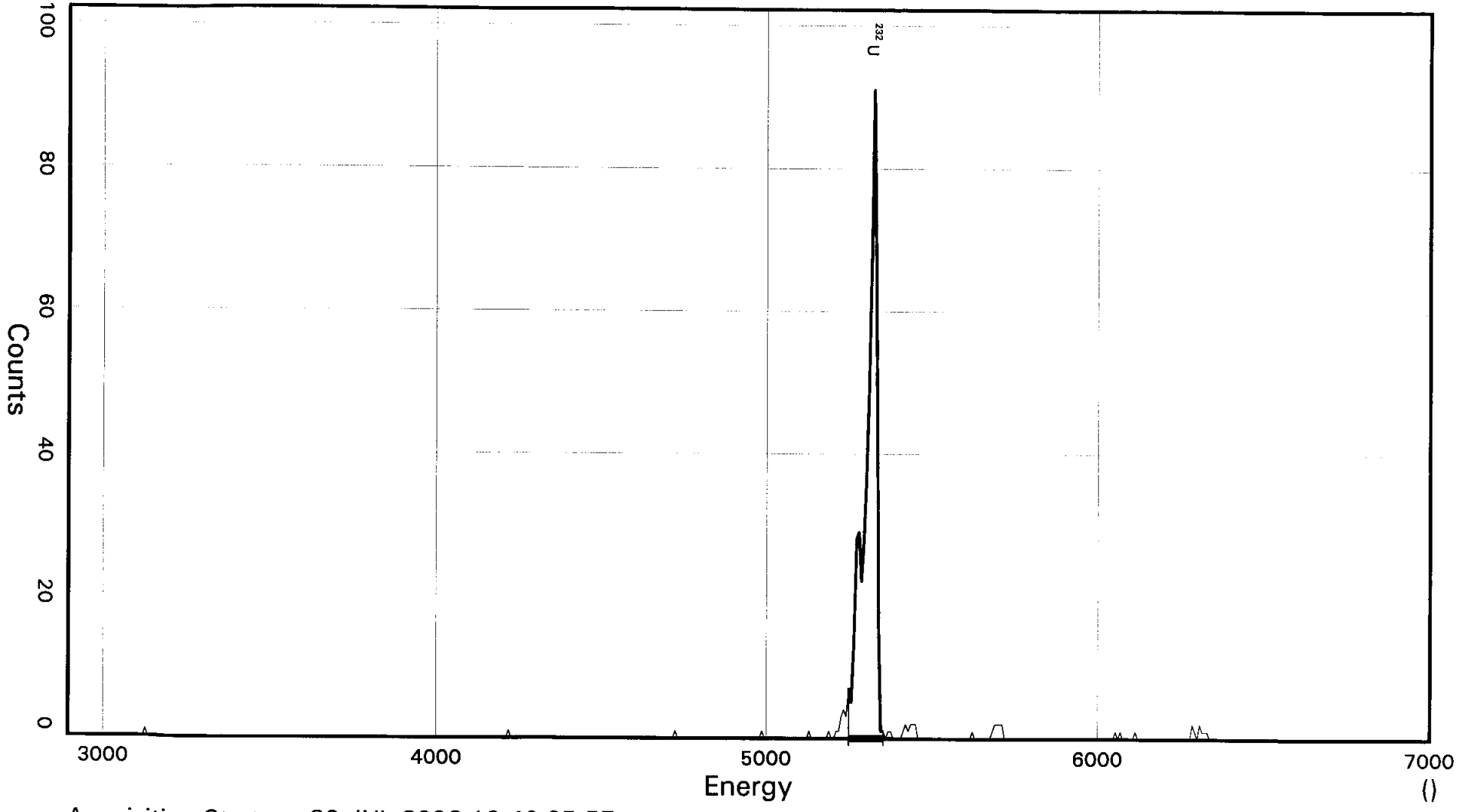
End of Report

STL Richland WA.

U BRC

Sample ID: H9GAA1AG
Detector ID: ALP6 1

Batch ID: 6200121



Acquisition Start: 30-JUL-2006 12:46:25.57
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:08.00

Energy Coefficients:
Offset: 2.87271E+03
Slope: 7.47367E+00
Quadrature: -1.34779E-05

SAMPLE IDENTIITY: H9GAA1AG

TITLE : U BRC

DETECTOR : ALP6 1
CONFIGURATION NAME : $DISK1:[ALP6.SAMPLE]H9GAA1AG_300761246.CNF;1

ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:12

REPORT DATE : 30-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 12:46:25 CALIB DATE : 06-JUL-2006 01:19:16

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

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: H9GAA1AG

Detector: ALP6 1
Report Date: 30-Jul-06 04:06 PM
Acquire Date: 30-JUL-2006 12:46:25.57
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	456	4	0	2.274	5316.5	104.5	318	332	0.00	0.00	P
U-234	1	0	0	0.005	4771.0	104.5	245	259	0.00	0.00	
U-235	0	1	0	-0.001	4394.2	104.6	194	208	0.00	0.00	
U-238	1	2	0	0.003	4194.4	104.6	168	182	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GAA1AG
Detector: ALP6 1
Report Date: 30-Jul-06 04:06 PM
Acquire Date: 30-JUL-2006 12:46:25.57

Flags Key

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

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0	+	201	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	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	0	+	254	0		304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0	+	255	0		305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	0		306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0	+	207	0	+	257	0		307	0		357	0		407	2		457	0		507
0		8	0		58	0		108	0		158	0	+	208	0	+	258	0		308	0		358	0		408	1		458	0		508
0		9	0		59	0		109	0		159	0		209	0	+	259	0		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	0		210	0		260	1		310	0		360	0		410	2		460	0		510
0		11	0		61	0		111	0		161	0		211	0		261	0		311	0		361	0		411	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	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	3		315	0		365	0		415	0		465			
0		16	0		66	0		116	0		166	0		216	0		266	4		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	7	+	318	1		368	0		418	0		468			
0		19	0		69	0		119	0	+	169	0		219	0		269	5	+	319	0		369	0		419	0		469			
0		20	0		70	0		120	0	+	170	0		220	0		270	13	+	320	0		370	0		420	0		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	28	+	321	0		371	0		421	0		471			
0		22	0		72	0		122	0	+	172	0		222	0		272	29	+	322	0		372	0		422	0		472			
0		23	0		73	0		123	0	+	173	0		223	0		273	22	+	323	0		373	0		423	0		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	28	+	324	0		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	37	+	325	0		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	0		276	49	+	326	1		376	1		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	69	+	327	2		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	91	+	328	2		378	1		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	58	+	329	2		379	0		429	0		479			
0		30	0		80	0		130	1	+	180	0		230	0		280	15	+	330	2		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	1	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	1		332	0		382	0		432	0		482			
0		33	0		83	0		133	0		183	0		233	1		283	0		333	0		383	0		433	0		483			
1		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	1		335	0		385	0		435	0		485			
0		36	0		86	0		136	0		186	0		236	0		286	0		336	0		386	0		436	0		486			
0		37	0		87	0		137	0		187	0		237	0		287	0		337	0		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	0		288	0		338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	0		289	0		339	0		389	0		439	0		489			
0		40	0		90	0		140	0		190	0		240	0		290	1		340	0		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	0		291	2		341	0		391	0		441	0		491			
0		42	0		92	0		142	0		192	0		242	0		292	1		342	0		392	0		442	0		492			
0		43	0		93	0		143	0		193	0		243	0		293	2		343	0		393	0		443	0		493			
0		44	0		94	0		144	0	+	194	0		244	0		294	2		344	0		394	0		444	0		494			
0		45	0		95	0		145	0	+	195	0	+	245	0		295	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	1	+	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 30-JUL-2006 16:06:48

```
Configuration     : $DISK1:[ALP6.SAMPLE]H9GAA1AG_300761246.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 12:46:25
Sample ID         : H9GAA1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP6                 Detector geometry:
Elapsed live time: 0 03:20:08.00         Elapsed real time: 0 03:20:08.00   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	5316.54	456	0	37.37	327.19	318	14	3.80E-02	4.7	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 16:06:50

```
Configuration     : $DISK1:[ALP6.SAMPLE]H9GAA1AG_300761246.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : U BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 12:46:25
Sample ID         : H9GAA1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP6                 Detector geometry:
Elapsed live time: 0 03:20:08.00         Elapsed real time: 0 03:20:08.00   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:[ALP6.SAMPLE]H9GAA1AG_300761246.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5316.54	318	332	456	453	0.14		

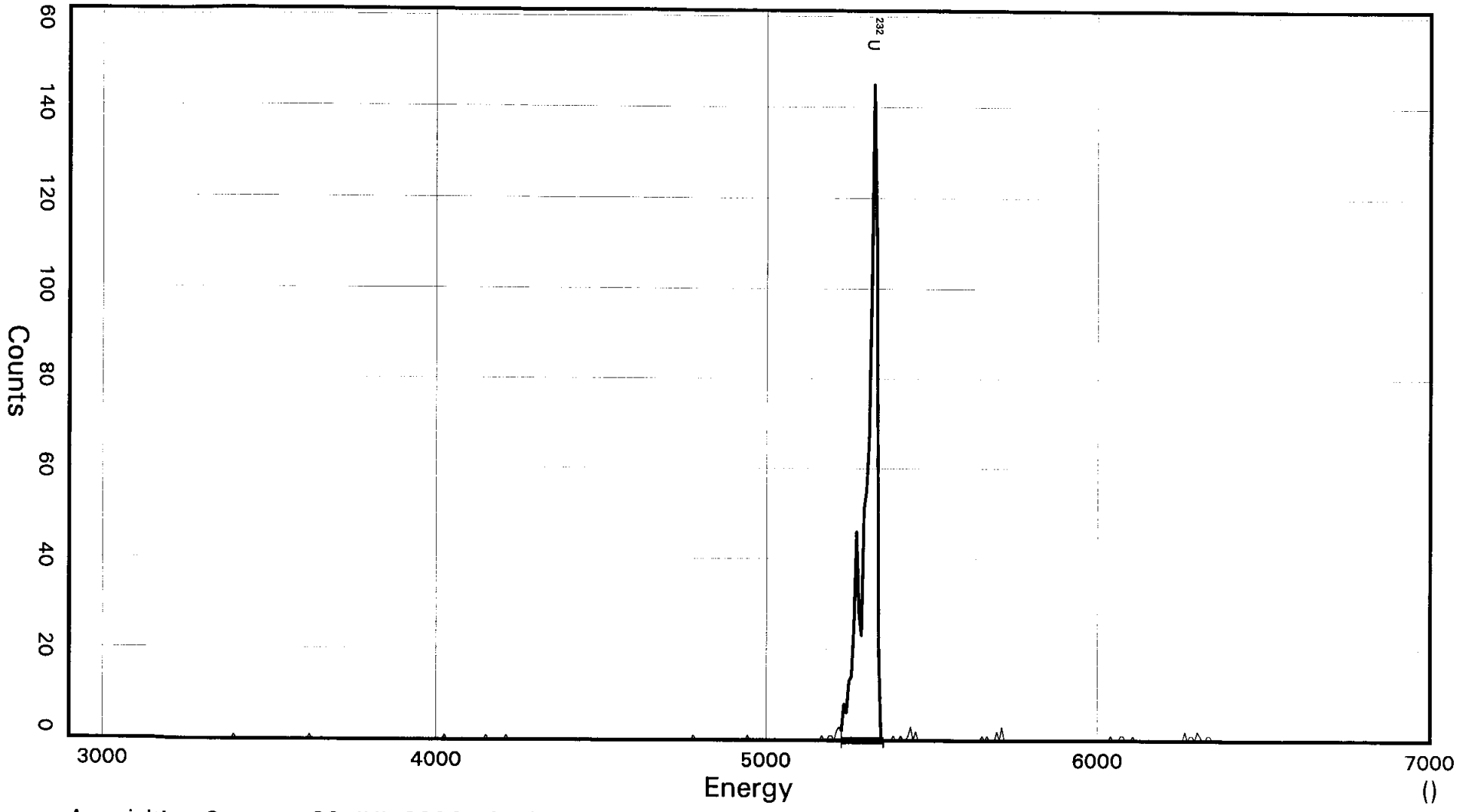
End of Report

STL Richland WA.

U BRC

Sample ID: H9GAC1AG
Detector ID: ALP7 1

Batch ID: 6200121



Acquisition Start: 30-JUL-2006 12:46:41.55
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:09.00

Energy Coefficients:
Offset: 2.87750E+03
Slope: 7.33452E+00
Quadrature: 1.65007E-04

SAMPLE IDENTIITY: H9GAC1AG

TITLE : U BRC

DETECTOR : ALP7 1
CONFIGURATION NAME : $DISK1:[ALP7.SAMPLE]H9GAC1AG_300761246.CNF;1

ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:16

REPORT DATE : 30-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 12:46:41 CALIB DATE : 06-JUL-2006 01:19:10

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

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: H9GAC1AG

Detector: ALP7 1
Report Date: 30-Jul-06 04:07 PM
Acquire Date: 30-JUL-2006 12:46:41.55
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	724	1	0	3.616	5319.9	126.5	318	335	0.00	0.00	P
U-234	1	1	0	0.004	4774.3	126.1	245	262	0.00	0.00	
U-235	0	0	0	0.000	4397.5	125.8	194	211	0.00	0.00	
U-238	2	1	0	0.009	4197.7	125.7	167	184	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GAC1AG
Detector: ALP7 1
Report Date: 30-Jul 06 04:07 PM
Acquire Date: 30-JUL-2006 12:46:41.55

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

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	1		101	0		151	0	+	201	0	+	251	0		301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0	+	202	0	+	252	0		302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0	+	203	0	+	253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	0	+	254	0		304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0	+	255	0		305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	1		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	2		457	0		507
0		8	0		58	0		108	0		158	0	+	208	1	+	258	0		308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	0	+	209	0	+	259	0		309	0		359	0		409	1		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	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	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	0		116	0		166	0		216	0		266	2		316	0		366	0		416	1		466			
0		17	0		67	0		117	0	+	167	0		217	0		267	3		317	0		367	0		417	1		467			
0		18	0		68	0		118	0	+	168	0		218	0		268	2	+	318	0		368	0		418	0		468			
0		19	0		69	0		119	0	+	169	0		219	0		269	8	+	319	0		369	0		419	0		469			
0		20	1		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	13	+	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	1	+	173	0		223	0		273	25	+	323	0		373	0		423	0		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	46	+	324	0		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	28	+	325	1		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	0		276	23	+	326	0		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	51	+	327	1		377	1		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	55	+	328	0		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	66	+	329	0		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	1		280	100	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	1	+	181	0		231	0		281	145	+	331	2		381	1		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	110	+	332	0		382	1		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	19	+	333	3		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	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	1		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	1		342	0		392	0		442	0		492			
0		43	0		93	0		143	0		193	0		243	0		293	0		343	0		393	0		443	0		493			
0		44	0		94	0		144	0	+	194	0		244	0		294	0		344	0		394	0		444	0		494			
0		45	0		95	0		145	0	+	195	0	+	245	0		295	1		345	0		395	0		445	0		495			
0		46	0		96	0		146	0	+	196	0	+	246	0		296	3		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	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	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 30-JUL-2006 16:07:07

```
Configuration     : $DISK1:[ALP7.SAMPLE]H9GAC1AG_300761246.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 12:46:41
Sample ID         : H9GAC1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP7                 Detector geometry:
Elapsed live time: 0 03:20:09.00         Elapsed real time: 0 03:20:09.00   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	5319.90	724	0	29.34	330.54	318	17	6.03E-02	3.7	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 16:07:09

```
Configuration     : $DISK1:[ALP7.SAMPLE]H9GAC1AG_300761246.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : U BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 12:46:41
Sample ID         : H9GAC1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP7                 Detector geometry:
Elapsed live time: 0 03:20:09.00         Elapsed real time: 0 03:20:09.00   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:[ALP7.SAMPLE]H9GAC1AG_300761246.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5319.90	318	335	724	711	0.48		

End of Report

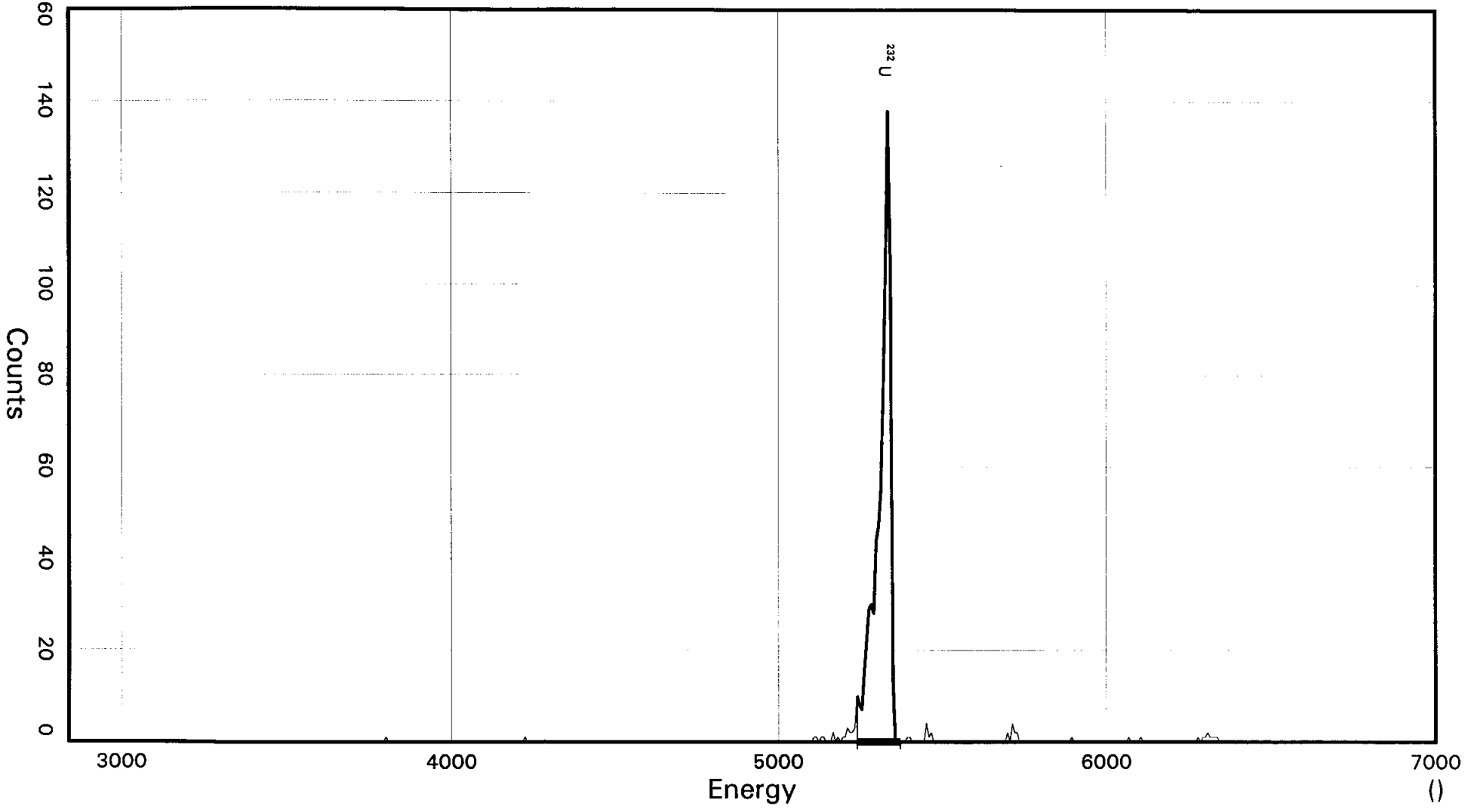
STL Richland WA.

U BRC

Sample ID: H9GAE1AG

Detector ID: ALP8 1

Batch ID: 6200121



Acquisition Start: 30-JUL-2006 12:47:06.26

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:01.00

Energy Coefficients:

Offset: 2.81875E+03

Slope: 7.34392E+00

Quadrature: -9.54142E-05

SAMPLE IDENTIITY: H9GAE1AG

TITLE : U BRC

DETECTOR : ALP8 1
CONFIGURATION NAME : $DISK1:[ALP8.SAMPLE]H9GAE1AG_300761247.CNF;1

ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:00

REPORT DATE : 30-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 12:47:06 CALIB DATE : 06-JUL-2006 01:19:45

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

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: H9GAE1AG

Detector: ALP8 1
Report Date: 30-Jul-06 04:07 PM
Acquire Date: 30-JUL-2006 12:47:06.26
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	742	5	0	3.705	5327.0	131.0	331	349	0.00	0.00	P
U-234	0	0	0	0.000	4781.4	131.3	256	274	0.00	0.00	
U-235	0	1	0	-0.001	4404.6	124.2	205	222	0.00	0.00	
U-238	1	0	0	0.005	4204.8	131.6	177	195	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GAE1AG
Detector: ALP8 1
Report Date: 30-Jul-06 04:07 PM
Acquire Date: 30-JUL-2006 12:47:06.26

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

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0		201	0		251	0		301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0		202	0		252	0		302	1		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0		203	0		253	0		303	1		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0		204	0		254	0		304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0		255	0		305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	0		306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0	+	207	0	+	257	0		307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0	+	208	0	+	258	0		308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	0	+	209	0	+	259	0		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	0	+	210	0	+	260	0		310	4		360	0		410	0		460	0		510
0		11	0		61	0		111	0		161	0	+	211	0	+	261	0		311	1		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0	+	212	0	+	262	0		312	2		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0	+	213	0	+	263	1		313	0		363	0		413	0		463			
0		14	0		64	0		114	0		164	0	+	214	0	+	264	1		314	0		364	0		414	0		464			
0		15	0		65	0		115	0		165	0	+	215	0	+	265	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	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	2		321	0		371	1		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	1		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	1		474			
0		25	0		75	0		125	0		175	0		225	0		275	1		325	0		375	0		425	0		475			
0		26	0		76	0		126	0		176	0		226	0		276	1		326	0		376	0		426	1		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	3		327	0		377	0		427	1		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	2		328	0		378	0		428	2		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	2		329	0		379	0		429	1		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	3		330	0		380	0		430	1		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	10	+	331	0		381	0		431	1		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	8	+	332	0		382	0		432	1		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	7	+	333	0		383	0		433	0		483			
0		34	0		84	1		134	0	+	184	0		234	0		284	15	+	334	0		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	22	+	335	0		385	0		435	0		485			
0		36	0		86	0		136	0	+	186	0		236	0		286	29	+	336	0		386	0		436	0		486			
0		37	0		87	0		137	0	+	187	0		237	0		287	30	+	337	0		387	0		437	0		487			
0		38	0		88	0		138	0	+	188	0		238	0		288	28	+	338	0		388	0		438	0		488			
0		39	0		89	0		139	0	+	189	0		239	0		289	44	+	339	0		389	0		439	0		489			
0		40	0		90	0		140	0	+	190	0		240	0		290	47	+	340	0		390	0		440	0		490			
0		41	0		91	0		141	0	+	191	0		241	0		291	55	+	341	0		391	0		441	0		491			
0		42	0		92	0		142	1	+	192	0		242	0		292	77	+	342	0		392	0		442	0		492			
0		43	0		93	0		143	0	+	193	0		243	0		293	107	+	343	0		393	0		443	0		493			
0		44	0		94	0		144	0	+	194	0		244	0		294	138	+	344	2		394	0		444	0		494			
0		45	0		95	0		145	0	+	195	0		245	0		295	100	+	345	0		395	1		445	0		495			
0		46	0		96	0		146	0		196	0		246	0		296	13	+	346	4		396	0		446	0		496			
0		47	0		97	0		147	0		197	0		247	0		297	0	+	347	2		397	0		447	0		497			
0		48	0		98	0		148	0		198	0		248	0		298	0	+	348	2		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 30-JUL-2006 16:07:24

```
Configuration     : $DISK1:[ALP8.SAMPLE]H9GAE1AG_300761247.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 12:47:06
Sample ID         : H9GAE1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP8                 Detector geometry:
Elapsed live time: 0 03:20:01.00         Elapsed real time: 0 03:20:01.00   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	5326.95	742	0	36.72	343.06	331	18	6.18E-02	3.7	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 16:07:25

```
Configuration     : $DISK1:[ALP8.SAMPLE]H9GAE1AG_300761247.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : U BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 12:47:06
Sample ID         : H9GAE1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP8                 Detector geometry:
Elapsed live time: 0 03:20:01.00         Elapsed real time: 0 03:20:01.00   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]H9GAE1AG_300761247.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5326.95	331	349	742	730	0.44		

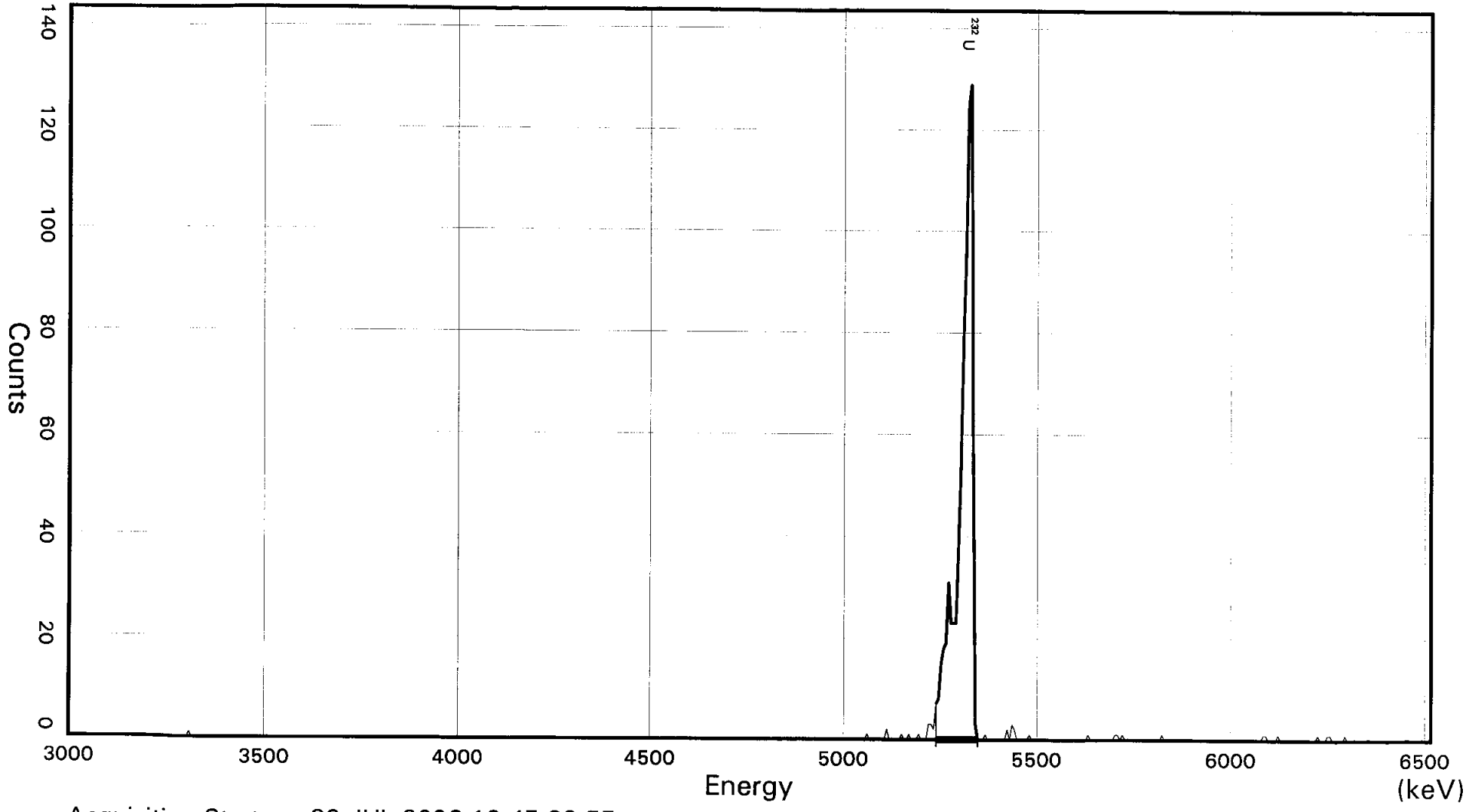
End of Report

STL Richland WA.

U BRC

Sample ID: H9GAG1AG
Detector ID: ALP9 1

Batch ID: 6200121



Acquisition Start: 30-JUL-2006 12:47:23.55
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:07.00

Energy Coefficients:
Offset: 3.26156E+03
Slope: 6.36004E+00
Quadrature: -7.79160E-06

SAMPLE IDENTIITY: H9GAG1AG

TITLE : U BRC

DETECTOR : ALP9 1
CONFIGURATION NAME : $DISK1:[ALP9.SAMPLE]H9GAG1AG_300761247.CNF;1

ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:23

REPORT DATE : 30-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 12:47:23 CALIB DATE : 06-JUL-2006 01:19:57

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

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: H9GAG1AG

Detector: ALP9 1
Report Date: 30-Jul-06 04:07 PM
Acquire Date: 30-JUL-2006 12:47:23.55
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	744	4	0	3.714	5319.3	108.0	311	328	0.00	0.00	P
U-234	0	2	0	-0.002	4773.7	108.1	225	242	0.00	0.00	
U-235	0	0	0	0.000	4396.9	108.1	166	183	0.00	0.00	
U-238	0	2	0	-0.002	4197.1	108.1	134	151	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GAG1AG
Detector: ALP9 1
Report Date: 30-Jul-06 04:07 PM
Acquire Date: 30-JUL-2006 12:47:23.55

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	1		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
1		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	3		308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	0		209	0		259	3		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	0		210	0		260	2		310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	0		161	0		211	0		261	7	+	311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0		212	0		262	8	+	312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0		213	0		263	15	+	313	0		363	0		413	0		463			
0		14	0		64	0		114	0		164	0		214	0		264	18	+	314	0		364	0		414	0		464			
0		15	0		65	0		115	0		165	0		215	0		265	19	+	315	0		365	0		415	0		465			
0		16	0		66	0		116	0	+	166	0		216	0		266	31	+	316	0		366	0		416	1		466			
0		17	0		67	0		117	0	+	167	0		217	0		267	23	+	317	0		367	0		417	0		467			
0		18	0		68	0		118	0	+	168	0		218	0		268	23	+	318	0		368	0		418	0		468			
0		19	0		69	0		119	0	+	169	0		219	0		269	23	+	319	0		369	0		419	0		469			
0		20	0		70	0		120	0	+	170	0		220	0		270	38	+	320	0		370	0		420	1		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	54	+	321	0		371	0		421	1		471			
0		22	0		72	0		122	0	+	172	0		222	0		272	80	+	322	0		372	0		422	0		472			
0		23	0		73	0		123	0	+	173	0		223	0		273	98	+	323	1		373	0		423	0		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	125	+	324	0		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	0	+	225	0		275	129	+	325	0		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0	+	226	0		276	49	+	326	0		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0	+	227	0		277	3	+	327	0		377	0		427	1		477			
0		28	0		78	0		128	0	+	178	0	+	228	0		278	0		328	0		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0	+	229	0		279	0		329	0		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0	+	230	0		280	0		330	0		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0	+	231	0		281	1		331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0	+	232	0		282	0		332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0	+	233	1		283	0		333	0		383	0		433	0		483			
0		34	0		84	0	+	134	0		184	0	+	234	0		284	0		334	1		384	0		434	0		484			
0		35	0		85	0	+	135	0		185	0	+	235	0		285	0		335	1		385	0		435	0		485			
0		36	0		86	0	+	136	0		186	0	+	236	0		286	0		336	0		386	0		436	0		486			
0		37	0		87	0	+	137	0		187	0	+	237	0		287	0		337	1		387	0		437	0		487			
0		38	0		88	0	+	138	0		188	0	+	238	0		288	0		338	0		388	0		438	0		488			
0		39	0		89	0	+	139	0		189	0	+	239	0		289	0		339	0		389	0		439	0		489			
0		40	0		90	0	+	140	0		190	0	+	240	0		290	2		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	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	1		444	0		494			
0		45	0		95	0	+	145	0		195	0		245	0		295	0		345	0		395	1		445	0		495			
0		46	0		96	0	+	146	0		196	0		246	0		296	0		346	0		396	0		446	0		496			
0		47	0		97	0	+	147	0		197	0		247	1		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	1		349	0		399	0		449	0		499			
0		50	0		100	0	+	150	0		200	0		250	1		300	0		350	0		400	1		450	0		500			

VMS Peak Search Report V1.9 Generated 30-JUL-2006 16:07:45

```
Configuration     : $DISK1:[ALP9.SAMPLE]H9GAG1AG_300761247.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 12:47:23
Sample ID         : H9GAG1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP9                 Detector geometry:
Elapsed live time: 0 03:20:07.00         Elapsed real time: 0 03:20:07.00   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	5319.25	744	0	25.44	323.66	311	17	6.20E-02	3.7	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 16:07:47

```
Configuration     : $DISK1:[ALP9.SAMPLE]H9GAG1AG_300761247.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : U BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 12:47:23
Sample ID         : H9GAG1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP9                 Detector geometry:
Elapsed live time: 0 03:20:07.00         Elapsed real time: 0 03:20:07.00   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]H9GAG1AG_300761247.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5319.25	311	328	744	743	0.04		

End of Report

SEVERN TRENT **STL**

URANIUM ISOTOPIC COUNTING REQUEST

1611
7/30/06

C.R. Technician RS

Date Counted 7/30/06

Counting Time
Sample 200 Minutes
Background See Alpha Regions Report

SOP's
Operating: RICHRD008
Review: RICHRD0016

6/27/06 U BRC 6200121

WorkOrder #	U-232 (5320 KeV) Tracer	TOTAL COUNTS U-238 (4196 KeV)	U-235 (4396 KeV)	U-234 (4776 KeV)	Det #	Comments/Edits
H9GAJIAG	See Counting Room Printout for ROI information				10	
H9GAKIAG	See Counting Room Printout for ROI information				11	
H9GALIAG	See Counting Room Printout for ROI information				12	
H9GAMIAG	See Counting Room Printout for ROI information				69	
H9GANIAG	See Counting Room Printout for ROI information				71	
H9GAPIAG	See Counting Room Printout for ROI information				83	
H9GATIAG	See Counting Room Printout for ROI information				84	
H9HV71AA	See Counting Room Printout for ROI information				85	
H9HV71AC	See Counting Room Printout for ROI information				87	

Comments:

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

Approved by: S

Date: 7/31/06

STL RICHLAND

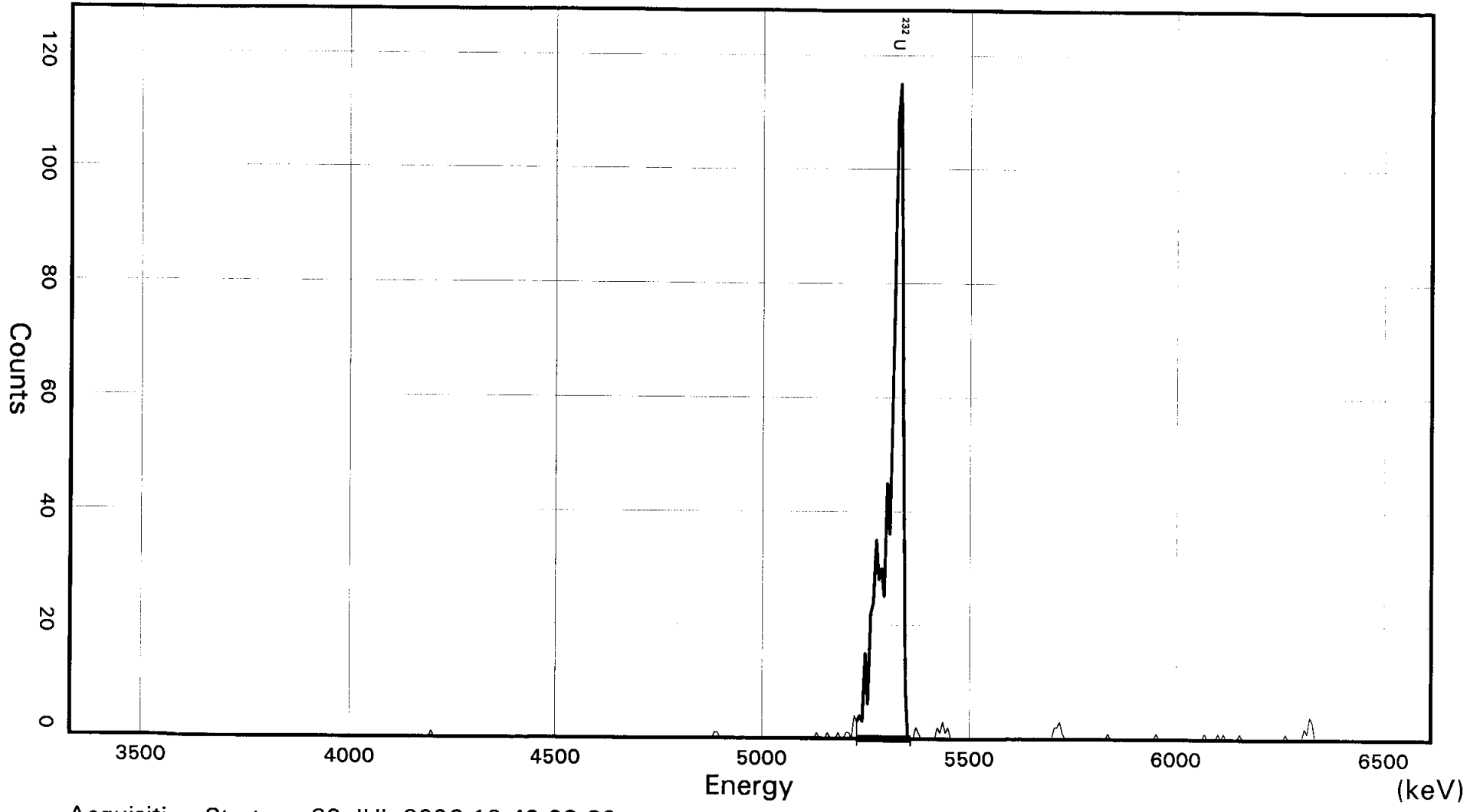
309

STL Richland WA.

U BRC

Sample ID: H9GAJ1AG
Detector ID: ALP10 1

Batch ID: 6200121



Acquisition Start: 30-JUL-2006 12:48:08.30
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:04.00

Energy Coefficients:
Offset: 3.30961E+03
Slope: 6.42195E+00
Quadrature: 5.74933E-05

SAMPLE IDENTIITY: H9GAJ1AG

TITLE : U BRC

DETECTOR : ALP10 1
CONFIGURATION NAME : $DISK1:[ALP10.SAMPLE]H9GAJ1AG_300761248.CNF;
1
ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:25

REPORT DATE : 30-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 12:48:08 CALIB DATE : 06-JUL-2006 01:19:51

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:04

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: H9GAJ1AG

Detector: ALP10 1
Report Date: 30-Jul-06 04:08 PM
Acquire Date: 30-JUL-2006 12:48:08.30
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

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

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	714	3	0	3.566	5325.3	129.1	298	318	0.00	0.00	P
U-234	0	1	0	-0.001	4779.7	129.0	213	233	0.00	0.00	
U-235	0	0	0	0.000	4402.9	128.8	155	175	0.00	0.00	
U-238	1	1	0	0.004	4203.1	128.7	124	144	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GAJ1AG
Detector: ALP10 1
Report Date: 30-Jul-06 04:08 PM
Acquire Date: 30-JUL-2006 12:48:08.30

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	15	+	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	22	+	303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0		204	0		254	24	+	304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0	+	155	0		205	0		255	35	+	305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0	+	156	0		206	0		256	28	+	306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0	+	157	0		207	0		257	30	+	307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0	+	158	0		208	0		258	25	+	308	0		358	0		408	1		458	0		508
0		9	0		59	0		109	0	+	159	0		209	0		259	45	+	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	1		410	0		460	0		510
0		11	0		61	0		111	0	+	161	0		211	0		261	59	+	311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0	+	162	0		212	0		262	87	+	312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0	+	163	0	+	213	0		263	109	+	313	0		363	0		413	0		463			
0		14	0		64	0		114	0	+	164	0	+	214	0		264	115	+	314	0		364	0		414	0		464			
0		15	0		65	0		115	0	+	165	0	+	215	0		265	54	+	315	0		365	0		415	2		465			
0		16	0		66	0		116	0	+	166	0	+	216	0		266	9	+	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	4		467			
0		18	0		68	0		118	0	+	168	0	+	218	0		268	0		318	0		368	0		418	3		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	2		320	0		370	0		420	0		470			
0		21	0		71	0		121	0	+	171	0	+	221	0		271	1		321	0		371	0		421	0		471			
0		22	0		72	0		122	0	+	172	0	+	222	0		272	0		322	2		372	0		422	0		472			
0		23	0		73	0		123	0	+	173	0	+	223	0		273	0		323	2		373	0		423	0		473			
0		24	0		74	0	+	124	0	+	174	0	+	224	0		274	0		324	3		374	0		424	0		474			
0		25	0		75	0	+	125	0	+	175	0	+	225	0		275	0		325	1		375	0		425	0		475			
0		26	0		76	0	+	126	0		176	0	+	226	0		276	0		326	0		376	0		426	0		476			
0		27	0		77	0	+	127	0		177	0	+	227	0		277	0		327	0		377	0		427	0		477			
0		28	0		78	0	+	128	0		178	0	+	228	0		278	2		328	0		378	1		428	0		478			
0		29	0		79	0	+	129	0		179	0	+	229	0		279	1		329	0		379	0		429	0		479			
0		30	0		80	0	+	130	0		180	0	+	230	0		280	3		330	0		380	0		430	0		480			
0		31	0		81	0	+	131	0		181	0	+	231	0		281	1		331	0		381	0		431	0		481			
0		32	0		82	0	+	132	0		182	0	+	232	0		282	2		332	0		382	0		432	0		482			
0		33	0		83	0	+	133	0		183	0	+	233	1		283	0		333	0		383	1		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	1		435	0		485			
0		36	0		86	0	+	136	0		186	0		236	0		286	0		336	0		386	0		436	0		486			
0		37	0		87	0	+	137	0		187	0		237	1		287	0		337	0		387	0		437	0		487			
0		38	0		88	1	+	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	1		291	0		341	0		391	1		441	0		491			
0		42	0		92	0	+	142	0		192	0		242	0		292	0		342	1		392	0		442	0		492			
0		43	0		93	0	+	143	0		193	0		243	0		293	0		343	0		393	0		443	0		493			
0		44	0		94	0	+	144	0		194	0		244	1		294	0		344	0		394	0		444	0		494			
0		45	0		95	0		145	0		195	1		245	1		295	0		345	0		395	0		445	0		495			
0		46	0		96	0		146	0		196	1		246	0		296	0		346	0		396	0		446	0		496			
0		47	0		97	0		147	0		197	0		247	4		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	4	+	299	0		349	0		399	0		449	0		499			
0		50	0		100	0		150	0		200	0		250	3	+	300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 30-JUL-2006 16:08:26

```
Configuration     : $DISK1:[ALP10.SAMPLE]H9GAJ1AG_300761248.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 12:48:08
Sample ID         : H9GAJ1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP10                Detector geometry:
Elapsed live time: 0 03:20:04.00         Elapsed real time: 0 03:20:04.00   0.0%
Start energy      :  3328.88 keV         End energy       :  6612.72 keV
Sensitivity       :     4.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5325.32	714	0	32.11	313.00	298	20	5.95E-02	3.7	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 16:08:28

```
Configuration     : $DISK1:[ALP10.SAMPLE]H9GAJ1AG_300761248.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : U BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 12:48:08
Sample ID         : H9GAJ1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP10                Detector geometry:
Elapsed live time: 0 03:20:04.00         Elapsed real time: 0 03:20:04.00   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			

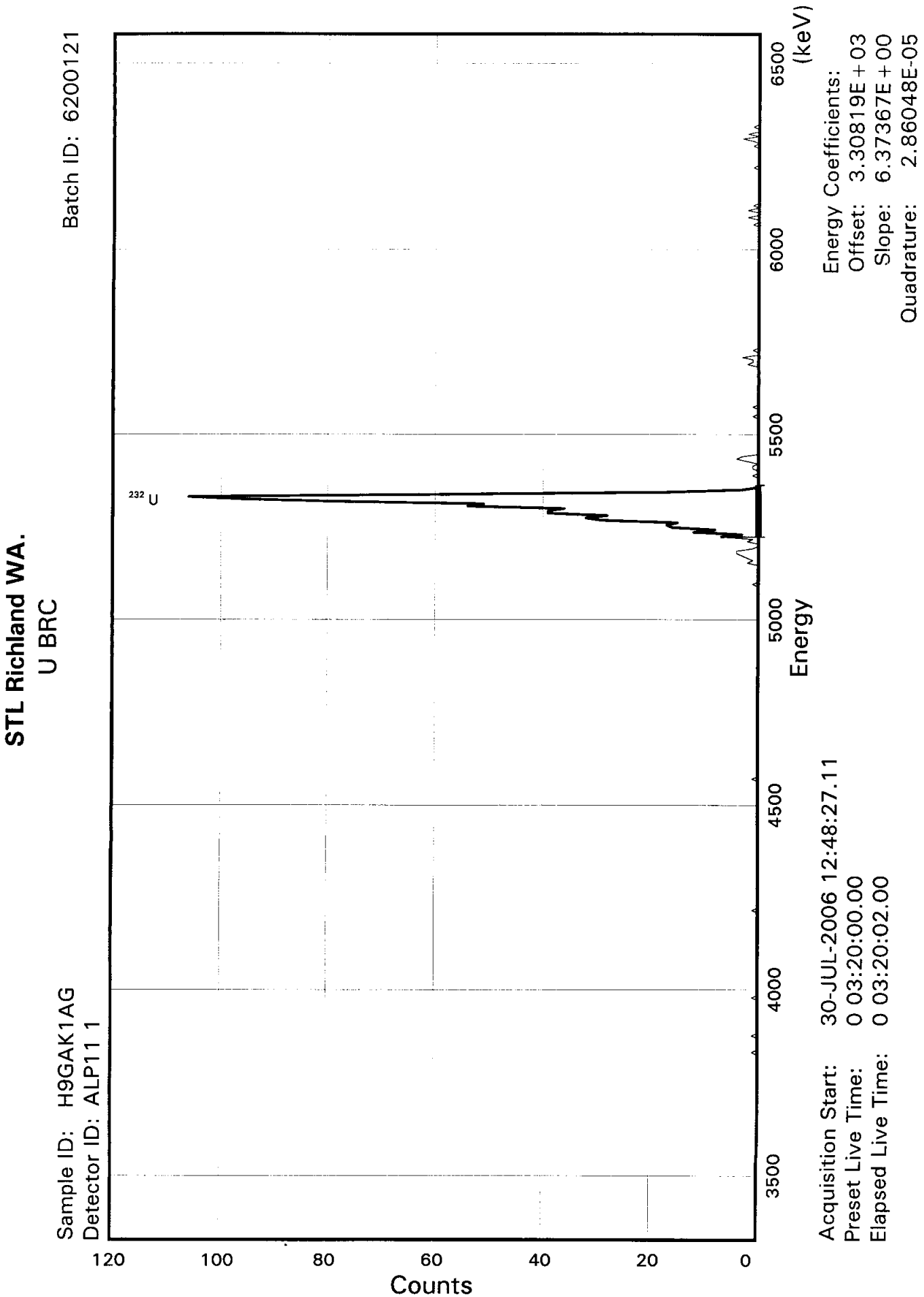
Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

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

Configuration: $DISK1:[ALP10.SAMPLE]H9GAJ1AG_300761248.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5325.31	298	318	714	709	0.19		

End of Report


STL Richland WA.
U BRC
Batch ID: 6200121
Sample ID: H9GAK1AG
Detector ID: ALP11 1
232 U
Counts
120
100
80
60
40
20
0
Energy
3500
4000
4500
5000
5500
6000
6500
(keV)
Acquisition Start: 30-JUL-2006 12:48:27.11
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:02.00
Energy Coefficients:
Offset: 3.30819E+03
Slope: 6.37367E+00
Quadrature: 2.86048E-05

SAMPLE IDENTIITY: H9GAK1AG

TITLE : U BRC

DETECTOR : ALP11 1
CONFIGURATION NAME : $DISK1:[ALP11.SAMPLE]H9GAK1AG_300761248.CNF;
1
ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:28

REPORT DATE : 30-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 12:48:27 CALIB DATE : 06-JUL-2006 01:20:09

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

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: H9GAK1AG

Detector: ALP11 1
Report Date: 30-Jul-06 04:08 PM
Acquire Date: 30-JUL-2006 12:48:27.11
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	752	9	0	3.750	5322.6	140.6	300	322	0.00	0.00	P
U-234	0	0	0	0.000	4777.1	140.5	215	237	0.00	0.00	
U-235	0	1	0	-0.001	4400.3	140.4	156	178	0.00	0.00	
U-238	1	1	0	0.004	4200.5	140.4	124	146	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GAK1AG
Detector: ALP11 1
Report Date: 30-Jul-06 04:08 PM
Acquire Date: 30-JUL-2006 12:48:27.11

Flags Key

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

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0		201	0		251	3	+	301	1		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	8	+	303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0		204	0		254	16	+	304	0		354	0		404	0		454	0		504
0		5	0		55	1		105	0		155	0		205	0		255	17	+	305	1		355	0		405	0		455	0		505
0		6	0		56	0		106	0	+	156	0		206	0		256	15	+	306	0		356	0		406	1		456	0		506
0		7	0		57	0		107	0	+	157	0		207	0		257	29	+	307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0	+	158	0		208	0		258	32	+	308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	0	+	159	0		209	0		259	28	+	309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0	+	160	0		210	0		260	39	+	310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	0	+	161	0		211	0		261	39	+	311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0	+	162	0		212	0		262	36	+	312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0	+	163	0		213	0		263	54	+	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	0		464			
0		15	0		65	0		115	0	+	165	0	+	215	0		265	79	+	315	0		365	0		415	1		465			
0		16	0		66	0		116	0	+	166	0	+	216	0		266	96	+	316	0		366	0		416	0		466			
0		17	0		67	0		117	0	+	167	0	+	217	0		267	106	+	317	0		367	0		417	1		467			
0		18	0		68	0		118	0	+	168	0	+	218	0		268	59	+	318	0		368	0		418	3		468			
0		19	0		69	0		119	0	+	169	0	+	219	0		269	17	+	319	0		369	0		419	0		469			
0		20	0		70	0		120	0	+	170	0	+	220	0		270	3	+	320	0		370	0		420	2		470			
0		21	0		71	0		121	0	+	171	0	+	221	0		271	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	2		373	0		423	1		473			
0		24	0		74	0	+	124	0	+	174	0	+	224	0		274	0		324	1		374	0		424	0		474			
0		25	0		75	0	+	125	0	+	175	0	+	225	0		275	0		325	1		375	0		425	0		475			
0		26	0		76	0	+	126	0	+	176	0	+	226	0		276	1		326	3		376	0		426	0		476			
0		27	0		77	0	+	127	0	+	177	0	+	227	0		277	0		327	0		377	0		427	0		477			
0		28	0		78	0	+	128	0	+	178	0	+	228	0		278	0		328	0		378	0		428	0		478			
0		29	0		79	0	+	129	0		179	0	+	229	0		279	1		329	1		379	0		429	0		479			
0		30	0		80	0	+	130	0		180	0	+	230	1		280	1		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	1		82	0	+	132	0		182	0	+	232	0		282	2		332	0		382	1		432	0		482			
0		33	0		83	0	+	133	0		183	0	+	233	0		283	4		333	0		383	0		433	0		483			
0		34	0		84	0	+	134	0		184	0	+	234	0		284	3		334	0		384	0		434	0		484			
0		35	0		85	0	+	135	0		185	0	+	235	0		285	0		335	0		385	2		435	0		485			
0		36	0		86	0	+	136	0		186	0	+	236	0		286	0		336	0		386	0		436	0		486			
0		37	0		87	0	+	137	0		187	0	+	237	0		287	0		337	0		387	0		437	0		487			
0		38	0		88	0	+	138	0		188	0		238	0		288	0		338	0		388	2		438	0		488			
0		39	1		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	1		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	1	+	142	0		192	0		242	3		292	0		342	0		392	0		442	0		492			
0		43	0		93	0	+	143	0		193	0		243	4		293	0		343	0		393	0		443	0		493			
0		44	0		94	0	+	144	0		194	0		244	4		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	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	1		198	0		248	2		298	0		348	0		398	0		448	0		498			
0		49	0		99	0		149	0		199	0		249	1		299	0		349	0		399	0		449	0		499			
0		50	0		100	0		150	0		200	0		250	7	+	300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 30-JUL-2006 16:08:43

```
Configuration     : $DISK1:[ALP11.SAMPLE]H9GAK1AG_300761248.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 12:48:27
Sample ID         : H9GAK1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP11                Detector geometry:
Elapsed live time: 0 03:20:02.00         Elapsed real time: 0 03:20:02.00   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	5322.65	752	0	38.24	315.61	300	22	6.27E-02	3.6	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 16:08:45

```
Configuration     : $DISK1:[ALP11.SAMPLE]H9GAK1AG_300761248.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : U BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 12:48:27
Sample ID         : H9GAK1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP11                Detector geometry:
Elapsed live time: 0 03:20:02.00         Elapsed real time: 0 03:20:02.00   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]H9GAK1AG_300761248.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5322.64	300	322	752	746	0.22		

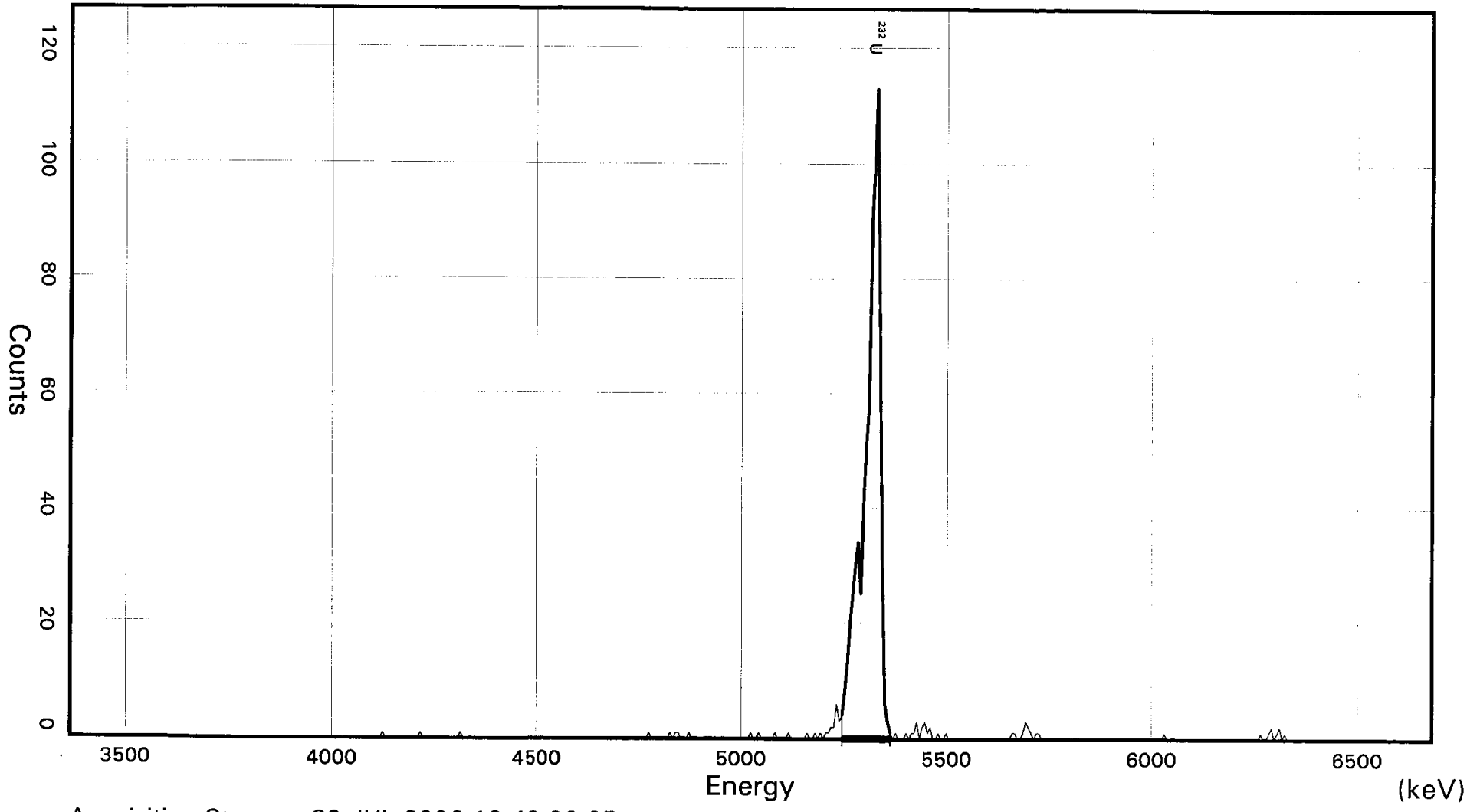
End of Report

STL Richland WA.

U BRC

Sample ID: H9GAL1AG
Detector ID: ALP12 1

Batch ID: 6200121



Acquisition Start: 30-JUL-2006 12:49:00.95
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:01.00

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

SAMPLE IDENTIITY: H9GAL1AG

TITLE : U BRC

DETECTOR : ALP12 1
CONFIGURATION NAME : $DISK1:[ALP12.SAMPLE]H9GAL1AG_300761249.CNF;
1
ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:31

REPORT DATE : 30-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 12:49:00 CALIB DATE : 06-JUL-2006 01:20:03

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

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

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

Sample Identity: H9GAL1AG

Detector: ALP12 1
Report Date: 30-Jul-06 04:09 PM
Acquire Date: 30-JUL-2006 12:49:00.95
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	5	0	3.590	5322.7	117.1	291	309	0.00	0.00	P
U-234	1	0	0	0.005	4777.1	117.3	207	225	0.00	0.00	
U-235	0	0	0	0.000	4400.3	117.4	149	167	0.00	0.00	
U-238	2	1	0	0.009	4200.5	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: H9GAL1AG
Detector: ALP12 1
Report Date: 30-Jul-06 04:09 PM
Acquire Date: 30-JUL-2006 12:49:00.95

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	58	+	301	0		351	0		401	1		451	0		501
		2	0		52	0		102	0	+	152	0		202	0		252	90	+	302	0		352	0		402	2		452	0		502
0		3	0		53	0		103	0	+	153	0		203	0		253	99	+	303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0	+	154	0		204	0		254	113	+	304	0		354	0		404	1		454	0		504
0		5	0		55	0		105	0	+	155	0		205	0		255	69	+	305	1		355	0		405	2		455	0		505
0		6	0		56	0		106	0	+	156	0		206	0		256	29	+	306	1		356	0		406	0		456	0		506
0		7	0		57	0		107	0	+	157	0	+	207	1		257	6	+	307	0		357	0		407	1		457	0		507
0		8	0		58	0		108	0	+	158	0	+	208	0		258	3	+	308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	0	+	159	0	+	209	0		259	1		309	1		359	0		409	0		459	0		509
0		10	0		60	0		110	0	+	160	0	+	210	1		260	0		310	3		360	0		410	0		460	0		510
0		11	0		61	0		111	0	+	161	0	+	211	0		261	1		311	2		361	0		411	0		461	0		511
0		12	0		62	0		112	0	+	162	0	+	212	0		262	0		312	1		362	1		412	0		462	0		512
0		13	0		63	0		113	0	+	163	0	+	213	0		263	0		313	0		363	0		413	0		463			
0		14	0		64	0		114	0	+	164	0	+	214	0		264	0		314	1		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	1		266	0		316	0		366	0		416	0		466			
0		17	0		67	0		117	0	+	167	0	+	217	0		267	1		317	0		367	0		417	0		467			
0		18	0		68	0		118	0		168	0	+	218	0		268	1		318	0		368	0		418	0		468			
0		19	0		69	1	+	119	0		169	1	+	219	0		269	3		319	0		369	0		419	0		469			
0		20	0		70	0	+	120	0		170	0	+	220	0		270	0		320	0		370	0		420	0		470			
0		21	0		71	0	+	121	0		171	0	+	221	1		271	2		321	0		371	0		421	0		471			
0		22	0		72	0	+	122	0		172	0	+	222	0		272	3		322	0		372	0		422	0		472			
0		23	0		73	0	+	123	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	0		326	0		376	0		426	0		476			
0		27	0		77	0	+	127	0		177	1		227	0		277	1		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	1		229	0		279	0		329	0		379	0		429	0		479			
0		30	0		80	0	+	130	0		180	1		230	0		280	1		330	0		380	0		430	0		480			
0		31	0		81	0	+	131	0		181	0		231	1		281	0		331	0		381	0		431	0		481			
0		32	0		82	0	+	132	0		182	0		232	0		282	0		332	0		382	0		432	0		482			
0		33	0		83	1	+	133	0		183	0		233	1		283	0		333	0		383	0		433	0		483			
0		34	0		84	0	+	134	0		184	1		234	0		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	1		286	0		336	0		386	0		436	0		486			
0		37	0		87	0	+	137	0		187	0		237	2		287	0		337	0		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	2		288	0		338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	6		289	0		339	0		389	0		439	0		489			
0		40	0		90	0		140	0		190	0		240	3		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	13	+	293	0		343	0		393	0		443	0		493			
0		44	0		94	0		144	0		194	0		244	20	+	294	0		344	0		394	0		444	0		494			
0		45	0		95	0		145	0		195	0		245	25	+	295	0		345	0		395	0		445	0		495			
0		46	0		96	0		146	0		196	0		246	30	+	296	0		346	0		396	0		446	0		496			
0		47	0		97	0		147	0		197	0		247	34	+	297	0		347	0		397	0		447	0		497			
0		48	0		98	1		148	0		198	0		248	25	+	298	0		348	0		398	1		448	0		498			
0		49	0		99	0	+	149	0		199	0		249	41	+	299	0		349	0		399	0		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 30-JUL-2006 16:09:20

```
Configuration     : $DISK1:[ALP12.SAMPLE]H9GAL1AG_300761249.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 12:49:00
Sample ID         : H9GAL1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP12                Detector geometry:
Elapsed live time: 0 03:20:01.00         Elapsed real time: 0 03:20:01.00   0.0%
Start energy      :  3365.98 keV         End energy       :  6680.46 keV
Sensitivity       :     4.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5322.72	719	0	32.68	303.04	291	18	5.99E-02	3.7	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 16:09:22

```
Configuration     : $DISK1:[ALP12.SAMPLE]H9GAL1AG_300761249.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : U BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 12:49:00
Sample ID         : H9GAL1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP12                Detector geometry:
Elapsed live time: 0 03:20:01.00         Elapsed real time: 0 03:20:01.00   0.0%
Energy tolerance :    40.00 keV          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    60.00
```

Summary of Nuclide Activity

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

Nuclide Type : AP

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

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

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

Configuration: $DISK1:[ALP12.SAMPLE]H9GAL1AG_300761249.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5322.71	291	309	719	719	0.00		

End of Report

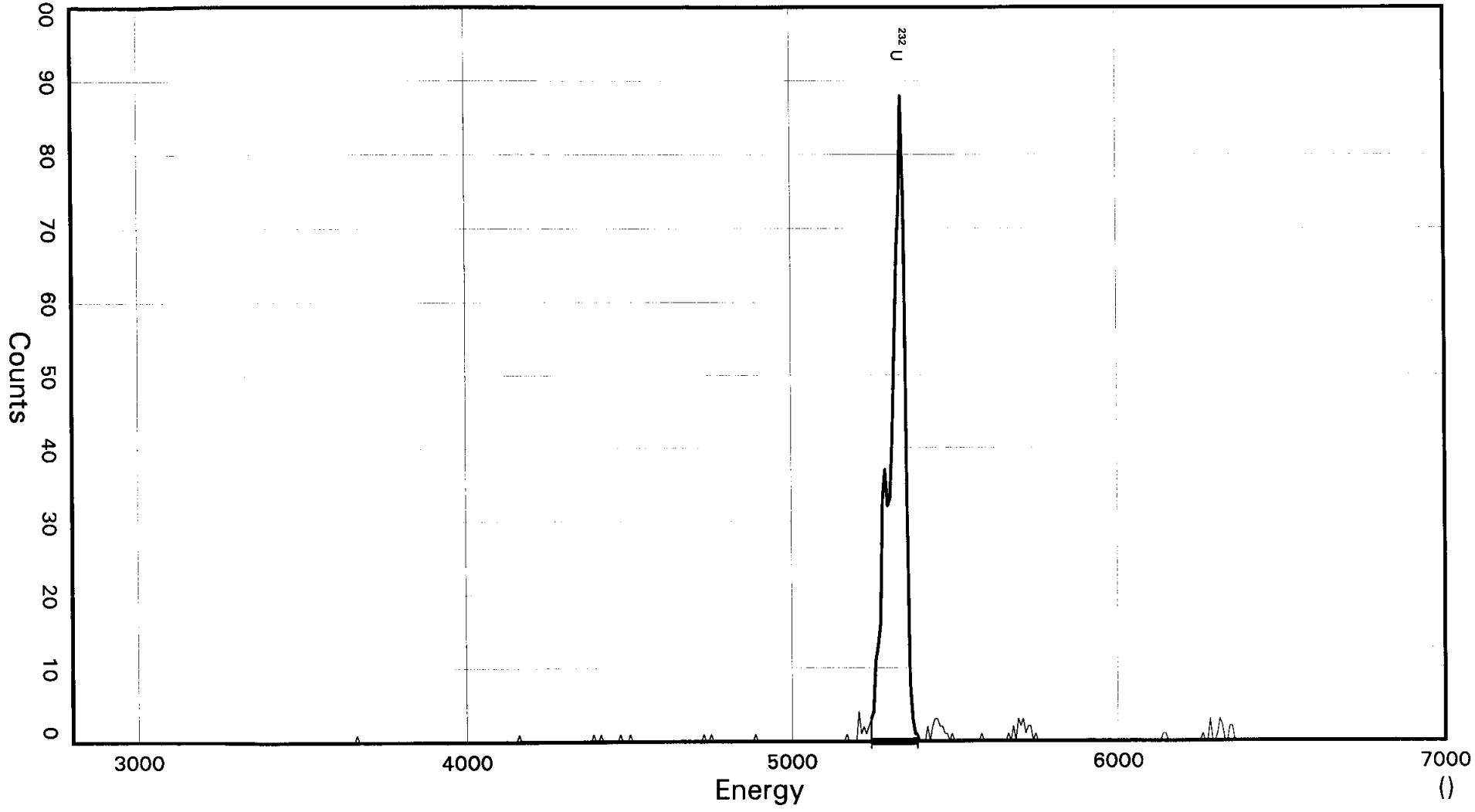
STL Richland WA.

U BRC

Sample ID: H9GAM1AG

Detector ID: ALP69 1

Batch ID: 6200121



Acquisition Start: 30-JUL-2006 12:49:40.75

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:05.00

Energy Coefficients:

Offset: 2.77736E+03

Slope: 7.50385E+00

Quadrature: 3.07924E-05

SAMPLE IDENTIITY: H9GAM1AG

TITLE : U BRC

DETECTOR : ALP69 1
CONFIGURATION NAME : RDND06$DKA100:[ALP69.SAMPLE]H9GAM1AG_300761249.CNF;1
ACQUIRE DATE of BACKGROUND: 22-JUL-2006 06:10:47

REPORT DATE : 31-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 12:49:40 CALIB DATE : 22-JUL-2006 02:00:58

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:05

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: H9GAM1AG

Detector: ALP69 1
Report Date: 31-Jul-06 04:38 AM
Acquire Date: 30-JUL-2006 12:49:40.75
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	629	34	0	3.130	5332.8	143.0	328	347	0.00	0.00	P
U-234	2	3	0	0.009	4787.2	142.9	255	274	0.00	0.00	
U-235	2	3	0	0.009	4410.4	142.8	205	224	0.00	0.00	
U-238	1	6	0	0.003	4210.6	142.8	179	198	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GAM1AG
Detector: ALP69 1
Report Date: 31-Jul-06 04:38 AM
Acquire Date: 30-JUL-2006 12:49:40.75

Flags Key

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

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0		201	0		251	0		301	2		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0		202	0		252	0		302	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	3		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0	+	255	0		305	3		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	0		306	2		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	1		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	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	1		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0	+	212	0	+	262	0		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0	+	213	1	+	263	0		313	0		363	0		413	1		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	1	+	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	3		466			
0		17	0		67	0		117	0		167	0	+	217	0	+	267	0		317	0		367	0		417	0		467			
0		18	0		68	1		118	0		168	1	+	218	0	+	268	1		318	0		368	0		418	0		468			
0		19	0		69	0		119	0		169	0	+	219	0	+	269	0		319	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	0		321	0		371	0		421	2		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	4		323	1		373	0		423	0		473			
0		24	0		74	0		124	0		174	0	+	224	0	+	274	1		324	0		374	0		424	2		474			
0		25	0		75	0		125	0		175	0		225	0		275	2		325	0		375	0		425	2		475			
0		26	0		76	0		126	0		176	1		226	0		276	1		326	0		376	0		426	0		476			
0		27	0		77	0		127	0		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	3	+	328	0		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	4	+	329	0		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	1		230	0		280	11	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	1		281	13	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	16	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	33	+	333	0		383	0		433	0		483			
0		34	0		84	0		134	1	+	184	0		234	0		284	37	+	334	1		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	32	+	335	0		385	0		435	0		485			
0		36	0		86	0		136	0	+	186	0		236	0		286	33	+	336	2		386	0		436	0		486			
0		37	0		87	0		137	0	+	187	0		237	0		287	41	+	337	0		387	0		437	0		487			
0		38	0		88	0		138	0	+	188	0		238	0		288	54	+	338	3		388	0		438	0		488			
0		39	0		89	0		139	0	+	189	0		239	0		289	67	+	339	2		389	0		439	0		489			
0		40	0		90	0		140	0	+	190	0		240	0		290	73	+	340	3		390	0		440	0		490			
0		41	0		91	0		141	0	+	191	0		241	0		291	88	+	341	1		391	0		441	0		491			
0		42	0		92	0		142	0	+	192	0		242	0		292	73	+	342	2		392	0		442	0		492			
0		43	0		93	0		143	0	+	193	0		243	0		293	35	+	343	2		393	0		443	0		493			
0		44	0		94	0		144	0	+	194	0		244	0		294	8	+	344	0		394	0		444	0		494			
0		45	0		95	0		145	0	+	195	0		245	0		295	3	+	345	1		395	0		445	0		495			
0		46	0		96	0		146	0	+	196	0		246	0		296	1	+	346	0		396	0		446	0		496			
0		47	0		97	0		147	0	+	197	0		247	0		297	1		347	0		397	1		447	0		497			
0		48	0		98	0		148	0	+	198	0		248	0		298	0		348	0		398	1		448	0		498			
0		49	0		99	0		149	0		199	0		249	0		299	0		349	0		399	0		449	0		499			
0		50	0		100	0		150	0		200	0		250	0		300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 31-JUL-2006 04:38:03

```
Configuration     : RDND06$DKA100:[ALP69.SAMPLE]H9GAM1AG_300761249.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 12:49:40
Sample ID         : H9GAM1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP69                Detector geometry:
Elapsed live time: 0 03:20:05.00         Elapsed real time: 0 03:20:05.00   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	5332.79	629	0	52.53	340.07	328	19	5.24E-02	4.0	

VMS Nuclide Identification Report V3.1 Generated 31-JUL-2006 04:38:04

```
Configuration     : RDND06$DKA100:[ALP69.SAMPLE]H9GAM1AG_300761249.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : U BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 12:49:40
Sample ID         : H9GAM1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP69                Detector geometry:
Elapsed live time: 0 03:20:05.00         Elapsed real time: 0 03:20:05.00   0.0%
Energy tolerance :    80.00              Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    60.00
```

Summary of Nuclide Activity

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

Nuclide Type : AP

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

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

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

Configuration: RDND06$DKA100:[ALP69.SAMPLE]H9GAM1AG_300761249.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5332.78	328	347	629	626	0.12		

End of Report

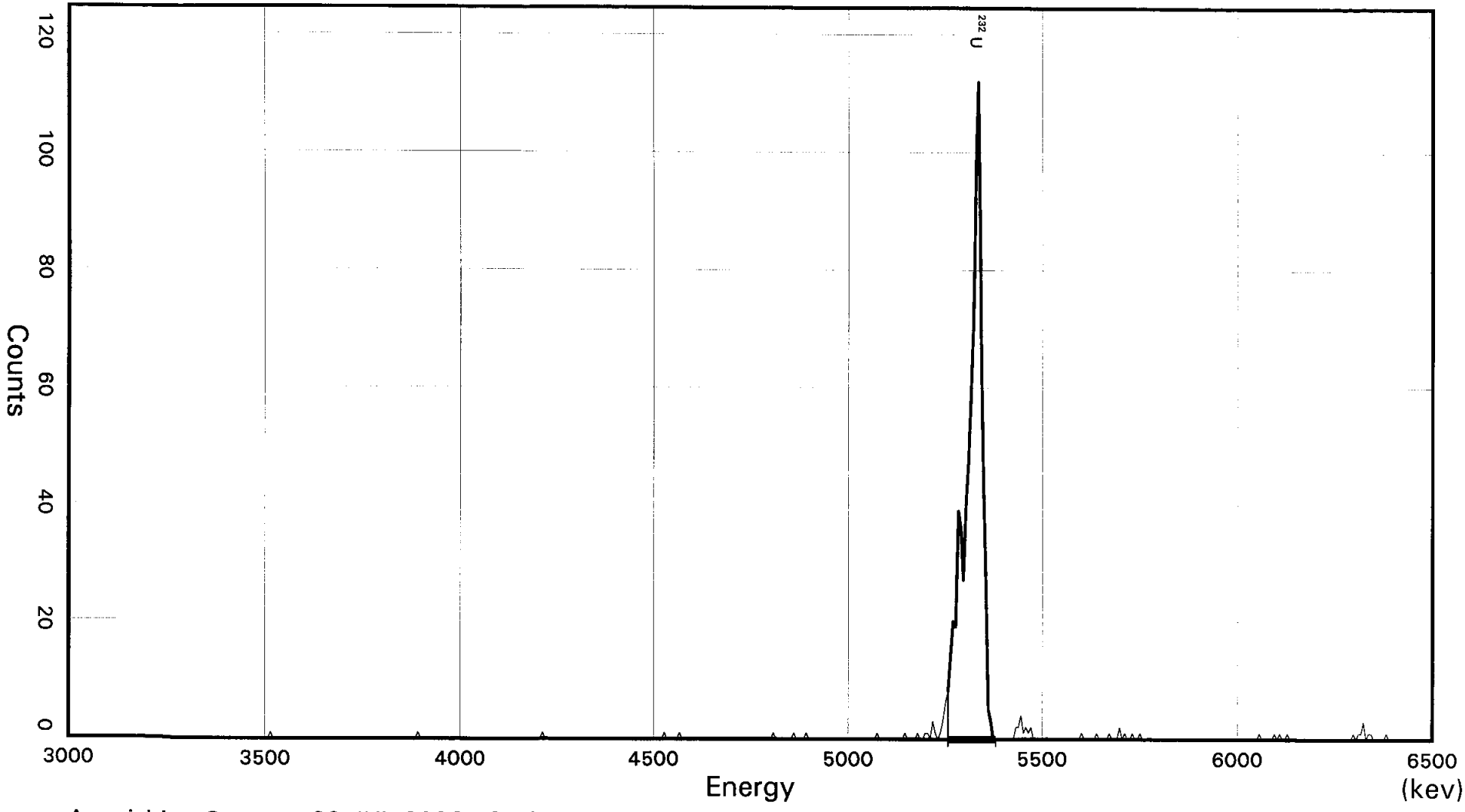
STL Richland WA.

U BRC

Sample ID: H9GAN1AG

Detector ID: ALP71 1

Batch ID: 6200121



Acquisition Start: 30-JUL-2006 12:49:55.86

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:06.00

Energy Coefficients:

Offset: 3.14400E+03

Slope: 6.49529E+00

Quadrature: 1.08093E-05

SAMPLE IDENTIITY: H9GAN1AG

TITLE : U BRC

DETECTOR : ALP71 1
CONFIGURATION NAME : RDND06$DKA100:[ALP71.SAMPLE]H9GAN1AG_3007612
49.CNF;1
ACQUIRE DATE of BACKGROUND: 23-JUL-2006 06:31:21

REPORT DATE : 30-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 12:49:55 CALIB DATE : 21-JUL-2006 01:15:27

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

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: H9GAN1AG

Detector: ALP71 1
Report Date: 30-Jul-06 04:10 PM
Acquire Date: 30-JUL-2006 12:49:55.86
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	740	29	0	3.687	5328.2	123.5	325	344	0.00	0.00	P
U-234	1	6	0	0.003	4782.7	123.5	241	260	0.00	0.00	
U-235	0	3	0	-0.001	4405.9	123.5	183	202	0.00	0.00	
U-238	1	5	0	0.003	4206.1	123.5	152	171	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GAN1AG
Detector: ALP71 1
Report Date: 30-Jul-06 04:10 PM
Acquire Date: 30-JUL-2006 12:49:55.86

Flags Key

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

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0	+	201	0	+	251	0		301	0		351	1		401	0		451	0		501
		2	0		52	0		102	0	+	152	0	+	202	0	+	252	0		302	2		352	0		402	0		452	0		502
0		3	0		53	0		103	0	+	153	0		203	0	+	253	0		303	2		353	0		403	0		453	0		503
0		4	0		54	0		104	0	+	154	0		204	0	+	254	0		304	4		354	0		404	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	1	+	256	0		306	2		356	0		406	1		456	0		506
0		7	1		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	1		308	2		358	0		408	0		458	0		508
0		9	0		59	0		109	0	+	159	0		209	0	+	259	0		309	0		359	0		409	1		459	0		509
0		10	0		60	0		110	0	+	160	0		210	0	+	260	0		310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	0	+	161	0		211	0		261	0		311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0	+	162	0		212	0		262	0		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0	+	163	1		213	0		263	1		313	0		363	0		413	0		463			
0		14	0		64	0		114	0	+	164	0		214	1		264	0		314	0		364	0		414	0		464			
0		15	0		65	1		115	1	+	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	0		468			
0		19	0		69	0		119	0	+	169	1		219	1		269	3		319	0		369	0		419	0		469			
0		20	0		70	0		120	0	+	170	0		220	0		270	1		320	0		370	0		420	0		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	0		321	0		371	0		421	0		471			
0		22	0		72	0		122	0		172	0		222	0		272	1		322	0		372	0		422	0		472			
0		23	0		73	0		123	0		173	0		223	0		273	3		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	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	20	+	327	0		377	0		427	0		477			
0		28	0		78	0		128	0		178	0		228	0		278	19	+	328	1		378	0		428	0		478			
0		29	0		79	0		129	0		179	0		229	0		279	39	+	329	0		379	0		429	0		479			
0		30	0		80	0		130	0		180	0		230	0		280	36	+	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	40	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	47	+	333	0		383	0		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	58	+	334	1		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	71	+	335	0		385	0		435	1		485			
0		36	0		86	0		136	0	+	186	0		236	0		286	97	+	336	0		386	0		436	0		486			
0		37	0		87	0		137	0	+	187	0		237	0		287	112	+	337	0		387	0		437	1		487			
0		38	0		88	0		138	0	+	188	0		238	0		288	70	+	338	0		388	0		438	1		488			
0		39	0		89	0		139	0	+	189	0		239	0		289	43	+	339	1		389	0		439	3		489			
0		40	0		90	0		140	0	+	190	0		240	0		290	26	+	340	0		390	0		440	0		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	3	+	342	0		392	0		442	1		492			
0		43	0		93	0		143	0	+	193	0	+	243	0		293	0	+	343	2		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	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	1		297	0		347	0		397	0		447	0		497			
0		48	0		98	0		148	0	+	198	0	+	248	0		298	0		348	1		398	1		448	1		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 30-JUL-2006 16:10:18

```
Configuration     : RDND06$DKA100:[ALP71.SAMPLE]H9GAN1AG_300761249.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 12:49:55
Sample ID         : H9GAN1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP71                Detector geometry:
Elapsed live time: 0 03:20:06.00         Elapsed real time: 0 03:20:06.00   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	5328.25	740	0	45.47	336.09	325	19	6.16E-02	3.7	

VMS Nuclide Identification Report V3.1 Generated 30-JUL-2006 16:10:19

```
Configuration     : RDND06$DKA100:[ALP71.SAMPLE]H9GAN1AG_300761249.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : U BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 12:49:55
Sample ID         : H9GAN1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP71                Detector geometry:
Elapsed live time: 0 03:20:06.00         Elapsed real time: 0 03:20:06.00   0.0%
Energy tolerance :    80.00 kev          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    60.00
```

Summary of Nuclide Activity

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

Nuclide Type : AP

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

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

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

Configuration: RDND06$DKA100:[ALP71.SAMPLE]H9GAN1AG_300761249.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5328.24	325	344	740	735	0.18		

End of Report

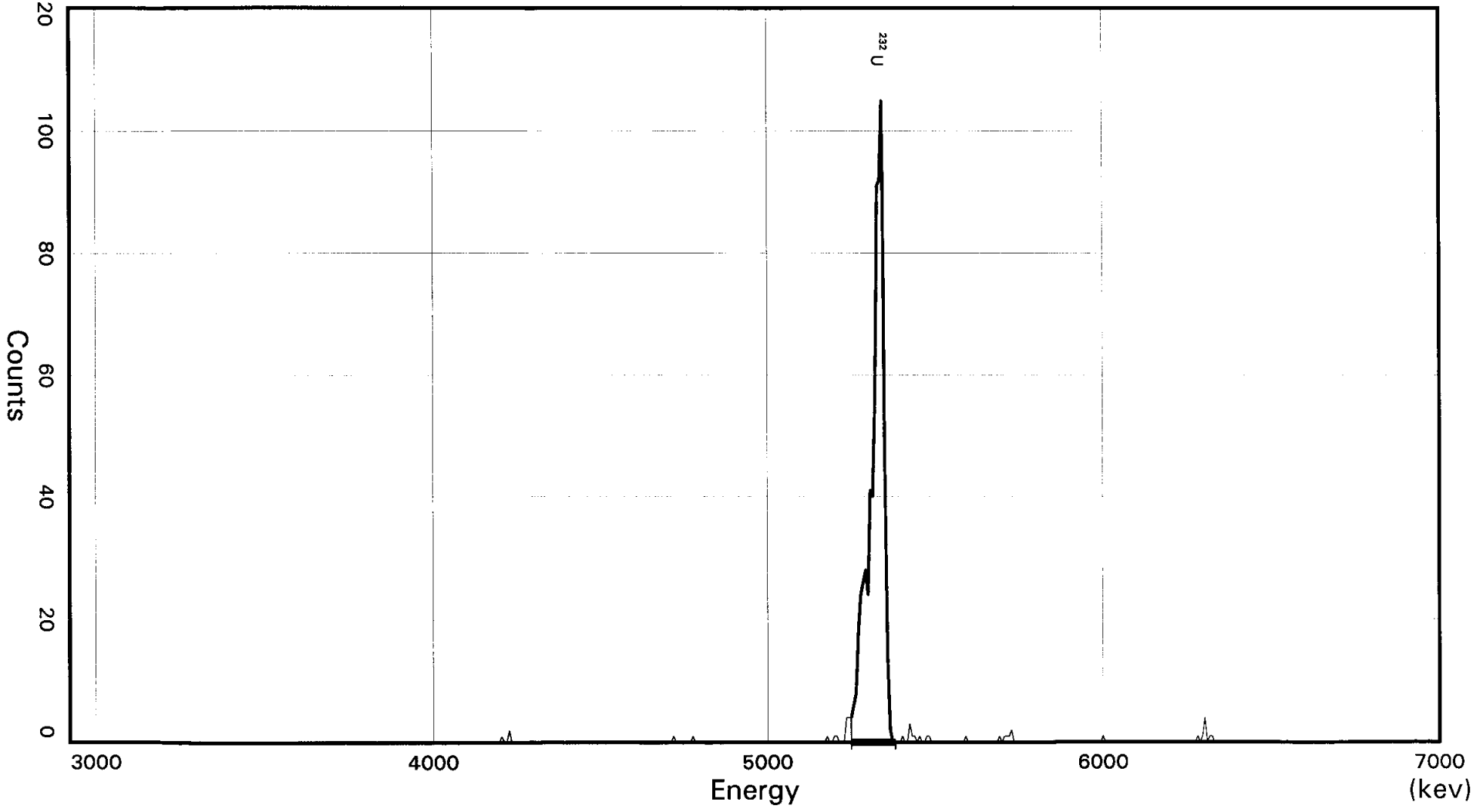
STL Richland WA.

U BRC

Sample ID: H9GAP1AG

Detector ID: ALP83 1

Batch ID: 6200121



Acquisition Start: 30-JUL-2006 12:50:13.54

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:03.00

Energy Coefficients:

Offset: 2.90101E+03

Slope: 7.29325E+00

Quadrature: -8.65879E-05

SAMPLE IDENTIITY: H9GAP1AG

TITLE : U BRC

DETECTOR : ALP83 1
CONFIGURATION NAME : RDND06$DKA100:[ALP83.SAMPLE]H9GAP1AG_3007612
50.CNF;1
ACQUIRE DATE of BACKGROUND: 21-JUL-2006 09:20:02

REPORT DATE : 30-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 12:50:13 CALIB DATE : 21-JUL-2006 01:14:17

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

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: H9GAP1AG

Detector: ALP83 1
Report Date: 30-Jul-06 04:10 PM
Acquire Date: 30-JUL-2006 12:50:13.54
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	635	24	0	3.165	5331.5	130.2	323	341	0.00	0.00	P
U-234	2	3	0	0.009	4785.9	130.5	248	266	0.00	0.00	
U-235	0	2	0	-0.001	4409.1	130.6	196	214	0.00	0.00	
U-238	3	2	0	0.014	4209.3	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: H9GAP1AG
Detector: ALP83 1
Report Date: 30-Jul-06 04:10 PM
Acquire Date: 30-JUL-2006 12:50:13.54

Flags Key

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

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0	+	201	0	+	251	0		301	1		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0	+	202	0	+	252	0		302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0	+	203	0	+	253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	0	+	254	0		304	1		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0	+	255	0		305	1		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	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	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	0		459	0		509
0		10	0		60	0		110	0		160	0	+	210	0	+	260	0		310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	0		161	0	+	211	0	+	261	0		311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0	+	212	0	+	262	0		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0	+	213	0	+	263	1		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	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	0		319	0		369	0		419	4		469			
0		20	0		70	0		120	0	+	170	0		220	0		270	0		320	1		370	0		420	0		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	4		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	1		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	8	+	325	0		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	0		276	18	+	326	0		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	24	+	327	0		377	1		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	26	+	328	0		378	0		428	0		478			
0		29	0		79	0		129	1	+	179	0		229	0		279	28	+	329	0		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	24	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	41	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	2	+	182	0		232	0		282	40	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	56	+	333	0		383	0		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	91	+	334	1		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	92	+	335	0		385	0		435	0		485			
0		36	0		86	0		136	0	+	186	0		236	0		286	105	+	336	1		386	0		436	0		486			
0		37	0		87	0		137	0		187	0		237	0		287	47	+	337	1		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	0		288	14	+	338	1		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	0		289	2	+	339	2		389	0		439	0		489			
0		40	0		90	0		140	0		190	0		240	0		290	0	+	340	0		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	0		291	0		341	0		391	0		441	0		491			
0		42	0		92	0		142	0		192	0		242	0		292	0		342	0		392	0		442	0		492			
0		43	0		93	0		143	0		193	0		243	0		293	0		343	0		393	0		443	0		493			
0		44	0		94	0		144	0		194	0		244	0		294	1		344	0		394	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	3		347	0		397	0		447	0		497			
0		48	0		98	0		148	0	+	198	0	+	248	0		298	1		348	0		398	0		448	0		498			
0		49	0		99	0		149	0	+	199	0	+	249	0		299	1		349	0		399	0		449	0		499			
0		50	0		100	0		150	0	+	200	1	+	250	0		300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 30-JUL-2006 16:10:21

```
Configuration     : RDND06$DKA100:[ALP83.SAMPLE]H9GAP1AG_300761250.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 12:50:13
Sample ID         : H9GAP1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP83                Detector geometry:
Elapsed live time: 0 03:20:03.00         Elapsed real time: 0 03:20:03.00   0.0%
Start energy      :  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	5331.51	635	0	43.76	334.58	323	18	5.29E-02	4.0	

VMS Nuclide Identification Report V3.1 Generated 30-JUL-2006 16:10:22

```
Configuration     : RDND06$DKA100:[ALP83.SAMPLE]H9GAP1AG_300761250.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : U BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 12:50:13
Sample ID         : H9GAP1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP83                Detector geometry:
Elapsed live time: 0 03:20:03.00         Elapsed real time: 0 03:20:03.00   0.0%
Energy tolerance :    80.00 kev          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    70.00
```

Summary of Nuclide Activity

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

Nuclide Type : AP

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

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

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

Configuration: RDND06$DKA100:[ALP83.SAMPLE]H9GAP1AG_300761250.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5331.51	323	341	635	626	0.36		

End of Report

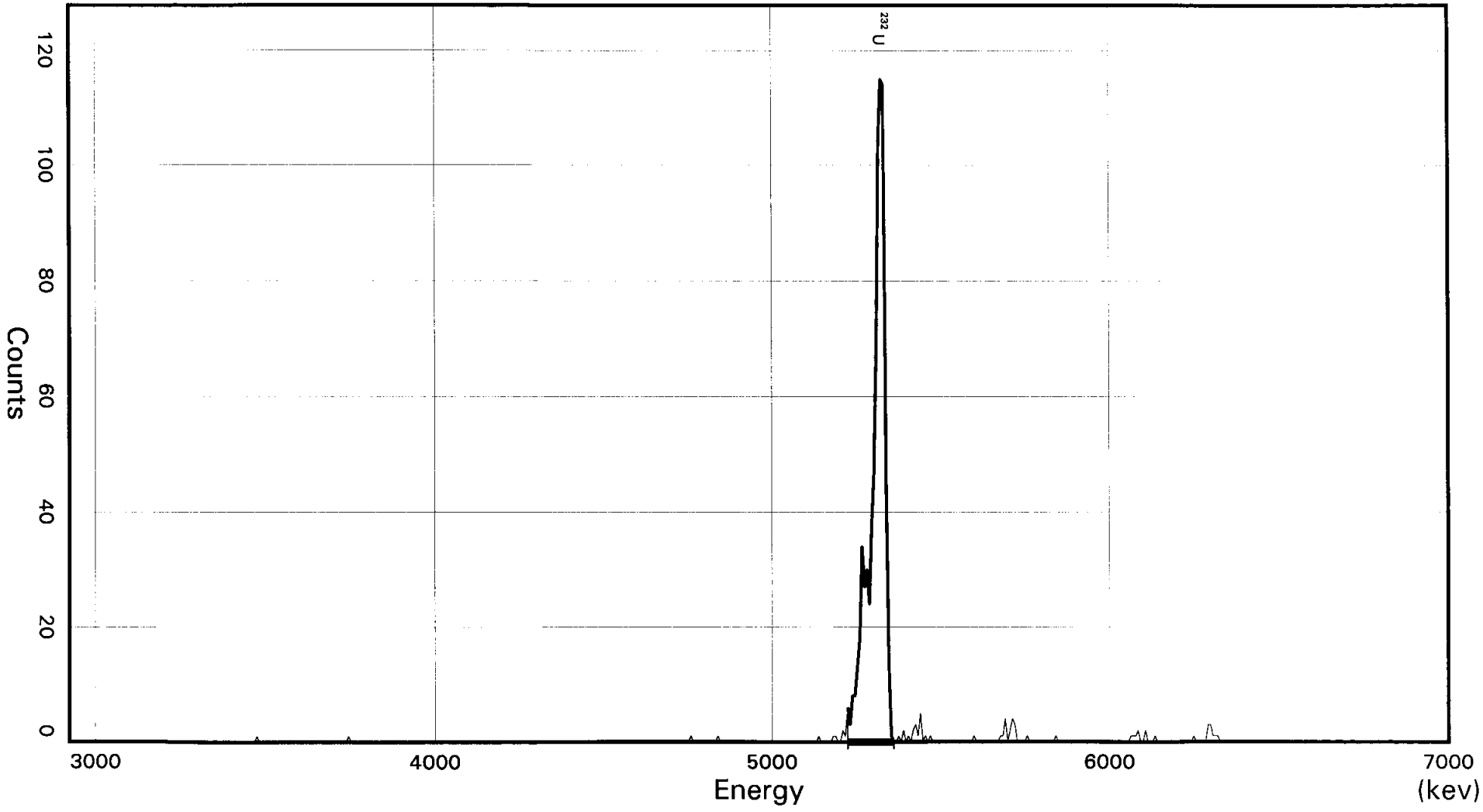
STL Richland WA.

U BRC

Sample ID: H9GAT1AG

Detector ID: ALP84 1

Batch ID: 6200121



Acquisition Start: 30-JUL-2006 12:50:43.20

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:07.00

Energy Coefficients:

Offset: 2.90201E+03

Slope: 7.34585E+00

Quadrature: -2.19631E-04

SAMPLE IDENTIITY: H9GAT1AG

TITLE : U BRC

DETECTOR : ALP84 1
CONFIGURATION NAME : RDND06$DKA100:[ALP84.SAMPLE]H9GAT1AG_3007612
50.CNF;1
ACQUIRE DATE of BACKGROUND: 21-JUL-2006 09:20:05

REPORT DATE : 30-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 12:50:43 CALIB DATE : 21-JUL-2006 01:14:12

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

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: H9GAT1AG

Detector: ALP84 1
Report Date: 30-Jul-06 04:10 PM
Acquire Date: 30-JUL-2006 12:50:43.20
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	717	15	0	3.577	5321.2	136.8	319	338	0.00	0.00	P
U-234	1	6	0	0.003	4775.6	137.5	243	262	0.00	0.00	
U-235	0	1	0	0.000	4398.8	137.9	191	210	0.00	0.00	
U-238	0	2	0	-0.001	4199.0	138.1	164	183	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GAT1AG
Detector: ALP84 1
Report Date: 30-Jul-06 04:10 PM
Acquire Date: 30-JUL-2006 12:50:43.20

Flags Key

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

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

VMS Peak Search Report V1.9 Generated 30-JUL-2006 16:10:53

Configuration	: RDND06$DKA100:[ALP84.SAMPLE]H9GAT1AG_300761250.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: U BRC		
Sample date	: 27-JUN-2006 12:00:00	Acquisition date	: 30-JUL-2006 12:50:43
Sample ID	: H9GAT1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP84	Detector geometry	:
Elapsed live time	: 0 03:20:07.00	Elapsed real time	: 0 03:20:07.00 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	5321.18	717	0	29.38	332.63	319	19	5.97E-02	3.7	

VMS Nuclide Identification Report V3.1 Generated 30-JUL-2006 16:10:55

```
Configuration     : RDND06$DKA100:[ALP84.SAMPLE]H9GAT1AG_300761250.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : U BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 12:50:43
Sample ID         : H9GAT1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP84                Detector geometry:
Elapsed live time: 0 03:20:07.00         Elapsed real time: 0 03:20:07.00   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:[ALP84.SAMPLE]H9GAT1AG_300761250.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5321.18	319	338	717	719	-0.07		

End of Report

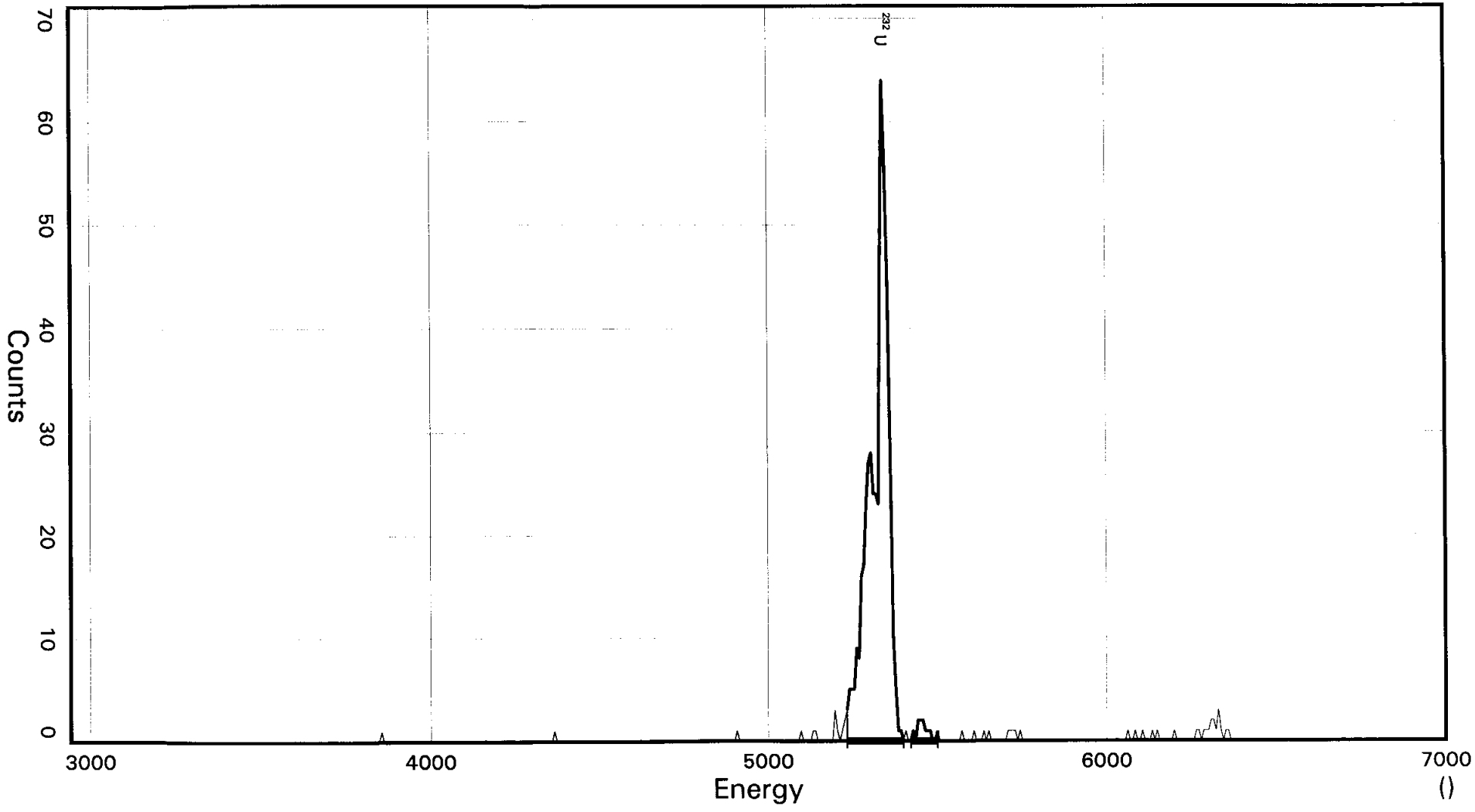
STL Richland WA.

U BRC

Sample ID: H9HV71AA

Detector ID: ALP85 1

Batch ID: 6200121



Acquisition Start: 30-JUL-2006 12:51:09.21

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:01.00

Energy Coefficients:

Offset: 2.92156E+03

Slope: 7.10750E+00

Quadrature: 1.43271E-04

SAMPLE IDENTIITY: H9HV71AA

TITLE : U BRC

DETECTOR : ALP85 1
CONFIGURATION NAME : RDND06$DKA100:[ALP85.SAMPLE]H9HV71AA_3007612
51.CNF;1
ACQUIRE DATE of BACKGROUND: 21-JUL-2006 09:20:08

REPORT DATE : 30-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 12:51:09 CALIB DATE : 21-JUL-2006 01:14:34

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

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: H9HV71AA

Detector: ALP85 1
Report Date: 30-Jul-06 04:11 PM
Acquire Date: 30-JUL-2006 12:51:09.21
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	475	68	0	2.348	5341.0	165.7	323	346	0.00	0.00	P
U-234	0	2	0	-0.001	4795.4	165.2	247	270	0.00	0.00	
U-235	1	2	0	0.004	4418.6	164.8	195	218	0.00	0.00	
U-238	0	2	0	-0.001	4218.8	164.6	167	190	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9HV71AA
Detector: ALP85 1
Report Date: 30-Jul-06 04:11 PM
Acquire Date: 30-JUL-2006 12:51:09.21

Flags Key

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

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0	+	201	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	2		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	1	+	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	1		304	2		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0	+	255	0		305	1		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	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	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	1		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	0	+	210	0	+	260	1		310	1		360	0		410	0		460	0		510
0		11	0		61	0		111	0		161	0	+	211	0	+	261	0		311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0	+	212	0	+	262	0		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0	+	213	0	+	263	0		313	0		363	0		413	0		463			
0		14	0		64	0		114	0		164	0	+	214	0	+	264	0		314	0		364	0		414	0		464			
0		15	0		65	0		115	0		165	0	+	215	0	+	265	0		315	0		365	0		415	0		465			
0		16	0		66	0		116	0		166	0	+	216	0	+	266	0		316	0		366	0		416	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	3		318	0		368	0		418	0		468			
0		19	0		69	0		119	0	+	169	0		219	0	+	269	1		319	0		369	0		419	1		469			
0		20	0		70	0		120	0	+	170	0		220	0	+	270	0		320	1		370	0		420	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	2		322	0		372	0		422	2		472			
0		23	0		73	0		123	0	+	173	0		223	0		273	3	+	323	0		373	0		423	2		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	5	+	324	0		374	0		424	1		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	5	+	325	1		375	0		425	3		475			
0		26	0		76	0		126	0	+	176	0		226	0		276	5	+	326	0		376	0		426	1		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	9	+	327	0		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	1		278	8	+	328	0		378	0		428	1		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	16	+	329	1		379	0		429	1		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	17	+	330	0		380	0		430	0		480			
0		31	0		81	1		131	0	+	181	0		231	0		281	23	+	331	1		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	27	+	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	24	+	335	0		385	0		435	0		485			
0		36	0		86	0		136	0	+	186	0		236	0		286	23	+	336	0		386	0		436	0		486			
0		37	0		87	0		137	0	+	187	0		237	0		287	47	+	337	0		387	0		437	0		487			
0		38	0		88	0		138	0	+	188	0		238	0		288	64	+	338	0		388	1		438	0		488			
0		39	0		89	0		139	0	+	189	0		239	0		289	56	+	339	1		389	0		439	0		489			
0		40	0		90	0		140	0	+	190	0		240	0		290	44	+	340	1		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	0		291	28	+	341	1		391	1		441	0		491			
0		42	0		92	0		142	0		192	0		242	0		292	10	+	342	1		392	0		442	0		492			
0		43	0		93	0		143	0		193	0		243	0		293	5	+	343	0		393	0		443	0		493			
0		44	0		94	0		144	0		194	0		244	0		294	1	+	344	1		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	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	1		448	0		498			
0		49	0		99	0		149	0	+	199	0	+	249	0		299	0		349	0		399	0		449	0		499			
0		50	0		100	0		150	0	+	200	0	+	250	0		300	1		350	0		400	1		450	0		500			

VMS Peak Search Report V1.9 Generated 30-JUL-2006 16:11:11

```
Configuration     : RDND06$DKA100:[ALP85.SAMPLE]H9HV71AA_300761251.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 12:51:09
Sample ID         : H9HV71AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP85                Detector geometry:
Elapsed live time: 0 03:20:01.00         Elapsed real time: 0 03:20:01.00   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	5340.99	475	0	49.75	338.10	323	23	3.96E-02	4.6	
2	0	5448.36	11	0	42.65	353.00	349	11	9.17E-04	30.2	

VMS Nuclide Identification Report V3.1 Generated 30-JUL-2006 16:11:12

```
Configuration     : RDND06$DKA100:[ALP85.SAMPLE]H9HV71AA_300761251.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : U BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 12:51:09
Sample ID         : H9HV71AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP85                Detector geometry:
Elapsed live time: 0 03:20:01.00         Elapsed real time: 0 03:20:01.00   0.0%
Energy tolerance :    80.00              Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    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:[ALP85.SAMPLE]H9HV71AA_300761251.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5340.98	323	346	475	473	0.09		
5448.35	349	360	11	11	0.00		

End of Report

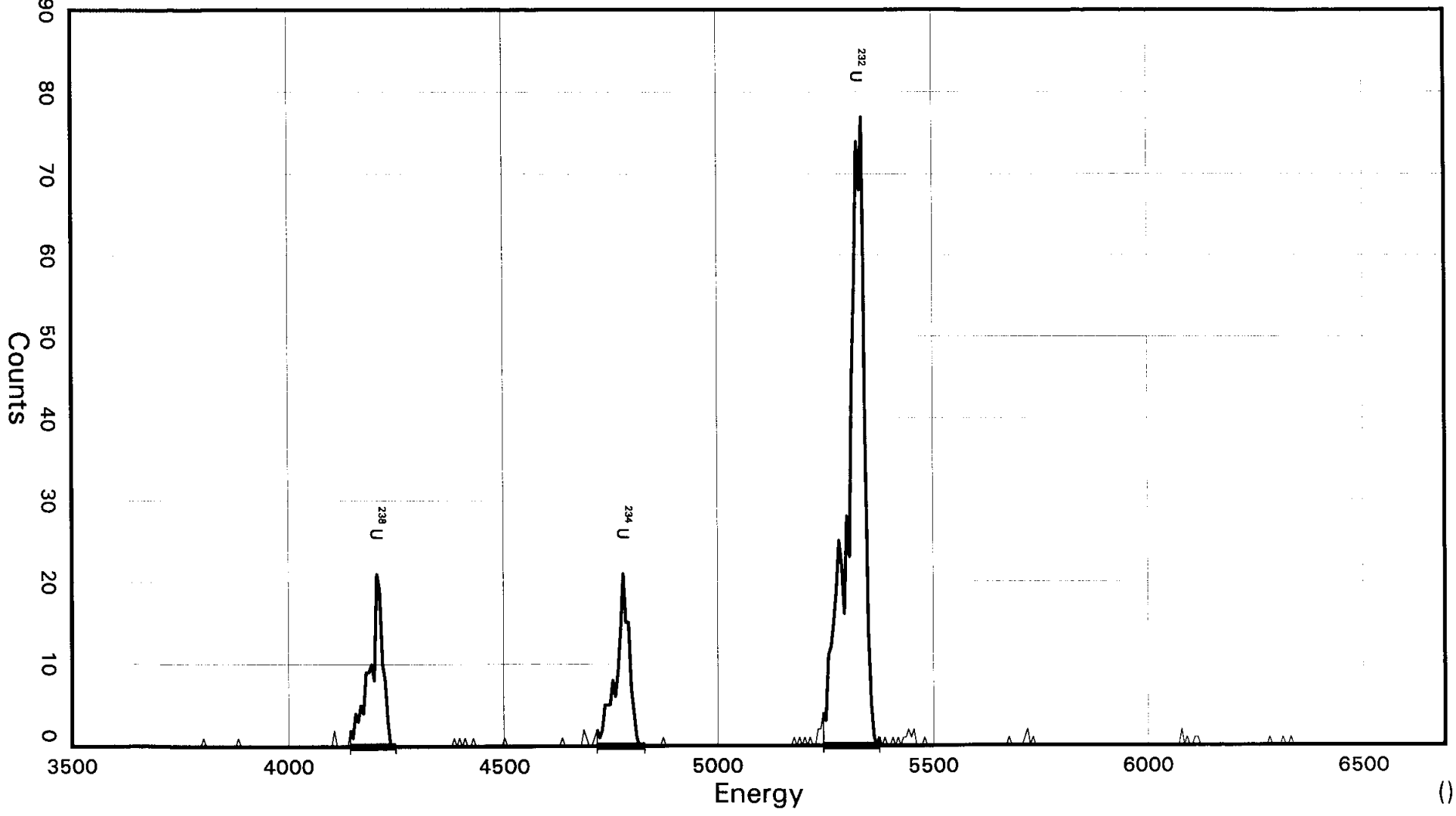
STL Richland WA.

U BRC

Sample ID: H9HV71AC

Detector ID: ALP87 1

Batch ID: 6200121



Acquisition Start: 30-JUL-2006 12:51:28.49

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:06.00

Energy Coefficients:

Offset: 3.52480E+03

Slope: 6.18901E+00

Quadrature: -1.74595E-05

SAMPLE IDENTITY: H9HV71AC

TITLE : U BRC

DETECTOR : ALP87 1
CONFIGURATION NAME : RDND06$DKA100:[ALP87.SAMPLE]H9HV71AC_3007612
51.CNF;1
ACQUIRE DATE of BACKGROUND: 22-JUL-2006 05:58:22

REPORT DATE : 30-Jul-06 SAMPLE DATE: 27-JUN-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 12:51:28 CALIB DATE : 21-JUL-2006 01:14:22

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

OFFSET : 3524.80 keV CONSTANT FWHM : 9.00000 Channels
SLOPE : 6.18901 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : -.174595E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H9HV71AC

Detector: ALP87 1
Report Date: 30-Jul-06 04:11 PM
Acquire Date: 30-JUL-2006 12:51:28.49
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	560	6	0	2.793	5327.4	129.8	278	299	0.00	0.00	P
U-234	119	3	0	0.592	4781.9	111.3	193	211	0.00	0.00	P
U-235	4	1	0	0.019	4405.1	129.9	129	150	0.00	0.00	
U-238	117	0	0	0.585	4205.3	105.1	100	117	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9HV71AC
Detector: ALP87 1
Report Date: 30-Jul-06 04:11 PM
Acquire Date: 30-JUL-2006 12:51:28.49

Flags Key

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

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

VMS Peak Search Report V1.9 Generated 30-JUL-2006 16:11:36

Configuration : RDND06$DKA100:[ALP87.SAMPLE]H9HV71AC_300761251.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 12:51:28
Sample ID : H9HV71AC Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP87 Detector geometry:
Elapsed live time: 0 03:20:06.00 Elapsed real time: 0 03:20:06.00 0.0%
Start energy : 3543.36 End energy : 6688.99
Sensitivity : 4.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4205.67	117	0	43.32	110.05	100	17	9.75E-03	9.2	
2	0	4781.09	119	0	43.32	203.10	193	18	9.91E-03	9.2	
3	0	5327.43	560	0	37.13	291.50	278	21	4.66E-02	4.2	

VMS Nuclide Identification Report V3.1 Generated 30-JUL-2006 16:11:37

```
Configuration     : RDND06$DKA100:[ALP87.SAMPLE]H9HV71AC_300761251.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : U BRC
Sample date       : 27-JUN-2006 12:00:00 Acquisition date : 30-JUL-2006 12:51:28
Sample ID         : H9HV71AC             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP87                Detector geometry:
Elapsed live time: 0 03:20:06.00         Elapsed real time: 0 03:20:06.00   0.0%
Energy tolerance :    80.00              Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    60.00
```

Summary of Nuclide Activity

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

Nuclide Type : AP

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

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-234	2.45E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
U-238	4.47E+09Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
		Total Activity :	0.000E+00	0.000E+00			

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

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

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

Configuration: RDND06$DKA100:[ALP87.SAMPLE]H9HV71AC_300761251.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4205.66	100	117	117	116	0.09		
4781.08	193	211	119	120	-0.09		
5327.42	278	299	560	558	0.08		

End of Report

ALPHA

SAMPLE AND QC DATA

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

8/7/2006 2:33:21 PM

Lot No., Due Date: J6G180211; 08/15/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6200124; RALPHA-A Alpha by GPC-Am

SDG, Matrix: 32139; 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: 6200124

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

7/27/2006 10:37:02 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: 6200124 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: HansenM

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 H9F9W-1-AE J6G180211-1-SAMP 06/27/2006 10:35	0.833sa	12.60g,in AmtRec: FILTER	#Containers: 1		16.0g	150	10c Scr:	1211 Alpha:	8/4/06 R Beta:	
2 H9F92-1-AE J6G180211-2-SAMP 06/27/2006 10:50	0.833sa,g	12.54g,in AmtRec: FILTER	#Containers: 1		19.0g		10d Scr:	Alpha:	Beta:	
3 H9F95-1-AE J6G180211-3-SAMP 06/27/2006 11:10	0.833sa,g	12.84g,in AmtRec: FILTER	#Containers: 1		20.0g		10e Scr:	Alpha:	Beta:	
4 H9F98-1-AE J6G180211-4-SAMP 06/27/2006 11:30	0.833sa,g	12.49g,in AmtRec: FILTER	#Containers: 1		19.0g		10a Scr:	1457 Alpha:	8/4/06 RS Beta:	
5 H9GAA-1-AE J6G180211-5-SAMP 06/27/2006 11:55	0.833sa,g	12.68g,in AmtRec: FILTER	#Containers: 1		20.0g		10b Scr:	Alpha:	Beta:	
6 H9GAC-1-AE J6G180211-6-SAMP 06/27/2006 12:05	0.833sa,g	12.50g,in AmtRec: FILTER	#Containers: 1		21.0g		10c Scr:	Alpha:	Beta:	
7 H9GAE-1-AE J6G180211-7-SAMP 06/27/2006 10:45	0.833sa,g	12.50g,in AmtRec: FILTER	#Containers: 1		18.0g		10d Scr:	Alpha:	Beta:	

STL RICHLAND

7/27/2006 10:37:03 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: 6200124 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 H9GAG-1-AE J6G180211-8-SAMP 06/27/2006 11:00	0.833sa,g	12.66g,in			20.0g	150		10e	1457	8/4/06 r
9 H9GAJ-1-AE J6G180211-9-SAMP 06/27/2006 10:40	0.833sa,g	12.49g,in			11.0g			10A	1742	8/4/06 ore
10 H9GAK-1-AE J6G180211-10-SAMP 06/27/2006 10:55	0.833sa,g	12.76g,in			17.0g			10B		
11 H9GAL-1-AE J6G180211-11-SAMP 06/27/2006 11:15	0.833sa,g	12.56g,in			16.0g			10C		
12 H9GAM-1-AE J6G180211-12-SAMP 06/27/2006 11:35	0.833sa,g	12.56g,in			27.0g			10D		
13 H9GAN-1-AE J6G180211-13-SAMP 06/27/2006 12:00	0.833sa,g	12.59g,in			20.0g			10E		
14 H9GAP-1-AE J6G180211-14-SAMP 06/27/2006 12:10	0.833sa,g	12.59g,in			25.0g			10A	2030	

AmtRec: FILTER #Containers: 1 Scr: Alpha: Beta:

7/27/2006 10:37:03 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: 6200124 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:
15H9GAT-1-AE J6G180211-15-SAMP 06/27/2006 11:40	0.833sa,g	12.63g,in AmtRec: FILTER	#Containers: 1		18.0g		10B Scr:	2030 Alpha:	8/4/06 DD Beta:	
16H9HWF-1-AA-B J6G190000-124-BLK 06/27/2006 10:35		1.00sa,in AmtRec:	#Containers: 1		12.0g		10C Scr:	Alpha:	Beta:	
17H9HWF-1-AC-C J6G190000-124-LCS 06/27/2006 10:35		1.00sa,in AmtRec:	ASC0397 06/15/06,pd 02/09/06,r #Containers: 1		23.0g		10D Scr:	Alpha:	Beta:	

Comments:

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

H9F9W1AE-SAMP Constituent List:
ALPHA RDL:20 pCi/sam LCL: UCL: RPD:
H9HWF1AA-BLK:
ALPHA RDL:20 pCi/sam LCL: UCL: RPD:
H9HWF1AC-LCS:

H9F9W1AE-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H9HWF1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H9HWF1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

8/7/2006 2:15:18 PM

ICOC Fraction Transfer/Status Report

ByDate: 8/7/2005, 8/12/2006, Batch: '6200124', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6200124						
AC		**CalcC**	**HansenM**	7/20/2006 1:20:31 PM		
SC			wagarr	IsBatched	7/19/2006 8:00:26 AM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	7/20/2006 1:20:31 PM	RICH-RC-5016 REVISION 5
SC			HoganS	Prep2C	8/3/2006 2:13:48 PM	RICH-RC-5014 REVISION 6
SC			AntonsonL	Prep2C	8/3/2006 2:20:09 PM	RICHRC5014 REVISION 6
SC			DAWKINSO	InCnt1	8/3/2006 3:47:19 PM	RICH-RD-0003 REVISION 4
SC			DAWKINSO	CalcC	8/4/2006 8:45:30 PM	RICH-RD-0003 REVISION 4
AC			**HoganS**	8/3/2006 2:13:48 PM		
AC			**AntonsonL**	8/3/2006 2:20:09 PM		
AC			**DAWKINSO**	8/3/2006 3:47:19 PM		
AC			**DAWKINSO**	8/4/2006 8:45:30 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 5

ICOCFractions v4.8.18

8/7/2006 2:15:17 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
32139	**9H9F9210**			**J6G1802112**	P-0684	FILTER	7/18/2006 10:00:00	6/27/2006 10:50:00 AM				
ALPHA	BAS7		0	8/4/2006 10:54:31 AM	**1.9879E+00**	1.261E+00	1.277E+00	4.798E+00	PCI/SA	1.0	1.0E+0	2.059E-2
BETA	BDS8		0	8/2/2006 6:59:45 PM	**2.2242E+01**	1.913E+00	2.513E+00	5.807E+00	PCI/SA	1.0	1.0E+0	3.24E-2
TH-228	9NS1		0	7/29/2006 1:47:52 PM	**1.6209E-01**	8.253E-02	8.375E-02	2.161E-01	PCI/SA	1.044	1.0E+0	3.298E-2
TH-230	9NS1		0	7/29/2006 1:47:52 PM	**8.6705E-02**	6.252E-02	6.299E-02	2.08E-01	PCI/SA	1.044	1.0E+0	3.298E-2
TH-232	9NS1		0	7/29/2006 1:47:52 PM	**5.7864E-07**	4.248E-02	4.248E-02	2.553E-01	PCI/SA	1.044	1.0E+0	3.298E-2
U-234	7YSR		0	7/30/2006 2:25:08 PM	**-3.9387E-02**	1.113E-01	1.113E-01	8.078E-01	PCI/SA	0.985	1.0E+0	3.17E-2
U-235	7YSR		0	7/30/2006 2:25:08 PM	**3.9328E-02**	1.041E-01	1.042E-01	6.209E-01	PCI/SA	0.985	1.0E+0	3.17E-2
U-238	7YSR		0	7/30/2006 2:25:08 PM	**-1.9708E-02**	1.095E-01	1.096E-01	7.677E-01	PCI/SA	0.985	1.0E+0	3.17E-2
32139	**9H9F9510**			**J6G1802113**	P-0685	FILTER	7/18/2006 10:00:00	6/27/2006 11:10:00 AM				
ALPHA	BAS7		0	8/4/2006 10:54:31 AM	**-7.3628E-01**	8.866E-01	8.898E-01	5.191E+00	PCI/SA	1.0	1.0E+0	2.131E-2
BETA	BDS8		0	8/2/2006 6:59:45 PM	**3.0779E+01**	2.046E+00	2.984E+00	5.457E+00	PCI/SA	1.0	1.0E+0	3.328E-2
TH-228	9NS1		0	7/29/2006 1:49:16 PM	**0.0E+00**	0.0E+00	5.32E-02	1.177E-01	PCI/SA	0.787	1.0E+0	3.326E-2
TH-230	9NS1		0	7/29/2006 1:49:16 PM	**1.171E+00**	2.213E-01	2.451E-01	1.133E-01	PCI/SA	0.787	1.0E+0	3.326E-2
TH-232	9NS1		0	7/29/2006 1:49:16 PM	**2.091E-02**	4.676E-02	4.68E-02	2.508E-01	PCI/SA	0.787	1.0E+0	3.326E-2
U-234	7YSR		0	7/30/2006 2:25:26 PM	**-1.2345E-01**	5.04E-02	5.137E-02	8.03E-01	PCI/SA	0.924	1.0E+0	3.238E-2
U-235	7YSR		0	7/30/2006 2:25:26 PM	**1.0291E-01**	1.029E-01	1.032E-01	2.789E-01	PCI/SA	0.924	1.0E+0	3.238E-2
U-238	7YSR		0	7/30/2006 2:25:26 PM	**-8.2269E-02**	1.2E-01	1.202E-01	9.208E-01	PCI/SA	0.924	1.0E+0	3.238E-2
32139	**9H9F9810**			**J6G1802114**	P-0686	FILTER	7/18/2006 10:00:00	6/27/2006 11:30:00 AM				
ALPHA	BAS7		0	8/4/2006 1:41:19 PM	**7.7552E-01**	1.229E+00	1.231E+00	5.512E+00	PCI/SA	1.0	1.0E+0	2.073E-2
BETA	BDS8		0	8/2/2006 6:59:45 PM	**2.8919E+01**	2.001E+00	2.805E+00	5.302E+00	PCI/SA	1.0	1.0E+0	3.323E-2
TH-228	9NS1		0	7/29/2006 1:49:53 PM	**1.9396E-01**	1.137E-01	1.151E-01	3.568E-01	PCI/SA	0.919	1.0E+0	3.351E-2
TH-230	9NS1		0	7/29/2006 1:49:53 PM	**2.1009E-01**	1.07E-01	1.087E-01	2.8E-01	PCI/SA	0.919	1.0E+0	3.351E-2
TH-232	9NS1		0	7/29/2006 1:49:53 PM	**-2.3338E-02**	2.334E-02	2.343E-02	2.8E-01	PCI/SA	0.919	1.0E+0	3.351E-2
U-234	7YSR		0	7/30/2006 2:25:59 PM	**2.4413E-01**	1.942E-01	1.952E-01	7.71E-01	PCI/SA	0.98	1.0E+0	3.241E-2
U-235	7YSR		0	7/30/2006 2:25:59 PM	**-3.7556E-02**	2.656E-02	2.673E-02	5.306E-01	PCI/SA	0.98	1.0E+0	3.241E-2
U-238	7YSR		0	7/30/2006 2:25:59 PM	**2.6291E-01**	1.933E-01	1.945E-01	7.327E-01	PCI/SA	0.98	1.0E+0	3.241E-2
32139	**9H9F9W10**			**J6G1802111**	P-0683	FILTER	7/18/2006 10:00:00	6/27/2006 10:35:00 AM				
ALPHA	BAS7		0	8/4/2006 10:54:31 AM	**3.4878E+00**	1.573E+00	1.615E+00	5.438E+00	PCI/SA	1.0	1.0E+0	2.096E-2
BETA	BDS8		0	8/2/2006 6:58:31 PM	**2.3578E+01**	1.81E+00	2.454E+00	5.071E+00	PCI/SA	1.0	1.0E+0	3.614E-2
TH-228	9NS1		0	7/29/2006 1:47:52 PM	**7.5472E-02**	7.547E-02	7.579E-02	3.018E-01	PCI/SA	0.844	1.0E+0	3.437E-2
TH-230	9NS1		0	7/29/2006 1:47:52 PM	**0.0E+00**	0.0E+00	5.933E-02	1.313E-01	PCI/SA	0.844	1.0E+0	3.437E-2
TH-232	9NS1		0	7/29/2006 1:47:52 PM	**0.0E+00**	0.0E+00	5.933E-02	1.313E-01	PCI/SA	0.844	1.0E+0	3.437E-2
U-234	7YSR		0	7/30/2006 2:24:42 PM	**4.6182E-01**	2.263E-01	2.293E-01	5.674E-01	PCI/SA	0.982	1.0E+0	3.241E-2
U-235	7YSR		0	7/30/2006 2:24:42 PM	**6.0222E-02**	1.043E-01	1.045E-01	5.674E-01	PCI/SA	0.982	1.0E+0	3.241E-2
U-238	7YSR		0	7/30/2006 2:24:42 PM	**-8.0358E-02**	4.018E-02	4.07E-02	6.898E-01	PCI/SA	0.982	1.0E+0	3.241E-2
32139	**9H9GAA10**			**J6G1802115**	P-0687	FILTER	7/18/2006 10:00:00	6/27/2006 11:55:00 AM				
ALPHA	BAS7		0	8/4/2006 1:41:19 PM	**2.1842E+00**	1.39E+00	1.408E+00	5.344E+00	PCI/SA	1.0	1.0E+0	2.104E-2
BETA	BDS8		0	8/2/2006 6:59:47 PM	**2.0884E+01**	1.784E+00	2.286E+00	5.141E+00	PCI/SA	1.0	1.0E+0	3.325E-2
TH-228	9NS1		0	7/29/2006 1:50:24 PM	**-1.7717E-06**	9.207E-02	9.207E-02	4.936E-01	PCI/SA	0.875	1.0E+0	3.356E-2
TH-230	9NS1		0	7/29/2006 1:50:24 PM	**1.5356E-01**	8.866E-02	8.979E-02	1.387E-01	PCI/SA	0.875	1.0E+0	3.356E-2
TH-232	9NS1		0	7/29/2006 1:50:24 PM	**0.0E+00**	0.0E+00	6.269E-02	1.387E-01	PCI/SA	0.875	1.0E+0	3.356E-2
U-234	7YSR		0	7/30/2006 2:26:30 PM	**1.5989E-01**	1.599E-01	1.605E-01	4.333E-01	PCI/SA	0.599	1.0E+0	3.247E-2
U-235	7YSR		0	7/30/2006 2:26:30 PM	**-3.1994E-02**	3.199E-02	3.211E-02	7.659E-01	PCI/SA	0.599	1.0E+0	3.247E-2
U-238	7YSR		0	7/30/2006 2:26:30 PM	**9.5901E-02**	1.662E-01	1.664E-01	9.036E-01	PCI/SA	0.599	1.0E+0	3.247E-2
32139	**9H9GAC10**			**J6G1802116**	P-0688	FILTER	7/18/2006 10:00:00	6/27/2006 12:05:00 PM				
ALPHA	BAS7		0	8/4/2006 1:41:19 PM	**2.8417E+00**	1.535E+00	1.563E+00	5.628E+00	PCI/SA	1.0	1.0E+0	2.03E-2
BETA	BDS8		0	8/2/2006 6:59:47 PM	**1.9035E+01**	1.8E+00	2.223E+00	5.421E+00	PCI/SA	1.0	1.0E+0	3.162E-2
TH-228	9NS1		0	7/30/2006 1:46:15 PM	**1.9783E-06**	8.385E-02	8.385E-02	4.254E-01	PCI/SA	1.021	1.0E+0	3.155E-2
TH-230	9NS1		0	7/30/2006 1:46:15 PM	**3.612E-01**	1.217E-01	1.259E-01	2.28E-01	PCI/SA	1.021	1.0E+0	3.155E-2
TH-232	9NS1		0	7/30/2006 1:46:15 PM	**0.0E+00**	0.0E+00	4.657E-02	1.03E-01	PCI/SA	1.021	1.0E+0	3.155E-2
U-234	7YSR		0	7/30/2006 2:26:46 PM	**8.1919E-02**	1.044E-01	1.047E-01	4.906E-01	PCI/SA	0.988	1.0E+0	3.125E-2

6200124, **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		7/30/2006 2:26:46 PM	**0.0E+00**	0.0E+00	1.254E-01	2.775E-01	PCI/SA		0.988	1.0E+0	3.125E-2
U-238	7YSR	0		7/30/2006 2:26:46 PM	**1.8433E-01**	1.463E-01	1.47E-01	4.906E-01	PCI/SA		0.988	1.0E+0	3.125E-2
32139	**9H9GAE10**			**J6G1802117**	P-0689	FILTER	7/18/2006 10:00:00	6/27/2006 10:45:00 AM					
ALPHA	BAS7	0		8/4/2006 1:41:19 PM	**3.4043E+00**	1.446E+00	1.487E+00	4.793E+00	PCI/SA		1.0	1.0E+0	2.06E-2
BETA	BDS8	0		8/2/2006 6:59:47 PM	**2.4635E+01**	1.817E+00	2.498E+00	4.981E+00	PCI/SA		1.0	1.0E+0	3.559E-2
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**-8.1095E-02**	6.411E-02	6.452E-02	4.365E-01	PCI/SA		0.933	1.0E+0	3.279E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**2.1452E-01**	9.751E-02	9.937E-02	2.339E-01	PCI/SA		0.933	1.0E+0	3.279E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**6.5073E-07**	4.777E-02	4.777E-02	2.871E-01	PCI/SA		0.933	1.0E+0	3.279E-2
U-234	7YSR	0		7/30/2006 2:27:07 PM	**0.0E+00**	0.0E+00	1.211E-01	2.679E-01	PCI/SA		0.941	1.0E+0	3.199E-2
U-235	7YSR	0		7/30/2006 2:27:07 PM	**-1.9769E-02**	1.977E-02	1.983E-02	4.735E-01	PCI/SA		0.941	1.0E+0	3.199E-2
U-238	7YSR	0		7/30/2006 2:27:07 PM	**9.8858E-02**	9.886E-02	9.918E-02	2.679E-01	PCI/SA		0.941	1.0E+0	3.199E-2
32139	**9H9GAG10**			**J6G1802118**	P-0690	FILTER	7/18/2006 10:00:00	6/27/2006 11:00:00 AM					
ALPHA	BAS7	0		8/4/2006 1:41:19 PM	**0.0E+00**	0.0E+00	1.054E+00	5.319E+00	PCI/SA		1.0	1.0E+0	2.079E-2
BETA	BDS8	0		8/3/2006 7:32:16 AM	**1.4398E+00**	1.346E+00	1.35E+00	5.529E+00	PCI/SA		1.0	1.0E+0	3.239E-2
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**2.5345E-02**	5.667E-02	5.672E-02	3.04E-01	PCI/SA		0.883	1.0E+0	3.254E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**4.3882E-01**	1.463E-01	1.517E-01	1.321E-01	PCI/SA		0.883	1.0E+0	3.254E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**0.0E+00**	0.0E+00	5.972E-02	1.321E-01	PCI/SA		0.883	1.0E+0	3.254E-2
U-234	7YSR	0		7/30/2006 2:27:27 PM	**-3.9864E-02**	2.819E-02	2.837E-02	5.629E-01	PCI/SA		1.004	1.0E+0	3.163E-2
U-235	7YSR	0		7/30/2006 2:27:27 PM	**0.0E+00**	0.0E+00	1.22E-01	2.699E-01	PCI/SA		1.004	1.0E+0	3.163E-2
U-238	7YSR	0		7/30/2006 2:27:27 PM	**-3.9864E-02**	2.819E-02	2.837E-02	5.629E-01	PCI/SA		1.004	1.0E+0	3.163E-2
32139	**9H9GAJ10**			**J6G1802119**	000509	FILTER	7/18/2006 10:00:00	6/27/2006 10:40:00 AM					
ALPHA	BAS7	0		8/4/2006 4:26:53 PM	**2.2347E+00**	1.422E+00	1.441E+00	5.467E+00	PCI/SA		1.0	1.0E+0	2.08E-2
BETA	BDS8	0		8/3/2006 7:32:16 AM	**2.7048E+01**	1.955E+00	2.732E+00	5.427E+00	PCI/SA		1.0	1.0E+0	3.498E-2
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**1.3582E-01**	7.842E-02	7.936E-02	1.227E-01	PCI/SA		1.045	1.0E+0	3.346E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**5.2256E-01**	1.509E-01	1.58E-01	1.18E-01	PCI/SA		1.045	1.0E+0	3.346E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**8.7094E-02**	6.158E-02	6.208E-02	1.18E-01	PCI/SA		1.045	1.0E+0	3.346E-2
U-234	7YSR	0		7/30/2006 2:28:10 PM	**-2.0287E-02**	2.029E-02	2.035E-02	4.858E-01	PCI/SA		0.957	1.0E+0	3.284E-2
U-235	7YSR	0		7/30/2006 2:28:10 PM	**0.0E+00**	0.0E+00	1.242E-01	2.749E-01	PCI/SA		0.957	1.0E+0	3.284E-2
U-238	7YSR	0		7/30/2006 2:28:10 PM	**8.1144E-02**	1.034E-01	1.036E-01	4.858E-01	PCI/SA		0.957	1.0E+0	3.284E-2
32139	**9H9GAK10**			**J6G18021110**	000510	FILTER	7/18/2006 10:00:00	6/27/2006 10:55:00 AM					
ALPHA	BAS7	0		8/4/2006 4:26:53 PM	**7.5385E-01**	1.194E+00	1.197E+00	5.358E+00	PCI/SA		1.0	1.0E+0	2.096E-2
BETA	BDS8	0		8/3/2006 7:32:16 AM	**3.0006E+01**	2.032E+00	2.909E+00	5.347E+00	PCI/SA		1.0	1.0E+0	3.457E-2
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**1.4573E-01**	8.584E-02	8.682E-02	2.497E-01	PCI/SA		0.923	1.0E+0	3.313E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**4.4055E-01**	1.328E-01	1.386E-01	1.085E-01	PCI/SA		0.923	1.0E+0	3.313E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**6.0076E-02**	6.008E-02	6.032E-02	2.402E-01	PCI/SA		0.923	1.0E+0	3.313E-2
U-234	7YSR	0		7/30/2006 2:28:28 PM	**0.0E+00**	0.0E+00	1.202E-01	2.66E-01	PCI/SA		0.909	1.0E+0	3.168E-2
U-235	7YSR	0		7/30/2006 2:28:28 PM	**-1.9627E-02**	1.963E-02	1.969E-02	4.701E-01	PCI/SA		0.909	1.0E+0	3.168E-2
U-238	7YSR	0		7/30/2006 2:28:28 PM	**7.8518E-02**	1.001E-01	1.003E-01	4.701E-01	PCI/SA		0.909	1.0E+0	3.168E-2
32139	**9H9GAL10**			**J6G18021111**	000511	FILTER	7/18/2006 10:00:00	6/27/2006 11:15:00 AM					
ALPHA	BAS7	0		8/4/2006 4:26:53 PM	**2.0306E+00**	1.406E+00	1.422E+00	5.511E+00	PCI/SA		1.0	1.0E+0	2.068E-2
BETA	BDS8	0		8/3/2006 7:32:16 AM	**2.9074E+01**	1.971E+00	2.792E+00	5.096E+00	PCI/SA		1.0	1.0E+0	3.322E-2
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**9.7601E-02**	8.509E-02	8.551E-02	3.281E-01	PCI/SA		1.166	1.0E+0	3.24E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**3.192E-01**	1.142E-01	1.176E-01	2.252E-01	PCI/SA		1.166	1.0E+0	3.24E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**6.2653E-07**	4.599E-02	4.599E-02	2.764E-01	PCI/SA		1.166	1.0E+0	3.24E-2
U-234	7YSR	0		7/30/2006 2:29:01 PM	**1.0205E-01**	1.021E-01	1.024E-01	2.766E-01	PCI/SA		0.968	1.0E+0	3.205E-2
U-235	7YSR	0		7/30/2006 2:29:01 PM	**0.0E+00**	0.0E+00	1.25E-01	2.766E-01	PCI/SA		0.968	1.0E+0	3.205E-2
U-238	7YSR	0		7/30/2006 2:29:01 PM	**1.837E-01**	1.458E-01	1.465E-01	4.888E-01	PCI/SA		0.968	1.0E+0	3.205E-2
32139	**9H9GAM10**			**J6G18021112**	000512	FILTER	7/18/2006 10:00:00	6/27/2006 11:35:00 AM					
ALPHA	BAS7	0		8/4/2006 4:26:53 PM	**6.591E+00**	1.794E+00	1.917E+00	4.789E+00	PCI/SA		1.0	1.0E+0	2.071E-2
BETA	BDS8	0		8/3/2006 7:32:20 AM	**3.2027E+01**	2.041E+00	2.995E+00	5.2E+00	PCI/SA		1.0	1.0E+0	3.263E-2
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**2.1352E-02**	4.774E-02	4.778E-02	2.561E-01	PCI/SA		0.992	1.0E+0	3.471E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**1.6431E-01**	8.216E-02	8.348E-02	1.113E-01	PCI/SA		0.992	1.0E+0	3.471E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**4.1078E-02**	4.108E-02	4.124E-02	1.113E-01	PCI/SA		0.992	1.0E+0	3.471E-2
U-234	7YSR	0		7/30/2006 2:29:43 PM	**2.0602E-01**	1.663E-01	1.672E-01	5.84E-01	PCI/SA		0.831	1.0E+0	3.188E-2

6200124, **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		7/30/2006 2:29:43 PM	**2.0602E-01**	1.663E-01	1.672E-01	5.84E-01	PCI/SA		0.831	1.0E+0	3.188E-2
U-238	7YSR	0		7/30/2006 2:29:43 PM	**6.0851E-02**	1.193E-01	1.194E-01	6.944E-01	PCI/SA		0.831	1.0E+0	3.188E-2
32139	**9H9GAN10**			**J6G18021113**	000513	FILTER	7/18/2006 10:00:00	6/27/2006 12:00:00 PM					
ALPHA	BAS7	0		8/4/2006 4:26:53 PM	**7.55E-01**	1.182E+00	1.184E+00	5.323E+00	PCI/SA		1.0	1.0E+0	2.078E-2
BETA	BDS8	0		8/3/2006 7:32:20 AM	**2.7498E+01**	1.896E+00	2.672E+00	5.0E+00	PCI/SA		1.0	1.0E+0	3.284E-2
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**2.611E-01**	1.082E-01	1.106E-01	2.409E-01	PCI/SA		0.893	1.0E+0	3.342E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**5.7961E-02**	5.796E-02	5.819E-02	2.318E-01	PCI/SA		0.893	1.0E+0	3.342E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**-3.864E-02**	2.732E-02	2.754E-02	2.844E-01	PCI/SA		0.893	1.0E+0	3.342E-2
U-234	7YSR	0		7/30/2006 2:29:59 PM	**5.1741E-02**	1.014E-01	1.015E-01	5.905E-01	PCI/SA		1.0	1.0E+0	3.19E-2
U-235	7YSR	0		7/30/2006 2:29:59 PM	**-2.39E-02**	1.38E-02	1.393E-02	4.966E-01	PCI/SA		1.0	1.0E+0	3.19E-2
U-238	7YSR	0		7/30/2006 2:29:59 PM	**5.9708E-02**	1.011E-01	1.012E-01	5.626E-01	PCI/SA		1.0	1.0E+0	3.19E-2
32139	**9H9GAP10**			**J6G18021114**	000514	FILTER	7/18/2006 10:00:00	6/27/2006 12:10:00 PM					
ALPHA	BAS7	0		8/4/2006 7:15:01 PM	**5.9626E+00**	1.854E+00	1.956E+00	5.527E+00	PCI/SA		1.0	1.0E+0	2.075E-2
BETA	BDS8	0		8/3/2006 7:32:20 AM	**3.3804E+01**	2.008E+00	3.092E+00	4.97E+00	PCI/SA		1.0	1.0E+0	3.531E-2
TH-228	9NS1	0		7/30/2006 1:47:26 PM	**3.6037E-02**	3.604E-02	3.618E-02	9.766E-02	PCI/SA		0.95	1.0E+0	3.325E-2
TH-230	9NS1	0		7/30/2006 1:47:26 PM	**3.1199E-01**	1.04E-01	1.076E-01	9.394E-02	PCI/SA		0.95	1.0E+0	3.325E-2
TH-232	9NS1	0		7/30/2006 1:47:26 PM	**1.7331E-02**	3.876E-02	3.879E-02	2.079E-01	PCI/SA		0.95	1.0E+0	3.325E-2
U-234	7YSR	0		7/30/2006 2:30:15 PM	**2.03E-01**	1.639E-01	1.647E-01	5.754E-01	PCI/SA		0.905	1.0E+0	3.204E-2
U-235	7YSR	0		7/30/2006 2:30:15 PM	**-1.8459E-02**	1.305E-02	1.314E-02	5.271E-01	PCI/SA		0.905	1.0E+0	3.204E-2
U-238	7YSR	0		7/30/2006 2:30:15 PM	**3.2757E-01**	2.002E-01	2.02E-01	5.271E-01	PCI/SA		0.905	1.0E+0	3.204E-2
32139	**9H9GAT10**			**J6G18021115**	000515	FILTER	7/18/2006 10:00:00	6/27/2006 11:40:00 AM					
ALPHA	BAS7	0		8/4/2006 7:15:01 PM	**-1.7688E+00**	7.283E-01	7.512E-01	5.388E+00	PCI/SA		1.0	1.0E+0	2.085E-2
BETA	BDS8	0		8/3/2006 7:32:14 AM	**1.9269E+00**	1.311E+00	1.318E+00	5.316E+00	PCI/SA		1.0	1.0E+0	3.316E-2
TH-228	9NS1	0		7/30/2006 1:47:57 PM	**1.3083E-05**	8.013E-02	8.013E-02	4.816E-01	PCI/SA		0.683	1.0E+0	3.329E-2
TH-230	9NS1	0		7/30/2006 1:47:57 PM	**9.4419E-02**	9.441E-02	9.484E-02	3.775E-01	PCI/SA		0.683	1.0E+0	3.329E-2
TH-232	9NS1	0		7/30/2006 1:47:57 PM	**-3.1465E-02**	3.146E-02	3.161E-02	3.775E-01	PCI/SA		0.683	1.0E+0	3.329E-2
U-234	7YSR	0		7/30/2006 2:30:47 PM	**5.4144E-02**	1.062E-01	1.062E-01	6.18E-01	PCI/SA		1.021	1.0E+0	3.201E-2
U-235	7YSR	0		7/30/2006 2:30:47 PM	**-8.3387E-03**	8.339E-03	8.366E-03	4.194E-01	PCI/SA		1.021	1.0E+0	3.201E-2
U-238	7YSR	0		7/30/2006 2:30:47 PM	**-1.6677E-02**	1.179E-02	1.187E-02	4.761E-01	PCI/SA		1.021	1.0E+0	3.201E-2
32139	**H9HWF1AB**			**J6G190000124**	INTRA-LAB BLANK	FILTER	7/18/2006 10:00:00	6/27/2006 10:35:00 AM					
ALPHA	BAS7	0	B	8/4/2006 7:15:01 PM	**1.0868E-02**	2.452E-02	2.455E-02	1.138E-01	PCI/SA		1.0	1.0E+0	1.0E+0
32139	**H9HWF1CS**			**J6G190000124**	INTRA-LAB CHECK	FILTER	7/18/2006 10:00:00	6/27/2006 10:35:00 AM					
ALPHA	BAS7	0	S	8/4/2006 7:15:01 PM	**2.3411E+00**	1.324E-01	2.694E-01	9.9E-02	PCI/SA	2.3641E+00	1.0	1.0E+0	1.0E+0

6200124, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => .

Batch Nbr: 6200124

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

8/7/2006 10:52:53 AM

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	H9F9W1AE	ALPHA	3.49E+00	(1.61E+00)		PCI/SA	R	2.22E+00	5.44E+00		100%	
Calc	S7	FILTER	H9F921AE	ALPHA	1.99E+00	(1.28E+00)	U4	PCI/SA	R	1.92E+00	4.80E+00		100%	
Calc	S7	FILTER	H9F951AE	ALPHA	-7.36E-01	(8.90E-01)	U4	PCI/SA	R	2.10E+00	5.19E+00		100%	
Calc	S7	FILTER	H9F981AE	ALPHA	7.76E-01	(1.23E+00)	U4	PCI/SA	R	2.26E+00	5.51E+00		100%	
Calc	S7	FILTER	H9GAA1AE	ALPHA	2.18E+00	(1.41E+00)	U4	PCI/SA	R	2.19E+00	5.34E+00		100%	
Calc	S7	FILTER	H9GAC1AE	ALPHA	2.84E+00	(1.56E+00)		PCI/SA	R	2.30E+00	5.63E+00		100%	
Calc	S7	FILTER	H9GAE1AE	ALPHA	3.40E+00	(1.49E+00)		PCI/SA	R	1.92E+00	4.79E+00		100%	
Calc	S7	FILTER	H9GAG1AE	ALPHA	0.00E+00	(1.05E+00)	U4	PCI/SA	R	2.15E+00	5.32E+00		100%	
Calc	S7	FILTER	H9GAJ1AE	ALPHA	2.23E+00	(1.44E+00)	U4	PCI/SA	R	2.24E+00	5.47E+00		100%	
Calc	S7	FILTER	H9GAK1AE	ALPHA	7.54E-01	(1.20E+00)	U4	PCI/SA	R	2.19E+00	5.36E+00		100%	
Calc	S7	FILTER	H9GAL1AE	ALPHA	2.03E+00	(1.42E+00)	U4	PCI/SA	R	2.25E+00	5.51E+00		100%	
Calc	S7	FILTER	H9GAM1AE	ALPHA	6.59E+00	(1.92E+00)		PCI/SA	R	1.92E+00	4.79E+00		100%	
Calc	S7	FILTER	H9GAN1AE	ALPHA	7.55E-01	(1.18E+00)	U4	PCI/SA	R	2.15E+00	5.32E+00		100%	
Calc	S7	FILTER	H9GAP1AE	ALPHA	5.96E+00	(1.96E+00)		PCI/SA	R	2.26E+00	5.53E+00		100%	
Calc	S7	FILTER	H9GAT1AE	ALPHA	-1.77E+00	(7.51E-01)	U4	PCI/SA	R	2.21E+00	5.39E+00		100%	
Calc	S7	FILTER	H9HWF1AA	ALPHA	1.09E-02	(2.45E-02)	U4	PCI/SA	R	4.64E-02	1.14E-01	B	100%	
Calc	S7	FILTER	H9HWF1AC	ALPHA	2.34E+00	(2.69E-01)		PCI/SA	R	3.96E-02	9.90E-02	S	100%	99%

() - (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: 6200124

Alpha Beta, Alpha by GPC-Am , Calculated Results

Detailed Report

8/7/2006 10:52:54 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	**H9F9W1AE**	**PCI/SA**		06/27/06 10:35	08/04/06 10:54	07/26/06 13:47		1	1.00 Sa	
536403,P-0683					,J6G180211-1 v4.8.24		FILTER			01.6	08/03/06 08:18			0.02096 Sa	

Sq	Cnt Date	Parameter	Sample 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	16	22	GPC10C	1.5	N	N	3.8613E-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)	47.70956		

Sq	Calc Date	Parameter	Avg	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	**3.487848**		6.26667E-02	0.162295	0.162295	1.00 Sa	100%		5.438098		
				(1.614593)		(2.8269E-02)	(0.074549)	(0.074549)	(0.028284)			2.217596		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9F921AE**	**PCI/SA**		06/27/06 10:50	08/04/06 10:54	07/26/06 13:47		1	1.00 Sa	
536403,P-0684					,J6G180211-2 v4.8.24		FILTER			01.9	08/03/06 08:18			0.020593 Sa	

Sq	Cnt Date	Parameter	Sample 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	11	18	GPC10D	1.5	N	N	4.1081E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.195E-02)	(0.000E+00)		8%			(0.000E+00)	48.561051		

Sq	Calc Date	Parameter	Avg	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	**1.987894**	**U4**	3.73333E-02	0.090878	0.090878	1.00 Sa	100%		4.79779		
				(1.277475)		(2.3683E-02)	(0.058167)	(0.058167)	(0.028284)			1.919035		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9F951AE**	**PCI/SA**		06/27/06 11:10	08/04/06 10:54	07/26/06 13:47		1	1.00 Sa	
536403,P-0685					,J6G180211-3 v4.8.24		FILTER			02.0	08/03/06 08:18			0.021309 Sa	

Sq	Cnt Date	Parameter	Sample 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	4	20	GPC10E	1.5	N	N	3.8280E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.133E-02)	(0.000E+00)		8%			(0.000E+00)	46.928117		

Sq	Calc Date	Parameter	Avg	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	**-0.736281**	**U4**	-1.33333E-02	-0.034831	-0.034831	1.00 Sa	100%		5.190826		
				(0.889827)		(1.6055E-02)	(0.042047)	(0.042047)	(0.028284)			2.097828		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9F981AE**	**PCI/SA**		06/27/06 11:30	08/04/06 13:41	07/26/06 13:47		1	1.00 Sa	
536403,P-0686					,J6G180211-4 v4.8.24		FILTER			01.9	08/03/06 08:18			0.020732 Sa	

Sq	Cnt Date	Parameter	Sample 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 14:56	ALPHA	9	23	GPC10A	1.5	N	N	3.9224E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.355E-02)	(0.000E+00)		8%			(0.000E+00)	48.235467		

() - (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: 6200124

Alpha Beta, Alpha by GPC-Am , Calculated Results

8/7/2006 10:52:54 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	**0.775521**	**U4**	1.40000E-02	0.035693	0.035693	1.00 Sa	100%		5.511572		
				(1.231369)		(2.2181E-02)	(0.056636)	(0.056636)	(0.028284)			2.25673		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAA1AE**	**PCI/SA**		06/27/06 11:55	08/04/06 13:41	07/26/06 13:47		1	1.00 Sa	
536403,P-0687					,J6G180211-5 v4.8.24		FILTER			02.0	08/03/06 08:18			0.021044 Sa	

Sq	Cnt Date	Parameter	Sample 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 14:56	ALPHA	13	23	GPC10B	1.5	N	N	3.9854E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.338E-02)	(0.000E+00)		8%			(0.000E+00)	47.52027		

Sq	Calc Date	Parameter	Avg	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	**2.184173**	**U4**	4.06667E-02	0.102038	0.102038	1.00 Sa	100%		5.343902		
				(1.408454)		(2.5880E-02)	(0.065537)	(0.065537)	(0.028284)			2.188077		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAC1AE**	**PCI/SA**		06/27/06 12:05	08/04/06 13:41	07/26/06 13:47		1	1.00 Sa	
536403,P-0688					,J6G180211-6 v4.8.24		FILTER			02.1	08/03/06 08:18			0.020302 Sa	

Sq	Cnt Date	Parameter	Sample 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 14:56	ALPHA	14	22	GPC10C	1.5	N	N	3.8518E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.283E-02)	(0.000E+00)		8%			(0.000E+00)	49.255222		

Sq	Calc Date	Parameter	Avg	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	**2.841697**		4.93333E-02	0.128079	0.128079	1.00 Sa	100%		5.628121		
				(1.563263)		(2.6650E-02)	(0.070073)	(0.070073)	(0.028284)			2.295085		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAE1AE**	**PCI/SA**		06/27/06 10:45	08/04/06 13:41	07/26/06 13:47		1	1.00 Sa	
536403,P-0689					,J6G180211-7 v4.8.24		FILTER			01.8	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	08/04/06 14:56	ALPHA	15	18	GPC10D	1.5	N	N	4.1101E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.196E-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	**3.404337**		6.40000E-02	0.155712	0.155712	1.00 Sa	100%		4.792889		
				(1.487367)		(2.7178E-02)	(0.067441)	(0.067441)	(0.028284)			1.917075		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAG1AE**	**PCI/SA**		06/27/06 11:00	08/04/06 13:41	07/26/06 13:47		1	1.00 Sa	
536403,P-0690					,J6G180211-8 v4.8.24		FILTER			02.0	08/03/06 08:18			0.020794 Sa	

Sq	Cnt Date	Parameter	Sample 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: 6200124

Alpha Beta, Alpha by GPC-Am , Calculated Results

8/7/2006 10:52:54 AM

0	08/04/06 14:56	ALPHA	6	20	GPC10E	1.5	N	N	3.8280E-01	1.0000E+00	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00	
			150	500				Y	(1.133E-02)	(0.000E+00)		8%		(0.000E+00)	48.090326		

Sq	Calc Date	Parameter	Avg	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	**0.00E00**	**U4**	0.00000E+00	0.00E00	0.00E00	1.00 Sa	100%		5.31938		
				(1.053623)		(1.8619E-02)	(0.048639)	(0.048639)	(0.028284)			2.149783		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAJ1AE**	**PCI/SA**		06/27/06 10:40	08/04/06 16:26	07/26/06 13:47		1	1.00 Sa	
536403,000509					,J6G180211-9 v4.8.24		FILTER			01.1	08/03/06 08:18			0.020803 Sa	

Sq	Cnt Date	Parameter	Sample 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 17:41	ALPHA	13	23	GPC10A	1.5	N	N	3.9404E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.361E-02)	(0.000E+00)		8%			(0.000E+00)	48.070149		

Sq	Calc Date	Parameter	Avg	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	**2.234685**	**U4**	4.06667E-02	0.103203	0.103203	1.00 Sa	100%		5.467486		
				(1.441141)		(2.5880E-02)	(0.066291)	(0.066291)	(0.028284)			2.238679		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAK1AE**	**PCI/SA**		06/27/06 10:55	08/04/06 16:26	07/26/06 13:47		1	1.00 Sa	
536403,000510					,J6G180211-10 v4.8.24		FILTER			01.7	08/03/06 08:18			0.020958 Sa	

Sq	Cnt Date	Parameter	Sample 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 17:41	ALPHA	9	23	GPC10B	1.5	N	N	3.9915E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.340E-02)	(0.000E+00)		8%			(0.000E+00)	47.713443		

Sq	Calc Date	Parameter	Avg	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	**0.753847**	**U4**	1.40000E-02	0.035075	0.035075	1.00 Sa	100%		5.357534		
				(1.196939)		(2.2181E-02)	(0.055655)	(0.055655)	(0.028284)			2.193659		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAL1AE**	**PCI/SA**		06/27/06 11:15	08/04/06 16:26	07/26/06 13:47		1	1.00 Sa	
536403,000511					,J6G180211-11 v4.8.24		FILTER			01.6	08/03/06 08:18			0.020682 Sa	

Sq	Cnt Date	Parameter	Sample 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 17:41	ALPHA	12	22	GPC10C	1.5	N	N	3.8613E-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)	48.350869		

Sq	Calc Date	Parameter	Avg	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	**2.03059**	**U4**	3.60000E-02	0.093233	0.093233	1.00 Sa	100%		5.511197		
				(1.421751)		(2.4927E-02)	(0.065059)	(0.065059)	(0.028284)			2.247405		

() - (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: 6200124

Alpha Beta, Alpha by GPC-Am , Calculated Results

8/7/2006 10:52:54 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	**H9GAM1AE**	**PCI/SA**		06/27/06 11:35	08/04/06 16:26	07/26/06 13:47		1	1.00 Sa	
536403,000512					,J6G180211-12 v4.8.24		FILTER			02.7	08/03/06 08:18			0.020715 Sa	

Sq	Cnt Date	Parameter	Sample 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 17:41	ALPHA	24	18	GPC10D	1.5	N	N	4.0910E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.190E-02)	(0.000E+00)		8%			(0.000E+00)	48.274405		

Sq	Calc Date	Parameter	Avg	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	**6.591048**		1.24000E-01	0.303103	0.303103	1.00 Sa	100%		4.789361		
				(1.917089)		(3.3744E-02)	(0.086425)	(0.086425)	(0.028284)			1.915664		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAN1AE**	**PCI/SA**		06/27/06 12:00	08/04/06 16:26	07/26/06 13:47		1	1.00 Sa	
536403,000513					,J6G180211-13 v4.8.24		FILTER			02.0	08/03/06 08:18			0.020781 Sa	

Sq	Cnt Date	Parameter	Sample 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 17:41	ALPHA	8	20	GPC10E	1.5	N	N	3.8280E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.133E-02)	(0.000E+00)		8%			(0.000E+00)	48.121234		

Sq	Calc Date	Parameter	Avg	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	**0.755**	**U4**	1.33333E-02	0.034831	0.034831	1.00 Sa	100%		5.322799		
				(1.18431)		(2.0870E-02)	(0.0546)	(0.0546)	(0.028284)			2.151164		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAP1AE**	**PCI/SA**		06/27/06 12:10	08/04/06 19:15	07/26/06 13:47		1	1.00 Sa	
536403,000514					,J6G180211-14 v4.8.24		FILTER			02.5	08/03/06 08:18			0.020747 Sa	

Sq	Cnt Date	Parameter	Sample 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 20:30	ALPHA	23	23	GPC10A	1.5	N	N	3.9083E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.350E-02)	(0.000E+00)		8%			(0.000E+00)	48.199423		

Sq	Calc Date	Parameter	Avg	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	**5.962595**		1.07333E-01	0.274629	0.274629	1.00 Sa	100%		5.52727		
				(1.955967)		(3.3380E-02)	(0.088697)	(0.088697)	(0.028284)			2.263158		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAT1AE**	**PCI/SA**		06/27/06 11:40	08/04/06 19:15	07/26/06 13:47		1	1.00 Sa	
536403,000515					,J6G180211-15 v4.8.24		FILTER			01.8	08/03/06 08:18			0.020852 Sa	

Sq	Cnt Date	Parameter	Sample 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 20:30	ALPHA	2	23	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)	47.956475		

() - (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: 6200124

Alpha Beta, Alpha by GPC-Am , Calculated Results

8/7/2006 10:52:55 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	**-1.768817**	**U4**	-3.26667E-02	-0.081882	-0.081882	1.00 Sa	100%		5.387511		
				(0.751153)		(1.3449E-02)	(0.034453)	(0.034453)	(0.028284)			2.205933		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9HWF1AA**	**PCI/SA**	**B**	06/27/06 10:35	08/04/06 19:15	07/26/06 13:47		1	1.00 Sa	
0,INTRA-LAB BLANK					,J6G190000-124		FILTER			01.2	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 20:30	ALPHA	8	22	GPC10C	1.5	N	N	3.8686E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.288E-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	**0.010868**	**U4**	9.33333E-03	0.024126	0.024126	1.00 Sa	100%		0.113768		
				(0.024547)		(2.1061E-02)	(0.05448)	(0.05448)	(0.017321)			0.046393		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9HWF1AC**	**PCI/SA**	**S**	06/27/06 10:35	08/04/06 19:15	07/26/06 13:47	ASC0397	1	1.00 Sa	
0,INTRA-LAB CHECK					,J6G190000-124		FILTER			02.3	08/03/06 08:18	ASC0397 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 20:30	ALPHA	325	18	GPC10D	1.5	N	N	4.0997E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.193E-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	**2.341073**		2.13067E+00	5.197188	5.197188	1.00 Sa	100%	99%	0.099002		
				(0.269415)		(1.2048E-01)	(0.531128)	(0.531128)	(0.017321)			0.039599		

() - (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: H9F9W1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-C File: [quad10.sample.C]H9F9W1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.C_15;4279

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00016	00000	0150	00000	1000	4-AUG-2006 12:09:31.52

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: H9F921AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-D File: [quad10.sample.D]H9F921AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.D_15;4273

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00011	00000	0150	00000	1000	4-AUG-2006 12:09:31.52

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: H9F951AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-E File: [quad10.sample.E]H9F951AE.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 12:09:31.52

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: H9F981AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-A File: [quad10.sample.A]H9F981AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.A_15;4273

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00009	00000	0150	00000	1000	4-AUG-2006 14:56:19.88

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: H9GAA1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-B File: [quad10.sample.B]H9GAA1AE.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 14:56:19.88

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: H9GAC1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-C File: [quad10.sample.C]H9GAC1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.C_15;4279

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00014	00000	0150	00000	1000	4-AUG-2006 14:56:19.88

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: H9GAE1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-D File: [quad10.sample.D]H9GAE1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.D_15;4273

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00015	00000	0150	00000	1000	4-AUG-2006 14:56:19.88

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: H9GAG1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-E File: [quad10.sample.E]H9GAG1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.E_15;4268

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00006	00000	0150	00000	1000	4-AUG-2006 14:56:19.88

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: H9GAJ1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-A File: [quad10.sample.A]H9GAJ1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.A_15;4273

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00013	00000	0150	00000	1000	4-AUG-2006 17:41:53.43

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: H9GAK1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-B File: [quad10.sample.B]H9GAK1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.B_15;4270

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00009	00000	0150	00000	1000	4-AUG-2006 17:41:53.43

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: H9GAL1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-C File: [quad10.sample.C]H9GAL1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.C_15;4279

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00012	00000	0150	00000	1000	4-AUG-2006 17:41:53.43

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: H9GAM1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-D File: [quad10.sample.D]H9GAM1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.D_15;4273

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00024	00000	0150	00000	1000	4-AUG-2006 17:41:53.43

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: H9GAN1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-E File: [quad10.sample.E]H9GAN1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.E_15;4268

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00008	00000	0150	00000	1000	4-AUG-2006 17:41:53.43

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: H9GAP1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-A File: [quad10.sample.A]H9GAP1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.A_15;4273

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00023	00000	0150	00000	1000	4-AUG-2006 20:30:01.28

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: H9GAT1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-B File: [quad10.sample.B]H9GAT1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.B_15;4270

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00002	00000	0150	00000	1000	4-AUG-2006 20:30:01.28

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: H9HWF1AA Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-C File: [quad10.sample.C]H9HWF1AA.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.C_15;4279

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00008	00000	0150	00000	1000	4-AUG-2006 20:30:01.28

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: H9HWF1AC Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-D File: [quad10.sample.D]H9HWF1AC.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.D_15;4273

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00325	00000	0150	00000	1000	4-AUG-2006 20:30:01.28

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

BETA

SAMPLE AND QC DATA

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

8/4/2006 8:33:12 AM

Lot No., Due Date: J6G180211; 08/15/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6200128; RBETA-SR Beta by GPC-Sr/Y

SDG, Matrix: 32139; FILTER

	Yes	No	N/A
1.0 COC			
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	✓		
2.0 QC Batch			
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2.2 Are the QC appropriate for the analysis included in the batch?	✓		
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	✓		
2.4 Does the Worksheets include a Tracer Vial label for each sample?			✓
3.0 QC & Samples			
3.1 Is the blank results, yield, and MDA within contract limits?	✓		
3.2 Is the LCS result, yield, and MDA within contract limits?	✓		
3.3 Are the MS/MSD results, yields, and MDA within contract limits?			✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?			✓
3.5 Are the sample yields and MDAs within contract limits?		✓	
4.0 Raw Data			
4.1 Were results calculated in the correct units?	✓		
4.2 Were analysis volumes entered correctly?	✓		
4.3 Were Yields entered correctly?			✓
4.4 Were spectra reviewed/meet contractual requirements?			✓
4.5 Were raw counts reviewed for anomalies?	✓		
5.0 Other			
5.1 Are all nonconformances included and noted?	✓		
5.2 Are all required forms filled out?	✓		
5.3 Was the correct methodology used?	✓		
5.4 Was transcription checked?	✓		
5.5 Were all calculations checked at a minimum frequency?	✓		
5.6 Are worksheet entries complete and correct?	✓		

6.0 Comments on any No response:
See NCM. 10 08442

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

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6200128

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

7/27/2006 10:37:05 AM

Sample Preparation/Analysis

536403, Brown and Caldwell , Brown & Caldwell

BD Gross Beta PrpRC5016/5014
S8 Gross Beta by GPC using Sr/Y-90 curve
01 STANDARD TEST SET

Balance Id:1120373922

Pipet #: _____

AnalyDueDate: 08/14/2006

Sep1 DT/Tm Tech:

Batch: 6200128 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: None

Sep2 DT/Tm Tech: NF

Prep Tech: HansenM Scott

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 H9F9W-1-AF J6G180211-1-SAMP 06/27/2006 10:35	0.833sa	500.75sa	51.78g,in	0.0861g	DISH PPT 1.5 2.4	150	31D	2015	8/2/06 OP	
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
2 H9F92-1-AF J6G180211-2-SAMP 06/27/2006 10:50	0.833sa,g	507.26sa,g	50.18g,in	0.0824g	2.6		26A			
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
3 H9F95-1-AF J6G180211-3-SAMP 06/27/2006 11:10	0.833sa,g	501.93sa,g	50.18g,in	0.0833g	1.6		26B			
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
4 H9F98-1-AF J6G180211-4-SAMP 06/27/2006 11:30	0.833sa,g	501.85sa,g	50.14g,in	0.0832g	6.5		26D			
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
5 H9GAA-1-AF J6G180211-5-SAMP 06/27/2006 11:55	0.833sa,g	501.93sa,g	50.16g,in	0.0832g	11.3		27A			
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
6 H9GAC-1-AF J6G180211-6-SAMP 06/27/2006 12:05	0.833sa,g	512.87sa,g	50.25g,in	0.0816g	30.1		27C			
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
7 H9GAE-1-AF J6G180211-7-SAMP 06/27/2006 10:45	0.833sa,g	505.38sa,g	51.93g,in	0.0856g	1.8		27D			
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:

STL RICHLAND

7/27/2006 10:37:05 AM

Sample Preparation/Analysis

536403, Brown and Caldwell , Brown & Caldwell

BD Gross Beta PrpRC5016/5014
S8 Gross Beta by GPC using Sr/Y-90 curve
01 STANDARD TEST SET

Balance Id:1120373922

Pipet #:

AnalyDueDate: 08/14/2006

Sep1 DT/Tm Tech: MF

Batch: 6200128 FILTER pCi/sampl PM, Quote: SA , 63174

Sep2 DT/Tm Tech: Scot

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 H9GAG-1-AF J6G180211-8-SAMP 06/27/2006 11:00	0.833sa,g	507.15sa,g	50.16g,in	0.0824g	DISH 1.5	PPT 1.8	150	26A	0845	8/3/06
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
9 H9GAJ-1-AF J6G180211-9-SAMP 06/27/2006 10:40	0.833sa,g	500.13sa,g	51.02g,in	0.085g		3.6		26B		
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
10 H9GAK-1-AF J6G180211-10-SAMP 06/27/2006 10:55	0.833sa,g	507.15sa,g	51.49g,in	0.0846g		3.9		26C		
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
11 H9GAL-1-AF J6G180211-11-SAMP 06/27/2006 11:15	0.833sa,g	505.87sa,g	50.54g,in	0.0832g		2.5		26D		
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
12 H9GAM-1-AF J6G180211-12-SAMP 06/27/2006 11:35	0.833sa,g	505.07sa,g	50.10g,in	0.0826g		12.4		27A		
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
13 H9GAN-1-AF J6G180211-13-SAMP 06/27/2006 12:00	0.833sa,g	504.67sa,g	50.19g,in	0.0828g		3.4		27C		
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
14 H9GAP-1-AF J6G180211-14-SAMP 06/27/2006 12:10	0.833sa,g	505.49sa,g	51.77g,in	0.0853g		4.3		27D		
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:

STL RICHLAND

7/27/2006 10:37:06 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: MC

Batch: 6200128 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:
15H9GAT-1-AF J6G180211-15-SAMP 06/27/2006 11:40	0.833sa,g	504.54sa,g	50.37g,in	0.0832g	DISH 1.5 PPT 1.2	150	31A	0845	8/3/06	
			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
16H9HWL-1-AA-B J6G190000-128-BLK 06/27/2006 10:35			1.00sa,in	1.00sa	0.3		31B			
			AmtRec:	#Containers: 1			Scr:	Alpha:		Beta:
17H9HWL-1-AC-C J6G190000-128-LCS 06/27/2006 10:35			1.00sa,in	1.00sa	BESB2838 06/15/06,pd 12/28/05,r 1.4		31C			
			AmtRec:	#Containers: 1			Scr:	Alpha:		Beta:

Comments:

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

H9F9W1AF-SAMP Constituent List:

BETA	RDL:5	pCi/sam	LCL:	UCL:	RPD:						
H9HWL1AA-BLK:											
BETA	RDL:5	pCi/sam	LCL:	UCL:	RPD:						
H9HWL1AC-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						

H9F9W1AF-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H9HWL1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H9HWL1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Clouseau
Nonconformance Memo

SEVERN TRENT SERVICES

NCM #: **10-08442**
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): J6G180211 (1,10,11,12,13,14,15,2,3,4,5, 6,7,8,9),
QC Batches: 6200128

Nonconformance: MDA not met
Subcategory: Data accepted

Problem Description / Root Cause

Name	Date	Description
Pam Anderson	08/04/2006	All the samples do not meet CRDL, but their results>MDA>CRDL

Corrective Action

Name	Date	Corrective Action
Pam Anderson	08/04/2006	None at this time.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note	Response	Response Note

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position

Date Printed: 8/4/2006

8/3/2006 4:53:51 PM

ICOC Fraction Transfer/Status Report

ByDate: 8/3/2005, 8/8/2006, Batch: '6200128', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6200128						
AC		**CalcC**	**HansenM**	7/20/2006 1:20:38 PM		
SC			wagarr	IsBatched	7/19/2006 8:00:26 AM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	7/20/2006 1:20:38 PM	RICH-RC-5016 REVISION 5
SC			DAWKINSO	InCnt1	8/2/2006 3:27:08 PM	RICH-RD-0003 REVISION 4
SC			BlackCL	CalcC	8/3/2006 9:11:17 AM	RICH-RD-0003 REVISION 4
AC			**DAWKINSO**	8/2/2006 3:27:08 PM		
AC			**BlackCL**	8/3/2006 9:11:17 AM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 3

ICOCFractions v4.8.18

8/3/2006 4:53:50 PM

Rpt DB Transfer log (Batch Results)

SEVERN TRENT STL

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Mda	Sample Date / Units	Expected	Yield	Volumes
32139	**9H9F9210**			**J6G1802112**	P-0684	FILTER	7/18/2006 10:00:00		6/27/2006 10:50:00 AM			
BETA	BDS8	0		8/2/2006 6:59:45 PM	**2.2242E+01**	1.913E+00	2.513E+00	5.807E+00	PCI/SA	1.0	1.0E+0	3.24E-2
TH-228	9NS1	0		7/29/2006 1:47:52 PM	**1.6209E-01**	8.253E-02	8.375E-02	2.161E-01	PCI/SA	1.044	1.0E+0	3.298E-2
TH-230	9NS1	0		7/29/2006 1:47:52 PM	**8.6705E-02**	6.252E-02	6.299E-02	2.08E-01	PCI/SA	1.044	1.0E+0	3.298E-2
TH-232	9NS1	0		7/29/2006 1:47:52 PM	**5.7864E-07**	4.248E-02	4.248E-02	2.553E-01	PCI/SA	1.044	1.0E+0	3.298E-2
U-234	7YSR	0		7/30/2006 2:25:08 PM	**-3.9387E-02**	1.113E-01	1.113E-01	8.078E-01	PCI/SA	0.985	1.0E+0	3.17E-2
U-235	7YSR	0		7/30/2006 2:25:08 PM	**3.9328E-02**	1.041E-01	1.042E-01	6.209E-01	PCI/SA	0.985	1.0E+0	3.17E-2
U-238	7YSR	0		7/30/2006 2:25:08 PM	**-1.9708E-02**	1.095E-01	1.096E-01	7.677E-01	PCI/SA	0.985	1.0E+0	3.17E-2
32139	**9H9F9510**			**J6G1802113**	P-0685	FILTER	7/18/2006 10:00:00		6/27/2006 11:10:00 AM			
BETA	BDS8	0		8/2/2006 6:59:45 PM	**3.0779E+01**	2.046E+00	2.984E+00	5.457E+00	PCI/SA	1.0	1.0E+0	3.328E-2
TH-228	9NS1	0		7/29/2006 1:49:16 PM	**0.0E+00**	0.0E+00	5.32E-02	1.177E-01	PCI/SA	0.787	1.0E+0	3.326E-2
TH-230	9NS1	0		7/29/2006 1:49:16 PM	**1.171E+00**	2.213E-01	2.451E-01	1.133E-01	PCI/SA	0.787	1.0E+0	3.326E-2
TH-232	9NS1	0		7/29/2006 1:49:16 PM	**2.091E-02**	4.676E-02	4.68E-02	2.508E-01	PCI/SA	0.787	1.0E+0	3.326E-2
U-234	7YSR	0		7/30/2006 2:25:26 PM	**-1.2345E-01**	5.04E-02	5.137E-02	8.03E-01	PCI/SA	0.924	1.0E+0	3.238E-2
U-235	7YSR	0		7/30/2006 2:25:26 PM	**1.0291E-01**	1.029E-01	1.032E-01	2.789E-01	PCI/SA	0.924	1.0E+0	3.238E-2
U-238	7YSR	0		7/30/2006 2:25:26 PM	**-8.2269E-02**	1.2E-01	1.202E-01	9.208E-01	PCI/SA	0.924	1.0E+0	3.238E-2
32139	**9H9F9810**			**J6G1802114**	P-0686	FILTER	7/18/2006 10:00:00		6/27/2006 11:30:00 AM			
BETA	BDS8	0		8/2/2006 6:59:45 PM	**2.8919E+01**	2.001E+00	2.805E+00	5.302E+00	PCI/SA	1.0	1.0E+0	3.323E-2
TH-228	9NS1	0		7/29/2006 1:49:53 PM	**1.9396E-01**	1.137E-01	1.151E-01	3.568E-01	PCI/SA	0.919	1.0E+0	3.351E-2
TH-230	9NS1	0		7/29/2006 1:49:53 PM	**2.1009E-01**	1.07E-01	1.087E-01	2.8E-01	PCI/SA	0.919	1.0E+0	3.351E-2
TH-232	9NS1	0		7/29/2006 1:49:53 PM	**-2.3338E-02**	2.334E-02	2.343E-02	2.8E-01	PCI/SA	0.919	1.0E+0	3.351E-2
U-234	7YSR	0		7/30/2006 2:25:59 PM	**2.4413E-01**	1.942E-01	1.952E-01	7.71E-01	PCI/SA	0.98	1.0E+0	3.241E-2
U-235	7YSR	0		7/30/2006 2:25:59 PM	**-3.7556E-02**	2.656E-02	2.673E-02	5.306E-01	PCI/SA	0.98	1.0E+0	3.241E-2
U-238	7YSR	0		7/30/2006 2:25:59 PM	**2.6291E-01**	1.933E-01	1.945E-01	7.327E-01	PCI/SA	0.98	1.0E+0	3.241E-2
32139	**9H9F9W10**			**J6G1802111**	P-0683	FILTER	7/18/2006 10:00:00		6/27/2006 10:35:00 AM			
BETA	BDS8	0		8/2/2006 6:58:31 PM	**2.3578E+01**	1.81E+00	2.454E+00	5.071E+00	PCI/SA	1.0	1.0E+0	3.614E-2
TH-228	9NS1	0		7/29/2006 1:47:52 PM	**7.5472E-02**	7.547E-02	7.579E-02	3.018E-01	PCI/SA	0.844	1.0E+0	3.437E-2
TH-230	9NS1	0		7/29/2006 1:47:52 PM	**0.0E+00**	0.0E+00	5.933E-02	1.313E-01	PCI/SA	0.844	1.0E+0	3.437E-2
TH-232	9NS1	0		7/29/2006 1:47:52 PM	**0.0E+00**	0.0E+00	5.933E-02	1.313E-01	PCI/SA	0.844	1.0E+0	3.437E-2
U-234	7YSR	0		7/30/2006 2:24:42 PM	**4.6182E-01**	2.263E-01	2.293E-01	5.674E-01	PCI/SA	0.982	1.0E+0	3.241E-2
U-235	7YSR	0		7/30/2006 2:24:42 PM	**6.0222E-02**	1.043E-01	1.045E-01	5.674E-01	PCI/SA	0.982	1.0E+0	3.241E-2
U-238	7YSR	0		7/30/2006 2:24:42 PM	**-8.0358E-02**	4.018E-02	4.07E-02	6.898E-01	PCI/SA	0.982	1.0E+0	3.241E-2
32139	**9H9GAA10**			**J6G1802115**	P-0687	FILTER	7/18/2006 10:00:00		6/27/2006 11:55:00 AM			
BETA	BDS8	0		8/2/2006 6:59:47 PM	**2.0884E+01**	1.784E+00	2.286E+00	5.141E+00	PCI/SA	1.0	1.0E+0	3.325E-2
TH-228	9NS1	0		7/29/2006 1:50:24 PM	**-1.7717E-06**	9.207E-02	9.207E-02	4.936E-01	PCI/SA	0.875	1.0E+0	3.356E-2
TH-230	9NS1	0		7/29/2006 1:50:24 PM	**1.5356E-01**	8.866E-02	8.979E-02	1.387E-01	PCI/SA	0.875	1.0E+0	3.356E-2
TH-232	9NS1	0		7/29/2006 1:50:24 PM	**0.0E+00**	0.0E+00	6.269E-02	1.387E-01	PCI/SA	0.875	1.0E+0	3.356E-2
U-234	7YSR	0		7/30/2006 2:26:30 PM	**1.5989E-01**	1.599E-01	1.605E-01	4.333E-01	PCI/SA	0.599	1.0E+0	3.247E-2
U-235	7YSR	0		7/30/2006 2:26:30 PM	**-3.1994E-02**	3.199E-02	3.211E-02	7.659E-01	PCI/SA	0.599	1.0E+0	3.247E-2
U-238	7YSR	0		7/30/2006 2:26:30 PM	**9.5901E-02**	1.662E-01	1.664E-01	9.036E-01	PCI/SA	0.599	1.0E+0	3.247E-2
32139	**9H9GAC10**			**J6G1802116**	P-0688	FILTER	7/18/2006 10:00:00		6/27/2006 12:05:00 PM			
BETA	BDS8	0		8/2/2006 6:59:47 PM	**1.9035E+01**	1.8E+00	2.223E+00	5.421E+00	PCI/SA	1.0	1.0E+0	3.162E-2
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**1.9783E-06**	8.385E-02	8.385E-02	4.254E-01	PCI/SA	1.021	1.0E+0	3.155E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**3.612E-01**	1.217E-01	1.259E-01	2.28E-01	PCI/SA	1.021	1.0E+0	3.155E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**0.0E+00**	0.0E+00	4.657E-02	1.03E-01	PCI/SA	1.021	1.0E+0	3.155E-2
U-234	7YSR	0		7/30/2006 2:26:46 PM	**8.1919E-02**	1.044E-01	1.047E-01	4.906E-01	PCI/SA	0.988	1.0E+0	3.125E-2
U-235	7YSR	0		7/30/2006 2:26:46 PM	**0.0E+00**	0.0E+00	1.254E-01	2.775E-01	PCI/SA	0.988	1.0E+0	3.125E-2
U-238	7YSR	0		7/30/2006 2:26:46 PM	**1.8433E-01**	1.463E-01	1.47E-01	4.906E-01	PCI/SA	0.988	1.0E+0	3.125E-2
32139	**9H9GAE10**			**J6G1802117**	P-0689	FILTER	7/18/2006 10:00:00		6/27/2006 10:45:00 AM			
BETA	BDS8	0		8/2/2006 6:59:47 PM	**2.4635E+01**	1.817E+00	2.498E+00	4.981E+00	PCI/SA	1.0	1.0E+0	3.559E-2
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**-8.1095E-02**	6.411E-02	6.452E-02	4.365E-01	PCI/SA	0.933	1.0E+0	3.279E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**2.1452E-01**	9.751E-02	9.937E-02	2.339E-01	PCI/SA	0.933	1.0E+0	3.279E-2

6200128, **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		7/30/2006 1:46:15 PM	**6.5073E-07**	4.777E-02	4.777E-02	2.871E-01	PCI/SA		0.933	1.0E+0	3.279E-2
U-234	7YSR	0		7/30/2006 2:27:07 PM	**0.0E+00**	0.0E+00	1.211E-01	2.679E-01	PCI/SA		0.941	1.0E+0	3.199E-2
U-235	7YSR	0		7/30/2006 2:27:07 PM	**-1.9769E-02**	1.977E-02	1.983E-02	4.735E-01	PCI/SA		0.941	1.0E+0	3.199E-2
U-238	7YSR	0		7/30/2006 2:27:07 PM	**9.8858E-02**	9.886E-02	9.918E-02	2.679E-01	PCI/SA		0.941	1.0E+0	3.199E-2
32139	**9H9GAG10**			**J6G1802118**	P-0690	FILTER	7/18/2006 10:00:00	6/27/2006 11:00:00 AM					
BETA	BDS8	0		8/3/2006 7:32:16 AM	**1.4398E+00**	1.346E+00	1.35E+00	5.529E+00	PCI/SA		1.0	1.0E+0	3.239E-2
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**2.5345E-02**	5.667E-02	5.672E-02	3.04E-01	PCI/SA		0.883	1.0E+0	3.254E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**4.3882E-01**	1.463E-01	1.517E-01	1.321E-01	PCI/SA		0.883	1.0E+0	3.254E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**0.0E+00**	0.0E+00	5.972E-02	1.321E-01	PCI/SA		0.883	1.0E+0	3.254E-2
U-234	7YSR	0		7/30/2006 2:27:27 PM	**-3.9864E-02**	2.819E-02	2.837E-02	5.629E-01	PCI/SA		1.004	1.0E+0	3.163E-2
U-235	7YSR	0		7/30/2006 2:27:27 PM	**0.0E+00**	0.0E+00	1.22E-01	2.699E-01	PCI/SA		1.004	1.0E+0	3.163E-2
U-238	7YSR	0		7/30/2006 2:27:27 PM	**-3.9864E-02**	2.819E-02	2.837E-02	5.629E-01	PCI/SA		1.004	1.0E+0	3.163E-2
32139	**9H9GAJ10**			**J6G1802119**	000509	FILTER	7/18/2006 10:00:00	6/27/2006 10:40:00 AM					
BETA	BDS8	0		8/3/2006 7:32:16 AM	**2.7048E+01**	1.955E+00	2.732E+00	5.427E+00	PCI/SA		1.0	1.0E+0	3.498E-2
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**1.3582E-01**	7.842E-02	7.936E-02	1.227E-01	PCI/SA		1.045	1.0E+0	3.346E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**5.2256E-01**	1.509E-01	1.58E-01	1.18E-01	PCI/SA		1.045	1.0E+0	3.346E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**8.7094E-02**	6.158E-02	6.208E-02	1.18E-01	PCI/SA		1.045	1.0E+0	3.346E-2
U-234	7YSR	0		7/30/2006 2:28:10 PM	**-2.0287E-02**	2.029E-02	2.035E-02	4.858E-01	PCI/SA		0.957	1.0E+0	3.284E-2
U-235	7YSR	0		7/30/2006 2:28:10 PM	**0.0E+00**	0.0E+00	1.242E-01	2.749E-01	PCI/SA		0.957	1.0E+0	3.284E-2
U-238	7YSR	0		7/30/2006 2:28:10 PM	**8.1144E-02**	1.034E-01	1.036E-01	4.858E-01	PCI/SA		0.957	1.0E+0	3.284E-2
32139	**9H9GAK10**			**J6G18021110**	000510	FILTER	7/18/2006 10:00:00	6/27/2006 10:55:00 AM					
BETA	BDS8	0		8/3/2006 7:32:16 AM	**3.0006E+01**	2.032E+00	2.909E+00	5.347E+00	PCI/SA		1.0	1.0E+0	3.457E-2
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**1.4573E-01**	8.584E-02	8.682E-02	2.497E-01	PCI/SA		0.923	1.0E+0	3.313E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**4.4055E-01**	1.328E-01	1.386E-01	1.085E-01	PCI/SA		0.923	1.0E+0	3.313E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**6.0076E-02**	6.008E-02	6.032E-02	2.402E-01	PCI/SA		0.923	1.0E+0	3.313E-2
U-234	7YSR	0		7/30/2006 2:28:28 PM	**0.0E+00**	0.0E+00	1.202E-01	2.66E-01	PCI/SA		0.909	1.0E+0	3.168E-2
U-235	7YSR	0		7/30/2006 2:28:28 PM	**-1.9627E-02**	1.963E-02	1.969E-02	4.701E-01	PCI/SA		0.909	1.0E+0	3.168E-2
U-238	7YSR	0		7/30/2006 2:28:28 PM	**7.8518E-02**	1.001E-01	1.003E-01	4.701E-01	PCI/SA		0.909	1.0E+0	3.168E-2
32139	**9H9GAL10**			**J6G18021111**	000511	FILTER	7/18/2006 10:00:00	6/27/2006 11:15:00 AM					
BETA	BDS8	0		8/3/2006 7:32:16 AM	**2.9074E+01**	1.971E+00	2.792E+00	5.096E+00	PCI/SA		1.0	1.0E+0	3.322E-2
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**9.7601E-02**	8.509E-02	8.551E-02	3.281E-01	PCI/SA		1.166	1.0E+0	3.24E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**3.192E-01**	1.142E-01	1.176E-01	2.252E-01	PCI/SA		1.166	1.0E+0	3.24E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**6.2653E-07**	4.599E-02	4.599E-02	2.764E-01	PCI/SA		1.166	1.0E+0	3.24E-2
U-234	7YSR	0		7/30/2006 2:29:01 PM	**1.0205E-01**	1.021E-01	1.024E-01	2.766E-01	PCI/SA		0.968	1.0E+0	3.205E-2
U-235	7YSR	0		7/30/2006 2:29:01 PM	**0.0E+00**	0.0E+00	1.25E-01	2.766E-01	PCI/SA		0.968	1.0E+0	3.205E-2
U-238	7YSR	0		7/30/2006 2:29:01 PM	**1.837E-01**	1.458E-01	1.465E-01	4.888E-01	PCI/SA		0.968	1.0E+0	3.205E-2
32139	**9H9GAM10**			**J6G18021112**	000512	FILTER	7/18/2006 10:00:00	6/27/2006 11:35:00 AM					
BETA	BDS8	0		8/3/2006 7:32:20 AM	**3.2027E+01**	2.041E+00	2.995E+00	5.2E+00	PCI/SA		1.0	1.0E+0	3.263E-2
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**2.1352E-02**	4.774E-02	4.778E-02	2.561E-01	PCI/SA		0.992	1.0E+0	3.471E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**1.6431E-01**	8.216E-02	8.348E-02	1.113E-01	PCI/SA		0.992	1.0E+0	3.471E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**4.1078E-02**	4.108E-02	4.124E-02	1.113E-01	PCI/SA		0.992	1.0E+0	3.471E-2
U-234	7YSR	0		7/30/2006 2:29:43 PM	**2.0602E-01**	1.663E-01	1.672E-01	5.84E-01	PCI/SA		0.831	1.0E+0	3.188E-2
U-235	7YSR	0		7/30/2006 2:29:43 PM	**2.0602E-01**	1.663E-01	1.672E-01	5.84E-01	PCI/SA		0.831	1.0E+0	3.188E-2
U-238	7YSR	0		7/30/2006 2:29:43 PM	**6.0851E-02**	1.193E-01	1.194E-01	6.944E-01	PCI/SA		0.831	1.0E+0	3.188E-2
32139	**9H9GAN10**			**J6G18021113**	000513	FILTER	7/18/2006 10:00:00	6/27/2006 12:00:00 PM					
BETA	BDS8	0		8/3/2006 7:32:20 AM	**2.7498E+01**	1.896E+00	2.672E+00	5.0E+00	PCI/SA		1.0	1.0E+0	3.284E-2
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**2.611E-01**	1.082E-01	1.106E-01	2.409E-01	PCI/SA		0.893	1.0E+0	3.342E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**5.7961E-02**	5.796E-02	5.819E-02	2.318E-01	PCI/SA		0.893	1.0E+0	3.342E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**-3.864E-02**	2.732E-02	2.754E-02	2.844E-01	PCI/SA		0.893	1.0E+0	3.342E-2
U-234	7YSR	0		7/30/2006 2:29:59 PM	**5.1741E-02**	1.014E-01	1.015E-01	5.905E-01	PCI/SA		1.0	1.0E+0	3.19E-2
U-235	7YSR	0		7/30/2006 2:29:59 PM	**-2.39E-02**	1.38E-02	1.393E-02	4.966E-01	PCI/SA		1.0	1.0E+0	3.19E-2
U-238	7YSR	0		7/30/2006 2:29:59 PM	**5.9708E-02**	1.011E-01	1.012E-01	5.626E-01	PCI/SA		1.0	1.0E+0	3.19E-2
32139	**9H9GAP10**			**J6G18021114**	000514	FILTER	7/18/2006 10:00:00	6/27/2006 12:10:00 PM					
BETA	BDS8	0		8/3/2006 7:32:20 AM	**3.3804E+01**	2.008E+00	3.092E+00	4.97E+00	PCI/SA		1.0	1.0E+0	3.531E-2

6200128, **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-228	9NS1	0		7/30/2006 1:47:26 PM	**3.6037E-02**	3.604E-02	3.618E-02	9.766E-02	PCI/SA		0.95	1.0E+0	3.325E-2
TH-230	9NS1	0		7/30/2006 1:47:26 PM	**3.1199E-01**	1.04E-01	1.076E-01	9.394E-02	PCI/SA		0.95	1.0E+0	3.325E-2
TH-232	9NS1	0		7/30/2006 1:47:26 PM	**1.7331E-02**	3.876E-02	3.879E-02	2.079E-01	PCI/SA		0.95	1.0E+0	3.325E-2
U-234	7YSR	0		7/30/2006 2:30:15 PM	**2.03E-01**	1.639E-01	1.647E-01	5.754E-01	PCI/SA		0.905	1.0E+0	3.204E-2
U-235	7YSR	0		7/30/2006 2:30:15 PM	**-1.8459E-02**	1.305E-02	1.314E-02	5.271E-01	PCI/SA		0.905	1.0E+0	3.204E-2
U-238	7YSR	0		7/30/2006 2:30:15 PM	**3.2757E-01**	2.002E-01	2.02E-01	5.271E-01	PCI/SA		0.905	1.0E+0	3.204E-2
32139	**9H9GAT10**			**J6G18021115**	000515	FILTER	7/18/2006 10:00:00	6/27/2006 11:40:00 AM					
BETA	BDS8	0		8/3/2006 7:32:14 AM	**1.9269E+00**	1.311E+00	1.318E+00	5.316E+00	PCI/SA		1.0	1.0E+0	3.316E-2
TH-228	9NS1	0		7/30/2006 1:47:57 PM	**1.3083E-05**	8.013E-02	8.013E-02	4.816E-01	PCI/SA		0.683	1.0E+0	3.329E-2
TH-230	9NS1	0		7/30/2006 1:47:57 PM	**9.4419E-02**	9.441E-02	9.484E-02	3.775E-01	PCI/SA		0.683	1.0E+0	3.329E-2
TH-232	9NS1	0		7/30/2006 1:47:57 PM	**-3.1465E-02**	3.146E-02	3.161E-02	3.775E-01	PCI/SA		0.683	1.0E+0	3.329E-2
U-234	7YSR	0		7/30/2006 2:30:47 PM	**5.4144E-02**	1.062E-01	1.062E-01	6.18E-01	PCI/SA		1.021	1.0E+0	3.201E-2
U-235	7YSR	0		7/30/2006 2:30:47 PM	**-8.3387E-03**	8.339E-03	8.366E-03	4.194E-01	PCI/SA		1.021	1.0E+0	3.201E-2
U-238	7YSR	0		7/30/2006 2:30:47 PM	**-1.6677E-02**	1.179E-02	1.187E-02	4.761E-01	PCI/SA		1.021	1.0E+0	3.201E-2
32139	**H9HWL1AB**			**J6G190000128**	INTRA-LAB BLANK	FILTER	7/18/2006 10:00:00	6/27/2006 10:35:00 AM					
BETA	BDS8	0	B	8/3/2006 7:32:14 AM	**-1.545E-02**	9.704E-02	9.705E-02	4.161E-01	PCI/SA		1.0	1.0E+0	1.0E+0
32139	**H9HWL1CS**			**J6G190000128**	INTRA-LAB CHECK	FILTER	7/18/2006 10:00:00	6/27/2006 10:35:00 AM					
BETA	BDS8	0	S	8/3/2006 7:32:14 AM	**4.8565E+00**	2.063E-01	3.762E-01	4.192E-01	PCI/SA	4.5871E+00	1.0	1.0E+0	1.0E+0

6200128, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => .

Batch Nbr: 6200128

Alpha Beta, Beta by GPC-Sr/Y , Results Summary Report

8/3/2006 9:09:55 AM

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	**H9F9W1AF**	BETA	**2.36E+01**	**(2.45E+00)**		PCI/SA	R	2.43E+00	5.07E+00		100%	
Calc	S8	FILTER	**H9F921AF**	BETA	**2.22E+01**	**(2.51E+00)**		PCI/SA	R	2.80E+00	5.81E+00		100%	
Calc	S8	FILTER	**H9F951AF**	BETA	**3.08E+01**	**(2.98E+00)**		PCI/SA	R	2.62E+00	5.46E+00		100%	
Calc	S8	FILTER	**H9F981AF**	BETA	**2.89E+01**	**(2.81E+00)**		PCI/SA	R	2.54E+00	5.30E+00		100%	
Calc	S8	FILTER	**H9GAA1AF**	BETA	**2.09E+01**	**(2.29E+00)**		PCI/SA	R	2.46E+00	5.14E+00		100%	
Calc	S8	FILTER	**H9GAC1AF**	BETA	**1.90E+01**	**(2.22E+00)**		PCI/SA	R	2.60E+00	5.42E+00		100%	
Calc	S8	FILTER	**H9GAE1AF**	BETA	**2.46E+01**	**(2.50E+00)**		PCI/SA	R	2.39E+00	4.98E+00		100%	
Calc	S8	FILTER	**H9GAG1AF**	BETA	**1.44E+00**	**(1.35E+00)**	**U4**	PCI/SA	R	2.66E+00	5.53E+00		100%	
Calc	S8	FILTER	**H9GAJ1AF**	BETA	**2.70E+01**	**(2.73E+00)**		PCI/SA	R	2.61E+00	5.43E+00		100%	
Calc	S8	FILTER	**H9GAK1AF**	BETA	**3.00E+01**	**(2.91E+00)**		PCI/SA	R	2.56E+00	5.35E+00		100%	
Calc	S8	FILTER	**H9GAL1AF**	BETA	**2.91E+01**	**(2.79E+00)**		PCI/SA	R	2.43E+00	5.10E+00		100%	
Calc	S8	FILTER	**H9GAM1AF**	BETA	**3.20E+01**	**(3.00E+00)**		PCI/SA	R	2.49E+00	5.20E+00		100%	
Calc	S8	FILTER	**H9GAN1AF**	BETA	**2.75E+01**	**(2.67E+00)**		PCI/SA	R	2.39E+00	5.00E+00		100%	
Calc	S8	FILTER	**H9GAP1AF**	BETA	**3.38E+01**	**(3.09E+00)**		PCI/SA	R	2.38E+00	4.97E+00		100%	
Calc	S8	FILTER	**H9GAT1AF**	BETA	**1.93E+00**	**(1.32E+00)**	**U4**	PCI/SA	R	2.55E+00	5.32E+00		100%	
Calc	S8	FILTER	**H9HWL1AA**	BETA	**-1.54E-02**	**(9.70E-02)**	**U4**	PCI/SA	R	1.99E-01	4.16E-01	**B**	100%	
Calc	S8	FILTER	**H9HWL1AC**	BETA	**4.86E+00**	**(3.76E-01)**		PCI/SA	R	2.01E-01	4.19E-01	**S**	100%	106%

* samples > MDA > CRDL
except H9GAG1AF 5.5
H9GAT1AF 5.3

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

Page 1

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

RecCnt:17
RADCALC v4.8.24
STL Richland

Batch Nbr: 6200128

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

8/3/2006 9:09:56 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	S8	FILTER	*STLE	GabWoBS	**H9F9W1AF**	**PCI/SA**		06/27/06 10:35	08/02/06 18:58			1	1.00 SA	
536403,P-0683					,J6G180211-1 v4.8.24		FILTER			02.4	08/02/06 11:50			0.086136 SA	

Sq	Cnt Date	Parameter	Sample 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	478	580	GPC31D	1.5	N	N	4.3583E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			152.96	500			Y		(1.190E-02)	(0.000E+00)		5%			(0.000E+00)	11.609511		

Sq	Calc Date	Parameter	Avg	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	BETA	R	**23.577788**		1.96500E+00	4.508609	4.508609	1.00 SA	100%		5.071435		
				(2.454497)		(1.5083E-01)	(0.430973)	(0.430973)	(0.028284)			2.430868		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9F921AF**	**PCI/SA**		06/27/06 10:50	08/02/06 18:59			1	1.00 SA	
536403,P-0684					,J6G180211-2 v4.8.24		FILTER			02.6	08/02/06 11:50			0.082403 SA	

Sq	Cnt Date	Parameter	Sample 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 20:14	BETA	503	751	GPC26A	1.5	N	N	4.5501E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.553E-02)	(0.000E+00)		5%			(0.000E+00)	12.135424		

Sq	Calc Date	Parameter	Avg	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	BETA	R	**22.24165**		1.85133E+00	4.068792	4.068792	1.00 SA	100%		5.807216		
				(2.512799)		(1.5925E-01)	(0.427975)	(0.427975)	(0.028284)			2.796743		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9F951AF**	**PCI/SA**		06/27/06 11:10	08/02/06 18:59			1	1.00 SA	
536403,P-0685					,J6G180211-3 v4.8.24		FILTER			01.6	08/02/06 11:50			0.083278 SA	

Sq	Cnt Date	Parameter	Sample 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 20:14	BETA	559	620	GPC26B	1.5	N	N	4.3700E-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)	12.007912		

Sq	Calc Date	Parameter	Avg	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	BETA	R	**30.778645**		2.48667E+00	5.690303	5.690303	1.00 SA	100%		5.456612		
				(2.983942)		(1.6530E-01)	(0.49929)	(0.49929)	(0.028284)			2.618051		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9F981AF**	**PCI/SA**		06/27/06 11:30	08/02/06 18:59			1	1.00 SA	
536403,P-0686					,J6G180211-4 v4.8.24		FILTER			06.5	08/02/06 11:50			0.083225 SA	

Sq	Cnt Date	Parameter	Sample 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 20:14	BETA	505	549	GPC26D	1.5	N	N	4.2460E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(8.721E-03)	(0.000E+00)		5%			(0.000E+00)	12.015576		

() - (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: 6200128

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

8/3/2006 9:09:56 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
	08/03/06	BETA	R	**28.918827**		2.26867E+00	5.343053	5.343053	1.00 SA	100%		5.301587		
				(2.805182)		(1.5697E-01)	(0.469136)	(0.469136)	(0.028284)			2.537152		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAA1AF**	**PCI/SA**		06/27/06 11:55	08/02/06 18:59			1	1.00 SA	
536403,P-0687					,J6G180211-5 v4.8.24		FILTER			11.3	08/02/06 11:50			0.083245 SA	

Sq	Cnt Date	Parameter	Sample 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 20:14	BETA	415	543	GPC27A	1.5	N	N	4.3546E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(9.597E-03)	(0.000E+00)		5%			(0.000E+00)	12.0127		

Sq	Calc Date	Parameter	Avg	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	BETA	R	**20.884438**		1.68067E+00	3.85954	3.85954	1.00 SA	100%		5.141085		
				(2.286302)		(1.4358E-01)	(0.391407)	(0.391407)	(0.028284)			2.459752		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAC1AF**	**PCI/SA**		06/27/06 12:05	08/02/06 18:59			1	1.00 SA	
536403,P-0688					,J6G180211-6 v4.8.24		FILTER			30.1	08/02/06 11:50			0.081616 SA	

Sq	Cnt Date	Parameter	Sample 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 20:14	BETA	395	572	GPC27C	1.5	N	N	4.3183E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(9.552E-03)	(0.000E+00)		5%			(0.000E+00)	12.252543		

Sq	Calc Date	Parameter	Avg	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	BETA	R	**19.034829**		1.48933E+00	3.448865	3.448865	1.00 SA	100%		5.421026		
				(2.222713)		(1.4087E-01)	(0.376786)	(0.376786)	(0.028284)			2.596602		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAE1AF**	**PCI/SA**		06/27/06 10:45	08/02/06 18:59			1	1.00 SA	
536403,P-0689					,J6G180211-7 v4.8.24		FILTER			01.8	08/02/06 11:50			0.085594 SA	

Sq	Cnt Date	Parameter	Sample 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 20:14	BETA	484	568	GPC27D	1.5	N	N	4.4661E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.130E-02)	(0.000E+00)		5%			(0.000E+00)	11.683009		

Sq	Calc Date	Parameter	Avg	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	BETA	R	**24.635025**		2.09067E+00	4.681141	4.681141	1.00 SA	100%		4.981198		
				(2.497917)		(1.5422E-01)	(0.43364)	(0.43364)	(0.028284)			2.385573		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAG1AF**	**PCI/SA**		06/27/06 11:00	08/03/06 07:32			1	1.00 SA	
536403,P-0690					,J6G180211-8 v4.8.24		FILTER			01.8	08/02/06 11:50			0.082388 SA	

Sq	Cnt Date	Parameter	Sample 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: 6200128

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

8/3/2006 9:09:56 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
1	08/03/06 08:47	BETA	222	680		GPC26A 1.5 N N	4.5568E-01	1.0000E+00	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00
			150	500		Y	(1.555E-02)	(0.000E+00)		5%		(0.000E+00)	12.13763	
	08/03/06	BETA	R	**1.439804**	**U4**	1.20000E-01	0.263344	0.263344	1.00 SA	100%		5.529271		
				(1.350225)		(1.1219E-01)	(0.246721)	(0.246721)	(0.028284)			2.657828		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAJ1AF**	**PCI/SA**		06/27/06 10:40	08/03/06 07:32			1	1.00 SA	
536403,000509					,J6G180211-9 v4.8.24		FILTER			03.6	08/02/06 11:50			0.084977 SA	

Sq	Cnt Date	Parameter	Sample 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 08:47	BETA	525	637	GPC26B	1.5	N	N	4.3625E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.218E-02)	(0.000E+00)		5%			(0.000E+00)	11.767859		

Sq	Calc Date	Parameter	Avg	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	BETA	R	**27.047905**		2.22600E+00	5.102577	5.102577	1.00 SA	100%		5.426681		
				(2.732144)		(1.6088E-01)	(0.470525)	(0.470525)	(0.028284)			2.605124		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAK1AF**	**PCI/SA**		06/27/06 10:55	08/03/06 07:32			1	1.00 SA	
536403,000510					,J6G180211-10 v4.8.24		FILTER			03.9	08/02/06 11:50			0.084573 SA	

Sq	Cnt Date	Parameter	Sample 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 08:47	BETA	519	556	GPC26C	1.5	N	N	4.1678E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.029E-02)	(0.000E+00)		5%			(0.000E+00)	11.824112		

Sq	Calc Date	Parameter	Avg	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	BETA	R	**30.005728**		2.34800E+00	5.633639	5.633639	1.00 SA	100%		5.347294		
				(2.908771)		(1.5903E-01)	(0.494268)	(0.494268)	(0.028284)			2.559727		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAL1AF**	**PCI/SA**		06/27/06 11:15	08/03/06 07:32			1	1.00 SA	
536403,000511					,J6G180211-11 v4.8.24		FILTER			02.5	08/02/06 11:50			0.083223 SA	

Sq	Cnt Date	Parameter	Sample 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 08:47	BETA	496	509	GPC26D	1.5	N	N	4.2608E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(8.752E-03)	(0.000E+00)		5%			(0.000E+00)	12.015966		

Sq	Calc Date	Parameter	Avg	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	BETA	R	**29.07359**		2.28867E+00	5.371473	5.371473	1.00 SA	100%		5.095789		
				(2.791542)		(1.5518E-01)	(0.465777)	(0.465777)	(0.028284)			2.434587		

() - (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: 6200128

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

8/3/2006 9:09:56 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	S8	FILTER	*STLE	GabWoBS	**H9GAM1AF**	**PCI/SA**		06/27/06 11:35	08/03/06 07:32			1	1.00 SA	
536403,000512					,J6G180211-12 v4.8.24		FILTER			12.4	08/02/06 11:50			0.082629 SA	

Sq	Cnt Date	Parameter	Sample 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 08:47	BETA	547	546	GPC27A	1.5	N	N	4.3485E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(9.584E-03)	(0.000E+00)		5%			(0.000E+00)	12.102326		

Sq	Calc Date	Parameter	Avg	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	BETA	R	**32.026878**		2.55467E+00	5.874882	5.874882	1.00 SA	100%		5.200417		
				(2.995068)		(1.6277E-01)	(0.493123)	(0.493123)	(0.028284)			2.488439		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAN1AF**	**PCI/SA**		06/27/06 12:00	08/03/06 07:32			1	1.00 SA	
536403,000513					,J6G180211-13 v4.8.24		FILTER			03.4	08/02/06 11:50			0.082843 SA	

Sq	Cnt Date	Parameter	Sample 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 08:47	BETA	503	541	GPC27C	1.5	N	N	4.4913E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(9.935E-03)	(0.000E+00)		5%			(0.000E+00)	12.071057		

Sq	Calc Date	Parameter	Avg	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	BETA	R	**27.49778**		2.27133E+00	5.057149	5.057149	1.00 SA	100%		4.999932		
				(2.671973)		(1.5659E-01)	(0.444975)	(0.444975)	(0.028284)			2.392025		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAP1AF**	**PCI/SA**		06/27/06 12:10	08/03/06 07:32			1	1.00 SA	
536403,000514					,J6G180211-14 v4.8.24		FILTER			04.3	08/02/06 11:50			0.085312 SA	

Sq	Cnt Date	Parameter	Sample 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 08:47	BETA	595	558	GPC27D	1.5	N	N	4.4526E-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)		5%			(0.000E+00)	11.721668		

Sq	Calc Date	Parameter	Avg	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	BETA	R	**33.804102**		2.85067E+00	6.402262	6.402262	1.00 SA	100%		4.970465		
				(3.092463)		(1.6934E-01)	(0.522831)	(0.522831)	(0.028284)			2.379525		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAT1AF**	**PCI/SA**		06/27/06 11:40	08/03/06 07:32			1	1.00 SA	
536403,000515					,J6G180211-15 v4.8.24		FILTER			01.2	08/02/06 11:50			0.083161 SA	

Sq	Cnt Date	Parameter	Sample 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 08:47	BETA	202	595	GPC31A	1.5	N	N	4.4040E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.295E-02)	(0.000E+00)		5%			(0.000E+00)	12.024822		

() - (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: 6200128

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

8/3/2006 9:09:57 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
	08/03/06	BETA	R	**1.926873**	**U4**	1.56667E-01	0.355736	0.355736	1.00 SA	100%		5.316186		
				(1.317914)		(1.0657E-01)	(0.242869)	(0.242869)	(0.028284)			2.548504		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9HWL1AA**	**PCI/SA**	**B**	06/27/06 10:35	08/03/06 07:32			1	1.00 SA	
0,INTRA-LAB BLANK					,J6G190000-128		FILTER			00.3	08/02/06 11:50			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 08:47	BETA	160	541	GPC31B	1.5	N	N	4.4706E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(2.468E-02)	(0.000E+00)		5%			(0.000E+00)	1.00		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/03/06	BETA	R	**-0.01545**	**U4**	-1.53333E-02	-0.034298	-0.034298	1.00 SA	100%		0.416128		
				(0.097046)		(9.6307E-02)	(0.215438)	(0.215438)	(0.017321)			0.19908		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9HWL1AC**	**PCI/SA**	**S**	06/27/06 10:35	08/03/06 07:32		BESB2838	1	1.00 SA	
0,INTRA-LAB CHECK					,J6G190000-128		FILTER			01.4	08/02/06 11:50	BESB2838 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 08:47	BETA	879	540	GPC31C	1.5	N	N	4.4335E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(9.860E-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
	08/03/06	BETA	R	**4.856542**		4.78000E+00	10.781534	10.781534	1.00 SA	100%	106%	0.41924		
				(0.376154)		(2.0304E-01)	(0.746887)	(0.746887)	(0.017321)			0.200561		

() - (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 20:15:00.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9F9W1AF	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	478	152.96	580	500.00	31D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
7	27	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 20:14:45.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9F921AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
02-AUG-2006 20:14:45.00	503	150.00	751	500.00	26A

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
1	34	4892	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 20:14:45.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9F951AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
02-AUG-2006 20:14:45.00	559	150.00	620	500.00	26B

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
7	22	4892	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 20:14:45.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9F981AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
02-AUG-2006 20:14:45.00	505	150.00	549	500.00	26D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
7	30	4892	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 20:14:47.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9GAA1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
02-AUG-2006 20:14:47.00	415	150.00	543	500.00	27A

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
4	22	4935	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 20:14:47.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9GAC1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
02-AUG-2006 20:14:47.00	395	150.00	572	500.00	27C

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
5	11	4935	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 20:14:47.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9GAE1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
02-AUG-2006 20:14:47.00	484	150.00	568	500.00	27D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
5	17	4935	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
03-AUG-2006 08:47:16.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9GAG1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
03-AUG-2006 08:47:16.00	222	150.00	680	500.00	26A

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
10	27	4853	1500

Bkg Count Date/Time
03-AUG-2006 04:54:41.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
03-AUG-2006 08:47:16.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9GAJ1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
03-AUG-2006 08:47:16.00	525	150.00	637	500.00	26B

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
9	35	4853	1500

Bkg Count Date/Time
03-AUG-2006 04:54:41.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
03-AUG-2006 08:47:16.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9GAK1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
03-AUG-2006 08:47:16.00	519	150.00	556	500.00	26C

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
5	14	4853	1500

Bkg Count Date/Time
03-AUG-2006 04:54:41.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
03-AUG-2006 08:47:16.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9GAL1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
03-AUG-2006 08:47:16.00	496	150.00	509	500.00	26D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
9	19	4853	1500

Bkg Count Date/Time
03-AUG-2006 04:54:41.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
03-AUG-2006 08:47:20.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9GAM1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
03-AUG-2006 08:47:20.00	547	150.00	546	500.00	27A

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
6	25	4849	1500

Bkg Count Date/Time
03-AUG-2006 04:54:33.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
03-AUG-2006 08:47:20.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9GAN1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
03-AUG-2006 08:47:20.00	503	150.00	541	500.00	27C

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
5	17	4849	1500

Bkg Count Date/Time
03-AUG-2006 04:54:33.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
03-AUG-2006 08:47:20.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9GAP1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
03-AUG-2006 08:47:20.00	595	150.00	558	500.00	27D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
8	25	4849	1500

Bkg Count Date/Time
03-AUG-2006 04:54:33.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
03-AUG-2006 08:47:14.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9GAT1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
03-AUG-2006 08:47:14.00	202	150.00	595	500.00	31A

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
10	14	4906	1492

Bkg Count Date/Time
03-AUG-2006 05:18:14.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
03-AUG-2006 08:47:14.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9HWL1AA	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
03-AUG-2006 08:47:14.00	160	150.00	541	500.00	31B

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
5	19	4906	1492

Bkg Count Date/Time
03-AUG-2006 05:18:14.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
03-AUG-2006 08:47:14.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9HWL1AC	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
03-AUG-2006 08:47:14.00	879	150.00	540	500.00	31C

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV	Bkg Count Date/Time
6	17	4906	1492	03-AUG-2006 05:18:14.00

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

8/14/2006 10:32:47 AM

Lot No., Due Date: J6G180211; 08/15/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6200134; RRA228 Ra-228 by GPC

SDG, Matrix: 32139; 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: 620134

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: Sherry R Adam Date: 8-15-06

STL RICHLAND

7/27/2006 2:46:33 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: MS 7/28/06 10:58

Batch: 6200134 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: 6200133, BXTE

Sep2 DT/Tm Tech: AL 8/11/06 1045

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 H9F9W-1-AD J6G180211-1-SAMP	0.833sa	500.75sa	150.54g,in	0.2504g 1.0573	RATA23515 07/19/06	in 31.2	3X50	7A 1810 7A 0819	8/11/06 OP 8/11/06	
06/27/2006 10:35		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:	
2 H9F92-1-AD J6G180211-2-SAMP	0.833sa,g	507.26sa,g	150.91g,in	0.2478g 1.0338	RATA23516 07/19/06	31.1		7B 1810 7B 0819	8/11/06 OP 8/11/06	
06/27/2006 10:50		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:	
3 H9F95-1-AD J6G180211-3-SAMP	0.833sa,g	501.93sa,g	150.88g,in	0.2504g 0.9682	RATA23517 07/19/06	31.2		7C 1810 7C 0819	8/11/06 OP 8/11/06	
06/27/2006 11:10		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:	
4 H9F98-1-AD J6G180211-4-SAMP	0.833sa,g	501.85sa,g	151.90g,in	0.2521g 0.9964	RATA23518 07/19/06	31.0		1A 1809 1A 0819	8/11/06 OP 8/11/06	
06/27/2006 11:30		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:	

7/27/2006 2:46:33 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: 6200134 FILTER pCi/sampl PM, Quote: SA , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: 6200133, 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 H9GAA-1-AD J6G180211-5-SAMP	0.833sa,g	501.93sa,g	151.16g,in	0.2509g 0.8968	RATA23519 07/19/06	in 32.1	3X50	1C 8/11/06 on 1809 1C 0819	8/11/06 on 8/11/06	
06/27/2006 11:55		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:	
6 H9GAC-1-AD J6G180211-6-SAMP	0.833sa,g	512.87sa,g	151.25g,in	0.2457g 1.0908	RATA23520 07/19/06	31.6		1D 1809 1D 0819	8/11/06 on 8/11/06	
06/27/2006 12:05		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:	
7 H9GAE-1-AD J6G180211-7-SAMP	0.833sa,g	505.38sa,g	152.72g,in	0.2517g 0.9819	RATA23521 07/19/06	32.1		2A 1812 2A 0819	8/11/06 on 8/11/06	
06/27/2006 10:45		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:	
8 H9GAG-1-AD J6G180211-8-SAMP	0.833sa,g	507.15sa,g	151.27g,in	0.2485g 1.0345	RATA23522 07/19/06	30.6		2B 1812 2B 0819	8/11/06 on 8/11/06	
06/27/2006 11:00		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 2:46:33 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: 6200134 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: 6200133, 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:
9 H9GAJ-1-AD J6G180211-9-SAMP	0.833sa,g	500.13sa,g	150.35g,in	0.2504g 1.0112	RATA23523 07/19/06	in 29.6	3x50	2C 2C	1812 0819	8/11/06 OD 8/12/06
06/27/2006 10:40		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
10H9GAK-1-AD J6G180211-10-SAMP	0.833sa,g	507.15sa,g	151.76g,in	0.2493g 1.0325	RATA23524 07/19/06	30.7		2D 2D	1812 0819	8/11/06 OD 8/12/06
06/27/2006 10:55		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
11H9GAL-1-AD J6G180211-11-SAMP	0.833sa,g	505.87sa,g	152.65g,in	0.2514g 0.9736	RATA23525 07/19/06	29.7		3A 3A	1813 0819	8/11/06 OD 8/12/06
06/27/2006 11:15		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
12H9GAM-1-AD J6G180211-12-SAMP	0.833sa,g	505.07sa,g	151.33g,in	0.2496g 1.0173	RATA23526 07/19/06	31.0		3B 3B	1813 0819	8/11/06 OD 8/12/06
06/27/2006 11:35		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:

7/27/2006 2:46:34 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: 6200134 FILTER pCi/sampl PM, Quote: SA , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: 6200133, 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:
13H9GAN-1-AD J6G180211-13-SAMP	0.833sa,g	504.67sa,g	150.34g,in	0.2481g 0.9832	RATA23527 07/19/06	1in	30.6	3X50 3C 3C	1813 0819	8/11/06 OP 8/11/06
06/27/2006 12:00		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
14H9GAP-1-AD J6G180211-14-SAMP	0.833sa,g	505.49sa,g	151.41g,in	0.2495g 0.9581	RATA23528 07/19/06	30.9		3D 3D	1813 0819	8/11/06 OP 8/11/06
06/27/2006 12:10		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
15H9GAT-1-AD J6G180211-15-SAMP	0.833sa,g	504.54sa,g	150.33g,in	0.2482g 1.0451	RATA23529 07/19/06	32.1		4A 4A	1813 0819	8/11/06 OP 8/11/06
06/27/2006 11:40		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
16H9HWV-1-AA-B J6G190000-134-BLK			1.00sa,in	1.00sa 0.8223	RATA23530 07/19/06	31.2		4B 4B	1813 0819	8/11/06 OP 8/11/06
06/27/2006 10:35		AmtRec:		#Containers: 1			Scr:	Alpha:		Beta:

7/27/2006 2:46:34 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: 6200134 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:
17H9HWV-1-AC-C J6G190000-134-LCS			1.00sa,in	1.00sa 1.0022	RASC4148 06/13/06	1in 30.4	3X50 4D 4C	1813 0879	8/11/06 OD 8/11/06	

06/27/2006 10:35 AmtRec: #Containers: 1 Scr: Alpha: Beta:

Comments: Regular nitric acid used instead of trace metal nitric acid mD 7/28/06

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

H9F9W1AD-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:						

H9HWV1AA-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:						

H9HWV1AC-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

H9F9W1AD-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

H9HWV1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

H9HWV1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

8/14/2006 10:22:27 AM

ICOC Fraction Transfer/Status Report

ByDate: 8/14/2005, 8/19/2006, Batch: '6200134', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6200134						
AC		**CalcC**	**HansenM**	7/20/2006 1:21:00 PM		
SC			wagarr	IsBatched	7/19/2006 8:00:26 AM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	7/20/2006 1:21:00 PM	RICH-RC-5016 REVISION 5
SC			LongA	InPrep	7/27/2006 2:17:16 PM	RICH-RC-5005 REVISION 5
SC			LongA	Sep1C	7/28/2006 11:58:04 AM	RICH-RC-5005 REVISION 5
SC			TamosaitisM	Sep2C	8/11/2006 9:15:25 AM	RICH-RC-5005 REVISION 4
SC			LongA	Sep2C	8/11/2006 9:16:20 AM	RICH-RC-5005 REVISION 4
SC			DAWKINSO	InCnt1	8/11/2006 3:22:21 PM	RICH-RD-0003 REVISION 4
SC			BlackCL	CalcC	8/14/2006 8:34:14 AM	RICH-RD-0003 REVISION 4
AC			**LongA**	7/27/2006 2:17:16 PM		
AC			**LongA**	7/28/2006 11:58:04		
AC			**TamosaitisM**	8/11/2006 9:15:25		
AC			**LongA**	8/11/2006 9:16:20		
AC			**DAWKINSO**	8/11/2006 3:22:21 PM		
AC			**BlackCL**	8/14/2006 8:34:14		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 7

ICOCFractions v4.8.18

8/14/2006 10:22:26 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
32139	**9H9F9210**			**J6G1802112**	P-0684	FILTER	7/18/2006 10:00:00	6/27/2006 10:50:00 AM				
ALPHA	BAS7		0	8/4/2006 10:54:31 AM	**1.9879E+00**	1.261E+00	1.277E+00	4.798E+00	PCI/SA	1.0	1.0E+0	2.059E-2
BETA	BDS8		0	8/2/2006 6:59:45 PM	**2.2242E+01**	1.913E+00	2.513E+00	5.807E+00	PCI/SA	1.0	1.0E+0	3.24E-2
RA-226	BXTE		0	8/9/2006 1:41:00 PM	**2.8345E-02**	8.691E-02	8.696E-02	3.349E-01	PCI/SA	1.034	8.33E-1	2.478E-1
RA-228	BXTF		0	8/12/2006 8:24:09 AM	**1.261E+00**	6.255E-01	6.255E-01	2.685E+00	PCI/SA	0.935	1.0E+0	2.478E-1
TH-228	9NS1		0	7/29/2006 1:47:52 PM	**1.6209E-01**	8.253E-02	8.375E-02	2.161E-01	PCI/SA	1.044	1.0E+0	3.298E-2
TH-230	9NS1		0	7/29/2006 1:47:52 PM	**8.6705E-02**	6.252E-02	6.299E-02	2.08E-01	PCI/SA	1.044	1.0E+0	3.298E-2
TH-232	9NS1		0	7/29/2006 1:47:52 PM	**5.7864E-07**	4.248E-02	4.248E-02	2.553E-01	PCI/SA	1.044	1.0E+0	3.298E-2
U-234	7YSR		0	7/30/2006 2:25:08 PM	**-3.9387E-02**	1.113E-01	1.113E-01	8.078E-01	PCI/SA	0.985	1.0E+0	3.17E-2
U-235	7YSR		0	7/30/2006 2:25:08 PM	**3.9328E-02**	1.041E-01	1.042E-01	6.209E-01	PCI/SA	0.985	1.0E+0	3.17E-2
U-238	7YSR		0	7/30/2006 2:25:08 PM	**-1.9708E-02**	1.095E-01	1.096E-01	7.677E-01	PCI/SA	0.985	1.0E+0	3.17E-2
32139	**9H9F9510**			**J6G1802113**	P-0685	FILTER	7/18/2006 10:00:00	6/27/2006 11:10:00 AM				
ALPHA	BAS7		0	8/4/2006 10:54:31 AM	**-7.3628E-01**	8.866E-01	8.898E-01	5.191E+00	PCI/SA	1.0	1.0E+0	2.131E-2
BETA	BDS8		0	8/2/2006 6:59:45 PM	**3.0779E+01**	2.046E+00	2.984E+00	5.457E+00	PCI/SA	1.0	1.0E+0	3.328E-2
RA-226	BXTE		0	8/9/2006 1:40:00 PM	**-1.9755E-02**	9.87E-02	9.872E-02	3.906E-01	PCI/SA	0.968	8.33E-1	2.504E-1
RA-228	BXTF		0	8/12/2006 8:24:09 AM	**1.3338E+00**	6.902E-01	6.902E-01	2.993E+00	PCI/SA	0.878	1.0E+0	2.504E-1
TH-228	9NS1		0	7/29/2006 1:49:16 PM	**0.0E+00**	0.0E+00	5.32E-02	1.177E-01	PCI/SA	0.787	1.0E+0	3.326E-2
TH-230	9NS1		0	7/29/2006 1:49:16 PM	**1.171E+00**	2.213E-01	2.451E-01	1.133E-01	PCI/SA	0.787	1.0E+0	3.326E-2
TH-232	9NS1		0	7/29/2006 1:49:16 PM	**2.091E-02**	4.676E-02	4.68E-02	2.508E-01	PCI/SA	0.787	1.0E+0	3.326E-2
U-234	7YSR		0	7/30/2006 2:25:26 PM	**-1.2345E-01**	5.04E-02	5.137E-02	8.03E-01	PCI/SA	0.924	1.0E+0	3.238E-2
U-235	7YSR		0	7/30/2006 2:25:26 PM	**1.0291E-01**	1.029E-01	1.032E-01	2.789E-01	PCI/SA	0.924	1.0E+0	3.238E-2
U-238	7YSR		0	7/30/2006 2:25:26 PM	**-8.2269E-02**	1.2E-01	1.202E-01	9.208E-01	PCI/SA	0.924	1.0E+0	3.238E-2
32139	**9H9F9810**			**J6G1802114**	P-0686	FILTER	7/18/2006 10:00:00	6/27/2006 11:30:00 AM				
ALPHA	BAS7		0	8/4/2006 1:41:19 PM	**7.7552E-01**	1.229E+00	1.231E+00	5.512E+00	PCI/SA	1.0	1.0E+0	2.073E-2
BETA	BDS8		0	8/2/2006 6:59:45 PM	**2.8919E+01**	2.001E+00	2.805E+00	5.302E+00	PCI/SA	1.0	1.0E+0	3.323E-2
RA-226	BXTE		0	8/9/2006 1:42:01 PM	**2.4654E-01**	8.44E-02	8.804E-02	2.366E-01	PCI/SA	0.996	8.33E-1	2.521E-1
RA-228	BXTF		0	8/12/2006 8:24:18 AM	**3.4936E-01**	5.154E-01	5.322E-01	2.488E+00	PCI/SA	0.898	1.0E+0	2.521E-1
TH-228	9NS1		0	7/29/2006 1:49:53 PM	**1.9396E-01**	1.137E-01	1.151E-01	3.568E-01	PCI/SA	0.919	1.0E+0	3.351E-2
TH-230	9NS1		0	7/29/2006 1:49:53 PM	**2.1009E-01**	1.07E-01	1.087E-01	2.8E-01	PCI/SA	0.919	1.0E+0	3.351E-2
TH-232	9NS1		0	7/29/2006 1:49:53 PM	**-2.3338E-02**	2.334E-02	2.343E-02	2.8E-01	PCI/SA	0.919	1.0E+0	3.351E-2
U-234	7YSR		0	7/30/2006 2:25:59 PM	**2.4413E-01**	1.942E-01	1.952E-01	7.71E-01	PCI/SA	0.98	1.0E+0	3.241E-2
U-235	7YSR		0	7/30/2006 2:25:59 PM	**-3.7556E-02**	2.656E-02	2.673E-02	5.306E-01	PCI/SA	0.98	1.0E+0	3.241E-2
U-238	7YSR		0	7/30/2006 2:25:59 PM	**2.6291E-01**	1.933E-01	1.945E-01	7.327E-01	PCI/SA	0.98	1.0E+0	3.241E-2
32139	**9H9F9W10**			**J6G1802111**	P-0683	FILTER	7/18/2006 10:00:00	6/27/2006 10:35:00 AM				
ALPHA	BAS7		0	8/4/2006 10:54:31 AM	**3.4878E+00**	1.573E+00	1.615E+00	5.438E+00	PCI/SA	1.0	1.0E+0	2.096E-2
BETA	BDS8		0	8/2/2006 6:58:31 PM	**2.3578E+01**	1.81E+00	2.454E+00	5.071E+00	PCI/SA	1.0	1.0E+0	3.614E-2
RA-226	BXTE		0	8/9/2006 1:42:01 PM	**3.4936E-01**	1.012E-01	1.081E-01	2.544E-01	PCI/SA	1.057	8.33E-1	2.504E-1
RA-228	BXTF		0	8/12/2006 8:24:09 AM	**3.4675E-01**	4.881E-01	5.909E-01	2.74E+00	PCI/SA	0.959	1.0E+0	2.504E-1
TH-228	9NS1		0	7/29/2006 1:47:52 PM	**7.5472E-02**	7.547E-02	7.579E-02	3.018E-01	PCI/SA	0.844	1.0E+0	3.437E-2
TH-230	9NS1		0	7/29/2006 1:47:52 PM	**0.0E+00**	0.0E+00	5.933E-02	1.313E-01	PCI/SA	0.844	1.0E+0	3.437E-2
TH-232	9NS1		0	7/29/2006 1:47:52 PM	**0.0E+00**	0.0E+00	5.933E-02	1.313E-01	PCI/SA	0.844	1.0E+0	3.437E-2
U-234	7YSR		0	7/30/2006 2:24:42 PM	**4.6182E-01**	2.263E-01	2.293E-01	5.674E-01	PCI/SA	0.982	1.0E+0	3.241E-2
U-235	7YSR		0	7/30/2006 2:24:42 PM	**6.0222E-02**	1.043E-01	1.045E-01	5.674E-01	PCI/SA	0.982	1.0E+0	3.241E-2
U-238	7YSR		0	7/30/2006 2:24:42 PM	**-8.0358E-02**	4.018E-02	4.07E-02	6.898E-01	PCI/SA	0.982	1.0E+0	3.241E-2
32139	**9H9GAA10**			**J6G1802115**	P-0687	FILTER	7/18/2006 10:00:00	6/27/2006 11:55:00 AM				
ALPHA	BAS7		0	8/4/2006 1:41:19 PM	**2.1842E+00**	1.39E+00	1.408E+00	5.344E+00	PCI/SA	1.0	1.0E+0	2.104E-2
BETA	BDS8		0	8/2/2006 6:59:47 PM	**2.0884E+01**	1.784E+00	2.286E+00	5.141E+00	PCI/SA	1.0	1.0E+0	3.325E-2
RA-226	BXTE		0	8/9/2006 1:41:00 PM	**-7.8473E-02**	8.121E-02	8.165E-02	3.566E-01	PCI/SA	0.897	8.33E-1	2.509E-1
RA-228	BXTF		0	8/12/2006 8:24:18 AM	**8.6914E-01**	5.746E-01	6.022E-01	2.705E+00	PCI/SA	0.837	1.0E+0	2.509E-1
TH-228	9NS1		0	7/29/2006 1:50:24 PM	**-1.7717E-06**	9.207E-02	9.207E-02	4.936E-01	PCI/SA	0.875	1.0E+0	3.356E-2
TH-230	9NS1		0	7/29/2006 1:50:24 PM	**1.5356E-01**	8.866E-02	8.979E-02	1.387E-01	PCI/SA	0.875	1.0E+0	3.356E-2
TH-232	9NS1		0	7/29/2006 1:50:24 PM	**0.0E+00**	0.0E+00	6.269E-02	1.387E-01	PCI/SA	0.875	1.0E+0	3.356E-2

6200134, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H9HWV1AA=> , mat:FILTER | Air *wo:H9HWV1AC=> , 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
U-234	7YSR	0		7/30/2006 2:26:30 PM	**1.5989E-01**	1.599E-01	1.605E-01	4.333E-01	PCI/SA	0.599	1.0E+0	3.247E-2
U-235	7YSR	0		7/30/2006 2:26:30 PM	**-3.1994E-02**	3.199E-02	3.211E-02	7.659E-01	PCI/SA	0.599	1.0E+0	3.247E-2
U-238	7YSR	0		7/30/2006 2:26:30 PM	**9.5901E-02**	1.662E-01	1.664E-01	9.036E-01	PCI/SA	0.599	1.0E+0	3.247E-2
32139	**9H9GAC10**			**J6G1802116**	P-0688	FILTER	7/18/2006 10:00:00	6/27/2006 12:05:00 PM				
ALPHA	BAS7	0		8/4/2006 1:41:19 PM	**2.8417E+00**	1.535E+00	1.563E+00	5.628E+00	PCI/SA	1.0	1.0E+0	2.03E-2
BETA	BDS8	0		8/2/2006 6:59:47 PM	**1.9035E+01**	1.8E+00	2.223E+00	5.421E+00	PCI/SA	1.0	1.0E+0	3.162E-2
RA-226	BXTE	0		8/9/2006 1:42:01 PM	**-1.0507E-01**	7.06E-02	7.155E-02	3.267E-01	PCI/SA	1.091	8.33E-1	2.457E-1
RA-228	BXTF	0		8/12/2006 8:24:18 AM	**6.7312E-01**	4.892E-01	4.892E-01	2.189E+00	PCI/SA	1.002	1.0E+0	2.457E-1
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**1.9783E-06**	8.385E-02	8.385E-02	4.254E-01	PCI/SA	1.021	1.0E+0	3.155E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**3.612E-01**	1.217E-01	1.259E-01	2.28E-01	PCI/SA	1.021	1.0E+0	3.155E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**0.0E+00**	0.0E+00	4.657E-02	1.03E-01	PCI/SA	1.021	1.0E+0	3.155E-2
U-234	7YSR	0		7/30/2006 2:26:46 PM	**8.1919E-02**	1.044E-01	1.047E-01	4.906E-01	PCI/SA	0.988	1.0E+0	3.125E-2
U-235	7YSR	0		7/30/2006 2:26:46 PM	**0.0E+00**	0.0E+00	1.254E-01	2.775E-01	PCI/SA	0.988	1.0E+0	3.125E-2
U-238	7YSR	0		7/30/2006 2:26:46 PM	**1.8433E-01**	1.463E-01	1.47E-01	4.906E-01	PCI/SA	0.988	1.0E+0	3.125E-2
32139	**9H9GAE10**			**J6G1802117**	P-0689	FILTER	7/18/2006 10:00:00	6/27/2006 10:45:00 AM				
ALPHA	BAS7	0		8/4/2006 1:41:19 PM	**3.4043E+00**	1.446E+00	1.487E+00	4.793E+00	PCI/SA	1.0	1.0E+0	2.06E-2
BETA	BDS8	0		8/2/2006 6:59:47 PM	**2.4635E+01**	1.817E+00	2.498E+00	4.981E+00	PCI/SA	1.0	1.0E+0	3.559E-2
RA-226	BXTE	0		8/10/2006 12:50:01 PM	**3.7059E-02**	1.006E-01	1.007E-01	3.839E-01	PCI/SA	0.982	8.33E-1	2.517E-1
RA-228	BXTF	0		8/12/2006 8:24:28 AM	**8.4102E-02**	4.47E-01	4.47E-01	2.201E+00	PCI/SA	0.916	1.0E+0	2.517E-1
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**-8.1095E-02**	6.411E-02	6.452E-02	4.365E-01	PCI/SA	0.933	1.0E+0	3.279E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**2.1452E-01**	9.751E-02	9.937E-02	2.339E-01	PCI/SA	0.933	1.0E+0	3.279E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**6.5073E-07**	4.777E-02	4.777E-02	2.871E-01	PCI/SA	0.933	1.0E+0	3.279E-2
U-234	7YSR	0		7/30/2006 2:27:07 PM	**0.0E+00**	0.0E+00	1.211E-01	2.679E-01	PCI/SA	0.941	1.0E+0	3.199E-2
U-235	7YSR	0		7/30/2006 2:27:07 PM	**-1.9769E-02**	1.977E-02	1.983E-02	4.735E-01	PCI/SA	0.941	1.0E+0	3.199E-2
U-238	7YSR	0		7/30/2006 2:27:07 PM	**9.8858E-02**	9.886E-02	9.918E-02	2.679E-01	PCI/SA	0.941	1.0E+0	3.199E-2
32139	**9H9GAG10**			**J6G1802118**	P-0690	FILTER	7/18/2006 10:00:00	6/27/2006 11:00:00 AM				
ALPHA	BAS7	0		8/4/2006 1:41:19 PM	**0.0E+00**	0.0E+00	1.054E+00	5.319E+00	PCI/SA	1.0	1.0E+0	2.079E-2
BETA	BDS8	0		8/3/2006 7:32:16 AM	**1.4398E+00**	1.346E+00	1.35E+00	5.529E+00	PCI/SA	1.0	1.0E+0	3.239E-2
RA-226	BXTE	0		8/10/2006 12:50:03 PM	**-2.6337E-03**	4.32E-02	4.32E-02	1.928E-01	PCI/SA	1.035	8.33E-1	2.485E-1
RA-228	BXTF	0		8/12/2006 8:24:28 AM	**1.4515E+00**	4.848E-01	4.937E-01	1.958E+00	PCI/SA	0.92	1.0E+0	2.485E-1
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**2.5345E-02**	5.667E-02	5.672E-02	3.04E-01	PCI/SA	0.883	1.0E+0	3.254E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**4.3882E-01**	1.463E-01	1.517E-01	1.321E-01	PCI/SA	0.883	1.0E+0	3.254E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**0.0E+00**	0.0E+00	5.972E-02	1.321E-01	PCI/SA	0.883	1.0E+0	3.254E-2
U-234	7YSR	0		7/30/2006 2:27:27 PM	**-3.9864E-02**	2.819E-02	2.837E-02	5.629E-01	PCI/SA	1.004	1.0E+0	3.163E-2
U-235	7YSR	0		7/30/2006 2:27:27 PM	**0.0E+00**	0.0E+00	1.22E-01	2.699E-01	PCI/SA	1.004	1.0E+0	3.163E-2
U-238	7YSR	0		7/30/2006 2:27:27 PM	**-3.9864E-02**	2.819E-02	2.837E-02	5.629E-01	PCI/SA	1.004	1.0E+0	3.163E-2
32139	**9H9GAJ10**			**J6G1802119**	000509	FILTER	7/18/2006 10:00:00	6/27/2006 10:40:00 AM				
ALPHA	BAS7	0		8/4/2006 4:26:53 PM	**2.2347E+00**	1.422E+00	1.441E+00	5.467E+00	PCI/SA	1.0	1.0E+0	2.08E-2
BETA	BDS8	0		8/3/2006 7:32:16 AM	**2.7048E+01**	1.955E+00	2.732E+00	5.427E+00	PCI/SA	1.0	1.0E+0	3.498E-2
RA-226	BXTE	0		8/10/2006 12:51:00 PM	**8.9332E-03**	8.646E-02	8.646E-02	3.421E-01	PCI/SA	1.011	8.33E-1	2.504E-1
RA-228	BXTF	0		8/12/2006 8:24:28 AM	**-2.1727E-01**	4.005E-01	4.005E-01	2.132E+00	PCI/SA	0.87	1.0E+0	2.504E-1
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**1.3582E-01**	7.842E-02	7.936E-02	1.227E-01	PCI/SA	1.045	1.0E+0	3.346E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**5.2256E-01**	1.509E-01	1.58E-01	1.18E-01	PCI/SA	1.045	1.0E+0	3.346E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**8.7094E-02**	6.158E-02	6.208E-02	1.18E-01	PCI/SA	1.045	1.0E+0	3.346E-2
U-234	7YSR	0		7/30/2006 2:28:10 PM	**-2.0287E-02**	2.029E-02	2.035E-02	4.858E-01	PCI/SA	0.957	1.0E+0	3.284E-2
U-235	7YSR	0		7/30/2006 2:28:10 PM	**0.0E+00**	0.0E+00	1.242E-01	2.749E-01	PCI/SA	0.957	1.0E+0	3.284E-2
U-238	7YSR	0		7/30/2006 2:28:10 PM	**8.1144E-02**	1.034E-01	1.036E-01	4.858E-01	PCI/SA	0.957	1.0E+0	3.284E-2
32139	**9H9GAK10**			**J6G18021110**	000510	FILTER	7/18/2006 10:00:00	6/27/2006 10:55:00 AM				
ALPHA	BAS7	0		8/4/2006 4:26:53 PM	**7.5385E-01**	1.194E+00	1.197E+00	5.358E+00	PCI/SA	1.0	1.0E+0	2.096E-2
BETA	BDS8	0		8/3/2006 7:32:16 AM	**3.0006E+01**	2.032E+00	2.909E+00	5.347E+00	PCI/SA	1.0	1.0E+0	3.457E-2
RA-226	BXTE	0		8/10/2006 12:50:01 PM	**-1.2975E-01**	5.796E-02	5.938E-02	2.923E-01	PCI/SA	1.032	8.33E-1	2.493E-1
RA-228	BXTF	0		8/12/2006 8:24:28 AM	**1.0684E+00**	4.193E-01	4.332E-01	1.788E+00	PCI/SA	0.921	1.0E+0	2.493E-1
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**1.4573E-01**	8.584E-02	8.682E-02	2.497E-01	PCI/SA	0.923	1.0E+0	3.313E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**4.4055E-01**	1.328E-01	1.386E-01	1.085E-01	PCI/SA	0.923	1.0E+0	3.313E-2

6200134, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H9HWV1AA=> , mat:FILTER | Air *wo:H9HWV1AC=> , 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		7/30/2006 1:46:15 PM	**6.0076E-02**	6.008E-02	6.032E-02	2.402E-01	PCI/SA	0.923	1.0E+0	3.313E-2
U-234	7YSR	0		7/30/2006 2:28:28 PM	**0.0E+00**	0.0E+00	1.202E-01	2.66E-01	PCI/SA	0.909	1.0E+0	3.168E-2
U-235	7YSR	0		7/30/2006 2:28:28 PM	**-1.9627E-02**	1.963E-02	1.969E-02	4.701E-01	PCI/SA	0.909	1.0E+0	3.168E-2
U-238	7YSR	0		7/30/2006 2:28:28 PM	**7.8518E-02**	1.001E-01	1.003E-01	4.701E-01	PCI/SA	0.909	1.0E+0	3.168E-2
32139	**9H9GAL10**			**J6G18021111**	000511	FILTER	7/18/2006 10:00:00	6/27/2006 11:15:00 AM				
ALPHA	BAS7	0		8/4/2006 4:26:53 PM	**2.0306E+00**	1.406E+00	1.422E+00	5.511E+00	PCI/SA	1.0	1.0E+0	2.068E-2
BETA	BDS8	0		8/3/2006 7:32:16 AM	**2.9074E+01**	1.971E+00	2.792E+00	5.096E+00	PCI/SA	1.0	1.0E+0	3.322E-2
RA-226	BXTE	0		8/10/2006 12:50:01 PM	**1.391E-01**	6.985E-02	7.15E-02	2.167E-01	PCI/SA	0.974	8.33E-1	2.514E-1
RA-228	BXTF	0		8/12/2006 8:24:38 AM	**6.3828E-01**	4.313E-01	4.426E-01	2.009E+00	PCI/SA	0.841	1.0E+0	2.514E-1
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**9.7601E-02**	8.509E-02	8.551E-02	3.281E-01	PCI/SA	1.166	1.0E+0	3.24E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**3.192E-01**	1.142E-01	1.176E-01	2.252E-01	PCI/SA	1.166	1.0E+0	3.24E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**6.2653E-07**	4.599E-02	4.599E-02	2.764E-01	PCI/SA	1.166	1.0E+0	3.24E-2
U-234	7YSR	0		7/30/2006 2:29:01 PM	**1.0205E-01**	1.021E-01	1.024E-01	2.766E-01	PCI/SA	0.968	1.0E+0	3.205E-2
U-235	7YSR	0		7/30/2006 2:29:01 PM	**0.0E+00**	0.0E+00	1.25E-01	2.766E-01	PCI/SA	0.968	1.0E+0	3.205E-2
U-238	7YSR	0		7/30/2006 2:29:01 PM	**1.837E-01**	1.458E-01	1.465E-01	4.888E-01	PCI/SA	0.968	1.0E+0	3.205E-2
32139	**9H9GAM10**			**J6G18021112**	000512	FILTER	7/18/2006 10:00:00	6/27/2006 11:35:00 AM				
ALPHA	BAS7	0		8/4/2006 4:26:53 PM	**6.591E+00**	1.794E+00	1.917E+00	4.789E+00	PCI/SA	1.0	1.0E+0	2.071E-2
BETA	BDS8	0		8/3/2006 7:32:20 AM	**3.2027E+01**	2.041E+00	2.995E+00	5.2E+00	PCI/SA	1.0	1.0E+0	3.263E-2
RA-226	BXTE	0		8/10/2006 12:51:01 PM	**5.8587E-02**	9.447E-02	9.466E-02	3.619E-01	PCI/SA	1.017	8.33E-1	2.496E-1
RA-228	BXTF	0		8/12/2006 8:24:38 AM	**1.6361E+00**	4.237E-01	4.399E-01	1.597E+00	PCI/SA	0.917	1.0E+0	2.496E-1
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**2.1352E-02**	4.774E-02	4.778E-02	2.561E-01	PCI/SA	0.992	1.0E+0	3.471E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**1.6431E-01**	8.216E-02	8.348E-02	1.113E-01	PCI/SA	0.992	1.0E+0	3.471E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**4.1078E-02**	4.108E-02	4.124E-02	1.113E-01	PCI/SA	0.992	1.0E+0	3.471E-2
U-234	7YSR	0		7/30/2006 2:29:43 PM	**2.0602E-01**	1.663E-01	1.672E-01	5.84E-01	PCI/SA	0.831	1.0E+0	3.188E-2
U-235	7YSR	0		7/30/2006 2:29:43 PM	**2.0602E-01**	1.663E-01	1.672E-01	5.84E-01	PCI/SA	0.831	1.0E+0	3.188E-2
U-238	7YSR	0		7/30/2006 2:29:43 PM	**6.0851E-02**	1.193E-01	1.194E-01	6.944E-01	PCI/SA	0.831	1.0E+0	3.188E-2
32139	**9H9GAN10**			**J6G18021113**	000513	FILTER	7/18/2006 10:00:00	6/27/2006 12:00:00 PM				
ALPHA	BAS7	0		8/4/2006 4:26:53 PM	**7.55E-01**	1.182E+00	1.184E+00	5.323E+00	PCI/SA	1.0	1.0E+0	2.078E-2
BETA	BDS8	0		8/3/2006 7:32:20 AM	**2.7498E+01**	1.896E+00	2.672E+00	5.0E+00	PCI/SA	1.0	1.0E+0	3.284E-2
RA-226	BXTE	0		8/10/2006 1:11:00 PM	**1.6394E+00**	2.123E-01	2.707E-01	3.993E-01	PCI/SA	0.983	8.33E-1	2.481E-1
RA-228	BXTF	0		8/12/2006 8:24:38 AM	**1.7274E+00**	4.909E-01	5.023E-01	1.873E+00	PCI/SA	0.875	1.0E+0	2.481E-1
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**2.611E-01**	1.082E-01	1.106E-01	2.409E-01	PCI/SA	0.893	1.0E+0	3.342E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**5.7961E-02**	5.796E-02	5.819E-02	2.318E-01	PCI/SA	0.893	1.0E+0	3.342E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**-3.864E-02**	2.732E-02	2.754E-02	2.844E-01	PCI/SA	0.893	1.0E+0	3.342E-2
U-234	7YSR	0		7/30/2006 2:29:59 PM	**5.1741E-02**	1.014E-01	1.015E-01	5.905E-01	PCI/SA	1.0	1.0E+0	3.19E-2
U-235	7YSR	0		7/30/2006 2:29:59 PM	**-2.39E-02**	1.38E-02	1.393E-02	4.966E-01	PCI/SA	1.0	1.0E+0	3.19E-2
U-238	7YSR	0		7/30/2006 2:29:59 PM	**5.9708E-02**	1.011E-01	1.012E-01	5.626E-01	PCI/SA	1.0	1.0E+0	3.19E-2
32139	**9H9GAP10**			**J6G18021114**	000514	FILTER	7/18/2006 10:00:00	6/27/2006 12:10:00 PM				
ALPHA	BAS7	0		8/4/2006 7:15:01 PM	**5.9626E+00**	1.854E+00	1.956E+00	5.527E+00	PCI/SA	1.0	1.0E+0	2.075E-2
BETA	BDS8	0		8/3/2006 7:32:20 AM	**3.3804E+01**	2.008E+00	3.092E+00	4.97E+00	PCI/SA	1.0	1.0E+0	3.531E-2
RA-226	BXTE	0		8/10/2006 1:10:00 PM	**2.1857E-01**	1.087E-01	1.115E-01	3.446E-01	PCI/SA	0.958	8.33E-1	2.495E-1
RA-228	BXTF	0		8/12/2006 8:24:38 AM	**5.8017E-01**	3.983E-01	4.152E-01	1.897E+00	PCI/SA	0.861	1.0E+0	2.495E-1
TH-228	9NS1	0		7/30/2006 1:47:26 PM	**3.6037E-02**	3.604E-02	3.618E-02	9.766E-02	PCI/SA	0.95	1.0E+0	3.325E-2
TH-230	9NS1	0		7/30/2006 1:47:26 PM	**3.1199E-01**	1.04E-01	1.076E-01	9.394E-02	PCI/SA	0.95	1.0E+0	3.325E-2
TH-232	9NS1	0		7/30/2006 1:47:26 PM	**1.7331E-02**	3.876E-02	3.879E-02	2.079E-01	PCI/SA	0.95	1.0E+0	3.325E-2
U-234	7YSR	0		7/30/2006 2:30:15 PM	**2.03E-01**	1.639E-01	1.647E-01	5.754E-01	PCI/SA	0.905	1.0E+0	3.204E-2
U-235	7YSR	0		7/30/2006 2:30:15 PM	**-1.8459E-02**	1.305E-02	1.314E-02	5.271E-01	PCI/SA	0.905	1.0E+0	3.204E-2
U-238	7YSR	0		7/30/2006 2:30:15 PM	**3.2757E-01**	2.002E-01	2.02E-01	5.271E-01	PCI/SA	0.905	1.0E+0	3.204E-2
32139	**9H9GAT10**			**J6G18021115**	000515	FILTER	7/18/2006 10:00:00	6/27/2006 11:40:00 AM				
ALPHA	BAS7	0		8/4/2006 7:15:01 PM	**-1.7688E+00**	7.283E-01	7.512E-01	5.388E+00	PCI/SA	1.0	1.0E+0	2.085E-2
BETA	BDS8	0		8/3/2006 7:32:14 AM	**1.9269E+00**	1.311E+00	1.318E+00	5.316E+00	PCI/SA	1.0	1.0E+0	3.316E-2
RA-226	BXTE	0		8/10/2006 1:10:02 PM	**8.5544E-02**	6.44E-02	6.501E-02	2.243E-01	PCI/SA	1.045	8.33E-1	2.482E-1
RA-228	BXTF	0		8/12/2006 8:24:47 AM	**1.8656E-01**	4.073E-01	4.073E-01	1.936E+00	PCI/SA	0.975	1.0E+0	2.482E-1
TH-228	9NS1	0		7/30/2006 1:47:57 PM	**1.3083E-05**	8.013E-02	8.013E-02	4.816E-01	PCI/SA	0.683	1.0E+0	3.329E-2

6200134, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H9HWV1AA=> , mat:FILTER | Air *wo:H9HWV1AC=> , mat:FILTER | Air.

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Cnt Uncert	Tot Uncert	Mda	Matrix / Units	Received Date / Expected	Sample Date / Yield	Volumes	
TH-230	9NS1	0		7/30/2006 1:47:57 PM	**9.4419E-02**	9.441E-02	9.484E-02	3.775E-01	PCI/SA	0.683		1.0E+0	3.329E-2
TH-232	9NS1	0		7/30/2006 1:47:57 PM	**-3.1465E-02**	3.146E-02	3.161E-02	3.775E-01	PCI/SA	0.683		1.0E+0	3.329E-2
U-234	7YSR	0		7/30/2006 2:30:47 PM	**5.4144E-02**	1.062E-01	1.062E-01	6.18E-01	PCI/SA	1.021		1.0E+0	3.201E-2
U-235	7YSR	0		7/30/2006 2:30:47 PM	**-8.3387E-03**	8.339E-03	8.366E-03	4.194E-01	PCI/SA	1.021		1.0E+0	3.201E-2
U-238	7YSR	0		7/30/2006 2:30:47 PM	**-1.6677E-02**	1.179E-02	1.187E-02	4.761E-01	PCI/SA	1.021		1.0E+0	3.201E-2
32139	**H9HWV1AB**			**J6G190000134**	INTRA-LAB BLANK	FILTER	7/18/2006 10:00:00		6/27/2006 10:35:00 AM				
RA-228	BXTF	0	B	8/12/2006 8:24:47 AM	**-2.3475E-02**	8.793E-02	1.172E-01	5.994E-01	PCI/SA	0.746		1.0E+0	1.0E+0
32139	**H9HWV1CS**			**J6G190000134**	INTRA-LAB CHECK	FILTER	7/18/2006 10:00:00		6/27/2006 10:35:00 AM				
RA-228	BXTF	0	S	8/12/2006 8:24:47 AM	**4.3896E+00**	2.782E-01	3.743E-01	5.361E-01	PCI/SA	5.0287E+00	0.886	1.0E+0	1.0E+0

6200134, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H9HWV1AA=> , mat:FILTER | Air *wo:H9HWV1AC=> , mat:FILTER | Air.

Batch Nbr: 6200134

Alpha Beta, Ra-228 by GPC , Results

8/14/2006 8:33:51 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	H9F9W1AD	RA-228	7.70E-01	(9.49E-01)	U4	PCI/SA	R	1.95E+00	4.26E+00		96%	
Calc	TF	FILTER	H9F9W1AD	RA-228	1.58E+00	(1.11E+00)	U4	PCI/SA	R	2.17E+00	4.73E+00		96%	
Calc	TF	FILTER	H9F9W1AD	RA-228	-1.31E+00	(1.00E+00)	U4	PCI/SA	R	2.41E+00	5.25E+00		96%	
Calc	TF	FILTER	H9F9W1AD	RA-228	3.47E-01	(5.91E-01)	U4	PCI/SA	A	1.26E+00	2.74E+00		96%	
Calc	TF	FILTER	H9F9W1AD	RA-228	-8.83E+00	(4.53E+00)	U4	PCI/SA	R	1.14E+01	2.49E+01		96%	
Calc	TF	FILTER	H9F921AD	RA-228	6.78E-02	(8.74E-01)	U4	PCI/SA	R	1.91E+00	4.18E+00		93%	
Calc	TF	FILTER	H9F921AD	RA-228	1.13E+00	(1.05E+00)	U4	PCI/SA	R	2.11E+00	4.63E+00		93%	
Calc	TF	FILTER	H9F921AD	RA-228	2.59E+00	(1.28E+00)		PCI/SA	R	2.35E+00	5.14E+00		93%	
Calc	TF	FILTER	H9F921AD	RA-228	1.26E+00	(6.25E-01)		PCI/SA	A	1.23E+00	2.69E+00		93%	
Calc	TF	FILTER	H9F921AD	RA-228	3.12E-01	(5.57E+00)	U4	PCI/SA	R	1.22E+01	2.66E+01		93%	
Calc	TF	FILTER	H9F951AD	RA-228	2.75E-01	(9.92E-01)	U4	PCI/SA	R	2.13E+00	4.66E+00		88%	
Calc	TF	FILTER	H9F951AD	RA-228	1.77E+00	(1.22E+00)	U4	PCI/SA	R	2.36E+00	5.17E+00		88%	
Calc	TF	FILTER	H9F951AD	RA-228	1.96E+00	(1.35E+00)	U4	PCI/SA	R	2.62E+00	5.73E+00		88%	
Calc	TF	FILTER	H9F951AD	RA-228	1.33E+00	(6.90E-01)		PCI/SA	A	1.37E+00	2.99E+00		88%	
Calc	TF	FILTER	H9F951AD	RA-228	-4.15E+00	(6.36E+00)	U4	PCI/SA	R	1.46E+01	3.15E+01		88%	
Calc	TF	FILTER	H9F981AD	RA-228	4.59E-01	(8.38E-01)	U4	PCI/SA	R	1.75E+00	3.87E+00		90%	
Calc	TF	FILTER	H9F981AD	RA-228	3.59E-01	(9.17E-01)	U4	PCI/SA	R	1.94E+00	4.29E+00		90%	
Calc	TF	FILTER	H9F981AD	RA-228	2.30E-01	(1.00E+00)	U4	PCI/SA	R	2.16E+00	4.76E+00		90%	
Calc	TF	FILTER	H9F981AD	RA-228	3.49E-01	(5.32E-01)	U4	PCI/SA	A	1.13E+00	2.49E+00		90%	
Calc	TF	FILTER	H9F981AD	RA-228	4.38E+00	(5.50E+00)	U4	PCI/SA	R	1.13E+01	2.48E+01		90%	
Calc	TF	FILTER	H9GAA1AD	RA-228	1.37E+00	(9.88E-01)	U4	PCI/SA	R	1.90E+00	4.21E+00		84%	
Calc	TF	FILTER	H9GAA1AD	RA-228	8.51E-01	(1.04E+00)	U4	PCI/SA	R	2.11E+00	4.67E+00		84%	
Calc	TF	FILTER	H9GAA1AD	RA-228	3.91E-01	(1.10E+00)	U4	PCI/SA	R	2.34E+00	5.18E+00		84%	
Calc	TF	FILTER	H9GAA1AD	RA-228	8.69E-01	(6.02E-01)	U4	PCI/SA	A	1.22E+00	2.71E+00		84%	
Calc	TF	FILTER	H9GAA1AD	RA-228	-6.42E+00	(4.58E+00)	U4	PCI/SA	R	1.13E+01	2.50E+01		84%	
Calc	TF	FILTER	H9GAC1AD	RA-228	2.82E-01	(7.25E-01)	U4	PCI/SA	R	1.53E+00	3.41E+00		100%	
Calc	TF	FILTER	H9GAC1AD	RA-228	3.12E-01	(8.04E-01)	U4	PCI/SA	R	1.70E+00	3.78E+00		100%	
Calc	TF	FILTER	H9GAC1AD	RA-228	1.43E+00	(9.91E-01)	U4	PCI/SA	R	1.89E+00	4.19E+00		100%	
Calc	TF	FILTER	H9GAC1AD	RA-228	6.73E-01	(4.89E-01)	U4	PCI/SA	A	9.86E-01	2.19E+00		100%	
Calc	TF	FILTER	H9GAC1AD	RA-228	2.59E+00	(4.58E+00)	U4	PCI/SA	R	9.54E+00	2.12E+01		100%	
Calc	TF	FILTER	H9GAE1AD	RA-228	-6.24E-01	(6.00E-01)	U4	PCI/SA	R	1.49E+00	3.42E+00		92%	
Calc	TF	FILTER	H9GAE1AD	RA-228	4.16E-01	(8.03E-01)	U4	PCI/SA	R	1.65E+00	3.80E+00		92%	
Calc	TF	FILTER	H9GAE1AD	RA-228	4.61E-01	(8.91E-01)	U4	PCI/SA	R	1.83E+00	4.21E+00		92%	
Calc	TF	FILTER	H9GAE1AD	RA-228	8.41E-02	(4.47E-01)	U4	PCI/SA	A	9.56E-01	2.20E+00		92%	
Calc	TF	FILTER	H9GAE1AD	RA-228	-7.42E+00	(2.52E+00)	U4	PCI/SA	R	7.96E+00	1.87E+01		92%	
Calc	TF	FILTER	H9GAG1AD	RA-228	1.56E+00	(7.94E-01)		PCI/SA	R	1.31E+00	3.05E+00		92%	
Calc	TF	FILTER	H9GAG1AD	RA-228	6.67E-01	(7.48E-01)	U4	PCI/SA	R	1.45E+00	3.38E+00		92%	
Calc	TF	FILTER	H9GAG1AD	RA-228	2.12E+00	(1.00E+00)		PCI/SA	R	1.61E+00	3.75E+00		92%	

() - (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	H9GAG1AD	RA-228	1.45E+00	(4.94E-01)		PCI/SA	A	8.40E-01	1.96E+00		92%	
Calc	TF	FILTER	H9GAG1AD	RA-228	-4.73E+00	(3.11E+00)	U4	PCI/SA	R	8.18E+00	1.90E+01		92%	
Calc	TF	FILTER	H9GAJ1AD	RA-228	2.37E-01	(6.81E-01)	U4	PCI/SA	R	1.43E+00	3.32E+00		87%	
Calc	TF	FILTER	H9GAJ1AD	RA-228	-1.20E-01	(7.05E-01)	U4	PCI/SA	R	1.58E+00	3.68E+00		87%	
Calc	TF	FILTER	H9GAJ1AD	RA-228	-7.69E-01	(6.95E-01)	U4	PCI/SA	R	1.75E+00	4.08E+00		87%	
Calc	TF	FILTER	H9GAJ1AD	RA-228	-2.17E-01	(4.00E-01)	U4	PCI/SA	A	9.16E-01	2.13E+00		87%	
Calc	TF	FILTER	H9GAJ1AD	RA-228	2.23E-01	(4.21E+00)	U4	PCI/SA	R	9.12E+00	2.11E+01		87%	
Calc	TF	FILTER	H9GAK1AD	RA-228	1.68E+00	(7.67E-01)		PCI/SA	R	1.17E+00	2.78E+00		92%	
Calc	TF	FILTER	H9GAK1AD	RA-228	2.48E-01	(6.30E-01)	U4	PCI/SA	R	1.30E+00	3.09E+00		92%	
Calc	TF	FILTER	H9GAK1AD	RA-228	1.27E+00	(8.39E-01)	U4	PCI/SA	R	1.44E+00	3.42E+00		92%	
Calc	TF	FILTER	H9GAK1AD	RA-228	1.07E+00	(4.33E-01)		PCI/SA	A	7.53E-01	1.79E+00		92%	
Calc	TF	FILTER	H9GAK1AD	RA-228	6.70E+00	(4.57E+00)	U4	PCI/SA	R	8.09E+00	1.89E+01		92%	
Calc	TF	FILTER	H9GAL1AD	RA-228	4.75E-01	(6.74E-01)	U4	PCI/SA	R	1.34E+00	3.13E+00		84%	
Calc	TF	FILTER	H9GAL1AD	RA-228	1.26E+00	(8.41E-01)	U4	PCI/SA	R	1.49E+00	3.47E+00		84%	
Calc	TF	FILTER	H9GAL1AD	RA-228	1.78E-01	(7.76E-01)	U4	PCI/SA	R	1.65E+00	3.85E+00		84%	
Calc	TF	FILTER	H9GAL1AD	RA-228	6.38E-01	(4.43E-01)	U4	PCI/SA	A	8.61E-01	2.01E+00		84%	
Calc	TF	FILTER	H9GAL1AD	RA-228	-4.81E+00	(2.79E+00)	U4	PCI/SA	R	7.72E+00	1.82E+01		84%	
Calc	TF	FILTER	H9GAM1AD	RA-228	1.49E+00	(6.86E-01)		PCI/SA	R	1.04E+00	2.48E+00		92%	
Calc	TF	FILTER	H9GAM1AD	RA-228	2.32E+00	(8.46E-01)		PCI/SA	R	1.15E+00	2.76E+00		92%	
Calc	TF	FILTER	H9GAM1AD	RA-228	1.10E+00	(7.45E-01)	U4	PCI/SA	R	1.28E+00	3.06E+00		92%	
Calc	TF	FILTER	H9GAM1AD	RA-228	1.64E+00	(4.40E-01)		PCI/SA	A	6.69E-01	1.60E+00		92%	
Calc	TF	FILTER	H9GAM1AD	RA-228	6.04E+00	(4.07E+00)	U4	PCI/SA	R	7.16E+00	1.68E+01		92%	
Calc	TF	FILTER	H9GAN1AD	RA-228	4.60E-01	(6.29E-01)	U4	PCI/SA	R	1.24E+00	2.91E+00		87%	
Calc	TF	FILTER	H9GAN1AD	RA-228	3.17E+00	(1.03E+00)		PCI/SA	R	1.38E+00	3.23E+00		87%	
Calc	TF	FILTER	H9GAN1AD	RA-228	1.55E+00	(9.03E-01)		PCI/SA	R	1.53E+00	3.59E+00		87%	
Calc	TF	FILTER	H9GAN1AD	RA-228	1.73E+00	(5.02E-01)		PCI/SA	A	7.98E-01	1.87E+00		87%	
Calc	TF	FILTER	H9GAN1AD	RA-228	6.73E+00	(4.60E+00)	U4	PCI/SA	R	8.25E+00	1.91E+01		87%	
Calc	TF	FILTER	H9GAP1AD	RA-228	1.14E+00	(7.26E-01)	U4	PCI/SA	R	1.26E+00	2.95E+00		86%	
Calc	TF	FILTER	H9GAP1AD	RA-228	0.00E+00	(6.35E-01)	U4	PCI/SA	R	1.39E+00	3.27E+00		86%	
Calc	TF	FILTER	H9GAP1AD	RA-228	6.01E-01	(7.88E-01)	U4	PCI/SA	R	1.55E+00	3.63E+00		86%	
Calc	TF	FILTER	H9GAP1AD	RA-228	5.80E-01	(4.15E-01)	U4	PCI/SA	A	8.07E-01	1.90E+00		86%	
Calc	TF	FILTER	H9GAP1AD	RA-228	2.37E+00	(3.78E+00)	U4	PCI/SA	R	7.55E+00	1.78E+01		86%	
Calc	TF	FILTER	H9GAT1AD	RA-228	-1.02E+00	(4.77E-01)	U4	PCI/SA	R	1.32E+00	3.01E+00		98%	
Calc	TF	FILTER	H9GAT1AD	RA-228	5.84E-01	(7.33E-01)	U4	PCI/SA	R	1.46E+00	3.34E+00		98%	
Calc	TF	FILTER	H9GAT1AD	RA-228	9.93E-01	(8.53E-01)	U4	PCI/SA	R	1.62E+00	3.71E+00		98%	
Calc	TF	FILTER	H9GAT1AD	RA-228	1.87E-01	(4.07E-01)	U4	PCI/SA	A	8.46E-01	1.94E+00		98%	
Calc	TF	FILTER	H9GAT1AD	RA-228	-3.76E+00	(3.37E+00)	U4	PCI/SA	R	8.33E+00	1.90E+01		98%	
Calc	TF	FILTER	H9HWV1AA	RA-228	-1.07E-01	(1.69E-01)	U4	PCI/SA	R	4.02E-01	9.33E-01	B	75%	
Calc	TF	FILTER	H9HWV1AA	RA-228	-6.59E-02	(1.95E-01)	U4	PCI/SA	R	4.46E-01	1.03E+00	B	75%	

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

Q - Qualifier, U is Less Than Lc = 1.645*TPU
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Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:78
RADCALC v4.8.24
STL Richland

Batch Nbr: 6200134

Alpha Beta, Ra-228 by GPC , Results

8/14/2006 8:33:51 AM

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Calc	TF	FILTER	**H9HWV1AA**	RA-228	**1.02E-01**	**(2.39E-01)**	**U4**	PCI/SA	R	4.95E-01	1.15E+00	**B**	75%	
Calc	TF	FILTER	**H9HWV1AA**	RA-228	**-2.35E-02**	**(1.17E-01)**	**U4**	PCI/SA	A	2.59E-01	5.99E-01	**B**	75%	
Calc	TF	FILTER	**H9HWV1AA**	RA-228	**2.43E+00**	**(1.33E+00)**		PCI/SA	R	2.20E+00	5.19E+00	**B**	75%	
Calc	TF	FILTER	**H9HWV1AC**	RA-228	**4.04E+00**	**(5.91E-01)**		PCI/SA	R	3.62E-01	8.34E-01	**S**	89%	80%
Calc	TF	FILTER	**H9HWV1AC**	RA-228	**4.40E+00**	**(6.47E-01)**		PCI/SA	R	4.02E-01	9.25E-01	**S**	89%	87%
Calc	TF	FILTER	**H9HWV1AC**	RA-228	**4.73E+00**	**(7.02E-01)**		PCI/SA	R	4.46E-01	1.03E+00	**S**	89%	94%
Calc	TF	FILTER	**H9HWV1AC**	RA-228	**4.39E+00**	**(3.74E-01)**		PCI/SA	A	2.33E-01	5.36E-01	**S**	89%	87%
Calc	TF	FILTER	**H9HWV1AC**	RA-228	**5.06E+00**	**(1.50E+00)**		PCI/SA	R	1.94E+00	4.54E+00	**S**	89%	101%

P Anderson
8-14-06

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

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

RecCnt:85
RADCALC v4.8.24
STL Richland

Batch Nbr: 6200134

Alpha Beta, Ra-228 by GPC , Calculated Results

8/14/2006 8:33:52 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	**H9F9W1AD**	**PCI/SA**		06/27/06 10:35	08/12/06 08:24	07/28/06 10:58	RATA23515	1	1.00 SA	
536403,P-0683					,J6G180211-1 v4.8.24		FILTER			31.2	08/11/06 10:45	RATA23515 Alq	106%	0.250424 SA	

Sq	Cnt Date	Parameter	Sample 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	08/11/06 16:19	RA-228	47	329	GPC7A	1	N	N	5.1841E-01	1.0000E+00	N	96%	N		1.7921E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.198E-02)	(0.000E+00)		8%			(0.000E+00)	3.993227		
1	08/11/06 17:14	RA-228	52	329	GPC7A	1	N	N	5.1841E-01	1.0000E+00	N	96%	N		1.9881E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.198E-02)	(0.000E+00)		8%			(0.000E+00)	3.993227		
2	08/11/06 18:09	RA-228	33	329	GPC7A	1	N	N	5.1841E-01	1.0000E+00	N	96%	N		2.2055E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.198E-02)	(0.000E+00)		8%			(0.000E+00)	3.993227		
3	08/12/06 08:24	RA-228	26	296	GPC7A	1	N	N	5.1841E-01	1.0000E+00	N	96%	N		1.0983E+01	4.5045E-01	1.0103E+00	
			50	400			N		(1.198E-02)	(0.000E+00)		8%			(0.000E+00)	3.993227		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/14/06	RA-228	R	**0.769708**	**U4**	1.17500E-01	0.423563	0.423563	1.00 SA	96%		4.261875		
				(0.949232)		(1.4442E-01)	(0.521786)	(0.521786)	(0.028284)			1.954574		
	08/14/06	RA-228	R	**1.580644**	**U4**	2.17500E-01	0.869812	0.869812	1.00 SA	96%		4.728106		
				(1.11027)		(1.5118E-01)	(0.608924)	(0.608924)	(0.028284)			2.168396		
	08/14/06	RA-228	R	**-1.31009**	**U4**	-1.62500E-01	-0.720929	-0.720929	1.00 SA	96%		5.245177		
				(1.00458)		(1.2352E-01)	(0.551256)	(0.551256)	(0.028284)			2.405534		
	08/14/06	RA-228	A	**0.346754**	**U4**	5.75000E-02	0.190815	0.190815	1.00 SA	96%		2.739558		
				(0.590943)		(8.0945E-02)	(0.324368)	(0.324368)	(0.01633)			1.256411		
	08/14/06	RA-228	R	**-8.832144**	**U4**	-2.20000E-01	-4.860238	-4.860238	1.00 SA	96%		24.88645		
				(4.532304)		(1.1068E-01)	(2.478404)	(2.478404)	(0.028284)			11.362012		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9F921AD**	**PCI/SA**		06/27/06 10:50	08/12/06 08:24	07/28/06 10:58	RATA23516	1	1.00 SA	
536403,P-0684					,J6G180211-2 v4.8.24		FILTER			31.1	08/11/06 10:45	RATA23516 Alq	103%	0.247818 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	08/11/06 16:19	RA-228	37	292	GPC7B	1	N	N	5.1927E-01	1.0000E+00	N	93%	N		1.7921E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.257E-02)	(0.000E+00)		7%			(0.000E+00)	4.035224		
1	08/11/06 17:14	RA-228	44	292	GPC7B	1	N	N	5.1927E-01	1.0000E+00	N	93%	N		1.9881E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.257E-02)	(0.000E+00)		7%			(0.000E+00)	4.035224		
2	08/11/06 18:09	RA-228	52	292	GPC7B	1	N	N	5.1927E-01	1.0000E+00	N	93%	N		2.2055E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.257E-02)	(0.000E+00)		7%			(0.000E+00)	4.035224		

() - (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: 6200134

Alpha Beta, Ra-228 by GPC , Calculated Results

8/14/2006 8:33:52 AM

3	08/12/06 08:24	RA-228	40	317	GPC7B	1	N	N	5.1927E-01	1.0000E+00	N	93%	N	1.0983E+01	4.5045E-01	1.0103E+00
			50	400			N		(1.257E-02)	(0.000E+00)		7%		(0.000E+00)	4.035224	

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/14/06	RA-228	R	**0.067806**	U4	1.00000E-02	0.036925	0.036925	1.00 SA	93%		4.177272		
				(0.874305)		(1.2894E-01)	(0.476111)	(0.476111)	(0.028284)			1.906013		
	08/14/06	RA-228	R	**1.128357**	U4	1.50000E-01	0.614463	0.614463	1.00 SA	93%		4.634248		
				(1.054648)		(1.3937E-01)	(0.573238)	(0.573238)	(0.028284)			2.114523		
	08/14/06	RA-228	R	**2.58696**		3.10000E-01	1.408767	1.408767	1.00 SA	93%		5.141054		
				(1.282353)		(1.5042E-01)	(0.693619)	(0.693619)	(0.028284)			2.34577		
	08/14/06	RA-228	A	**1.261041**		1.56667E-01	0.686718	0.686718	1.00 SA	93%		2.685174		
				(0.625488)		(8.0743E-02)	(0.339344)	(0.339344)	(0.01633)			1.225196		
	08/14/06	RA-228	R	**0.311663**	U4	7.50000E-03	0.169721	0.169721	1.00 SA	93%		26.579443		
				(5.57238)		(1.3409E-01)	(3.034505)	(3.034505)	(0.028284)			12.170806		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9F951AD**	**PCI/SA**		06/27/06 11:10	08/12/06 08:24	07/28/06 10:58	RATA23517	1	1.00 SA	
536403,P-0685					,J6G180211-3 v4.8.24		FILTER			31.2	08/11/06 10:45	RATA23517 Alq	97%	0.2504 SA	

Sq	Cnt Date	Parameter	Sample 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	08/11/06 16:19	RA-228	41	313	GPC7C	1	N	N	5.0653E-01	1.0000E+00	N	88%	N		1.7921E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.090E-02)	(0.000E+00)		7%			(0.000E+00)	3.993618		
1	08/11/06 17:14	RA-228	50	313	GPC7C	1	N	N	5.0653E-01	1.0000E+00	N	88%	N		1.9881E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.090E-02)	(0.000E+00)		7%			(0.000E+00)	3.993618		
2	08/11/06 18:09	RA-228	50	313	GPC7C	1	N	N	5.0653E-01	1.0000E+00	N	88%	N		2.2055E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.090E-02)	(0.000E+00)		7%			(0.000E+00)	3.993618		
3	08/12/06 08:24	RA-228	44	389	GPC7C	1	N	N	5.0653E-01	1.0000E+00	N	88%	N		1.0983E+01	4.5045E-01	1.0103E+00	
			50	400			N		(1.090E-02)	(0.000E+00)		7%			(0.000E+00)	3.993618		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/14/06	RA-228	R	**0.274578**	U4	3.75000E-02	0.151084	0.151084	1.00 SA	88%		4.656226		
				(0.992421)		(1.3549E-01)	(0.546001)	(0.546001)	(0.028284)			2.13095		
	08/14/06	RA-228	R	**1.766774**	U4	2.17500E-01	0.97215	0.97215	1.00 SA	88%		5.165598		
				(1.216758)		(1.4818E-01)	(0.667176)	(0.667176)	(0.028284)			2.364067		
	08/14/06	RA-228	R	**1.95999**	U4	2.17500E-01	1.078466	1.078466	1.00 SA	88%		5.730513		
				(1.349824)		(1.4818E-01)	(0.740139)	(0.740139)	(0.028284)			2.622604		
	08/14/06	RA-228	A	**1.333781**		1.57500E-01	0.7339	0.7339	1.00 SA	88%		2.993049		
				(0.690203)		(8.3179E-02)	(0.378748)	(0.378748)	(0.01633)			1.369787		
	08/14/06	RA-228	R	**-4.150803**	U4	-9.25000E-02	-2.283939	-2.283939	1.00 SA	88%		31.532826		
				(6.364804)		(1.4153E-01)	(3.499714)	(3.499714)	(0.028284)			14.558985		

RecCnt:4 RADCALC v4.8.24
STL Richland

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

Batch Nbr: 6200134 — Alpha Beta, Ra-228 by GPC , Calculated Results — 8/14/2006 8:33:52 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	**H9F981AD**	**PCI/SA**		06/27/06 11:30	08/12/06 08:24	07/28/06 10:58	RATA23518	1	1.00 SA	
536403,P-0686					,J6G180211-4 v4.8.24		FILTER			31.0	08/11/06 10:45	RATA23518 Alq	100%	0.252133 SA	

Sq	Cnt Date	Parameter	Sample 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	08/11/06 16:19	RA-228	34	245	GPC1A	1	N	N	5.2981E-01	1.0000E+00	N	90%	N		1.7934E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.446E-02)	(0.000E+00)		7%			(0.000E+00)	3.966168		
1	08/11/06 17:14	RA-228	33	245	GPC1A	1	N	N	5.2981E-01	1.0000E+00	N	90%	N		1.9895E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.446E-02)	(0.000E+00)		7%			(0.000E+00)	3.966168		
2	08/11/06 18:09	RA-228	32	245	GPC1A	1	N	N	5.2981E-01	1.0000E+00	N	90%	N		2.2072E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.446E-02)	(0.000E+00)		7%			(0.000E+00)	3.966168		
3	08/12/06 08:24	RA-228	39	270	GPC1A	1	N	N	5.2981E-01	1.0000E+00	N	90%	N		1.0986E+01	4.5045E-01	1.0103E+00	
			50	400			N		(1.446E-02)	(0.000E+00)		7%			(0.000E+00)	3.966168		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/14/06	RA-228	R	**0.459274**	U4	6.75000E-02	0.254461	0.254461	1.00 SA	90%		3.870561		
				(0.838276)		(1.2301E-01)	(0.464218)	(0.464218)	(0.028284)			1.751931		
	08/14/06	RA-228	R	**0.358537**	U4	4.75000E-02	0.198648	0.198648	1.00 SA	90%		4.29385		
				(0.91687)		(1.2137E-01)	(0.507865)	(0.507865)	(0.028284)			1.943524		
	08/14/06	RA-228	R	**0.230282**	U4	2.75000E-02	0.127588	0.127588	1.00 SA	90%		4.763579		
				(1.002742)		(1.1971E-01)	(0.555522)	(0.555522)	(0.028284)			2.156137		
	08/14/06	RA-228	A	**0.349364**	U4	4.75000E-02	0.193566	0.193566	1.00 SA	90%		2.487993		
				(0.532171)		(7.0074E-02)	(0.294775)	(0.294775)	(0.01633)			1.126139		
	08/14/06	RA-228	R	**4.376315**	U4	1.05000E-01	2.424702	2.424702	1.00 SA	90%		24.777495		
				(5.498282)		(1.3148E-01)	(3.043143)	(3.043143)	(0.028284)			11.265931		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAA1AD**	**PCI/SA**		06/27/06 11:55	08/12/06 08:24	07/28/06 10:58	RATA23519	1	1.00 SA	
536403,P-0687					,J6G180211-5 v4.8.24		FILTER			32.1	08/11/06 10:45	RATA23519 Alq	90%	0.250864 SA	

Sq	Cnt Date	Parameter	Sample 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	08/11/06 16:19	RA-228	39	239	GPC1C	1	N	N	5.1962E-01	1.0000E+00	N	84%	N		1.7934E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.163E-02)	(0.000E+00)		7%			(0.000E+00)	3.98622		
1	08/11/06 17:14	RA-228	35	239	GPC1C	1	N	N	5.1962E-01	1.0000E+00	N	84%	N		1.9895E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.163E-02)	(0.000E+00)		7%			(0.000E+00)	3.98622		
2	08/11/06 18:09	RA-228	32	239	GPC1C	1	N	N	5.1962E-01	1.0000E+00	N	84%	N		2.2072E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.163E-02)	(0.000E+00)		7%			(0.000E+00)	3.98622		
3	08/12/06 08:24	RA-228	21	224	GPC1C	1	N	N	5.1962E-01	1.0000E+00	N	84%	N		1.0986E+01	4.5045E-01	1.0103E+00	
			50	400			N		(1.163E-02)	(0.000E+00)		7%			(0.000E+00)	3.98622		

() - (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: 6200134

Alpha Beta, Ra-228 by GPC , Calculated Results

8/14/2006 8:33:52 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
	08/14/06	RA-228	R	**1.365375**	U4	1.82500E-01	0.752686	0.752686	1.00 SA	84%		4.208494		
				(0.987828)		(1.3074E-01)	(0.542838)	(0.542838)	(0.028284)			1.902628		
	08/14/06	RA-228	R	**0.850718**	U4	1.02500E-01	0.468973	0.468973	1.00 SA	84%		4.668739		
				(1.036662)		(1.2447E-01)	(0.570842)	(0.570842)	(0.028284)			2.110701		
	08/14/06	RA-228	R	**0.391325**	U4	4.25000E-02	0.215725	0.215725	1.00 SA	84%		5.17948		
				(1.101542)		(1.1956E-01)	(0.607118)	(0.607118)	(0.028284)			2.341603		
	08/14/06	RA-228	A	**0.869139**	U4	1.09167E-01	0.479128	0.479128	1.00 SA	84%		2.705216		
				(0.602206)		(7.2174E-02)	(0.331516)	(0.331516)	(0.01633)			1.223007		
	08/14/06	RA-228	R	**-6.416059**	U4	-1.40000E-01	-3.536962	-3.536962	1.00 SA	84%		25.036824		
				(4.582884)		(9.8995E-02)	(2.51821)	(2.51821)	(0.028284)			11.283146		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAC1AD**	**PCI/SA**		06/27/06 12:05	08/12/06 08:24	07/28/06 10:58	RATA23520	1	1.00 SA	
536403,P-0688					,J6G180211-6 v4.8.24		FILTER			31.6	08/11/06 10:45	RATA23520 Alq	109%	0.245659 SA	

Sq	Cnt Date	Parameter	Sample 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	08/11/06 16:19	RA-228	30	222	GPC1D	1	N	N	5.3074E-01	1.0000E+00	N	100%	N		1.7934E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.366E-02)	(0.000E+00)		8%			(0.000E+00)	4.07068		
1	08/11/06 17:14	RA-228	30	222	GPC1D	1	N	N	5.3074E-01	1.0000E+00	N	100%	N		1.9895E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.366E-02)	(0.000E+00)		8%			(0.000E+00)	4.07068		
2	08/11/06 18:09	RA-228	37	222	GPC1D	1	N	N	5.3074E-01	1.0000E+00	N	100%	N		2.2072E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.366E-02)	(0.000E+00)		8%			(0.000E+00)	4.07068		
3	08/12/06 08:24	RA-228	32	229	GPC1D	1	N	N	5.3074E-01	1.0000E+00	N	100%	N		1.0986E+01	4.5045E-01	1.0103E+00	
			50	400			N		(1.366E-02)	(0.000E+00)		8%			(0.000E+00)	4.07068		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/14/06	RA-228	R	**0.281678**	U4	4.50000E-02	0.152058	0.152058	1.00 SA	100%		3.40585		
				(0.72482)		(1.1570E-01)	(0.391183)	(0.391183)	(0.028284)			1.534203		
	08/14/06	RA-228	R	**0.312483**	U4	4.50000E-02	0.168688	0.168688	1.00 SA	100%		3.778317		
				(0.804087)		(1.1570E-01)	(0.433963)	(0.433963)	(0.028284)			1.701985		
	08/14/06	RA-228	R	**1.425186**	U4	1.85000E-01	0.769359	0.769359	1.00 SA	100%		4.191649		
				(0.990822)		(1.2723E-01)	(0.533047)	(0.533047)	(0.028284)			1.888175		
	08/14/06	RA-228	A	**0.673116**	U4	9.16667E-02	0.363368	0.363368	1.00 SA	100%		2.189277		
				(0.489177)		(6.9091E-02)	(0.263626)	(0.263626)	(0.01633)			0.986184		
	08/14/06	RA-228	R	**2.588186**	U4	6.75000E-02	1.397182	1.397182	1.00 SA	100%		21.15686		
				(4.581761)		(1.1929E-01)	(2.472072)	(2.472072)	(0.028284)			9.544988		

() - (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: 6200134

Alpha Beta, Ra-228 by GPC , Calculated Results

8/14/2006 8:33:52 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	H9GAE1AD	PCI/SA		06/27/06 10:45	08/12/06 08:24	07/28/06 10:58	RATA23521	1	1.00 SA	
536403,P-0689					,J6G180211-7 v4.8.24		FILTER			32.1	08/11/06 10:45	RATA23521 Alq	98%	0.251723 SA	

Sq	Cnt Date	Parameter	Sample 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	08/11/06 16:19	RA-228	11	118	GPC2A	1	N	N	4.2545E-01	1.0000E+00	N	92%	N		1.7951E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.178E-02)	(0.000E+00)		7%			(0.000E+00)	3.972621		
1	08/11/06 17:15	RA-228	17	118	GPC2A	1	N	N	4.2545E-01	1.0000E+00	N	92%	N		1.9915E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.178E-02)	(0.000E+00)		7%			(0.000E+00)	3.972621		
2	08/11/06 18:10	RA-228	17	118	GPC2A	1	N	N	4.2545E-01	1.0000E+00	N	92%	N		2.2093E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.178E-02)	(0.000E+00)		7%			(0.000E+00)	3.972621		
3	08/12/06 08:24	RA-228	4	81	GPC2A	1	N	N	4.2545E-01	1.0000E+00	N	92%	N		1.0989E+01	4.5045E-01	1.0103E+00	
			50	359			N		(1.178E-02)	(0.000E+00)		7%			(0.000E+00)	3.972621		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/iLcC	BlkLcC/MDC	StdDvMdC/LcC
	08/14/06	RA-228	R	**-0.624373**	U4	-7.50000E-02	-0.345369	-0.345369	1.00 SA	92%		3.42467		
				(0.600113)		(7.1676E-02)	(0.331356)	(0.331356)	(0.028284)			1.487612		
	08/14/06	RA-228	R	**0.415606**	U4	4.50000E-02	0.229891	0.229891	1.00 SA	92%		3.799315		
				(0.802958)		(8.6819E-02)	(0.443956)	(0.443956)	(0.028284)			1.65035		
	08/14/06	RA-228	R	**0.461071**	U4	4.50000E-02	0.25504	0.25504	1.00 SA	92%		4.214944		
				(0.890798)		(8.6819E-02)	(0.492523)	(0.492523)	(0.028284)			1.830892		
	08/14/06	RA-228	A	**0.084102**	U4	5.00000E-03	0.04652	0.04652	1.00 SA	92%		2.201423		
				(0.447014)		(4.7390E-02)	(0.247088)	(0.247088)	(0.01633)			0.956256		
	08/14/06	RA-228	R	**-7.421697**	U4	-1.45627E-01	-4.105277	-4.105277	1.00 SA	92%		18.681589		
				(2.52281)		(4.7207E-02)	(1.375409)	(1.375409)	(0.028284)			7.964403		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	H9GAG1AD	PCI/SA		06/27/06 11:00	08/12/06 08:24	07/28/06 10:58	RATA23522	1	1.00 SA	
536403,P-0690					,J6G180211-8 v4.8.24		FILTER			30.6	08/11/06 10:45	RATA23522 Alq	103%	0.248463 SA	

Sq	Cnt Date	Parameter	Sample 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	08/11/06 16:19	RA-228	22	98	GPC2B	1	N	N	4.4537E-01	1.0000E+00	N	92%	N		1.7951E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.051E-02)	(0.000E+00)		7%			(0.000E+00)	4.024747		
1	08/11/06 17:15	RA-228	16	98	GPC2B	1	N	N	4.4537E-01	1.0000E+00	N	92%	N		1.9915E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.051E-02)	(0.000E+00)		7%			(0.000E+00)	4.024747		
2	08/11/06 18:10	RA-228	23	98	GPC2B	1	N	N	4.4537E-01	1.0000E+00	N	92%	N		2.2093E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.051E-02)	(0.000E+00)		7%			(0.000E+00)	4.024747		
3	08/12/06 08:24	RA-228	8	92	GPC2B	1	N	N	4.4537E-01	1.0000E+00	N	92%	N		1.0989E+01	4.5045E-01	1.0103E+00	
			50	359			N		(1.051E-02)	(0.000E+00)		7%			(0.000E+00)	4.024747		

() - (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: 6200134

Alpha Beta, Ra-228 by GPC , Calculated Results

8/14/2006 8:33:53 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
	08/14/06	RA-228	R	**1.564309**		1.95000E-01	0.854086	0.854086	1.00 SA	92%		3.04599		
				(0.794248)		(9.7018E-02)	(0.430862)	(0.430862)	(0.028284)			1.306372		
	08/14/06	RA-228	R	**0.667476**	U4	7.50000E-02	0.364431	0.364431	1.00 SA	92%		3.379209		
				(0.748325)		(8.3741E-02)	(0.408036)	(0.408036)	(0.028284)			1.449284		
	08/14/06	RA-228	R	**2.122753**		2.15000E-01	1.158987	1.158987	1.00 SA	92%		3.74888		
				(1.001376)		(9.9058E-02)	(0.542665)	(0.542665)	(0.028284)			1.607829		
	08/14/06	RA-228	A	**1.451513**		1.61667E-01	0.792502	0.792502	1.00 SA	92%		1.958002		
				(0.493691)		(5.3993E-02)	(0.268042)	(0.268042)	(0.01633)			0.839753		
	08/14/06	RA-228	R	**-4.727663**	U4	-9.62674E-02	-2.581225	-2.581225	1.00 SA	92%		19.010396		
				(3.109419)		(6.2561E-02)	(1.691203)	(1.691203)	(0.028284)			8.179182		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAJ1AD**	**PCI/SA**		06/27/06 10:40	08/12/06 08:24	07/28/06 10:58	RATA23523	1	1.00 SA	
536403,000509					,J6G180211-9 v4.8.24		FILTER			29.6	08/11/06 10:45	RATA23523 Alq	101%	0.250418 SA	

Sq	Cnt Date	Parameter	Sample 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	08/11/06 16:19	RA-228	14	101	GPC2C	1	N	N	4.3484E-01	1.0000E+00	N	87%	N		1.7951E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(9.458E-03)	(0.000E+00)		7%			(0.000E+00)	3.993323		
1	08/11/06 17:15	RA-228	12	101	GPC2C	1	N	N	4.3484E-01	1.0000E+00	N	87%	N		1.9915E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(9.458E-03)	(0.000E+00)		7%			(0.000E+00)	3.993323		
2	08/11/06 18:10	RA-228	9	101	GPC2C	1	N	N	4.3484E-01	1.0000E+00	N	87%	N		2.2093E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(9.458E-03)	(0.000E+00)		7%			(0.000E+00)	3.993323		
3	08/12/06 08:24	RA-228	14	99	GPC2C	1	N	N	4.3484E-01	1.0000E+00	N	87%	N		1.0989E+01	4.5045E-01	1.0103E+00	
			50	359			N		(9.458E-03)	(0.000E+00)		7%			(0.000E+00)	3.993323		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/14/06	RA-228	R	**0.237104**	U4	2.75000E-02	0.130473	0.130473	1.00 SA	87%		3.316397		
				(0.681024)		(7.8938E-02)	(0.374677)	(0.374677)	(0.028284)			1.425389		
	08/14/06	RA-228	R	**-0.119565**	U4	-1.25000E-02	-0.065794	-0.065794	1.00 SA	87%		3.679197		
				(0.705029)		(7.3697E-02)	(0.387943)	(0.387943)	(0.028284)			1.581321		
	08/14/06	RA-228	R	**-0.769339**	U4	-7.25000E-02	-0.42335	-0.42335	1.00 SA	87%		4.081685		
				(0.69461)		(6.5048E-02)	(0.381454)	(0.381454)	(0.028284)			1.754311		
	08/14/06	RA-228	A	**-0.217267**	U4	-1.91667E-02	-0.119557	-0.119557	1.00 SA	87%		2.131823		
				(0.400464)		(4.2023E-02)	(0.220199)	(0.220199)	(0.01633)			0.916259		
	08/14/06	RA-228	R	**0.223478**	U4	4.23398E-03	0.122975	0.122975	1.00 SA	87%		21.08818		
				(4.212104)		(7.9801E-02)	(2.317814)	(2.317814)	(0.028284)			9.119111		

() - (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: 6200134

Alpha Beta, Ra-228 by GPC , Calculated Results

8/14/2006 8:33:53 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	**H9GAK1AD**	**PCI/SA**		06/27/06 10:55	08/12/06 08:24	07/28/06 10:58	RATA23524	1	1.00 SA	
536403,000510					,J6G180211-10 v4.8.24		FILTER			30.7	08/11/06 10:45	RATA23524 Alq	103%	0.249268 SA	

Sq	Cnt Date	Parameter	Sample 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	08/11/06 16:19	RA-228	20	77	GPC2D	1	N	N	4.3824E-01	1.0000E+00	N	92%	N		1.7951E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.310E-02)	(0.000E+00)		7%			(0.000E+00)	4.011752		
1	08/11/06 17:15	RA-228	11	77	GPC2D	1	N	N	4.3824E-01	1.0000E+00	N	92%	N		1.9915E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.310E-02)	(0.000E+00)		7%			(0.000E+00)	4.011752		
2	08/11/06 18:10	RA-228	16	77	GPC2D	1	N	N	4.3824E-01	1.0000E+00	N	92%	N		2.2093E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.310E-02)	(0.000E+00)		7%			(0.000E+00)	4.011752		
3	08/12/06 08:24	RA-228	19	88	GPC2D	1	N	N	4.3824E-01	1.0000E+00	N	92%	N		1.0989E+01	4.5045E-01	1.0103E+00	
			50	359			N		(1.310E-02)	(0.000E+00)		7%			(0.000E+00)	4.011752		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/14/06	RA-228	R	**1.683985**		2.07500E-01	0.922405	0.922405	1.00 SA	92%		2.781415		
				(0.767229)		(9.2094E-02)	(0.416896)	(0.416896)	(0.028284)			1.171471		
	08/14/06	RA-228	R	**0.247594**	U4	2.75000E-02	0.13562	0.13562	1.00 SA	92%		3.08569		
				(0.629547)		(6.9866E-02)	(0.344747)	(0.344747)	(0.028284)			1.299625		
	08/14/06	RA-228	R	**1.273513**	U4	1.27500E-01	0.697568	0.697568	1.00 SA	92%		3.423252		
				(0.838869)		(8.2953E-02)	(0.457741)	(0.457741)	(0.028284)			1.441798		
	08/14/06	RA-228	A	**1.068364**		1.20833E-01	0.585198	0.585198	1.00 SA	92%		1.78793		
				(0.433163)		(4.7427E-02)	(0.236216)	(0.236216)	(0.01633)			0.753037		
	08/14/06	RA-228	R	**6.700849**	U4	1.34875E-01	3.670398	3.670398	1.00 SA	92%		18.868409		
				(4.573854)		(9.1010E-02)	(2.496446)	(2.496446)	(0.028284)			8.092626		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAL1AD**	**PCI/SA**		06/27/06 11:15	08/12/06 08:24	07/28/06 10:58	RATA23525	1	1.00 SA	
536403,000511					,J6G180211-11 v4.8.24		FILTER			29.7	08/11/06 10:45	RATA23525 Alq	97%	0.251364 SA	

Sq	Cnt Date	Parameter	Sample 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	08/11/06 16:20	RA-228	15	97	GPC3A	1	N	N	4.6800E-01	1.0000E+00	N	84%	N		1.7967E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.324E-02)	(0.000E+00)		7%			(0.000E+00)	3.978296		
1	08/11/06 17:15	RA-228	19	97	GPC3A	1	N	N	4.6800E-01	1.0000E+00	N	84%	N		1.9933E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.324E-02)	(0.000E+00)		7%			(0.000E+00)	3.978296		
2	08/11/06 18:10	RA-228	13	97	GPC3A	1	N	N	4.6800E-01	1.0000E+00	N	84%	N		2.2113E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.324E-02)	(0.000E+00)		7%			(0.000E+00)	3.978296		
3	08/12/06 08:24	RA-228	6	86	GPC3A	1	N	N	4.6800E-01	1.0000E+00	N	84%	N		1.0993E+01	4.5045E-01	1.0103E+00	
			50	400			N		(1.324E-02)	(0.000E+00)		7%			(0.000E+00)	3.978296		

() - (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: 6200134

Alpha Beta, Ra-228 by GPC , Calculated Results

8/14/2006 8:33:53 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
	08/14/06	RA-228	R	**0.475445**	U4	5.75000E-02	0.262617	0.262617	1.00 SA	84%		3.125824		
				(0.673827)		(8.1279E-02)	(0.371889)	(0.371889)	(0.028284)			1.339628		
	08/14/06	RA-228	R	**1.261309**	U4	1.37500E-01	0.696697	0.696697	1.00 SA	84%		3.467776		
				(0.840973)		(9.0588E-02)	(0.462793)	(0.462793)	(0.028284)			1.486178		
	08/14/06	RA-228	R	**0.178092**	U4	1.75000E-02	0.098371	0.098371	1.00 SA	84%		3.847136		
				(0.775664)		(7.6199E-02)	(0.428409)	(0.428409)	(0.028284)			1.648759		
	08/14/06	RA-228	A	**0.638282**	U4	7.08333E-02	0.352562	0.352562	1.00 SA	84%		2.00932		
				(0.442585)		(4.7864E-02)	(0.244043)	(0.244043)	(0.01633)			0.86113		
	08/14/06	RA-228	R	**-4.805926**	U4	-9.50000E-02	-2.654602	-2.654602	1.00 SA	84%		18.167457		
				(2.78572)		(5.4199E-02)	(1.531145)	(1.531145)	(0.028284)			7.717357		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAM1AD**	**PCI/SA**		06/27/06 11:35	08/12/06 08:24	07/28/06 10:58	RATA23526	1	1.00 SA	
536403,000512					,J6G180211-12 v4.8.24		FILTER			31.0	08/11/06 10:45	RATA23526 Alq	102%	0.249585 SA	

Sq	Cnt Date	Parameter	Sample 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	08/11/06 16:20	RA-228	19	72	GPC3B	1	N	N	4.7930E-01	1.0000E+00	N	92%	N		1.7967E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.181E-02)	(0.000E+00)		7%			(0.000E+00)	4.006651		
1	08/11/06 17:15	RA-228	23	72	GPC3B	1	N	N	4.7930E-01	1.0000E+00	N	92%	N		1.9933E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.181E-02)	(0.000E+00)		7%			(0.000E+00)	4.006651		
2	08/11/06 18:10	RA-228	15	72	GPC3B	1	N	N	4.7930E-01	1.0000E+00	N	92%	N		2.2113E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.181E-02)	(0.000E+00)		7%			(0.000E+00)	4.006651		
3	08/12/06 08:24	RA-228	18	91	GPC3B	1	N	N	4.7930E-01	1.0000E+00	N	92%	N		1.0993E+01	4.5045E-01	1.0103E+00	
			50	400			N		(1.181E-02)	(0.000E+00)		7%			(0.000E+00)	4.006651		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/14/06	RA-228	R	**1.49111**		2.00000E-01	0.817804	0.817804	1.00 SA	92%		2.484189		
				(0.68584)		(8.9722E-02)	(0.373206)	(0.373206)	(0.028284)			1.040667		
	08/14/06	RA-228	R	**2.315923**		2.80000E-01	1.270176	1.270176	1.00 SA	92%		2.755948		
				(0.845846)		(9.8234E-02)	(0.458133)	(0.458133)	(0.028284)			1.154511		
	08/14/06	RA-228	R	**1.101118**	U4	1.20000E-01	0.603912	0.603912	1.00 SA	92%		3.057438		
				(0.745371)		(8.0312E-02)	(0.407327)	(0.407327)	(0.028284)			1.28081		
	08/14/06	RA-228	A	**1.63605**		2.00000E-01	0.897298	0.897298	1.00 SA	92%		1.596869		
				(0.439875)		(5.1801E-02)	(0.239231)	(0.239231)	(0.01633)			0.668954		
	08/14/06	RA-228	R	**6.043889**	U4	1.32500E-01	3.314793	3.314793	1.00 SA	92%		16.779644		
				(4.067016)		(8.8141E-02)	(2.222427)	(2.222427)	(0.028284)			7.157926		

() - (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: 6200134

Alpha Beta, Ra-228 by GPC , Calculated Results

8/14/2006 8:33:53 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	**H9GAN1AD**	**PCI/SA**		06/27/06 12:00	08/12/06 08:24	07/28/06 10:58	RATA23527	1	1.00 SA	
536403,000513					,J6G180211-13 v4.8.24		FILTER			30.6	08/11/06 10:45	RATA23527 Alq	98%	0.248149 SA	

Sq	Cnt Date	Parameter	Sample 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	08/11/06 16:20	RA-228	14	89	GPC3C	1	N	N	4.7106E-01	1.0000E+00	N	87%	N		1.7967E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.100E-02)	(0.000E+00)		7%			(0.000E+00)	4.029841		
1	08/11/06 17:15	RA-228	29	89	GPC3C	1	N	N	4.7106E-01	1.0000E+00	N	87%	N		1.9933E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.100E-02)	(0.000E+00)		7%			(0.000E+00)	4.029841		
2	08/11/06 18:10	RA-228	19	89	GPC3C	1	N	N	4.7106E-01	1.0000E+00	N	87%	N		2.2113E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.100E-02)	(0.000E+00)		7%			(0.000E+00)	4.029841		
3	08/12/06 08:24	RA-228	20	105	GPC3C	1	N	N	4.7106E-01	1.0000E+00	N	87%	N		1.0993E+01	4.5045E-01	1.0103E+00	
			50	400			N		(1.100E-02)	(0.000E+00)		7%			(0.000E+00)	4.029841		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/14/06	RA-228	R	**0.459868**	**U4**	5.75000E-02	0.250766	0.250766	1.00 SA	87%		2.914314		
				(0.629238)		(7.8462E-02)	(0.342822)	(0.342822)	(0.028284)			1.241156		
	08/14/06	RA-228	R	**3.171962**		3.57500E-01	1.729673	1.729673	1.00 SA	87%		3.233128		
				(1.029596)		(1.1026E-01)	(0.552577)	(0.552577)	(0.028284)			1.376933		
	08/14/06	RA-228	R	**1.550312**		1.57500E-01	0.845386	0.845386	1.00 SA	87%		3.586818		
				(0.902707)		(9.0312E-02)	(0.489845)	(0.489845)	(0.028284)			1.527564		
	08/14/06	RA-228	A	**1.727381**		1.90833E-01	0.941942	0.941942	1.00 SA	87%		1.873359		
				(0.502316)		(5.4231E-02)	(0.271378)	(0.271378)	(0.01633)			0.797831		
	08/14/06	RA-228	R	**6.72805**	**U4**	1.37500E-01	3.668809	3.668809	1.00 SA	87%		19.138219		
				(4.603171)		(9.3039E-02)	(2.501248)	(2.501248)	(0.028284)			8.247969		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAP1AD**	**PCI/SA**		06/27/06 12:10	08/12/06 08:24	07/28/06 10:58	RATA23528	1	1.00 SA	
536403,000514					,J6G180211-14 v4.8.24		FILTER			30.9	08/11/06 10:45	RATA23528 Alq	96%	0.249509 SA	

Sq	Cnt Date	Parameter	Sample 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	08/11/06 16:20	RA-228	18	88	GPC3D	1	N	N	4.6782E-01	1.0000E+00	N	86%	N		1.7967E+00	4.5045E-01	1.0102E+00	
			50	400			Y		(1.145E-02)	(0.000E+00)		7%			(0.000E+00)	4.007864		
1	08/11/06 17:15	RA-228	11	88	GPC3D	1	N	N	4.6782E-01	1.0000E+00	N	86%	N		1.9933E+00	4.5045E-01	1.0102E+00	
			50	400			Y		(1.145E-02)	(0.000E+00)		7%			(0.000E+00)	4.007864		
2	08/11/06 18:10	RA-228	14	88	GPC3D	1	N	N	4.6782E-01	1.0000E+00	N	86%	N		2.2113E+00	4.5045E-01	1.0102E+00	
			50	400			Y		(1.145E-02)	(0.000E+00)		7%			(0.000E+00)	4.007864		
3	08/12/06 08:24	RA-228	13	85	GPC3D	1	N	N	4.6782E-01	1.0000E+00	N	86%	N		1.0993E+01	4.5045E-01	1.0102E+00	
			50	400			N		(1.145E-02)	(0.000E+00)		7%			(0.000E+00)	4.007864		

() - (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: 6200134

Alpha Beta, Ra-228 by GPC , Calculated Results

8/14/2006 8:33:53 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
	08/14/06	RA-228	R	**1.139468**	U4	1.40000E-01	0.624761	0.624761	1.00 SA	86%		2.951598		
				(0.725786)		(8.8034E-02)	(0.396321)	(0.396321)	(0.028284)			1.255976		
	08/14/06	RA-228	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	86%		3.274491		
				(0.635277)		(7.0356E-02)	(0.348317)	(0.348317)	(0.028284)			1.393375		
	08/14/06	RA-228	R	**0.601033**	U4	6.00000E-02	0.329542	0.329542	1.00 SA	86%		3.632706		
				(0.787934)		(7.8422E-02)	(0.431603)	(0.431603)	(0.028284)			1.545804		
	08/14/06	RA-228	A	**0.580167**	U4	6.66667E-02	0.318101	0.318101	1.00 SA	86%		1.897326		
				(0.415155)		(4.5765E-02)	(0.227224)	(0.227224)	(0.01633)			0.807358		
	08/14/06	RA-228	R	**2.365314**	U4	4.75000E-02	1.296883	1.296883	1.00 SA	86%		17.79428		
				(3.777448)		(7.5705E-02)	(2.069804)	(2.069804)	(0.028284)			7.55215		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAT1AD**	**PCI/SA**		06/27/06 11:40	08/12/06 08:24	07/28/06 10:58	RATA23529	1	1.00 SA	
536403,000515					,J6G180211-15 v4.8.24		FILTER			32.1	08/11/06 10:45	RATA23529 Alq	105%	0.248196 SA	

Sq	Cnt Date	Parameter	Sample 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	08/11/06 16:20	RA-228	9	130	GPC4A	1	N	N	4.8160E-01	1.0000E+00	N	98%	N		1.7980E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.103E-02)	(0.000E+00)		8%			(0.000E+00)	4.029071		
1	08/11/06 17:16	RA-228	20	130	GPC4A	1	N	N	4.8160E-01	1.0000E+00	N	98%	N		1.9947E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.103E-02)	(0.000E+00)		8%			(0.000E+00)	4.029071		
2	08/11/06 18:11	RA-228	22	130	GPC4A	1	N	N	4.8160E-01	1.0000E+00	N	98%	N		2.2128E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.103E-02)	(0.000E+00)		8%			(0.000E+00)	4.029071		
3	08/12/06 08:24	RA-228	13	139	GPC4A	1	N	N	4.8160E-01	1.0000E+00	N	98%	N		1.0996E+01	4.5045E-01	1.0103E+00	
			50	400			N		(1.103E-02)	(0.000E+00)		8%			(0.000E+00)	4.029071		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/14/06	RA-228	R	**-1.017776**	U4	-1.45000E-01	-0.555097	-0.555097	1.00 SA	98%		3.011879		
				(0.477481)		(6.6427E-02)	(0.258459)	(0.258459)	(0.028284)			1.316502		
	08/14/06	RA-228	R	**0.584025**	U4	7.50000E-02	0.318529	0.318529	1.00 SA	98%		3.341365		
				(0.733386)		(9.3875E-02)	(0.399572)	(0.399572)	(0.028284)			1.460522		
	08/14/06	RA-228	R	**0.993439**	U4	1.15000E-01	0.541824	0.541824	1.00 SA	98%		3.706781		
				(0.852894)		(9.8043E-02)	(0.464128)	(0.464128)	(0.028284)			1.620246		
	08/14/06	RA-228	A	**0.186563**	U4	1.50000E-02	0.101752	0.101752	1.00 SA	98%		1.936053		
				(0.407331)		(5.0374E-02)	(0.221579)	(0.221579)	(0.01633)			0.846255		
	08/14/06	RA-228	R	**-3.755975**	U4	-8.75000E-02	-2.048518	-2.048518	1.00 SA	98%		18.966816		
				(3.365483)		(7.7902E-02)	(1.831766)	(1.831766)	(0.028284)			8.325072		

() - (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: 6200134

Alpha Beta, Ra-228 by GPC , Calculated Results

8/14/2006 8:33:53 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	H9HWV1AA	PCI/SA	B	06/27/06 10:35	08/12/06 08:24	07/28/06 10:58	RATA23530	1	1.00 SA	
0,INTRA-LAB BLANK					,J6G190000-134		FILTER			31.2	08/11/06 10:45	RATA23530 Alq	82%	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	08/11/06 16:20	RA-228	11	106	GPC4B	1	N	N	4.6204E-01	1.0000E+00	N	75%	N		1.7980E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.047E-02)	(0.000E+00)		6%			(0.000E+00)	1.00		
1	08/11/06 17:16	RA-228	12	106	GPC4B	1	N	N	4.6204E-01	1.0000E+00	N	75%	N		1.9947E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.047E-02)	(0.000E+00)		6%			(0.000E+00)	1.00		
2	08/11/06 18:11	RA-228	15	106	GPC4B	1	N	N	4.6204E-01	1.0000E+00	N	75%	N		2.2128E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.047E-02)	(0.000E+00)		6%			(0.000E+00)	1.00		
3	08/12/06 08:24	RA-228	19	85	GPC4B	1	N	N	4.6204E-01	1.0000E+00	N	75%	N		1.0996E+01	4.5045E-01	1.0103E+00	
			50	400			N		(1.047E-02)	(0.000E+00)		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
	08/14/06	RA-228	R	**-0.106851**	U4	-4.50000E-02	-0.234798	-0.234798	1.00 SA	75%		0.932514		
				(0.169274)		(7.1151E-02)	(0.371762)	(0.371762)	(0.017321)			0.402148		
	08/14/06	RA-228	R	**-0.065856**	U4	-2.50000E-02	-0.144713	-0.144713	1.00 SA	75%		1.034527		
				(0.194801)		(7.3909E-02)	(0.427993)	(0.427993)	(0.017321)			0.446141		
	08/14/06	RA-228	R	**0.102281**	U4	3.50000E-02	0.224755	0.224755	1.00 SA	75%		1.147664		
				(0.238744)		(8.1624E-02)	(0.524489)	(0.524489)	(0.017321)			0.494932		
	08/14/06	RA-228	A	**-0.023475**	U4	-1.16667E-02	-0.051585	-0.051585	1.00 SA	75%		0.599425		
				(0.117189)		(4.3700E-02)	(0.257439)	(0.257439)	(0.01)			0.258503		
	08/14/06	RA-228	R	**2.432273**		1.67500E-01	5.344755	5.344755	1.00 SA	75%		5.188988		
				(1.331175)		(9.0173E-02)	(2.911461)	(2.911461)	(0.017321)			2.202282		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	H9HWV1AC	PCI/SA	S	06/27/06 10:35	08/12/06 08:24	07/28/06 10:58	RASC4148	1	1.00 SA	
0,INTRA-LAB CHECK					,J6G190000-134		FILTER			30.4	08/11/06 10:45	RASC4148 Alq	100%	1.00 sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	08/11/06 16:20	RA-228	114	117	GPC4D	1	N	N	4.5398E-01	1.0000E+00	N	89%	N		1.7980E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(9.347E-03)	(0.000E+00)		7%			(0.000E+00)	1.00		
1	08/11/06 17:16	RA-228	112	117	GPC4D	1	N	N	4.5398E-01	1.0000E+00	N	89%	N		1.9947E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(9.347E-03)	(0.000E+00)		7%			(0.000E+00)	1.00		
2	08/11/06 18:11	RA-228	109	117	GPC4D	1	N	N	4.5398E-01	1.0000E+00	N	89%	N		2.2128E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(9.347E-03)	(0.000E+00)		7%			(0.000E+00)	1.00		
3	08/12/06 08:24	RA-228	33	96	GPC4C	1	N	N	4.6870E-01	1.0000E+00	N	89%	N		1.0996E+01	4.5045E-01	1.0103E+00	
			50	400			N		(1.147E-02)	(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: 6200134

Alpha Beta, Ra-228 by GPC , Calculated Results

8/14/2006 8:33:53 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
	08/14/06	RA-228	R	**4.044615**		1.98750E+00	8.887766	8.887766	1.00 sa	89%	80%	0.834069		
				(0.591025)		(2.1525E-01)	(1.210594)	(1.210594)	(0.017321)			0.3621		
	08/14/06	RA-228	R	**4.396772**		1.94750E+00	9.661609	9.661609	1.00 sa	89%	87%	0.925313		
				(0.646621)		(2.1338E-01)	(1.325745)	(1.325745)	(0.017321)			0.401713		
	08/14/06	RA-228	R	**4.727335**		1.88750E+00	10.387998	10.387998	1.00 sa	89%	94%	1.026506		
				(0.702248)		(2.1055E-01)	(1.441922)	(1.441922)	(0.017321)			0.445644		
	08/14/06	RA-228	A	**4.389574**		1.94083E+00	9.645791	9.645791	1.00 sa	89%	87%	0.536144		
				(0.374252)		(1.2301E-01)	(0.767556)	(0.767556)	(0.01)			0.23276		
	08/14/06	RA-228	R	**5.062813**		4.20000E-01	11.125188	11.125188	1.00 sa	89%	101%	4.53678		
				(1.502134)		(1.1747E-01)	(3.247918)	(3.247918)	(0.017321)			1.942872		

() - (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: H9F9W1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 7-A File: [quad7.sample.A]H9F9W1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.A_1;2977

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00047	0050	01148	1700	11-AUG-2006 16:19:01.28
2	00000	00052	0050	01146	1700	11-AUG-2006 17:14:17.07
3	00000	00033	0050	01155	1700	11-AUG-2006 18:09:32.67

Bkg File: [quad7.bkgrnd]2006-08-11_0240.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00329	0400	0.82	09204	1700	11-AUG-2006 02:40:50.51

UST Number: H9F9W1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 7-A File: [quad7.sample.A]H9F9W1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.A_1;2978

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00026	0050	01129	1700	12-AUG-2006 08:24:09.08

Bkg File: [quad7.bkgrnd]2006-08-12_0257.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00296	0400	0.74	09183	1700	12-AUG-2006 02:57:50.07

UST Number: H9F921AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 7-B File: [quad7.sample.B]H9F921AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.B_1;2964

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00037	0050	01148	1700	11-AUG-2006 16:19:01.28
2	00000	00044	0050	01146	1700	11-AUG-2006 17:14:17.07
3	00000	00052	0050	01155	1700	11-AUG-2006 18:09:32.67

Bkg File: [quad7.bkgrnd]2006-08-11_0240.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00292	0400	0.73	09204	1700	11-AUG-2006 02:40:50.51

UST Number: H9F921AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 7-B File: [quad7.sample.B]H9F921AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.B_1;2965

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00040	0050	01129	1700	12-AUG-2006 08:24:09.08

Bkg File: [quad7.bkgrnd]2006-08-12_0257.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00317	0400	0.79	09183	1700	12-AUG-2006 02:57:50.07

UST Number: H9F951AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 7-C File: [quad7.sample.C]H9F951AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.C_1;2969

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00041	0050	01148	1700	11-AUG-2006 16:19:01.28
2	00000	00050	0050	01146	1700	11-AUG-2006 17:14:17.07
3	00000	00050	0050	01155	1700	11-AUG-2006 18:09:32.67

Bkg File: [quad7.bkgrnd]2006-08-11_0240.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00313	0400	0.78	09204	1700	11-AUG-2006 02:40:50.51

UST Number: H9F951AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 7-C File: [quad7.sample.C]H9F951AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.C_1;2970

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00044	0050	01129	1700	12-AUG-2006 08:24:09.08

Bkg File: [quad7.bkgrnd]2006-08-12_0257.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00389	0400	0.97	09183	1700	12-AUG-2006 02:57:50.07

UST Number: H9F981AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-A File: [quad1.sample.A]H9F981AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.A_1;3026

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00034	0050	01167	1650	11-AUG-2006 16:19:25.30
2	00000	00033	0050	01165	1650	11-AUG-2006 17:14:40.94
3	00000	00032	0050	01161	1650	11-AUG-2006 18:09:56.59

Bkg File: [quad1.bkgrnd]2006-08-11_0240.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00245	0400	0.61	09258	1650	11-AUG-2006 02:40:07.04

UST Number: H9F981AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-A File: [quad1.sample.A]H9F981AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.A_1;3027

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00039	0050	01143	1650	12-AUG-2006 08:24:18.30

Bkg File: [quad1.bkgrnd]2006-08-12_0302.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00270	0400	0.68	09256	1650	12-AUG-2006 03:02:01.27

UST Number: H9GAA1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-C File: [quad1.sample.C]H9GAA1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.C_1;3022

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00039	0050	01167	1650	11-AUG-2006 16:19:25.30
2	00000	00035	0050	01165	1650	11-AUG-2006 17:14:40.94
3	00000	00032	0050	01161	1650	11-AUG-2006 18:09:56.59

Bkg File: [quad1.bkgrnd]2006-08-11_0240.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00239	0400	0.60	09258	1650	11-AUG-2006 02:40:07.04

UST Number: H9GAA1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-C File: [quad1.sample.C]H9GAA1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.C_1;3023

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00021	0050	01143	1650	12-AUG-2006 08:24:18.30

Bkg File: [quad1.bkgrnd]2006-08-12_0302.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00224	0400	0.56	09256	1650	12-AUG-2006 03:02:01.27

UST Number: H9GAC1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-D File: [quad1.sample.D]H9GAC1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.D_1;3025

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00030	0050	01167	1650	11-AUG-2006 16:19:25.30
2	00000	00030	0050	01165	1650	11-AUG-2006 17:14:40.94
3	00000	00037	0050	01161	1650	11-AUG-2006 18:09:56.59

Bkg File: [quad1.bkgrnd]2006-08-11_0240.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00222	0400	0.56	09258	1650	11-AUG-2006 02:40:07.04

UST Number: H9GAC1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-D File: [quad1.sample.D]H9GAC1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.D_1;3026

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00032	0050	01143	1650	12-AUG-2006 08:24:18.30

Bkg File: [quad1.bkgrnd]2006-08-12_0302.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00229	0400	0.57	09256	1650	12-AUG-2006 03:02:01.27

UST Number: H9GAE1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 2-A File: [quad2.sample.A]H9GAE1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.A_1;3566

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00011	0050	01172	1810	11-AUG-2006 16:19:55.72
2	00000	00017	0050	01143	1810	11-AUG-2006 17:15:11.70
3	00000	00017	0050	01152	1810	11-AUG-2006 18:10:27.41

Bkg File: [quad2.bkgrnd]2006-08-11_0240.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00118	0400	0.30	09344	1810	11-AUG-2006 02:40:20.93

UST Number: H9GAE1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-A File: [quad2.sample.A]H9GAE1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.A_1;3567

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00004	0050	01152	1810	12-AUG-2006 08:24:28.03

Bkg File: [quad2.bkgrnd]2006-08-12_0217.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00081	0359	0.23	08417	1810	12-AUG-2006 02:17:00.94

UST Number: H9GAG1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 2-B File: [quad2.sample.B]H9GAG1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.B_1;3563

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00022	0050	01172	1810	11-AUG-2006 16:19:55.72
2	00000	00016	0050	01143	1810	11-AUG-2006 17:15:11.70
3	00000	00023	0050	01152	1810	11-AUG-2006 18:10:27.41

Bkg File: [quad2.bkgrnd]2006-08-11_0240.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00098	0400	0.25	09344	1810	11-AUG-2006 02:40:20.93

UST Number: H9GAG1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-B File: [quad2.sample.B]H9GAG1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.B_1;3564

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00008	0050	01152	1810	12-AUG-2006 08:24:28.03

Bkg File: [quad2.bkgrnd]2006-08-12_0217.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00092	0359	0.26	08417	1810	12-AUG-2006 02:17:00.94

UST Number: H9GAJ1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 2-C File: [quad2.sample.C]H9GAJ1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.C_1;3564

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00014	0050	01172	1810	11-AUG-2006 16:19:55.72
2	00000	00012	0050	01143	1810	11-AUG-2006 17:15:11.70
3	00000	00009	0050	01152	1810	11-AUG-2006 18:10:27.41

Bkg File: [quad2.bkgrnd]2006-08-11_0240.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00101	0400	0.25	09344	1810	11-AUG-2006 02:40:20.93

UST Number: H9GAJ1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-C File: [quad2.sample.C]H9GAJ1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.C_1;3565

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00014	0050	01152	1810	12-AUG-2006 08:24:28.03

Bkg File: [quad2.bkgrnd]2006-08-12_0217.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00099	0359	0.28	08417	1810	12-AUG-2006 02:17:00.94

UST Number: H9GAK1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 2-D File: [quad2.sample.D]H9GAK1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.D_1;3563

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00020	0050	01172	1810	11-AUG-2006 16:19:55.72
2	00000	00011	0050	01143	1810	11-AUG-2006 17:15:11.70
3	00000	00016	0050	01152	1810	11-AUG-2006 18:10:27.41

Bkg File: [quad2.bkgrnd]2006-08-11_0240.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00077	0400	0.19	09344	1810	11-AUG-2006 02:40:20.93

UST Number: H9GAK1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-D File: [quad2.sample.D]H9GAK1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.D_1;3564

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00019	0050	01152	1810	12-AUG-2006 08:24:28.03

Bkg File: [quad2.bkgrnd]2006-08-12_0217.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00088	0359	0.25	08417	1810	12-AUG-2006 02:17:00.94

UST Number: H9GAL1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-A File: [quad3.sample.A]H9GAL1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.A_1;5480

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00015	0050	01263	1920	11-AUG-2006 16:20:24.87
2	00000	00019	0050	01246	1920	11-AUG-2006 17:15:40.65
3	00000	00013	0050	01268	1920	11-AUG-2006 18:10:56.29

Bkg File: [quad3.bkgrnd]2006-08-11_0240.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00097	0400	0.24	10067	1920	11-AUG-2006 02:40:30.54

UST Number: H9GAL1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-A File: [quad3.sample.A]H9GAL1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.A_1;5481

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00006	0050	01232	1920	12-AUG-2006 08:24:38.54

Bkg File: [quad3.bkgrnd]2006-08-12_0257.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00086	0400	0.22	10078	1920	12-AUG-2006 02:57:54.51

UST Number: H9GAM1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-B File: [quad3.sample.B]H9GAM1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.B_1;5489

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00019	0050	01263	1920	11-AUG-2006 16:20:24.87
2	00000	00023	0050	01246	1920	11-AUG-2006 17:15:40.65
3	00000	00015	0050	01268	1920	11-AUG-2006 18:10:56.29

Bkg File: [quad3.bkgrnd]2006-08-11_0240.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00072	0400	0.18	10067	1920	11-AUG-2006 02:40:30.54

UST Number: H9GAM1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-B File: [quad3.sample.B]H9GAM1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.B_1;5490

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00018	0050	01232	1920	12-AUG-2006 08:24:38.54

Bkg File: [quad3.bkgrnd]2006-08-12_0257.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00091	0400	0.23	10078	1920	12-AUG-2006 02:57:54.51

UST Number: H9GAN1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-C File: [quad3.sample.C]H9GAN1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.C_1;5494

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00014	0050	01263	1920	11-AUG-2006 16:20:24.87
2	00000	00029	0050	01246	1920	11-AUG-2006 17:15:40.65
3	00000	00019	0050	01268	1920	11-AUG-2006 18:10:56.29

Bkg File: [quad3.bkgrnd]2006-08-11_0240.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00089	0400	0.22	10067	1920	11-AUG-2006 02:40:30.54

UST Number: H9GAN1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-C File: [quad3.sample.C]H9GAN1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.C_1;5495

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00020	0050	01232	1920	12-AUG-2006 08:24:38.54

Bkg File: [quad3.bkgrnd]2006-08-12_0257.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00105	0400	0.26	10078	1920	12-AUG-2006 02:57:54.51

UST Number: H9GAP1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-D File: [quad3.sample.D]H9GAP1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.D_1;5474

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00018	0050	01263	1920	11-AUG-2006 16:20:24.87
2	00000	00011	0050	01246	1920	11-AUG-2006 17:15:40.65
3	00000	00014	0050	01268	1920	11-AUG-2006 18:10:56.29

Bkg File: [quad3.bkgrnd]2006-08-11_0240.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00088	0400	0.22	10067	1920	11-AUG-2006 02:40:30.54

UST Number: H9GAP1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-D File: [quad3.sample.D]H9GAP1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.D_1;5475

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00013	0050	01232	1920	12-AUG-2006 08:24:38.54

Bkg File: [quad3.bkgrnd]2006-08-12_0257.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00085	0400	0.21	10078	1920	12-AUG-2006 02:57:54.51

UST Number: H9GAT1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-A File: [quad4.sample.A]H9GAT1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.A_1;5498

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00009	0050	01205	1850	11-AUG-2006 16:20:47.36
2	00000	00020	0050	01205	1850	11-AUG-2006 17:16:03.19
3	00000	00022	0050	01214	1850	11-AUG-2006 18:11:18.87

Bkg File: [quad4.bkgrnd]2006-08-11_0235.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00130	0400	0.33	09618	1850	11-AUG-2006 02:35:34.32

UST Number: H9GAT1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-A File: [quad4.sample.A]H9GAT1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.A_1;5499

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00013	0050	01193	1850	12-AUG-2006 08:24:47.83

Bkg File: [quad4.bkgrnd]2006-08-12_0257.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00139	0400	0.35	09646	1850	12-AUG-2006 02:57:42.12

UST Number: H9HWV1AA Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-B File: [quad4.sample.B]H9HWV1AA.180
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.B_1;5497

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00011	0050	01205	1850	11-AUG-2006 16:20:47.36
2	00000	00012	0050	01205	1850	11-AUG-2006 17:16:03.19
3	00000	00015	0050	01214	1850	11-AUG-2006 18:11:18.87

Bkg File: [quad4.bkgrnd]2006-08-11_0235.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00106	0400	0.27	09618	1850	11-AUG-2006 02:35:34.32

UST Number: H9HWV1AA Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-B File: [quad4.sample.B]H9HWV1AA.430
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.B_1;5498

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00019	0050	01193	1850	12-AUG-2006 08:24:47.83

Bkg File: [quad4.bkgrnd]2006-08-12_0257.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00085	0400	0.21	09646	1850	12-AUG-2006 02:57:42.12

UST Number: H9HWV1AC Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-D File: [quad4.sample.D]H9HWV1AC.180
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.D_1;5514

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00114	0050	01205	1850	11-AUG-2006 16:20:47.36
2	00000	00112	0050	01205	1850	11-AUG-2006 17:16:03.19
3	00000	00109	0050	01214	1850	11-AUG-2006 18:11:18.87

Bkg File: [quad4.bkgrnd]2006-08-11_0235.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00117	0400	0.29	09618	1850	11-AUG-2006 02:35:34.32

UST Number: H9HWV1AC Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-C File: [quad4.sample.C]H9HWV1AC.430
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.C_1;5501

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00033	0050	01193	1850	12-AUG-2006 08:24:47.83

Bkg File: [quad4.bkgrnd]2006-08-12_0257.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00096	0400	0.24	09646	1850	12-AUG-2006 02:57:42.12

RADIUM 226

SAMPLE AND QC DATA

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

8/11/2006 9:42:39 AM

Lot No., Due Date: J6G180211; 08/15/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6200133; RRA2267 Ra-226 by ASC-7

SDG, Matrix: 32139; 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 [signature] **Date** 8/11/06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6Z00133

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

8/11/2006 9:41:39 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
32139	**9H9F9210**		**J6G1802112**	P-0684	FILTER	7/18/2006 10:00:00	6/27/2006 10:50:00 AM				
ALPHA	BAS7	0	8/4/2006 10:54:31 AM	**1.9879E+00**	1.261E+00	1.277E+00	4.798E+00	PCI/SA	1.0	1.0E+0	2.059E-2
BETA	BDS8	0	8/2/2006 6:59:45 PM	**2.2242E+01**	1.913E+00	2.513E+00	5.807E+00	PCI/SA	1.0	1.0E+0	8.24E-2
RA-226	BXTE	0	8/9/2006 1:41:00 PM	**2.8345E-02**	8.691E-02	8.696E-02	3.349E-01	PCI/SA	1.034	8.33E-1	2.478E-1
TH-228	9NS1	0	7/29/2006 1:47:52 PM	**1.6209E-01**	8.253E-02	8.375E-02	2.161E-01	PCI/SA	1.044	1.0E+0	8.298E-2
TH-230	9NS1	0	7/29/2006 1:47:52 PM	**8.6705E-02**	6.252E-02	6.299E-02	2.08E-01	PCI/SA	1.044	1.0E+0	8.298E-2
TH-232	9NS1	0	7/29/2006 1:47:52 PM	**5.7864E-07**	4.248E-02	4.248E-02	2.553E-01	PCI/SA	1.044	1.0E+0	8.298E-2
U-234	7YSR	0	7/30/2006 2:25:08 PM	**-3.9387E-02**	1.113E-01	1.113E-01	8.078E-01	PCI/SA	0.985	1.0E+0	6.17E-2
U-235	7YSR	0	7/30/2006 2:25:08 PM	**3.9328E-02**	1.041E-01	1.042E-01	6.209E-01	PCI/SA	0.985	1.0E+0	6.17E-2
U-238	7YSR	0	7/30/2006 2:25:08 PM	**-1.9708E-02**	1.095E-01	1.096E-01	7.677E-01	PCI/SA	0.985	1.0E+0	6.17E-2
32139	**9H9F9510**		**J6G1802113**	P-0685	FILTER	7/18/2006 10:00:00	6/27/2006 11:10:00 AM				
ALPHA	BAS7	0	8/4/2006 10:54:31 AM	**-7.3628E-01**	8.866E-01	8.898E-01	5.191E+00	PCI/SA	1.0	1.0E+0	2.131E-2
BETA	BDS8	0	8/2/2006 6:59:45 PM	**3.0779E+01**	2.046E+00	2.984E+00	5.457E+00	PCI/SA	1.0	1.0E+0	8.328E-2
RA-226	BXTE	0	8/9/2006 1:40:00 PM	**-1.9755E-02**	9.87E-02	9.872E-02	3.906E-01	PCI/SA	0.968	8.33E-1	2.504E-1
TH-228	9NS1	0	7/29/2006 1:49:16 PM	**0.0E+00**	0.0E+00	5.32E-02	1.177E-01	PCI/SA	0.787	1.0E+0	8.326E-2
TH-230	9NS1	0	7/29/2006 1:49:16 PM	**1.171E+00**	2.213E-01	2.451E-01	1.133E-01	PCI/SA	0.787	1.0E+0	8.326E-2
TH-232	9NS1	0	7/29/2006 1:49:16 PM	**2.091E-02**	4.676E-02	4.68E-02	2.508E-01	PCI/SA	0.787	1.0E+0	8.326E-2
U-234	7YSR	0	7/30/2006 2:25:26 PM	**-1.2345E-01**	5.04E-02	5.137E-02	8.03E-01	PCI/SA	0.924	1.0E+0	6.238E-2
U-235	7YSR	0	7/30/2006 2:25:26 PM	**1.0291E-01**	1.029E-01	1.032E-01	2.789E-01	PCI/SA	0.924	1.0E+0	6.238E-2
U-238	7YSR	0	7/30/2006 2:25:26 PM	**-8.2269E-02**	1.2E-01	1.202E-01	9.208E-01	PCI/SA	0.924	1.0E+0	6.238E-2
32139	**9H9F9810**		**J6G1802114**	P-0686	FILTER	7/18/2006 10:00:00	6/27/2006 11:30:00 AM				
ALPHA	BAS7	0	8/4/2006 1:41:19 PM	**7.7552E-01**	1.229E+00	1.231E+00	5.512E+00	PCI/SA	1.0	1.0E+0	2.073E-2
BETA	BDS8	0	8/2/2006 6:59:45 PM	**2.8919E+01**	2.001E+00	2.805E+00	5.302E+00	PCI/SA	1.0	1.0E+0	8.323E-2
RA-226	BXTE	0	8/9/2006 1:42:01 PM	**2.4654E-01**	8.44E-02	8.804E-02	2.366E-01	PCI/SA	0.996	8.33E-1	2.521E-1
TH-228	9NS1	0	7/29/2006 1:49:53 PM	**1.9396E-01**	1.137E-01	1.151E-01	3.568E-01	PCI/SA	0.919	1.0E+0	8.351E-2
TH-230	9NS1	0	7/29/2006 1:49:53 PM	**2.1009E-01**	1.07E-01	1.087E-01	2.8E-01	PCI/SA	0.919	1.0E+0	8.351E-2
TH-232	9NS1	0	7/29/2006 1:49:53 PM	**-2.3338E-02**	2.334E-02	2.343E-02	2.8E-01	PCI/SA	0.919	1.0E+0	8.351E-2
U-234	7YSR	0	7/30/2006 2:25:59 PM	**2.4413E-01**	1.942E-01	1.952E-01	7.71E-01	PCI/SA	0.98	1.0E+0	6.241E-2
U-235	7YSR	0	7/30/2006 2:25:59 PM	**-3.7556E-02**	2.656E-02	2.673E-02	5.306E-01	PCI/SA	0.98	1.0E+0	6.241E-2
U-238	7YSR	0	7/30/2006 2:25:59 PM	**2.6291E-01**	1.933E-01	1.945E-01	7.327E-01	PCI/SA	0.98	1.0E+0	6.241E-2
32139	**9H9F9W10**		**J6G1802111**	P-0683	FILTER	7/18/2006 10:00:00	6/27/2006 10:35:00 AM				
ALPHA	BAS7	0	8/4/2006 10:54:31 AM	**3.4878E+00**	1.573E+00	1.615E+00	5.438E+00	PCI/SA	1.0	1.0E+0	2.096E-2
BETA	BDS8	0	8/2/2006 6:58:31 PM	**2.3578E+01**	1.81E+00	2.454E+00	5.071E+00	PCI/SA	1.0	1.0E+0	8.614E-2
RA-226	BXTE	0	8/9/2006 1:42:01 PM	**3.4936E-01**	1.012E-01	1.081E-01	2.544E-01	PCI/SA	1.057	8.33E-1	2.504E-1
TH-228	9NS1	0	7/29/2006 1:47:52 PM	**7.5472E-02**	7.547E-02	7.579E-02	3.018E-01	PCI/SA	0.844	1.0E+0	8.437E-2
TH-230	9NS1	0	7/29/2006 1:47:52 PM	**0.0E+00**	0.0E+00	5.933E-02	1.313E-01	PCI/SA	0.844	1.0E+0	8.437E-2
TH-232	9NS1	0	7/29/2006 1:47:52 PM	**0.0E+00**	0.0E+00	5.933E-02	1.313E-01	PCI/SA	0.844	1.0E+0	8.437E-2
U-234	7YSR	0	7/30/2006 2:24:42 PM	**4.6182E-01**	2.263E-01	2.293E-01	5.674E-01	PCI/SA	0.982	1.0E+0	6.241E-2
U-235	7YSR	0	7/30/2006 2:24:42 PM	**6.0222E-02**	1.043E-01	1.045E-01	5.674E-01	PCI/SA	0.982	1.0E+0	6.241E-2
U-238	7YSR	0	7/30/2006 2:24:42 PM	**-8.0358E-02**	4.018E-02	4.07E-02	6.898E-01	PCI/SA	0.982	1.0E+0	6.241E-2
32139	**9H9GAA10**		**J6G1802115**	P-0687	FILTER	7/18/2006 10:00:00	6/27/2006 11:55:00 AM				
ALPHA	BAS7	0	8/4/2006 1:41:19 PM	**2.1842E+00**	1.39E+00	1.408E+00	5.344E+00	PCI/SA	1.0	1.0E+0	2.104E-2
BETA	BDS8	0	8/2/2006 6:59:47 PM	**2.0884E+01**	1.784E+00	2.286E+00	5.141E+00	PCI/SA	1.0	1.0E+0	8.325E-2
RA-226	BXTE	0	8/9/2006 1:41:00 PM	**-7.8473E-02**	8.121E-02	8.165E-02	3.566E-01	PCI/SA	0.897	8.33E-1	2.509E-1
TH-228	9NS1	0	7/29/2006 1:50:24 PM	**-1.7717E-06**	9.207E-02	9.207E-02	4.936E-01	PCI/SA	0.875	1.0E+0	8.356E-2
TH-230	9NS1	0	7/29/2006 1:50:24 PM	**1.5356E-01**	8.866E-02	8.979E-02	1.387E-01	PCI/SA	0.875	1.0E+0	8.356E-2
TH-232	9NS1	0	7/29/2006 1:50:24 PM	**0.0E+00**	0.0E+00	6.269E-02	1.387E-01	PCI/SA	0.875	1.0E+0	8.356E-2
U-234	7YSR	0	7/30/2006 2:26:30 PM	**1.5989E-01**	1.599E-01	1.605E-01	4.333E-01	PCI/SA	0.599	1.0E+0	6.247E-2
U-235	7YSR	0	7/30/2006 2:26:30 PM	**-3.1994E-02**	3.199E-02	3.211E-02	7.659E-01	PCI/SA	0.599	1.0E+0	6.247E-2
U-238	7YSR	0	7/30/2006 2:26:30 PM	**9.5901E-02**	1.662E-01	1.664E-01	9.036E-01	PCI/SA	0.599	1.0E+0	6.247E-2
32139	**9H9GAC10**		**J6G1802116**	P-0688	FILTER	7/18/2006 10:00:00	6/27/2006 12:05:00 PM				
ALPHA	BAS7	0	8/4/2006 1:41:19 PM	**2.8417E+00**	1.535E+00	1.563E+00	5.628E+00	PCI/SA	1.0	1.0E+0	2.03E-2

6200133, **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	
BETA	BDS8	0		8/2/2006 6:59:47 PM	**1.9035E+01**	1.8E+00	2.223E+00	5.421E+00	PCI/SA		1.0	1.0E+0	8.162E-2
RA-226	BXTE	0		8/9/2006 1:42:01 PM	**-1.0507E-01**	7.06E-02	7.155E-02	3.267E-01	PCI/SA		1.091	8.33E-1	2.457E-1
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**1.9783E-06**	8.385E-02	8.385E-02	4.254E-01	PCI/SA		1.021	1.0E+0	8.155E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**3.612E-01**	1.217E-01	1.259E-01	2.28E-01	PCI/SA		1.021	1.0E+0	8.155E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**0.0E+00**	0.0E+00	4.657E-02	1.03E-01	PCI/SA		1.021	1.0E+0	8.155E-2
U-234	7YSR	0		7/30/2006 2:26:46 PM	**8.1919E-02**	1.044E-01	1.047E-01	4.906E-01	PCI/SA		0.988	1.0E+0	6.125E-2
U-235	7YSR	0		7/30/2006 2:26:46 PM	**0.0E+00**	0.0E+00	1.254E-01	2.775E-01	PCI/SA		0.988	1.0E+0	6.125E-2
U-238	7YSR	0		7/30/2006 2:26:46 PM	**1.8433E-01**	1.463E-01	1.47E-01	4.906E-01	PCI/SA		0.988	1.0E+0	6.125E-2
32139	**9H9GAE10**			**J6G1802117**	P-0689	FILTER	7/18/2006 10:00:00	6/27/2006 10:45:00 AM					
ALPHA	BAS7	0		8/4/2006 1:41:19 PM	**3.4043E+00**	1.446E+00	1.487E+00	4.793E+00	PCI/SA		1.0	1.0E+0	2.06E-2
BETA	BDS8	0		8/2/2006 6:59:47 PM	**2.4635E+01**	1.817E+00	2.498E+00	4.981E+00	PCI/SA		1.0	1.0E+0	8.559E-2
RA-226	BXTE	0		8/10/2006 12:50:01 PM	**3.7059E-02**	1.006E-01	1.007E-01	3.839E-01	PCI/SA		0.982	8.33E-1	2.517E-1
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**-8.1095E-02**	6.411E-02	6.452E-02	4.365E-01	PCI/SA		0.933	1.0E+0	8.279E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**2.1452E-01**	9.751E-02	9.937E-02	2.339E-01	PCI/SA		0.933	1.0E+0	8.279E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**6.5073E-07**	4.777E-02	4.777E-02	2.871E-01	PCI/SA		0.933	1.0E+0	8.279E-2
U-234	7YSR	0		7/30/2006 2:27:07 PM	**0.0E+00**	0.0E+00	1.211E-01	2.679E-01	PCI/SA		0.941	1.0E+0	6.199E-2
U-235	7YSR	0		7/30/2006 2:27:07 PM	**-1.9769E-02**	1.977E-02	1.983E-02	4.735E-01	PCI/SA		0.941	1.0E+0	6.199E-2
U-238	7YSR	0		7/30/2006 2:27:07 PM	**9.8858E-02**	9.886E-02	9.918E-02	2.679E-01	PCI/SA		0.941	1.0E+0	6.199E-2
32139	**9H9GAG10**			**J6G1802118**	P-0690	FILTER	7/18/2006 10:00:00	6/27/2006 11:00:00 AM					
ALPHA	BAS7	0		8/4/2006 1:41:19 PM	**0.0E+00**	0.0E+00	1.054E+00	5.319E+00	PCI/SA		1.0	1.0E+0	2.079E-2
BETA	BDS8	0		8/3/2006 7:32:16 AM	**1.4398E+00**	1.346E+00	1.35E+00	5.529E+00	PCI/SA		1.0	1.0E+0	8.239E-2
RA-226	BXTE	0		8/10/2006 12:50:03 PM	**-2.6337E-03**	4.32E-02	4.32E-02	1.928E-01	PCI/SA		1.035	8.33E-1	2.485E-1
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**2.5345E-02**	5.667E-02	5.672E-02	3.04E-01	PCI/SA		0.883	1.0E+0	8.254E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**4.3882E-01**	1.463E-01	1.517E-01	1.321E-01	PCI/SA		0.883	1.0E+0	8.254E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**0.0E+00**	0.0E+00	5.972E-02	1.321E-01	PCI/SA		0.883	1.0E+0	8.254E-2
U-234	7YSR	0		7/30/2006 2:27:27 PM	**-3.9864E-02**	2.819E-02	2.837E-02	5.629E-01	PCI/SA		1.004	1.0E+0	6.163E-2
U-235	7YSR	0		7/30/2006 2:27:27 PM	**0.0E+00**	0.0E+00	1.22E-01	2.699E-01	PCI/SA		1.004	1.0E+0	6.163E-2
U-238	7YSR	0		7/30/2006 2:27:27 PM	**-3.9864E-02**	2.819E-02	2.837E-02	5.629E-01	PCI/SA		1.004	1.0E+0	6.163E-2
32139	**9H9GAJ10**			**J6G1802119**	000509	FILTER	7/18/2006 10:00:00	6/27/2006 10:40:00 AM					
ALPHA	BAS7	0		8/4/2006 4:26:53 PM	**2.2347E+00**	1.422E+00	1.441E+00	5.467E+00	PCI/SA		1.0	1.0E+0	2.08E-2
BETA	BDS8	0		8/3/2006 7:32:16 AM	**2.7048E+01**	1.955E+00	2.732E+00	5.427E+00	PCI/SA		1.0	1.0E+0	8.498E-2
RA-226	BXTE	0		8/10/2006 12:51:00 PM	**8.9332E-03**	8.646E-02	8.646E-02	3.421E-01	PCI/SA		1.011	8.33E-1	2.504E-1
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**1.3582E-01**	7.842E-02	7.936E-02	1.227E-01	PCI/SA		1.045	1.0E+0	8.346E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**5.2256E-01**	1.509E-01	1.58E-01	1.18E-01	PCI/SA		1.045	1.0E+0	8.346E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**8.7094E-02**	6.158E-02	6.208E-02	1.18E-01	PCI/SA		1.045	1.0E+0	8.346E-2
U-234	7YSR	0		7/30/2006 2:28:10 PM	**-2.0287E-02**	2.029E-02	2.035E-02	4.858E-01	PCI/SA		0.957	1.0E+0	6.284E-2
U-235	7YSR	0		7/30/2006 2:28:10 PM	**0.0E+00**	0.0E+00	1.242E-01	2.749E-01	PCI/SA		0.957	1.0E+0	6.284E-2
U-238	7YSR	0		7/30/2006 2:28:10 PM	**8.1144E-02**	1.034E-01	1.036E-01	4.858E-01	PCI/SA		0.957	1.0E+0	6.284E-2
32139	**9H9GAK10**			**J6G18021110**	000510	FILTER	7/18/2006 10:00:00	6/27/2006 10:55:00 AM					
ALPHA	BAS7	0		8/4/2006 4:26:53 PM	**7.5385E-01**	1.194E+00	1.197E+00	5.358E+00	PCI/SA		1.0	1.0E+0	2.096E-2
BETA	BDS8	0		8/3/2006 7:32:16 AM	**3.0006E+01**	2.032E+00	2.909E+00	5.347E+00	PCI/SA		1.0	1.0E+0	8.457E-2
RA-226	BXTE	0		8/10/2006 12:50:01 PM	**-1.2975E-01**	5.796E-02	5.938E-02	2.923E-01	PCI/SA		1.032	8.33E-1	2.493E-1
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**1.4573E-01**	8.584E-02	8.682E-02	2.497E-01	PCI/SA		0.923	1.0E+0	8.313E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**4.4055E-01**	1.328E-01	1.386E-01	1.085E-01	PCI/SA		0.923	1.0E+0	8.313E-2
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**6.0076E-02**	6.008E-02	6.032E-02	2.402E-01	PCI/SA		0.923	1.0E+0	8.313E-2
U-234	7YSR	0		7/30/2006 2:28:28 PM	**0.0E+00**	0.0E+00	1.202E-01	2.66E-01	PCI/SA		0.909	1.0E+0	6.168E-2
U-235	7YSR	0		7/30/2006 2:28:28 PM	**-1.9627E-02**	1.963E-02	1.969E-02	4.701E-01	PCI/SA		0.909	1.0E+0	6.168E-2
U-238	7YSR	0		7/30/2006 2:28:28 PM	**7.8518E-02**	1.001E-01	1.003E-01	4.701E-01	PCI/SA		0.909	1.0E+0	6.168E-2
32139	**9H9GAL10**			**J6G18021111**	000511	FILTER	7/18/2006 10:00:00	6/27/2006 11:15:00 AM					
ALPHA	BAS7	0		8/4/2006 4:26:53 PM	**2.0306E+00**	1.406E+00	1.422E+00	5.511E+00	PCI/SA		1.0	1.0E+0	2.068E-2
BETA	BDS8	0		8/3/2006 7:32:16 AM	**2.9074E+01**	1.971E+00	2.792E+00	5.096E+00	PCI/SA		1.0	1.0E+0	8.322E-2
RA-226	BXTE	0		8/10/2006 12:50:01 PM	**1.391E-01**	6.985E-02	7.15E-02	2.167E-01	PCI/SA		0.974	8.33E-1	2.514E-1
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**9.7601E-02**	8.509E-02	8.551E-02	3.281E-01	PCI/SA		1.166	1.0E+0	8.24E-2
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**3.192E-01**	1.142E-01	1.176E-01	2.252E-01	PCI/SA		1.166	1.0E+0	8.24E-2

6200133, **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		7/30/2006 1:46:15 PM	**6.2653E-07**	4.599E-02	4.599E-02	2.764E-01	PCI/SA	1.166	1.0E+0	8.24E-2	
U-234	7YSR	0		7/30/2006 2:29:01 PM	**1.0205E-01**	1.021E-01	1.024E-01	2.766E-01	PCI/SA	0.968	1.0E+0	6.205E-2	
U-235	7YSR	0		7/30/2006 2:29:01 PM	**0.0E+00**	0.0E+00	1.25E-01	2.766E-01	PCI/SA	0.968	1.0E+0	6.205E-2	
U-238	7YSR	0		7/30/2006 2:29:01 PM	**1.837E-01**	1.458E-01	1.465E-01	4.888E-01	PCI/SA	0.968	1.0E+0	6.205E-2	
32139	**9H9GAM10**			**J6G18021112**	000512	FILTER	7/18/2006 10:00:00	6/27/2006 11:35:00 AM					
ALPHA	BAS7	0		8/4/2006 4:26:53 PM	**6.591E+00**	1.794E+00	1.917E+00	4.789E+00	PCI/SA	1.0	1.0E+0	2.071E-2	
BETA	BDS8	0		8/3/2006 7:32:20 AM	**3.2027E+01**	2.041E+00	2.995E+00	5.2E+00	PCI/SA	1.0	1.0E+0	8.263E-2	
RA-226	BXTE	0		8/10/2006 12:51:01 PM	**5.8587E-02**	9.447E-02	9.466E-02	3.619E-01	PCI/SA	1.017	8.33E-1	2.496E-1	
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**2.1352E-02**	4.774E-02	4.778E-02	2.561E-01	PCI/SA	0.992	1.0E+0	8.471E-2	
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**1.6431E-01**	8.216E-02	8.348E-02	1.113E-01	PCI/SA	0.992	1.0E+0	8.471E-2	
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**4.1078E-02**	4.108E-02	4.124E-02	1.113E-01	PCI/SA	0.992	1.0E+0	8.471E-2	
U-234	7YSR	0		7/30/2006 2:29:43 PM	**2.0602E-01**	1.663E-01	1.672E-01	5.84E-01	PCI/SA	0.831	1.0E+0	6.188E-2	
U-235	7YSR	0		7/30/2006 2:29:43 PM	**2.0602E-01**	1.663E-01	1.672E-01	5.84E-01	PCI/SA	0.831	1.0E+0	6.188E-2	
U-238	7YSR	0		7/30/2006 2:29:43 PM	**6.0851E-02**	1.193E-01	1.194E-01	6.944E-01	PCI/SA	0.831	1.0E+0	6.188E-2	
32139	**9H9GAN10**			**J6G18021113**	000513	FILTER	7/18/2006 10:00:00	6/27/2006 12:00:00 PM					
ALPHA	BAS7	0		8/4/2006 4:26:53 PM	**7.55E-01**	1.182E+00	1.184E+00	5.323E+00	PCI/SA	1.0	1.0E+0	2.078E-2	
BETA	BDS8	0		8/3/2006 7:32:20 AM	**2.7498E+01**	1.896E+00	2.672E+00	5.0E+00	PCI/SA	1.0	1.0E+0	8.284E-2	
RA-226	BXTE	0		8/10/2006 1:11:00 PM	**1.6394E+00**	2.123E-01	2.707E-01	3.993E-01	PCI/SA	0.983	8.33E-1	2.481E-1	
TH-228	9NS1	0		7/30/2006 1:46:15 PM	**2.611E-01**	1.082E-01	1.106E-01	2.409E-01	PCI/SA	0.893	1.0E+0	8.342E-2	
TH-230	9NS1	0		7/30/2006 1:46:15 PM	**5.7961E-02**	5.796E-02	5.819E-02	2.318E-01	PCI/SA	0.893	1.0E+0	8.342E-2	
TH-232	9NS1	0		7/30/2006 1:46:15 PM	**-3.864E-02**	2.732E-02	2.754E-02	2.844E-01	PCI/SA	0.893	1.0E+0	8.342E-2	
U-234	7YSR	0		7/30/2006 2:29:59 PM	**5.1741E-02**	1.014E-01	1.015E-01	5.905E-01	PCI/SA	1.0	1.0E+0	6.19E-2	
U-235	7YSR	0		7/30/2006 2:29:59 PM	**-2.39E-02**	1.38E-02	1.393E-02	4.966E-01	PCI/SA	1.0	1.0E+0	6.19E-2	
U-238	7YSR	0		7/30/2006 2:29:59 PM	**5.9708E-02**	1.011E-01	1.012E-01	5.626E-01	PCI/SA	1.0	1.0E+0	6.19E-2	
32139	**9H9GAP10**			**J6G18021114**	000514	FILTER	7/18/2006 10:00:00	6/27/2006 12:10:00 PM					
ALPHA	BAS7	0		8/4/2006 7:15:01 PM	**5.9626E+00**	1.854E+00	1.956E+00	5.527E+00	PCI/SA	1.0	1.0E+0	2.075E-2	
BETA	BDS8	0		8/3/2006 7:32:20 AM	**3.3804E+01**	2.008E+00	3.092E+00	4.97E+00	PCI/SA	1.0	1.0E+0	8.531E-2	
RA-226	BXTE	0		8/10/2006 1:10:00 PM	**2.1857E-01**	1.087E-01	1.115E-01	3.446E-01	PCI/SA	0.958	8.33E-1	2.495E-1	
TH-228	9NS1	0		7/30/2006 1:47:26 PM	**3.6037E-02**	3.604E-02	3.618E-02	9.766E-02	PCI/SA	0.95	1.0E+0	8.325E-2	
TH-230	9NS1	0		7/30/2006 1:47:26 PM	**3.1199E-01**	1.04E-01	1.076E-01	9.394E-02	PCI/SA	0.95	1.0E+0	8.325E-2	
TH-232	9NS1	0		7/30/2006 1:47:26 PM	**1.7331E-02**	3.876E-02	3.879E-02	2.079E-01	PCI/SA	0.95	1.0E+0	8.325E-2	
U-234	7YSR	0		7/30/2006 2:30:15 PM	**2.03E-01**	1.639E-01	1.647E-01	5.754E-01	PCI/SA	0.905	1.0E+0	6.204E-2	
U-235	7YSR	0		7/30/2006 2:30:15 PM	**-1.8459E-02**	1.305E-02	1.314E-02	5.271E-01	PCI/SA	0.905	1.0E+0	6.204E-2	
U-238	7YSR	0		7/30/2006 2:30:15 PM	**3.2757E-01**	2.002E-01	2.02E-01	5.271E-01	PCI/SA	0.905	1.0E+0	6.204E-2	
32139	**9H9GAT10**			**J6G18021115**	000515	FILTER	7/18/2006 10:00:00	6/27/2006 11:40:00 AM					
ALPHA	BAS7	0		8/4/2006 7:15:01 PM	**-1.7688E+00**	7.283E-01	7.512E-01	5.388E+00	PCI/SA	1.0	1.0E+0	2.085E-2	
BETA	BDS8	0		8/3/2006 7:32:14 AM	**1.9269E+00**	1.311E+00	1.318E+00	5.316E+00	PCI/SA	1.0	1.0E+0	8.316E-2	
RA-226	BXTE	0		8/10/2006 1:10:02 PM	**8.5544E-02**	6.44E-02	6.501E-02	2.243E-01	PCI/SA	1.045	8.33E-1	2.482E-1	
TH-228	9NS1	0		7/30/2006 1:47:57 PM	**1.3083E-05**	8.013E-02	8.013E-02	4.816E-01	PCI/SA	0.683	1.0E+0	8.329E-2	
TH-230	9NS1	0		7/30/2006 1:47:57 PM	**9.4419E-02**	9.441E-02	9.484E-02	3.775E-01	PCI/SA	0.683	1.0E+0	8.329E-2	
TH-232	9NS1	0		7/30/2006 1:47:57 PM	**-3.1465E-02**	3.146E-02	3.161E-02	3.775E-01	PCI/SA	0.683	1.0E+0	8.329E-2	
U-234	7YSR	0		7/30/2006 2:30:47 PM	**5.4144E-02**	1.062E-01	1.062E-01	6.18E-01	PCI/SA	1.021	1.0E+0	6.201E-2	
U-235	7YSR	0		7/30/2006 2:30:47 PM	**-8.3387E-03**	8.339E-03	8.366E-03	4.194E-01	PCI/SA	1.021	1.0E+0	6.201E-2	
U-238	7YSR	0		7/30/2006 2:30:47 PM	**-1.6677E-02**	1.179E-02	1.187E-02	4.761E-01	PCI/SA	1.021	1.0E+0	6.201E-2	
32139	**H9HWQ1AB**			**J6G190000133**	INTRA-LAB BLANK	FILTER	7/18/2006 10:00:00	6/27/2006 10:35:00 AM					
RA-226	BXTE	0	B	8/10/2006 1:11:01 PM	**-1.2185E-02**	1.631E-02	1.635E-02	7.986E-02	PCI/SA	0.822	1.0E+0	1.0E+0	
32139	**H9HWQ1CS**			**J6G190000133**	INTRA-LAB CHECK	FILTER	7/18/2006 10:00:00	6/27/2006 10:35:00 AM					
RA-226	BXTE	0	S	8/10/2006 1:12:00 PM	**1.4362E+00**	8.332E-02	1.681E-01	6.152E-02	PCI/SA	1.3917E+00 1.002	1.0E+0	1.0E+0	

6200133, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => .

8/11/2006 9:41:42 AM

ICOC Fraction Transfer/Status Report

ByDate: 8/11/2005, 8/16/2006, Batch: '6200133', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6200133						
AC		**CalcC**	**HansenM**	7/20/2006 1:20:46 PM		
SC			wagarr	IsBatched	7/19/2006 8:00:26 AM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	7/20/2006 1:20:46 PM	RICH-RC-5016 REVISION 5
SC			LongA	InPrep	7/27/2006 2:17:05 PM	RICH-RC-5005 REVISION 5
SC			LongA	Sep1C	7/28/2006 11:57:45 AM	RICH-RC-5005 REVISION 5
SC			BlackCL	InCnt1	7/28/2006 12:13:10 PM	RICH-RD-0007 REVISION 5
SC			DAWKINSO	Cnt1C	7/28/2006 4:52:01 PM	RICH-RD-0007 REVISION 5
SC			TamosaitisM	InSep2	8/1/2006 9:33:49 AM	RICH-RC-5005 REVISION 4
SC			StringerR	CalcC	8/10/2006 2:21:59 PM	RICH-RC-5005 REVISION 5
AC			**LongA**	7/27/2006 2:17:05 PM		
AC			**LongA**	7/28/2006 11:57:45		
AC			**BlackCL**	7/28/2006 12:13:10		
AC			**DAWKINSO**	7/28/2006 4:52:01 PM		
AC			**TamosaitisM**	8/1/2006 9:33:49 AM		
AC			**StringerR**	8/10/2006 2:21:59 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 7

ICOCFractions v4.8.18

Batch Nbr: 6200133

Alpha Beta, Ra-226 by ASC-7 , Results
Summary Report

8/10/2006 2:26:18 PM

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	H9F9W1AC	RA-226	3.49E-01	(1.08E-01)		PCI/SA	R	1.01E-01	2.54E-01		106%	
Calc	TE	FILTER	H9F921AC	RA-226	2.83E-02	(8.70E-02)	U4	PCI/SA	R	1.44E-01	3.35E-01		103%	
Calc	TE	FILTER	H9F951AC	RA-226	-1.98E-02	(9.87E-02)	U4	PCI/SA	R	1.72E-01	3.91E-01		97%	
Calc	TE	FILTER	H9F981AC	RA-226	2.47E-01	(8.80E-02)		PCI/SA	R	9.66E-02	2.37E-01		100%	
Calc	TE	FILTER	H9GAA1AC	RA-226	-7.85E-02	(8.17E-02)	U4	PCI/SA	R	1.54E-01	3.57E-01		90%	
Calc	TE	FILTER	H9GAC1AC	RA-226	-1.05E-01	(7.15E-02)	U4	PCI/SA	R	1.41E-01	3.27E-01		109%	
Calc	TE	FILTER	H9GAE1AC	RA-226	3.71E-02	(1.01E-01)	U4	PCI/SA	R	1.67E-01	3.84E-01		98%	
Calc	TE	FILTER	H9GAG1AC	RA-226	-2.63E-03	(4.32E-02)	U4	PCI/SA	R	7.50E-02	1.93E-01		103%	
Calc	TE	FILTER	H9GAJ1AC	RA-226	8.93E-03	(8.65E-02)	U4	PCI/SA	R	1.47E-01	3.42E-01		101%	
Calc	TE	FILTER	H9GAK1AC	RA-226	-1.30E-01	(5.94E-02)	U4	PCI/SA	R	1.26E-01	2.92E-01		103%	
Calc	TE	FILTER	H9GAL1AC	RA-226	1.39E-01	(7.15E-02)		PCI/SA	R	8.43E-02	2.17E-01		97%	
Calc	TE	FILTER	H9GAM1AC	RA-226	5.86E-02	(9.47E-02)	U4	PCI/SA	R	1.49E-01	3.62E-01		102%	
Calc	TE	FILTER	H9GAN1AC	RA-226	1.64E+00	(2.71E-01)		PCI/SA	R	1.71E-01	3.99E-01		98%	
Calc	TE	FILTER	H9GAP1AC	RA-226	2.19E-01	(1.11E-01)		PCI/SA	R	1.41E-01	3.45E-01		96%	
Calc	TE	FILTER	H9GAT1AC	RA-226	8.55E-02	(6.50E-02)	U4	PCI/SA	R	8.90E-02	2.24E-01		105%	
Calc	TE	FILTER	H9HWQ1AA	RA-226	-1.22E-02	(1.64E-02)	U4	PCI/SA	R	3.17E-02	7.99E-02	B	82%	
Calc	TE	FILTER	H9HWQ1AC	RA-226	1.44E+00	(1.68E-01)		PCI/SA	R	2.44E-02	6.15E-02	S	100%	103%

OK
KZ
8/21/06

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

Page 1

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

RecCnt:17
RADCALC v4.8.24
STL Richland

Batch Nbr: 6200133

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

8/10/2006 2:26:19 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	TE	FILTER	*STLE	Ra226WoBS	**H9F9W1AC**	**PCI/SA**		06/27/06 10:35	08/09/06 13:42	08/01/06 10:50	RATA23515	1	0.833 Sa	
CID:P-0683LOT:J6G1802111 v4.8.24							FILTER				08/09/06 10:42	RATA23515 Alq	106%	0.250424 Sa	

Sq	Cnt Date	Parameter	Sample 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	08/09/06 13:42	RA-226	23	6	ASCKMD	ASC		N	2.0676E+00	1.0000E+00	N	106%	N		1.3390E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(9.676E-02)	(0.000E+00)		8%			(0.000E+00)	3.326358		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/10/06	RA-226	R	**0.349357**		3.60000E-01	0.23315	0.23315	0.833 Sa	106%		0.254404		
				(0.108097)		(1.0424E-01)	(0.070886)	(0.070886)	(0.023561)			0.100963		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9F921AC**	**PCI/SA**		06/27/06 10:50	08/09/06 13:41	08/01/06 10:50	RATA23516	1	0.833 Sa	
CID:P-0684LOT:J6G1802112 v4.8.24							FILTER				08/09/06 10:41	RATA23516 Alq	103%	0.247818 Sa	

Sq	Cnt Date	Parameter	Sample 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	08/09/06 13:41	RA-226	15	16	ASCMRA	ASC		N	2.3844E+00	1.0000E+00	N	103%	N		1.3391E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(1.044E-01)	(0.000E+00)		8%			(0.000E+00)	3.361341		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/10/06	RA-226	R	**0.028345**	**U4**	3.33333E-02	0.01872	0.01872	0.833 Sa	103%		0.334863		
				(0.086959)		(1.0220E-01)	(0.05742)	(0.05742)	(0.023561)			0.144473		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9F951AC**	**PCI/SA**		06/27/06 11:10	08/09/06 13:40	08/01/06 10:50	RATA23517	1	0.833 Sa	
CID:P-0685LOT:J6G1802113 v4.8.24							FILTER				08/09/06 10:40	RATA23517 Alq	97%	0.2504 Sa	

Sq	Cnt Date	Parameter	Sample 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	08/09/06 13:40	RA-226	18	23	ASCNMA	ASC		N	2.4482E+00	1.0000E+00	N	97%	N		1.3391E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(6.292E-02)	(0.000E+00)		8%			(0.000E+00)	3.326683		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/10/06	RA-226	R	**-0.019755**	**U4**	-2.33333E-02	-0.013183	-0.013183	0.833 Sa	97%		0.390609		
				(0.098717)		(1.1657E-01)	(0.06587)	(0.06587)	(0.023561)			0.172462		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9F981AC**	**PCI/SA**		06/27/06 11:30	08/09/06 13:42	08/01/06 10:50	RATA23518	1	0.833 Sa	
CID:P-0686LOT:J6G1802114 v4.8.24							FILTER				08/09/06 10:42	RATA23518 Alq	100%	0.252133 Sa	

Sq	Cnt Date	Parameter	Sample 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	08/09/06 13:42	RA-226	22	8	ASCQMB	ASC		N	2.4878E+00	1.0000E+00	N	100%	N		1.3390E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(6.220E-02)	(0.000E+00)		8%			(0.000E+00)	3.303818		

() - (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: 6200133

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

8/10/2006 2:26:19 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
	08/10/06	RA-226	R	**0.246538**		3.06667E-01	0.165655	0.165655	0.833 Sa	100%		0.236616		
				(0.088041)		(1.0499E-01)	(0.058386)	(0.058386)	(0.023561)			0.096579		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAA1AC**	**PCI/SA**		06/27/06 11:55	08/09/06 13:41	08/01/06 10:50	RATA23519	1	0.833 Sa	
CID:P-0687LOT:J6G1802115 v4.8.24							FILTER				08/09/06 10:41	RATA23519 Alq	90%	0.250864 Sa	

Sq	Cnt Date	Parameter	Sample 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	08/09/06 13:41	RA-226	9	16	ASCHAC	ASC		N	2.4668E+00	1.0000E+00	N	90%	N		1.3391E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(1.105E-01)	(0.000E+00)		7%			(0.000E+00)	3.320521		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/10/06	RA-226	R	**-0.078473**	**U4**	-8.66667E-02	-0.052462	-0.052462	0.833 Sa	90%		0.356558		
				(0.081654)		(8.9691E-02)	(0.054506)	(0.054506)	(0.023561)			0.153832		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAC1AC**	**PCI/SA**		06/27/06 12:05	08/09/06 13:42	08/01/06 10:50	RATA23520	1	0.833 Sa	
CID:P-0688LOT:J6G1802116 v4.8.24							FILTER				08/09/06 10:42	RATA23520 Alq	109%	0.245659 Sa	

Sq	Cnt Date	Parameter	Sample 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	08/09/06 13:42	RA-226	7	16	ASCLMD	ASC		N	2.4657E+00	1.0000E+00	N	109%	N		1.3390E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(1.223E-01)	(0.000E+00)		9%			(0.000E+00)	3.390876		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/10/06	RA-226	R	**-0.105072**	**U4**	-1.26667E-01	-0.068788	-0.068788	0.833 Sa	109%		0.326654		
				(0.071548)		(8.5114E-02)	(0.046674)	(0.046674)	(0.023561)			0.140931		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAE1AC**	**PCI/SA**		06/27/06 10:45	08/10/06 12:50	08/01/06 10:50	RATA23521	1	0.833 Sa	
CID:P-0689LOT:J6G1802117 v4.8.24							FILTER				08/10/06 09:50	RATA23521 Alq	98%	0.251723 Sa	

Sq	Cnt Date	Parameter	Sample 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	08/10/06 12:50	RA-226	17	18	ASC2RC	ASC		N	2.0913E+00	1.0000E+00	N	98%	N		1.2763E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(6.818E-02)	(0.000E+00)		8%			(0.000E+00)	3.309193		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/10/06	RA-226	R	**0.037059**	**U4**	4.00000E-02	0.02486	0.02486	0.833 Sa	98%		0.383915		
				(0.100713)		(1.0863E-01)	(0.067546)	(0.067546)	(0.023561)			0.16695		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAG1AC**	**PCI/SA**		06/27/06 11:00	08/10/06 12:50	08/01/06 11:25	RATA23522	1	0.833 Sa	
CID:P-0690LOT:J6G1802118 v4.8.24							FILTER				08/10/06 09:50	RATA23522 Alq	103%	0.248463 Sa	

Sq	Cnt Date	Parameter	Sample 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: 6200133

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

8/10/2006 2:26:20 PM

1	08/10/06 12:50	RA-226	4	5	ASC3MA	ASC	N	2.4421E+00	1.0000E+00	N	103%	N	1.2777E+00	4.5045E-01	1.0000E+00		
			50	60			Y	(6.350E-02)	(0.000E+00)		8%		(0.000E+00)	3.352615			

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/10/06	RA-226	R	**-0.002634**	U4	-3.33333E-03	-0.001744	-0.001744	0.833 Sa	103%		0.192818		
				(0.043197)		(5.4671E-02)	(0.028603)	(0.028603)	(0.023561)			0.075041		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAJ1AC**	**PCI/SA**		06/27/06 10:40	08/10/06 12:51	08/01/06 11:25	RATA23523	1	0.833 Sa	
CID:000509LOT:J6G1802119 v4.8.24							FILTER				08/10/06 09:51	RATA23523 Alq	101%	0.250418 Sa	

Sq	Cnt Date	Parameter	Sample 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	08/10/06 12:51	RA-226	13	15	ASC4UA	ASC		N	2.1431E+00	1.0000E+00	N	101%	N		1.2776E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(1.080E-01)	(0.000E+00)		8%			(0.000E+00)	3.326438		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/10/06	RA-226	R	**0.008933**	U4	1.00000E-02	0.005962	0.005962	0.833 Sa	101%		0.342145		
				(0.086462)		(9.6782E-02)	(0.0577)	(0.0577)	(0.023561)			0.146951		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAK1AC**	**PCI/SA**		06/27/06 10:55	08/10/06 12:50	08/01/06 11:25	RATA23524	1	0.833 Sa	
CID:000510LOT:J6G18021110 v4.8.24							FILTER				08/10/06 09:50	RATA23524 Alq	103%	0.249268 Sa	

Sq	Cnt Date	Parameter	Sample 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	08/10/06 12:50	RA-226	4	15	ASC6MB	ASC		N	2.5199E+00	1.0000E+00	N	103%	N		1.2777E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(3.251E-02)	(0.000E+00)		8%			(0.000E+00)	3.34179		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/10/06	RA-226	R	**-0.129754**	U4	-1.70000E-01	-0.086194	-0.086194	0.833 Sa	103%		0.292332		
				(0.059376)		(7.5939E-02)	(0.039131)	(0.039131)	(0.023561)			0.125556		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GAL1AC**	**PCI/SA**		06/27/06 11:15	08/10/06 12:50	08/01/06 11:25	RATA23525	1	0.833 Sa	
CID:000511LOT:J6G18021111 v4.8.24							FILTER				08/10/06 09:50	RATA23525 Alq	97%	0.251364 Sa	

Sq	Cnt Date	Parameter	Sample 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	08/10/06 12:50	RA-226	12	5	ASC7UA	ASC		N	2.2064E+00	1.0000E+00	N	97%	N		1.2777E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(1.072E-01)	(0.000E+00)		8%			(0.000E+00)	3.313921		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/10/06	RA-226	R	**0.139097**		1.56667E-01	0.093177	0.093177	0.833 Sa	97%		0.216668		
				(0.071498)		(7.8669E-02)	(0.047595)	(0.047595)	(0.023561)			0.084323		

() - (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: 6200133

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

8/10/2006 2:26:20 PM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PpttWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
12	Calc	TE	FILTER	*STLE	Ra226WoBS	H9GAM1AC	PCI/SA		06/27/06 11:35	08/10/06 12:51	08/01/06 11:25	RATA23526	1	0.833 Sa	
CID:000512LOT:J6G18021112 v4.8.24							FILTER				08/10/06 09:51	RATA23526 Alq	102%	0.249585 Sa	

Sq	Cnt Date	Parameter	Sample 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	08/10/06 12:51	RA-226	10	9	ASC8RD	ASC		N	1.6393E+00	1.0000E+00	N	102%	N		1.2776E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(4.623E-02)	(0.000E+00)		8%			(0.000E+00)	3.33754		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/10/06	RA-226	R	**0.058587**	U4	5.00000E-02	0.038968	0.038968	0.833 Sa	102%		0.361942		
				(0.09466)		(8.0623E-02)	(0.062922)	(0.062922)	(0.023561)			0.149305		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PpttWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
13	Calc	TE	FILTER	*STLE	Ra226WoBS	H9GAN1AC	PCI/SA		06/27/06 12:00	08/10/06 13:11	08/01/06 11:25	RATA23527	1	0.833 Sa	
CID:000513LOT:J6G18021113 v4.8.24							FILTER				08/10/06 10:11	RATA23527 Alq	98%	0.248149 Sa	

Sq	Cnt Date	Parameter	Sample 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	08/10/06 13:11	RA-226	88	14	ASC9RC	ASC		N	1.8288E+00	1.0000E+00	N	98%	N		1.2768E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(5.139E-02)	(0.000E+00)		8%			(0.000E+00)	3.356858		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/10/06	RA-226	R	**1.639378**		1.52667E+00	1.084131	1.084131	0.833 Sa	98%		0.399309		
				(0.270675)		(1.9771E-01)	(0.167816)	(0.167816)	(0.023561)			0.170655		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PpttWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
14	Calc	TE	FILTER	*STLE	Ra226WoBS	H9GAP1AC	PCI/SA		06/27/06 12:10	08/10/06 13:10	08/01/06 11:25	RATA23528	1	0.833 Sa	
CID:000514LOT:J6G18021114 v4.8.24							FILTER				08/10/06 10:10	RATA23528 Alq	96%	0.249509 Sa	

Sq	Cnt Date	Parameter	Sample 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	08/10/06 13:10	RA-226	16	8	ASCASC	ASC		N	1.7118E+00	1.0000E+00	N	96%	N		1.2769E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(9.244E-02)	(0.000E+00)		8%			(0.000E+00)	3.338551		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/10/06	RA-226	R	**0.218573**		1.86667E-01	0.145336	0.145336	0.833 Sa	96%		0.344633		
				(0.111465)		(9.2856E-02)	(0.073645)	(0.073645)	(0.023561)			0.140668		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PpttWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
15	Calc	TE	FILTER	*STLE	Ra226WoBS	H9GAT1AC	PCI/SA		06/27/06 11:40	08/10/06 13:10	08/01/06 11:25	RATA23529	1	0.833 Sa	
CID:000515LOT:J6G18021115 v4.8.24							FILTER				08/10/06 10:10	RATA23529 Alq	105%	0.248196 Sa	

Sq	Cnt Date	Parameter	Sample 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	08/10/06 13:10	RA-226	10	6	ASCCSA	ASC		N	2.2567E+00	1.0000E+00	N	105%	N		1.2769E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(7.628E-02)	(0.000E+00)		8%			(0.000E+00)	3.356216		

RecCnt:15

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: 6200133

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

8/10/2006 2:26:20 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
	08/10/06	RA-226	R	**0.085544**	**U4**	1.00000E-01	0.056582	0.056582	0.833 Sa	105%		0.224258		
				(0.065008)		(7.5277E-02)	(0.042876)	(0.042876)	(0.023561)			0.088999		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9HWQ1AA**	**PCI/SA**	**B**	06/27/06 10:35	08/10/06 13:11	08/01/06 11:47	RATA23530	1	1.00 Sa	
CID:INTRA-LAB BLANKLOT:J6G190000133 v4.8.24							FILTER				08/10/06 10:11	RATA23530 Alq	82%	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	08/10/06 13:11	RA-226	3	6	ASCBMA	ASC		N	2.2978E+00	1.0000E+00	N	82%	N		1.2777E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(2.895E-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
	08/10/06	RA-226	R	**-0.012185**	**U4**	-4.00000E-02	-0.02705	-0.02705	1.00 Sa	82%		0.07986		
				(0.016353)		(5.3541E-02)	(0.036274)	(0.036274)	(0.017321)			0.031694		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9HWQ1AC**	**PCI/SA**	**S**	06/27/06 10:35	08/10/06 13:12	08/01/06 11:47	RASC4148	1	1.00 Sa	
CID:INTRA-LAB CHECKLOT:J6G190000133 v4.8.24							FILTER				08/10/06 10:12	RASC4148 Alq	100%	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	08/10/06 13:12	RA-226	311	6	ASCPMA	ASC		N	2.4525E+00	1.0000E+00	N	100%	N		1.2777E+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
	08/10/06	RA-226	R	**1.436189**		6.12000E+00	3.188211	3.188211	1.00 Sa	100%	103%	0.06152		
				(0.16807)		(3.5506E-01)	(0.33278)	(0.33278)	(0.017321)			0.024415		

() - (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: H9F9W1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200133 Activity Unit: PCI/SA Multiplier: 0.9458
Technician: RS

Analysis Size: 0.2504 Analysis Unit: SA

Report Date: 9-AUG-2006 14:32:01.00
First Separation Date: 1-AUG-2006 10:50:00.00
Second Separation Date: 9-AUG-2006 10:42:00.00

Detector ID: 19 Cell ID: KMD

Bkg Date: 30-JUN-2006 11:31:58.17
Bkg Counts: 000006 Bkg Duration: 000060.0

Count Date: 9-AUG-2006 13:42:00.51
Counts: 000023 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9F921AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200133 Activity Unit: PCI/SA Multiplier: 0.9673
Technician: RS

Analysis Size: 0.2478 Analysis Unit: SA

Report Date: 9-AUG-2006 14:31:00.84
First Separation Date: 1-AUG-2006 10:50:00.00
Second Separation Date: 9-AUG-2006 10:41:00.00

Detector ID: 21 Cell ID: MRA

Bkg Date: 7-AUG-2006 09:55:25.43
Bkg Counts: 000016 Bkg Duration: 000060.0

Count Date: 9-AUG-2006 13:41:00.38
Counts: 000015 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9F951AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200133 Activity Unit: PCI/SA Multiplier: 1.0329
Technician: RS

Analysis Size: 0.2504 Analysis Unit: SA

Report Date: 9-AUG-2006 14:30:00.61
First Separation Date: 1-AUG-2006 10:50:00.00
Second Separation Date: 9-AUG-2006 10:40:00.00

Detector ID: 22 Cell ID: NMA

Bkg Date: 7-AUG-2006 09:54:56.58
Bkg Counts: 000023 Bkg Duration: 000060.0

Count Date: 9-AUG-2006 13:40:00.27
Counts: 000018 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9F981AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200133 Activity Unit: PCI/SA Multiplier: 1.0036
Technician: RS

Analysis Size: 0.2521 Analysis Unit: SA

Report Date: 9-AUG-2006 14:32:01.18
First Separation Date: 1-AUG-2006 10:50:00.00
Second Separation Date: 9-AUG-2006 10:42:00.00

Detector ID: 24 Cell ID: QMB

Bkg Date: 7-AUG-2006 09:55:40.73
Bkg Counts: 000008 Bkg Duration: 000060.0

Count Date: 9-AUG-2006 13:42:00.59
Counts: 000022 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9GAA1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200133 Activity Unit: PCI/SA Multiplier: 1.1151
Technician: RS

Analysis Size: 0.2509 Analysis Unit: SA

Report Date: 9-AUG-2006 14:31:00.96
First Separation Date: 1-AUG-2006 10:50:00.00
Second Separation Date: 9-AUG-2006 10:41:00.00

Detector ID: 17 Cell ID: HAC

Bkg Date: 19-JUN-2006 14:45:13.35
Bkg Counts: 000016 Bkg Duration: 000060.0

Count Date: 9-AUG-2006 13:41:00.42
Counts: 000009 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9GAC1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200133 Activity Unit: PCI/SA Multiplier: 0.9168
Technician: RS

Analysis Size: 0.2457 Analysis Unit: SA

Report Date: 9-AUG-2006 14:32:01.25
First Separation Date: 1-AUG-2006 10:50:00.00
Second Separation Date: 9-AUG-2006 10:42:00.00

Detector ID: 20 Cell ID: LMD

Bkg Date: 25-JUN-2006 08:14:05.97
Bkg Counts: 000016 Bkg Duration: 000060.0

Count Date: 9-AUG-2006 13:42:00.66
Counts: 000007 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9GAE1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200133 Activity Unit: PCI/SA Multiplier: 1.0184
Technician: RS

Analysis Size: 0.2517 Analysis Unit: SA

Report Date: 10-AUG-2006 13:40:01.30
First Separation Date: 1-AUG-2006 10:50:00.00
Second Separation Date: 10-AUG-2006 09:50:00.00

Detector ID: 2 Cell ID: 2RC

Bkg Date: 10-AUG-2006 08:32:39.48
Bkg Counts: 000018 Bkg Duration: 000060.0

Count Date: 10-AUG-2006 12:50:00.56
Counts: 000017 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9GAG1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200133 Activity Unit: PCI/SA Multiplier: 0.9666
Technician: RS

Analysis Size: 0.2485 Analysis Unit: SA

Report Date: 10-AUG-2006 13:40:03.17
First Separation Date: 1-AUG-2006 11:25:00.00
Second Separation Date: 10-AUG-2006 09:50:00.00

Detector ID: 3 Cell ID: 3MA

Bkg Date: 10-AUG-2006 08:32:46.23
Bkg Counts: 000005 Bkg Duration: 000060.0

Count Date: 10-AUG-2006 12:50:02.59
Counts: 000004 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9GAJ1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200133 Activity Unit: PCI/SA Multiplier: 0.989
Technician: RS

Analysis Size: 0.2504 Analysis Unit: SA

Report Date: 10-AUG-2006 13:41:00.95
First Separation Date: 1-AUG-2006 11:25:00.00
Second Separation Date: 10-AUG-2006 09:51:00.00

Detector ID: 4 Cell ID: 4UA

Bkg Date: 10-AUG-2006 08:33:04.61
Bkg Counts: 000015 Bkg Duration: 000060.0

Count Date: 10-AUG-2006 12:51:00.43
Counts: 000013 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9GAK1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200133 Activity Unit: PCI/SA Multiplier: 0.9686
Technician: RS

Analysis Size: 0.2493 Analysis Unit: SA

Report Date: 10-AUG-2006 13:40:01.44
First Separation Date: 1-AUG-2006 11:25:00.00
Second Separation Date: 10-AUG-2006 09:50:00.00

Detector ID: 6 Cell ID: 6MB

Bkg Date: 10-AUG-2006 08:33:20.56
Bkg Counts: 000015 Bkg Duration: 000060.0

Count Date: 10-AUG-2006 12:50:00.61
Counts: 000004 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9GAL1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200133 Activity Unit: PCI/SA Multiplier: 1.0271
Technician: RS

Analysis Size: 0.2514 Analysis Unit: SA

Report Date: 10-AUG-2006 13:40:01.38
First Separation Date: 1-AUG-2006 11:25:00.00
Second Separation Date: 10-AUG-2006 09:50:00.00

Detector ID: 7 Cell ID: 7UA

Bkg Date: 10-AUG-2006 08:33:28.31
Bkg Counts: 000005 Bkg Duration: 000060.0

Count Date: 10-AUG-2006 12:50:00.66
Counts: 000012 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9GAM1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200133 Activity Unit: PCI/SA Multiplier: 0.983
Technician: RS

Analysis Size: 0.2496 Analysis Unit: SA

Report Date: 10-AUG-2006 13:41:01.17
First Separation Date: 1-AUG-2006 11:25:00.00
Second Separation Date: 10-AUG-2006 09:51:00.00

Detector ID: 8 Cell ID: 8RD

Bkg Date: 10-AUG-2006 08:33:38.18
Bkg Counts: 000009 Bkg Duration: 000060.0

Count Date: 10-AUG-2006 12:51:00.67
Counts: 000010 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9GAN1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200133 Activity Unit: PCI/SA Multiplier: 1.0171
Technician: RS

Analysis Size: 0.2481 Analysis Unit: SA

Report Date: 10-AUG-2006 14:01:00.90
First Separation Date: 1-AUG-2006 11:25:00.00
Second Separation Date: 10-AUG-2006 10:11:00.00

Detector ID: 9 Cell ID: 9RC

Bkg Date: 10-AUG-2006 08:33:47.05
Bkg Counts: 000014 Bkg Duration: 000060.0

Count Date: 10-AUG-2006 13:11:00.41
Counts: 000088 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9GAP1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200133 Activity Unit: PCI/SA Multiplier: 1.0438
Technician: RS

Analysis Size: 0.2495 Analysis Unit: SA

Report Date: 10-AUG-2006 14:00:00.80
First Separation Date: 1-AUG-2006 11:25:00.00
Second Separation Date: 10-AUG-2006 10:10:00.00

Detector ID: 10 Cell ID: ASC

Bkg Date: 10-AUG-2006 08:33:55.80
Bkg Counts: 000008 Bkg Duration: 000060.0

Count Date: 10-AUG-2006 13:10:00.39
Counts: 000016 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9GAT1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200133 Activity Unit: PCI/SA Multiplier: 0.9569
Technician: RS

Analysis Size: 0.2482 Analysis Unit: SA

Report Date: 10-AUG-2006 14:00:02.70
First Separation Date: 1-AUG-2006 11:25:00.00
Second Separation Date: 10-AUG-2006 10:10:00.00

Detector ID: 12 Cell ID: CSA

Bkg Date: 10-AUG-2006 08:34:17.53
Bkg Counts: 000006 Bkg Duration: 000060.0

Count Date: 10-AUG-2006 13:10:02.41
Counts: 000010 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9HWQ1AA Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200133 Activity Unit: PCI/SA Multiplier: 1.2162
Technician: RS

Analysis Size: 1.0 Analysis Unit: SA

Report Date: 10-AUG-2006 14:01:01.05
First Separation Date: 1-AUG-2006 11:47:00.00
Second Separation Date: 10-AUG-2006 10:11:00.00

Detector ID: 11 Cell ID: BMA

Bkg Date: 10-AUG-2006 08:34:06.13
Bkg Counts: 000006 Bkg Duration: 000060.0

Count Date: 10-AUG-2006 13:11:00.51
Counts: 000003 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9HWQ1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200133 Activity Unit: PCI/SA Multiplier: 0.9978
Technician: RS

Analysis Size: 1.0 Analysis Unit: SA

Report Date: 10-AUG-2006 14:02:00.92
First Separation Date: 1-AUG-2006 11:47:00.00
Second Separation Date: 10-AUG-2006 10:12:00.00

Detector ID: 23 Cell ID: PMA

Bkg Date: 10-AUG-2006 08:36:01.90
Bkg Counts: 000006 Bkg Duration: 000060.0

Count Date: 10-AUG-2006 13:12:00.44
Counts: 000311 Count Duration: 000050.0

End of Report

7/27/2006 2:46:30 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:1120373922,1120403183

Pipet #:

AnalyDueDate: 08/14/2006

Sep1 DT/Tm Tech: 7/28/06 10:58

Batch: 6200133 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: 6200134, 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 H9F9W-1-AC J6G180211-1-SAMP	0.833sa	500.75sa	150.54g,in 7.4973 7.927 = 0.9458	0.2504g	RATA23515 07/19/06		G5 8-1-6 M 10:50 KMD 8/9/06	1452	7/28/06 DD 1042 R	
06/27/2006 10:35			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
2 H9F92-1-AC J6G180211-2-SAMP	0.833sa,g	507.26sa,g	150.91g,in 7.5268 7.781 = 0.9673	0.2478g	RATA23516 07/19/06		G4 8-1-6M 10:50 MRA 8/9/06	1453	7/28/06 DD 1041 R	
06/27/2006 10:50			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
3 H9F95-1-AC J6G180211-3-SAMP	0.833sa,g	501.93sa,g	150.88g,in 7.5071 7.268 = 1.0329	0.2504g	RATA23517 07/19/06		G7 8-1-6M 10:50 NMA 8/9/06	1453	7/28/06 DD 1040 R	
06/27/2006 11:10			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
4 H9F98-1-AC J6G180211-4-SAMP	0.833sa,g	501.85sa,g	151.90g,in 7.5766 7.549 = 1.0036	0.2521g	RATA23518 07/19/06		G12 8-1-6M 10:50 QMB 8/9/06	1454	7/28/06 DD 1042 R	
06/27/2006 11:30			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:

7/27/2006 2:46:31 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: 6200133 FILTER pCi/sampl PM, Quote: SA , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: 6200134, 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 H9GAA-1-AC J6G180211-5-SAMP	0.833sa,g	501.93sa,g	151.16g,in 7.5170 6.741 = 1.1151	0.2509g	RATA23519 07/19/06		G13 8-1-6M 10:50 HAC 8/9/06 1041R	1453	7/28/06 OMD	
06/27/2006 11:55			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
6 H9GAC-1-AC J6G180211-6-SAMP	0.833sa,g	512.87sa,g	151.25g,in 7.5268 8.210 = 0.9168	0.2457g	RATA23520 07/19/06		G6 8-1-6M 10:50 LMD 8/9/06 1042 ~	1454	7/28/06 OMD	
06/27/2006 12:05			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
7 H9GAE-1-AC J6G180211-7-SAMP	0.833sa,g	505.38sa,g	152.72g,in 7.5465 7.41 = 1.0184	0.2517g	RATA23521 07/19/06		9' 8-1-6M 10:50 2RC 8/10/06 0950 ~	1529	7/28/06 OMD	
06/27/2006 10:45			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
8 H9GAG-1-AC J6G180211-8-SAMP	0.833sa,g	507.15sa,g	151.27g,in 7.5563 7.817 = 0.9666	0.2485g	RATA23522 07/19/06		G5 8-1-6M 11:25 3MA 8/10/06 0950 ~	1529	7/28/06 OMD	
06/27/2006 11:00			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:

STL RICHLAND
539

7/27/2006 2:46:31 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: 6200133 FILTER pCi/sampl PM, Quote: SA , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: 6200134, 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:
9 H9GAJ-1-AC J6G180211-9-SAMP	0.833sa,g	500.13sa,g	150.35g,in	0.2504g	RATA23523 07/19/06		G4	1531	7/28/06 OP	
			7.4973 / 7.581 = 0.9890					8-1-6M 11:25 4UA 8/10/06 0951 R		
06/27/2006 10:40		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
10H9GAK-1-AC J6G180211-10-SAMP	0.833sa,g	507.15sa,g	151.76g,in	0.2493g	RATA23524 07/19/06		G7	1531	7/28/06 OP	
			7.5170 / 7.761 = 0.9686					8-1-6M 11:25 6MB 8/10/06 0950 R		
06/27/2006 10:55		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
11H9GAL-1-AC J6G180211-11-SAMP	0.833sa,g	505.87sa,g	152.65g,in	0.2514g	RATA23525 07/19/06		G12	1531	7/28/06 OP	
			7.5071 / 7.309 = 1.0271					8-1-6M 11:25 7UA 8/10/06 0950 R		
06/27/2006 11:15		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
12H9GAM-1-AC J6G180211-12-SAMP	0.833sa,g	505.07sa,g	151.33g,in	0.2496g	RATA23526 07/19/06		G13	1531	7/28/06 OP	
			7.5071 / 7.637 = 0.9830					8-1-6M 11:25 8RD 8/10/06 0951 R		
06/27/2006 11:35		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 2:46:32 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: 6200133 FILTER pCi/sampl PM, Quote: SA , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: 6200134, 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:
13H9GAN-1-AC J6G180211-13-SAMP	0.833sa,g	504.67sa,g	150.34g,in 7.5268 7.400 = 1.0171	0.2481g	RATA23527 07/19/06		G6 8-1-6M 11:25 9RC 8/10/06 1011 R	1532	7/28/06 OD	
06/27/2006 12:00			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
14H9GAP-1-AC J6G180211-14-SAMP	0.833sa,g	505.49sa,g	151.41g,in 7.5465 7.23 = 1.0438	0.2495g	RATA23528 07/19/06		9" 8-1-6M 11:25 ASC 8/10/06 1010 R	1613	7/28/06 OD	
06/27/2006 12:10			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
15H9GAT-1-AC J6G180211-15-SAMP	0.833sa,g	504.54sa,g	150.33g,in 7.5268 7.866 = 0.9569	0.2482g	RATA23529 07/19/06		G5 8-1-6M 11:25 CSA 8/10/06 1010 R	1613	7/28/06 OD	
06/27/2006 11:40			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
16H9HWQ-1-AA-B J6G190000-133-BLK			1.00sa,in 7.5268 6.189 = 1.2162	1.00sa	RATA23530 07/19/06		G12 8-1-6M 11:47 BMA 8/10/06 1011 R	1614	7/28/06 OD	
06/27/2006 10:35			AmtRec:	#Containers: 1			Scr:	Alpha:		Beta:

7/27/2006 2:46:32 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 #:

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: ,LongA

AnalyDueDate: 08/14/2006

Batch: 6200133 pCi/sampl
SEQ Batch, Test: None

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
17H9HWQ-1-AC-C J6G190000-133-LCS			1.00sa,in 7.4966 7.513 = 0.9978	1.00sa	RASC4148 06/13/06		G13 8-1-6M PMA 8/10/06	1614 11:47 1012 r	7/28/06 DD	

06/27/2006 10:35 AmtRec: #Containers: 1 Scr: Alpha: Beta:

Comments: Regular nitric acid used instead of trace metal nitric acid MD 7/28/06

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

H9F9W1AC-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:

H9HWQ1AA-BLK:
Ba-133 RDL: pCi/sam LCL:20 UCL:115 RPD:20 Ra-226 RDL:1.00E+00 pCi/sam LCL: UCL: RPD:

H9HWQ1AC-LCS:
Ba-133 RDL: pCi/sam LCL:20 UCL:115 RPD:20 Ra-226 RDL:1 pCi/sam LCL:70 UCL:130 RPD:20

H9F9W1AC-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H9HWQ1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H9HWQ1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

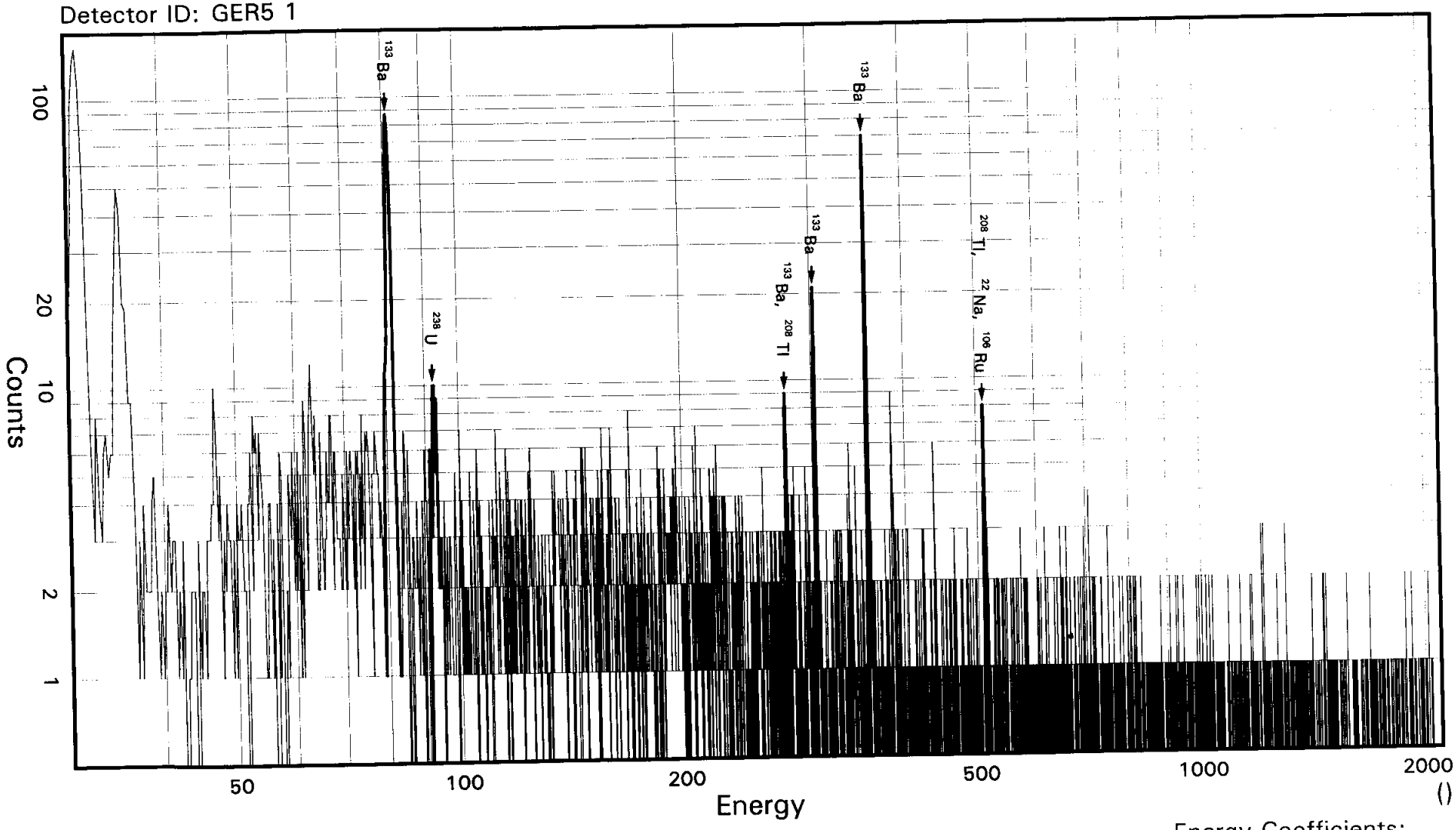
Approved By _____ Date: _____

STL Richland WA.

BA133

Batch ID: 6200133

Sample ID: H9F9W1AC
Detector ID: GER5 1



Acquisition Start: 28-JUL-2006 14:22:58.00
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: H9F9W1AC

CONFIGURATION ID: GER5:H9F9W1AC_280761422
TITLE : BA133
SAMPLE ID : H9F9W1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 14:22:58
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 14:53:13

Configuration : RDND06$DKA100:[GER5.SAMPLE]H9F9W1AC_280761422.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 14:22:58
Sample ID : H9F9W1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Start energy : 19.57 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	30.96	552	139	0.95	125.68	117	15	3.07E-01	6.3	
2	0	35.19	184	50	0.72	142.64	135	16	1.02E-01	11.4	
3	0	80.95	387	35	1.03	326.12	317	17	2.15E-01	6.1	
4	0	92.29*	21	21	2.15	371.56	365	14	1.16E-02	57.2	
5	0	276.56	41	12	1.05	1110.42	1102	16	2.28E-02	24.5	
6	0	302.92	106	11	1.12	1216.11	1204	23	5.86E-02	12.8	
7	0	355.95	307	25	0.98	1428.74	1420	17	1.70E-01	6.8	
8	0	510.91*	7	18	2.30	2050.10	2041	18	3.79E-03	175.0	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 28-JUL-2006 14:53:13

Configuration : RDND06$DKA100:[GER5.SAMPLE]H9F9W1AC_280761422.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 14:22:58
Sample ID : H9F9W1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	387	33.00	1.924E+00	2.033E+03	2.037E+03	8.21
	276.40	41	6.90	2.077E+00	9.557E+02	9.572E+02	25.05
	302.84	106	17.80	2.080E+00	9.504E+02	9.520E+02	13.91
	356.00	307	62.05*	2.082E+00	7.914E+02	7.927E+02	8.71
	383.85	------	8.70	2.081E+00	------	Line Not Found	------

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H9F9W1AC Acquisition date : 28-JUL-2006 14:22:58

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	30.96	552	139	0.95	125.68	117	15	3.07E-01	6.3	1.68E+00	
0	35.19	184	50	0.72	142.64	135	16	1.02E-01	11.4	1.72E+00	
0	92.29	21	21	2.15	371.56	365	14	1.16E-02	57.2	1.95E+00	T
0	510.91	7	18	2.30	2050.10	2041	18	3.79E-03	****	2.07E+00	T

Flags: "T" = Tentatively associated

Sample ID : H9F9W1AC Acquisition date : 28-JUL-2006 14:22:58

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	6.146E+00	175.08	Abun.
			1274.54*	99.94	--- Not Found ---		
		% Abundances Found =		64.26			
RU-106DA	368.20D	0.02	511.85	20.60	5.417E+01	175.08	Abun.
			621.84*	9.80	--- Not Found ---		
		% Abundances Found =		67.76			
TL-208	1.41E+10Y	0.00	277.35	6.80	9.697E+02	25.05	Abun.
			510.84	21.60	5.079E+01	175.08	
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		22.71			
U-238DHP	4.47E+09Y	0.00	63.28*	3.80	--- Not Found ---		Abun.
			92.59	5.41	6.621E+02	57.49	
		% Abundances Found =		58.74			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.1 Generated 28-JUL-2006 14:53:14

Configuration : RDND06$DKA100:[GER5.SAMPLE]H9F9W1AC_280761422.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 14:22:58
Sample ID : H9F9W1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.927E+02	6.903E+01	5.392E+01	1.078E+00	14.702

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-1.966E+01		6.320E+01	2.445E+02	4.905E+00	-0.080
NA-22	2.139E+00		3.840E+00	1.880E+01	3.986E-01	0.114
NA-24	1.936E-02		4.179E-02	Half-Life too short		
K-40	-2.430E+01		5.714E+01	2.806E+02	6.029E+00	-0.087
SC-46	3.582E+00		3.645E+00	1.947E+01	4.083E-01	0.184
CR-51	-9.295E+01		1.286E+02	4.448E+02	8.900E+00	-0.209
MN-54	-1.490E-01		3.430E+00	1.557E+01	3.195E-01	-0.010
CO-57	8.774E+01		1.282E+02	4.769E+02	9.859E+00	0.184
CO-58	1.609E+00		4.850E+00	2.166E+01	4.439E-01	0.074
FE-59	-1.388E+01		6.981E+00	9.236E+00	1.934E-01	-1.503
CO-60	-3.303E+00		3.367E+00	1.258E+01	2.677E-01	-0.263
ZN-65	-3.107E+00		6.076E+00	2.590E+01	5.428E-01	-0.120
SE-75	1.309E+01		1.741E+01	6.798E+01	1.364E+00	0.193
SR-85	1.461E+00		1.094E+01	3.561E+01	7.156E-01	0.041
Y-88	3.786E+00		3.762E+00	2.026E+01	4.462E-01	0.187
NB-94	-8.651E+00		5.126E+00	1.622E+01	3.339E-01	-0.533
NB-95	1.022E+00		5.809E+00	2.487E+01	5.081E-01	0.041
TC-95M	1.317E+01		1.973E+01	7.547E+01	1.526E+00	0.174
ZR-95	-1.333E+01		8.136E+00	2.398E+01	4.896E-01	-0.556
ZRNB-95	1.449E+00		1.063E+01	4.535E+01	9.264E-01	0.032
MO-99	-1.282E+02		1.463E+02	4.938E+02	1.019E+01	-0.260
RH-101	1.686E+01		1.850E+01	7.046E+01	1.427E+00	0.239
RH-102M	1.550E+00		5.687E+00	2.397E+01	4.808E-01	0.065
RU-103	1.815E+00		7.128E+00	2.989E+01	6.002E-01	0.061
RU-106DA	5.401E+01		5.536E+01	2.534E+02	5.125E+00	0.213
AG-108M	-3.047E+01		1.001E+01	2.651E+01	5.309E-01	-1.149
AG-110M	-1.092E+01		6.774E+00	2.162E+01	4.455E-01	-0.505

Sample ID : H9F9W1AC Acquisition date : 28-JUL-2006 14:22:58

---- Non-Identified Nuclides ----

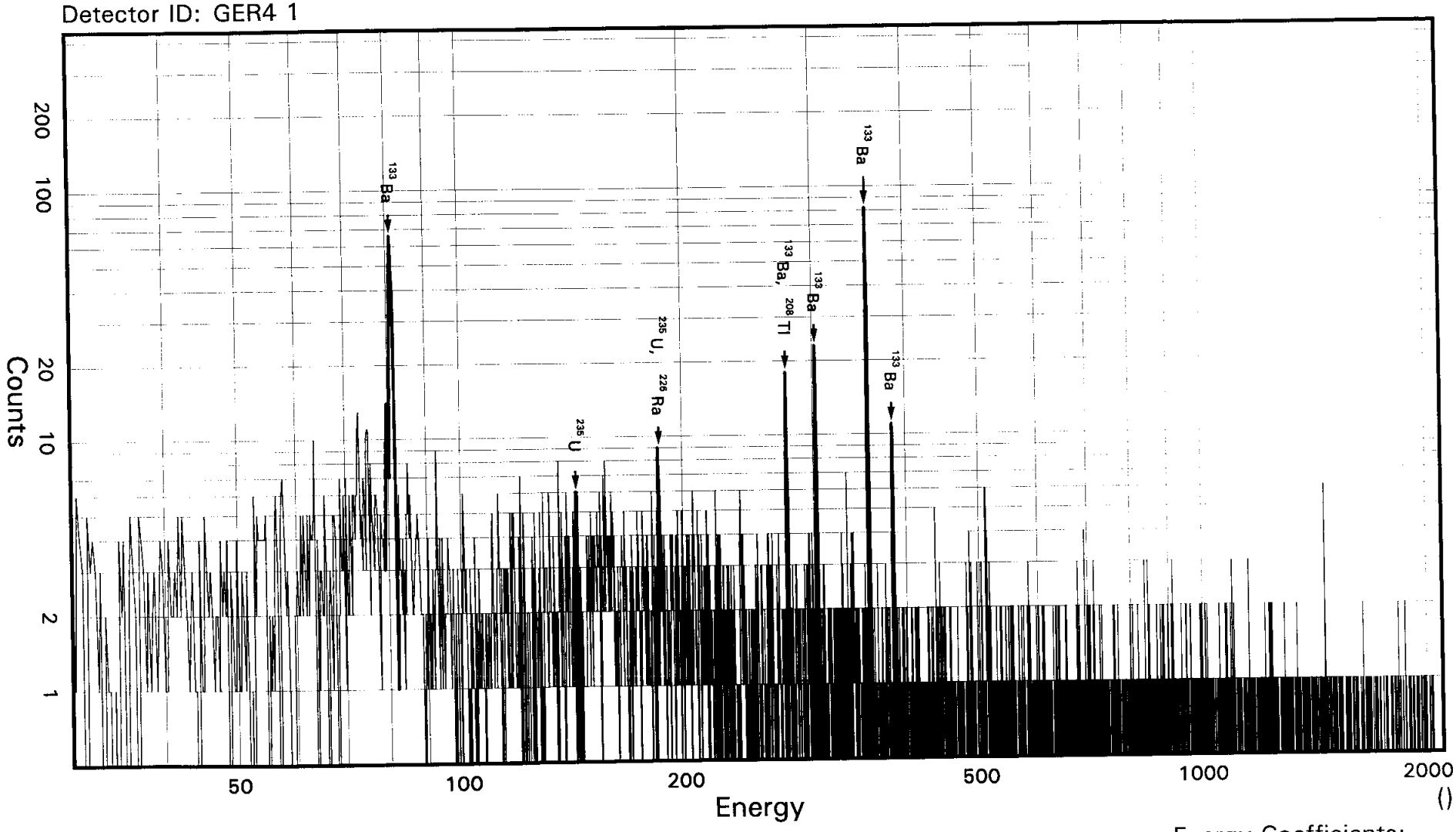
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	1.949E+01		1.302E+01	5.590E+01	1.118E+00	0.349
SB-124	-6.109E+00		7.222E+00	2.631E+01	5.315E-01	-0.232
SB-125	-3.456E+01		2.030E+01	6.372E+01	1.276E+00	-0.542
SN-126DA	9.908E+00		4.641E+00	2.450E+01	4.969E-01	0.404
I-131	-3.187E+01		1.978E+01	6.490E+01	1.298E+00	-0.491
CS-134	-1.552E+00		6.018E+00	2.401E+01	4.914E-01	-0.065
CS-137DA	-1.864E+01		7.591E+00	2.053E+01	4.164E-01	-0.908
LA-138	2.043E+00		5.636E+00	2.696E+01	5.783E-01	0.076
CE-139	5.301E-01		1.577E+01	5.854E+01	1.196E+00	0.009
BA-140	-2.367E+01		3.080E+01	1.136E+02	2.285E+00	-0.208
BALA-140	-1.250E+01		1.223E+01	4.380E+01	9.499E-01	-0.285
LA-140	-1.651E+02		1.615E+02	5.787E+02	1.255E+01	-0.285
CE-141	-5.075E+01		3.461E+01	1.116E+02	2.298E+00	-0.455
CE-144	1.384E+02		1.159E+02	4.485E+02	9.284E+00	0.309
CEPR-144	2.768E+02		2.318E+02	8.969E+02	1.857E+01	0.309
PM-144	-7.800E+00		6.697E+00	2.330E+01	4.712E-01	-0.335
PM-146	7.316E+00		9.611E+00	4.118E+01	8.253E-01	0.178
EU-152	2.592E+01		2.886E+01	1.207E+02	2.413E+00	0.215
EU-154	5.149E-01		1.153E+01	5.154E+01	1.093E+00	0.010
EU-155	8.913E+01		5.799E+01	2.313E+02	4.880E+00	0.385
HF-181	-7.382E+00		9.934E+00	3.562E+01	7.148E-01	-0.207
BI-207	-2.674E+00		5.547E+00	2.165E+01	4.364E-01	-0.124
TL-208	1.469E+00		6.618E+00	2.788E+01	5.625E-01	0.053
BI-210M	-1.132E+01		2.033E+01	7.203E+01	1.445E+00	-0.157
BI-212	-4.861E-01		6.091E+01	2.666E+02	8.151E+00	-0.002
PB-212	-1.861E+01		2.629E+01	9.718E+01	1.955E+00	-0.192
BI-214	4.570E+00		1.415E+01	5.819E+01	1.176E+00	0.079
PB-214	-1.082E+01		2.668E+01	8.295E+01	1.659E+00	-0.130
RA-223	-3.261E+01		6.964E+01	2.498E+02	5.010E+00	-0.131
RA-224DA	-1.878E+01		2.653E+01	9.806E+01	1.972E+00	-0.192
RA-226DA	4.570E+00		1.415E+01	5.820E+01	1.176E+00	0.079
AC-227DA	-5.697E+01		1.006E+02	3.555E+02	7.153E+00	-0.160
AC-228	-4.024E+01		2.045E+01	6.985E+01	1.442E+00	-0.576
RA-228DA	-4.036E+01		2.051E+01	7.006E+01	1.446E+00	-0.576
TH-228DA	4.125E+00		1.859E+01	7.831E+01	1.580E+00	0.053
TH-232DA	-9.712E+01		7.811E+01	2.682E+02	5.365E+00	-0.362
TH-234DA	5.178E+02		6.253E+02	3.073E+03	6.386E+01	0.169
U-234DA	-4.891E+01		5.370E+01	1.834E+02	3.673E+00	-0.267
U-235HP	-1.559E+00		1.211E+02	4.339E+02	8.938E+00	-0.004
NP-237DA	-6.845E+00		1.775E+01	6.651E+01	1.331E+00	-0.103
U-238DA	-1.082E+01		2.668E+01	8.295E+01	1.659E+00	-0.130
U-238DHP	9.660E+01		4.974E+02	1.897E+03	4.223E+01	0.051
AM-241HP	-8.277E+00		4.388E+01	1.585E+02	3.555E+00	-0.052

STL Richland WA.

BA133

Sample ID: H9F921AC
Detector ID: GER4 1

Batch ID: 6200133



Acquisition Start: 28-JUL-2006 14:23:36.34
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: H9F921AC

CONFIGURATION ID: GER4:H9F921AC_280761423
TITLE : BA133
SAMPLE ID : H9F921AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 14:23:36
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 14:53:53

Configuration : $DISK1:[GER4.SAMPLE]H9F921AC_280761423.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 14:23:36
Sample ID : H9F921AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.40 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	80.99	222	56	0.87	325.86	317	14	1.23E-01	9.2	
2	0	143.77	14	5	0.72	578.03	575	6	7.98E-03	35.3	
3	0	186.41*	14	30	0.69	749.32	743	14	7.79E-03	91.1	
4	0	276.43	55	23	0.60	1110.92	1102	19	3.05E-02	25.2	
5	0	302.74	89	6	0.71	1216.63	1209	14	4.93E-02	12.3	
6	0	356.01	319	15	0.88	1430.58	1423	15	1.77E-01	6.2	
7	0	383.80	54	7	1.17	1542.21	1534	14	3.00E-02	17.1	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 14:53:54

Configuration : $DISK1:[GER4.SAMPLE]H9F921AC_280761423.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 14:23:36
Sample ID : H9F921AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.40 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	222	33.00	2.043E+00	1.098E+03	1.100E+03	10.73
	276.40	55	6.90	2.202E+00	1.202E+03	1.204E+03	25.80
	302.84	89	17.80	2.205E+00	7.528E+02	7.540E+02	13.51
	356.00	319	62.05*	2.207E+00	7.769E+02	7.781E+02	9.24
	383.85	54	8.70	2.207E+00	9.374E+02	9.390E+02	18.21

Nuclide Type: NP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
U-235HP	143.76	14	10.50*	2.144E+00	2.127E+02	2.127E+02	35.75
	185.71	14	54.00	2.175E+00	3.977E+01	3.977E+01	91.31
	205.31	------	4.70	2.184E+00	------	Line Not Found	------

Flag: "*" = Keyline

Sample ID : H9F921AC
Acquisition date : 28-JUL-2006 14:23:36

None

Flags: "T" = Tentatively associated

Sample ID : H9F921AC
Acquisition date : 28-JUL-2006 14:23:36

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	1.220E+03	25.80	Abun.
			510.84	21.60	--- Not Found ---		
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		5.44			
RA-226DA	1600.00Y	0.00	186.21	3.50	6.136E+02	91.31	Abun.
			241.98	7.49	--- Not Found ---		
			295.22	19.20	--- Not Found ---		
			351.92	37.20	--- Not Found ---		
			609.32*	46.30	--- Not Found ---		
			1120.28	15.10	--- Not Found ---		
			1238.11	5.94	--- Not Found ---		
			1764.49	15.80	--- Not Found ---		
		% Abundances Found =		2.33			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 14:53:57

Configuration : $DISK1:[GER4.SAMPLE]H9F921AC_280761423.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 14:23:36
Sample ID : H9F921AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.40 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	7.781E+02	7.192E+01	3.921E+01	1.838E+00	19.847
U-235HP	2.127E+02	7.605E+01	3.157E+02	7.542E+00	0.674

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-1.132E+02		5.903E+01	1.760E+02	6.425E+00	-0.643
NA-22	1.573E+00		3.621E+00	1.733E+01	6.682E-01	0.091
K-40	3.157E+01		7.442E+01	3.797E+02	1.483E+01	0.083
SC-46	8.589E+00		4.523E+00	2.404E+01	9.167E-01	0.357
CR-51	5.738E+01		8.862E+01	3.631E+02	8.428E+00	0.158
MN-54	8.255E+00		6.057E+00	2.753E+01	1.028E+00	0.300
CO-57	1.604E+02		1.052E+02	4.257E+02	1.020E+01	0.377
CO-58	-3.773E+00		4.984E+00	1.839E+01	6.855E-01	-0.205
FE-59	-1.284E+01		1.317E+01	4.705E+01	1.791E+00	-0.273
CO-60	-1.704E+00		2.846E+00	1.185E+01	4.586E-01	-0.144
ZN-65	-8.892E+00		9.377E+00	3.439E+01	1.311E+00	-0.259
SE-75	-2.006E+01		1.409E+01	4.750E+01	1.106E+00	-0.422
SR-85	-2.444E+01		1.164E+01	3.585E+01	1.311E+00	-0.682
Y-88	-6.972E+00		3.514E+00	4.792E+00	1.919E-01	-1.455
NB-94	-5.261E+00		4.922E+00	1.753E+01	6.563E-01	-0.300
NB-95	-3.584E+00		7.121E+00	2.660E+01	9.885E-01	-0.135
TC-95M	-3.378E+01		1.958E+01	6.253E+01	1.467E+00	-0.540
ZR-95	2.583E+00		1.123E+01	4.614E+01	1.714E+00	0.056
ZRNB-95	-7.015E+00		1.307E+01	4.863E+01	1.807E+00	-0.144
MO-99	8.401E+01		1.304E+02	4.706E+02	1.126E+01	0.178
RH-101	4.650E+00		1.517E+01	5.633E+01	1.323E+00	0.083
RH-102M	3.270E+00		5.056E+00	2.260E+01	8.251E-01	0.145
RU-103	3.963E+00		6.341E+00	2.818E+01	1.030E+00	0.141
RU-106DA	-4.443E+01		4.085E+01	1.471E+02	5.412E+00	-0.302
AG-108M	-1.120E+01		7.862E+00	2.636E+01	9.608E-01	-0.425
AG-110M	1.257E+01		6.127E+00	3.238E+01	1.214E+00	0.388

Sample ID : H9F921AC Acquisition date : 28-JUL-2006 14:23:36

---- Non-Identified Nuclides ----

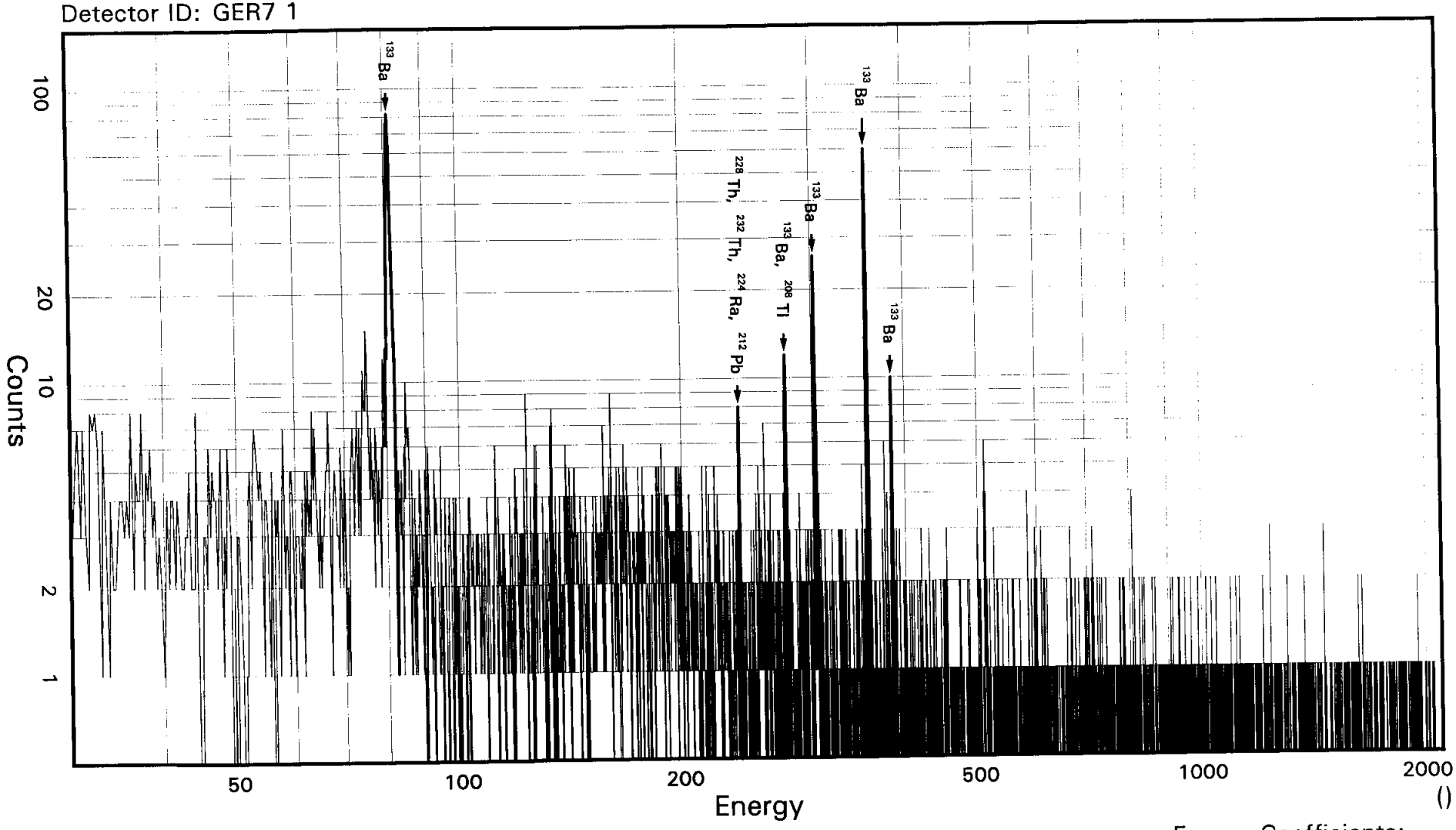
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	-6.569E+00		1.019E+01	3.672E+01	1.337E+00	-0.179
SB-124	6.786E+00		7.507E+00	3.200E+01	1.176E+00	0.212
SB-125	3.453E+00		2.054E+01	8.364E+01	3.048E+00	0.041
SN-126DA	-3.916E+00		4.116E+00	1.508E+01	5.567E-01	-0.260
I-131	-9.547E+00		1.565E+01	5.748E+01	2.092E+00	-0.166
CS-134	-2.442E-01		4.570E+00	1.962E+01	7.308E-01	-0.012
CS-137DA	-8.723E+00		5.911E+00	1.936E+01	7.143E-01	-0.451
LA-138	2.573E+00		5.360E+00	2.609E+01	1.017E+00	0.099
CE-139	3.487E+01		1.437E+01	5.988E+01	1.418E+00	0.582
BA-140	3.692E+01		4.021E+01	1.725E+02	6.316E+00	0.214
BALA-140	-1.704E+01		1.269E+01	4.126E+01	1.626E+00	-0.413
LA-140	-2.252E+02		1.676E+02	5.452E+02	2.149E+01	-0.413
CE-141	-7.803E+00		2.729E+01	8.627E+01	2.059E+00	-0.090
CE-144	-7.692E+01		1.010E+02	3.601E+02	8.645E+00	-0.214
CEPR-144	-1.200E+02		2.006E+02	7.235E+02	1.737E+01	-0.166
PM-144	-2.747E+00		4.838E+00	1.881E+01	6.921E-01	-0.146
PM-146	-1.560E+01		1.004E+01	3.286E+01	1.199E+00	-0.475
EU-152	2.261E+01		2.956E+01	1.190E+02	2.761E+00	0.190
EU-154	3.511E+00		9.943E+00	4.733E+01	1.825E+00	0.074
EU-155	1.990E+01		4.420E+01	1.701E+02	4.160E+00	0.117
HF-181	1.119E+01		9.322E+00	4.028E+01	1.471E+00	0.278
BI-207	-2.003E+00		6.221E+00	2.354E+01	8.635E-01	-0.085
TL-208	8.736E+00		9.165E+00	3.942E+01	1.447E+00	0.222
BI-210M	-3.066E+01		1.687E+01	5.448E+01	1.268E+00	-0.563
BI-212	-3.291E+00		1.103E+02	4.235E+02	1.843E+01	-0.008
PB-212	1.251E+01		2.440E+01	9.892E+01	2.308E+00	0.126
BI-214	1.984E+01		1.540E+01	7.053E+01	2.593E+00	0.281
PB-214	2.479E+00		2.260E+01	7.482E+01	1.736E+00	0.033
RA-223	1.460E+01		6.582E+01	2.529E+02	5.884E+00	0.058
RA-224DA	1.262E+01		2.462E+01	9.982E+01	2.329E+00	0.126
RA-226DA	1.984E+01		1.540E+01	7.053E+01	2.594E+00	0.281
AC-227DA	-3.608E+02		8.916E+01	1.933E+02	4.511E+00	-1.867
AC-228	7.618E+00		2.134E+01	9.790E+01	3.677E+00	0.078
RA-228DA	7.641E+00		2.141E+01	9.820E+01	3.688E+00	0.078
TH-228DA	2.454E+01		2.574E+01	1.107E+02	4.065E+00	0.222
TH-232DA	1.301E+02		8.077E+01	3.272E+02	7.592E+00	0.398
TH-234DA	4.247E+02		9.704E+02	3.998E+03	1.511E+02	0.106
U-234DA	3.821E+01		4.970E+01	1.949E+02	4.528E+00	0.196
NP-237DA	-3.095E+00		2.102E+01	7.952E+01	1.846E+00	-0.039
U-238DA	2.479E+00		2.260E+01	7.482E+01	1.736E+00	0.033
U-238DHP	3.505E+01		3.668E+02	1.377E+03	3.552E+01	0.025
AM-241HP	-1.140E+02		3.330E+01	9.226E+01	2.397E+00	-1.236

STL Richland WA.

BA133

Sample ID: H9F951AC
Detector ID: GER7 1

Batch ID: 6200133



Acquisition Start: 28-JUL-2006 14:23:49.31
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: H9F951AC

CONFIGURATION ID: GER7:H9F951AC_280761423
TITLE : BA133
SAMPLE ID : H9F951AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 14:23:49
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 14:54:10

Configuration : $DISK1:[GER7.SAMPLE]H9F951AC_280761423.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 14:23:49
Sample ID : H9F951AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.21 0.0%
Start energy : 20.45 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	81.01	312	60	0.86	322.84	317	12	1.73E-01	7.6	
2	0	238.97*	16	7	0.45	956.03	948	15	9.00E-03	48.1	
3	0	276.20	44	14	1.04	1105.23	1098	14	2.44E-02	23.5	
4	0	302.84	99	17	0.78	1211.95	1203	18	5.47E-02	14.2	
5	0	355.98	281	19	1.18	1424.81	1414	19	1.56E-01	7.0	
6	0	383.79	31	5	0.66	1536.23	1531	10	1.72E-02	22.5	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 14:54:10

Configuration : $DISK1:[GER7.SAMPLE]H9F951AC_280761423.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 : H9F951AC
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 14:23:49
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.21 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	312	33.00	1.923E+00	1.637E+03	1.640E+03	9.35
	276.40	44	6.90	2.076E+00	1.024E+03	1.026E+03	24.12
	302.84	99	17.80	2.078E+00	8.876E+02	8.890E+02	15.23
	356.00	281	62.05*	2.080E+00	7.256E+02	7.268E+02	8.86
	383.85	31	8.70	2.080E+00	5.710E+02	5.720E+02	23.10

Nuclide Type: NP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
PB-212	238.63	16	44.60*	2.069E+00	5.854E+01	5.854E+01	48.42
	300.09	------	3.41	2.078E+00	------	Line Not Found	------

Flag: "*" = Keyline

Sample ID : H9F951AC
Acquisition date : 28-JUL-2006 14:23:49

None

Flags: "T" = Tentatively associated

Sample ID : H9F951AC
Acquisition date : 28-JUL-2006 14:23:49

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	1.039E+03	24.12	Abun.
			510.84	21.60	--- Not Found ---		
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		5.44			
RA-224DA	1.91Y	0.01	238.63*	44.60	5.907E+01	48.42	Abun.
			240.98	3.95	--- Not Found ---		
			583.14	30.25	--- Not Found ---		
			860.37	4.48	--- Not Found ---		
		% Abundances Found =		53.55			
TH-228DA	1.91Y	0.01	238.63	44.60	5.907E+01	48.42	Abun.
			240.98	3.95	--- Not Found ---		
			583.14*	30.25	--- Not Found ---		
			860.37	4.48	--- Not Found ---		
		% Abundances Found =		53.55			
TH-232DA	1.41E+10Y	0.00	238.63	44.60	5.854E+01	48.42	Abun.
			338.32*	12.40	--- Not Found ---		
			583.14	30.25	--- Not Found ---		
			911.07	27.70	--- Not Found ---		
			964.60	5.20	--- Not Found ---		
			969.11	16.60	--- Not Found ---		
		% Abundances Found =		32.61			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 14:54:12

Configuration : $DISK1:[GER7.SAMPLE]H9F951AC_280761423.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 : H9F951AC
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 14:23:49
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.21 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	7.268E+02	6.436E+01	6.237E+01	1.247E+00	11.652
PB-212	5.854E+01	2.835E+01	7.677E+01	1.544E+00	0.763

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-3.189E+00		3.452E+01	1.571E+02	3.151E+00	-0.020
NA-22	-1.630E+00		2.918E+00	1.258E+01	2.668E-01	-0.130
K-40	4.224E+00		5.971E+01	3.140E+02	6.747E+00	0.013
SC-46	1.670E+00		5.460E+00	2.368E+01	4.966E-01	0.070
CR-51	1.335E+02		9.423E+01	4.078E+02	8.159E+00	0.327
MN-54	1.692E+00		5.032E+00	2.199E+01	4.514E-01	0.077
CO-57	-1.712E+02		1.119E+02	3.761E+02	7.774E+00	-0.455
CO-58	-3.427E+00		6.710E+00	2.545E+01	5.215E-01	-0.135
FE-59	-1.720E+01		7.749E+00	9.242E+00	1.935E-01	-1.861
CO-60	3.434E+00		3.422E+00	1.841E+01	3.919E-01	0.187
ZN-65	5.895E+00		9.513E+00	4.366E+01	9.151E-01	0.135
SE-75	-1.041E+01		1.613E+01	5.813E+01	1.166E+00	-0.179
SR-85	-1.070E+01		1.120E+01	3.813E+01	7.664E-01	-0.280
Y-88	1.946E+00		3.230E+00	1.748E+01	3.852E-01	0.111
NB-94	-6.732E+00		4.726E+00	1.530E+01	3.149E-01	-0.440
NB-95	6.020E+00		5.155E+00	2.572E+01	5.253E-01	0.234
TC-95M	2.921E+01		1.780E+01	7.218E+01	1.460E+00	0.405
ZR-95	-2.775E+00		8.453E+00	3.511E+01	7.166E-01	-0.079
ZRNB-95	1.109E+01		9.498E+00	4.738E+01	9.678E-01	0.234
MO-99	-3.218E+00		1.400E+02	5.159E+02	1.064E+01	-0.006
RH-101	8.030E+00		1.765E+01	6.527E+01	1.322E+00	0.123
RH-102M	-6.053E+00		6.603E+00	2.338E+01	4.690E-01	-0.259
RU-103	-2.886E+00		8.367E+00	3.173E+01	6.370E-01	-0.091
RU-106DA	-1.654E+01		5.037E+01	2.019E+02	4.083E+00	-0.082
AG-108M	-7.961E+00		8.223E+00	2.890E+01	5.789E-01	-0.275
AG-110M	2.149E+00		7.058E+00	3.055E+01	6.294E-01	0.070

Sample ID : H9F951AC Acquisition date : 28-JUL-2006 14:23:49

---- Non-Identified Nuclides ----

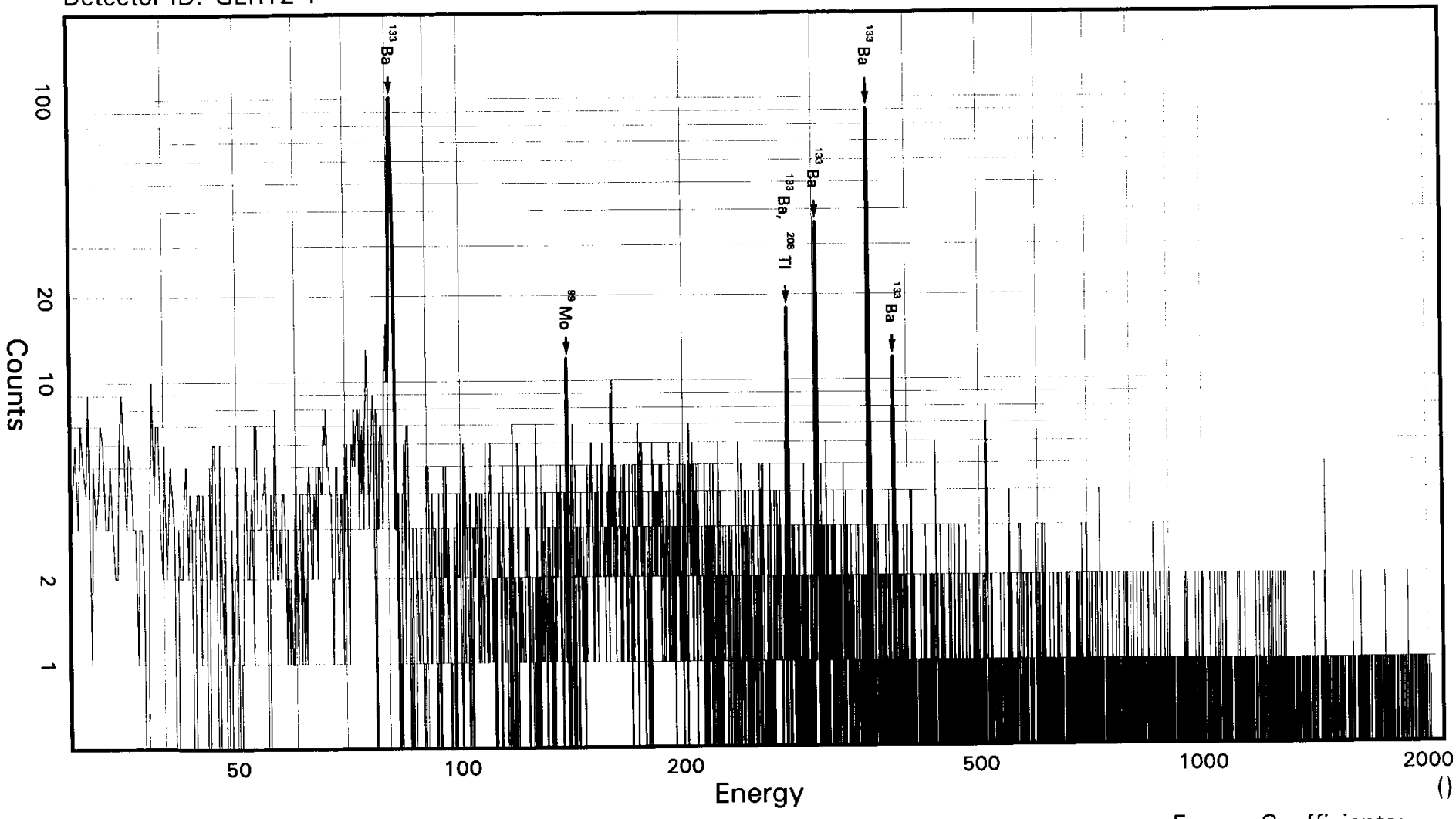
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	1.122E+01		1.090E+01	4.729E+01	9.460E-01	0.237
SB-124	-7.110E+00		6.819E+00	2.406E+01	4.860E-01	-0.296
SB-125	-2.111E+01		2.561E+01	9.156E+01	1.833E+00	-0.231
SN-126DA	1.091E+01		5.870E+00	2.803E+01	5.686E-01	0.389
I-131	7.239E-01		2.042E+01	7.799E+01	1.560E+00	0.009
CS-134	1.509E-01		5.424E+00	2.324E+01	4.758E-01	0.006
CS-137DA	-1.140E+01		6.793E+00	2.105E+01	4.269E-01	-0.542
LA-138	-7.905E+00		4.584E+00	6.962E+00	1.493E-01	-1.135
CE-139	1.332E+01		1.664E+01	6.337E+01	1.294E+00	0.210
BA-140	-6.076E+00		3.977E+01	1.585E+02	3.190E+00	-0.038
BALA-140	-8.269E+00		1.727E+01	6.824E+01	1.480E+00	-0.121
LA-140	-2.291E+02		2.343E+02	8.474E+02	1.837E+01	-0.270
CE-141	-2.352E+01		2.919E+01	1.029E+02	2.119E+00	-0.229
CE-144	1.721E+02		1.155E+02	4.631E+02	9.587E+00	0.372
CEPR-144	3.467E+02		2.312E+02	9.272E+02	1.919E+01	0.374
PM-144	-7.682E-01		5.115E+00	2.092E+01	4.230E-01	-0.037
PM-146	4.491E-01		9.993E+00	3.968E+01	7.953E-01	0.011
EU-152	5.472E+01		3.358E+01	1.408E+02	2.815E+00	0.389
EU-154	-4.567E+00		8.177E+00	3.525E+01	7.475E-01	-0.130
EU-155	-3.054E+01		5.654E+01	1.982E+02	4.181E+00	-0.154
HF-181	9.646E+00		5.706E+00	3.023E+01	6.066E-01	0.319
BI-207	2.781E-01		5.142E+00	2.166E+01	4.367E-01	0.013
TL-208	6.703E+00		8.121E+00	3.611E+01	7.285E-01	0.186
BI-210M	-4.226E+01		1.951E+01	6.046E+01	1.213E+00	-0.699
BI-212	-1.358E+01		8.750E+01	3.443E+02	1.052E+01	-0.039
BI-214	-1.760E+01		1.508E+01	5.823E+01	1.177E+00	-0.302
PB-214	-4.543E+01		3.459E+01	9.769E+01	1.954E+00	-0.465
RA-223	8.208E+01		6.481E+01	2.690E+02	5.396E+00	0.305
RA-224DA	5.907E+01	+	2.860E+01	1.038E+02	2.089E+00	0.569
RA-226DA	-1.760E+01		1.508E+01	5.823E+01	1.177E+00	-0.302
AC-227DA	1.940E+01		1.035E+02	3.412E+02	6.865E+00	0.057
AC-228	-1.290E+00		2.269E+01	8.959E+01	1.850E+00	-0.014
RA-228DA	-1.294E+00		2.276E+01	8.986E+01	1.855E+00	-0.014
TH-228DA	1.883E+01		2.281E+01	1.014E+02	2.046E+00	0.186
TH-232DA	1.995E+01		5.573E+01	2.239E+02	4.478E+00	0.089
TH-234DA	-2.114E+02		8.362E+02	3.356E+03	6.974E+01	-0.063
U-234DA	2.020E-01		5.412E+01	2.006E+02	4.018E+00	0.001
U-235HP	1.151E+02		1.149E+02	4.490E+02	9.249E+00	0.256
NP-237DA	3.525E+01		2.204E+01	9.499E+01	1.901E+00	0.371
U-238DA	-4.543E+01		3.459E+01	9.769E+01	1.954E+00	-0.465
U-238DHP	4.566E+02		3.876E+02	1.538E+03	3.425E+01	0.297
AM-241HP	0.000E+00		0.000E+00	1.355E+02	3.041E+00	0.000

STL Richland WA.

BA133

Sample ID: H9F981AC
Detector ID: GER12 1

Batch ID: 6200133



Acquisition Start: 28-JUL-2006 14:24:02.04
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: H9F981AC

CONFIGURATION ID: GER12:H9F981AC_280761424
TITLE : BA133
SAMPLE ID : H9F981AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 14:24:02
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 14:54:24

Configuration : $DISK1:[GER12.SAMPLE]H9F981AC_280761424.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 14:24:02
Sample ID : H9F981AC 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	81.02	338	58	0.75	277.90	273	13	1.88E-01	7.7	
2	0	90.36	12	15	0.74	315.78	307	12	6.58E-03	71.6	
3	0	140.01*	9	13	0.35	517.17	512	7	5.15E-03	78.4	
4	0	276.47	71	11	0.92	1070.70	1063	15	3.93E-02	15.7	
5	0	302.81	156	15	0.99	1177.54	1167	20	8.68E-02	10.0	
6	0	356.05	436	25	1.04	1393.50	1386	16	2.42E-01	5.4	
7	0	383.97	50	6	1.23	1506.72	1500	12	2.76E-02	17.3	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 14:54:25

Configuration : $DISK1:[GER12.SAMPLE]H9F981AC_280761424.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 14:24:02
Sample ID : H9F981AC 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	338	33.00	2.899E+00	1.176E+03	1.178E+03	9.40
	276.40	71	6.90	3.105E+00	1.101E+03	1.103E+03	16.64
	302.84	156	17.80	3.109E+00	9.412E+02	9.427E+02	11.39
	356.00	436	62.05*	3.111E+00	7.537E+02	7.549E+02	7.63
	383.85	50	8.70	3.111E+00	6.123E+02	6.133E+02	18.12

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H9F981AC
Acquisition date : 28-JUL-2006 14:24:02

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	90.36	12	15	0.74	315.78	307	12	6.58E-03	71.6	2.93E+00	
0	140.01	9	13	0.35	517.17	512	7	5.15E-03	78.4	3.03E+00	T

Flags: "T" = Tentatively associated

Sample ID : H9F981AC
Acquisition date : 28-JUL-2006 14:24:02

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
MO-99	66.02H	3.31	140.50*	90.70	1.117E+02	78.59	Abun.
			181.07	6.20	--- Not Found ---		
			739.58	12.80	--- Not Found ---		
		% Abundances Found =		82.68	(Abn. Limit = 94.00%)		
TL-208	1.41E+10Y	0.00	277.35	6.80	1.117E+03	16.64	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 14:54:27

Configuration : $DISK1:[GER12.SAMPLE]H9F981AC_280761424.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 14:24:02
Sample ID : H9F981AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.34 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 2.00 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.549E+02	5.761E+01	4.449E+01	8.899E-01	16.966

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	5.545E+01		4.571E+01	2.020E+02	4.051E+00	0.275
NA-22	2.828E+00		3.934E+00	1.737E+01	3.660E-01	0.163
K-40	-5.800E+00		4.445E+01	2.281E+02	4.864E+00	-0.025
SC-46	8.411E+00		4.376E+00	2.098E+01	4.377E-01	0.401
CR-51	-1.088E+02		8.217E+01	2.691E+02	5.385E+00	-0.404
MN-54	5.603E+00		3.723E+00	1.775E+01	3.633E-01	0.316
CO-57	7.803E+01		7.610E+01	2.858E+02	5.887E+00	0.273
CO-58	3.127E+00		3.895E+00	1.758E+01	3.594E-01	0.178
FE-59	7.607E+00		4.181E+00	2.550E+01	5.312E-01	0.298
CO-60	2.295E+00		2.266E+00	1.223E+01	2.587E-01	0.188
ZN-65	-4.615E+00		8.483E+00	3.184E+01	6.641E-01	-0.145
SE-75	-1.886E+01		1.229E+01	4.031E+01	8.085E-01	-0.468
SR-85	-3.256E+01		9.141E+00	2.538E+01	5.098E-01	-1.283
Y-88	-1.278E+00		1.280E+00	3.371E+00	7.353E-02	-0.379
NB-94	-1.992E+00		3.189E+00	1.220E+01	2.504E-01	-0.163
NB-95	6.363E+00		4.269E+00	2.050E+01	4.178E-01	0.310
TC-95M	1.817E+01		1.461E+01	5.721E+01	1.156E+00	0.318
ZR-95	4.426E+00		7.960E+00	3.417E+01	6.960E-01	0.130
ZRNB-95	1.143E+01		7.819E+00	3.753E+01	7.648E-01	0.305
MO-99	1.117E+02	+	8.782E+01	3.584E+02	7.369E+00	0.312
RH-101	-8.832E+00		1.182E+01	4.150E+01	8.392E-01	-0.213
RH-102M	-2.770E+00		4.019E+00	1.474E+01	2.955E-01	-0.188
RU-103	-2.977E+00		5.942E+00	2.182E+01	4.379E-01	-0.136
RU-106DA	1.222E+01		3.002E+01	1.362E+02	2.751E+00	0.090
AG-108M	-2.059E+01		7.197E+00	1.987E+01	3.980E-01	-1.036
AG-110M	-3.364E+00		5.887E+00	2.191E+01	4.500E-01	-0.154
SN-113DA	-6.978E+00		8.362E+00	2.990E+01	5.982E-01	-0.233

Sample ID : H9F981AC Acquisition date : 28-JUL-2006 14:24:02

---- Non-Identified Nuclides ----

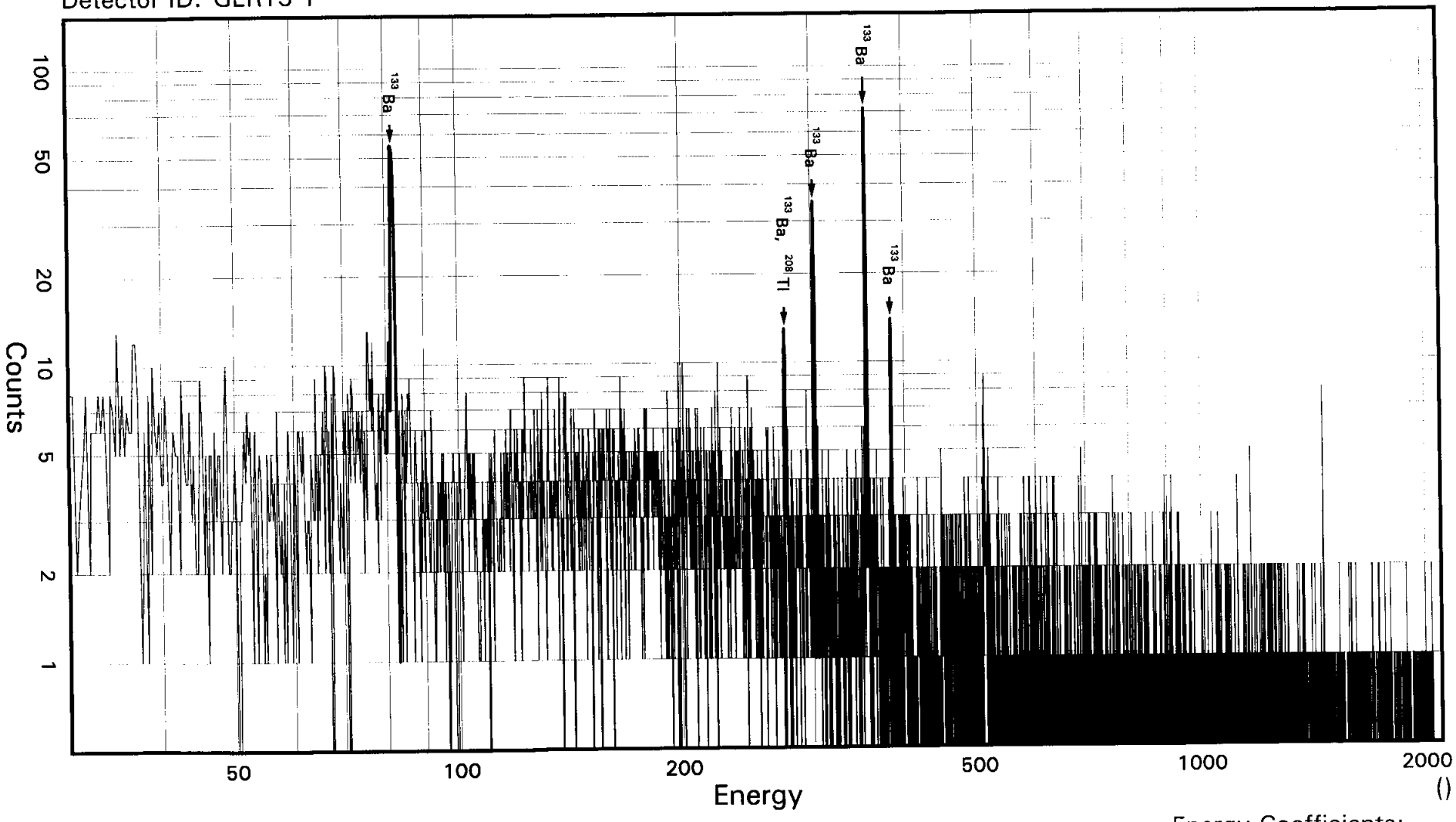
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	5.502E+00		5.264E+00	2.261E+01	4.563E-01	0.243
SB-125	-1.123E+01		1.609E+01	5.834E+01	1.168E+00	-0.192
SN-126DA	2.835E+00		3.930E+00	1.700E+01	3.444E-01	0.167
I-131	-1.818E+01		1.510E+01	5.211E+01	1.042E+00	-0.349
CS-134	1.395E+00		3.842E+00	1.692E+01	3.456E-01	0.082
CS-137DA	7.191E-01		4.968E+00	1.997E+01	4.044E-01	0.036
LA-138	-3.476E+00		3.453E+00	1.257E+01	2.677E-01	-0.276
CE-139	1.700E+01		1.090E+01	4.283E+01	8.729E-01	0.397
BA-140	-6.672E+00		2.455E+01	9.764E+01	1.964E+00	-0.068
BALA-140	-3.568E+00		8.670E+00	3.668E+01	7.887E-01	-0.097
LA-140	-4.716E+01		1.146E+02	4.847E+02	1.042E+01	-0.097
CE-141	-5.591E+00		1.783E+01	6.468E+01	1.327E+00	-0.086
CE-144	-8.103E+01		6.650E+01	2.263E+02	4.669E+00	-0.358
CEPR-144	-1.604E+02		1.331E+02	4.536E+02	9.357E+00	-0.354
PM-144	-3.032E+00		4.061E+00	1.489E+01	3.007E-01	-0.204
PM-146	-1.969E+00		6.498E+00	2.484E+01	4.978E-01	-0.079
EU-152	4.884E+00		2.009E+01	7.966E+01	1.593E+00	0.061
EU-154	1.025E+01		1.136E+01	5.061E+01	1.067E+00	0.202
EU-155	2.337E+01		3.558E+01	1.397E+02	2.931E+00	0.167
HF-181	4.317E-01		6.292E+00	2.469E+01	4.953E-01	0.017
BI-207	2.333E-01		4.361E+00	1.752E+01	3.528E-01	0.013
TL-208	-1.509E+01		4.788E+00	9.429E+00	1.901E-01	-1.600
BI-210M	1.288E+01		1.360E+01	5.370E+01	1.077E+00	0.240
BI-212	7.057E+01		6.093E+01	2.756E+02	8.419E+00	0.256
PB-212	3.250E+01		1.425E+01	6.161E+01	1.239E+00	0.527
BI-214	8.128E+00		1.223E+01	4.901E+01	9.893E-01	0.166
PB-214	-1.537E+01		1.956E+01	6.236E+01	1.247E+00	-0.246
RA-223	1.168E+01		5.223E+01	1.958E+02	3.927E+00	0.060
RA-224DA	3.279E+01		1.438E+01	6.217E+01	1.250E+00	0.527
RA-226DA	7.939E+00		1.222E+01	4.890E+01	9.870E-01	0.162
AC-227DA	8.327E+01		5.344E+01	2.248E+02	4.521E+00	0.370
AC-228	-2.786E+00		1.372E+01	5.412E+01	1.114E+00	-0.051
RA-228DA	-2.795E+00		1.376E+01	5.428E+01	1.117E+00	-0.051
TH-228DA	-4.238E+01		1.345E+01	2.649E+01	5.339E-01	-1.600
TH-232DA	-1.005E+01		4.760E+01	1.736E+02	3.472E+00	-0.058
TH-234DA	3.309E+02		6.222E+02	2.665E+03	5.517E+01	0.124
U-234DA	-1.987E+01		2.843E+01	1.009E+02	2.020E+00	-0.197
U-235HP	-8.457E+01		7.520E+01	2.554E+02	5.245E+00	-0.331
NP-237DA	1.307E+01		1.808E+01	7.024E+01	1.406E+00	0.186
U-238DA	-1.537E+01		1.956E+01	6.236E+01	1.247E+00	-0.246
U-238DHP	6.493E+01		2.286E+02	8.495E+02	1.870E+01	0.076
AM-241HP	-1.662E+01		2.046E+01	7.182E+01	1.592E+00	-0.231

STL Richland WA.

BA133

Sample ID: H9GAA1AC
Detector ID: GER13 1

Batch ID: 6200133



Acquisition Start: 28-JUL-2006 14:24:33.28
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: H9GAA1AC

CONFIGURATION ID: GER13:H9GAA1AC_280761424
TITLE : BA133
SAMPLE ID : H9GAA1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 14:24:33
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 14:54:49

Configuration	: $DISK1:[GER13.SAMPLE]H9GAA1AC_280761424.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 14:24:33
Sample ID	: H9GAA1AC	Sample quantity	: 1.0000 SAMPL
Sample type	:	Sample geometry	: BA133T15
Elapsed live time	: 0 00:30:00.00	Elapsed real time	: 0 00:30:00.38 0.0%
Start energy	: 19.35	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	81.80	208	52	0.94	329.01	322	12	1.16E-01	9.8	
2	0	276.43	71	28	1.36	1105.45	1096	22	3.93E-02	22.4	
3	0	302.77	143	35	1.00	1210.57	1204	18	7.97E-02	12.5	
4	0	355.87	364	29	1.08	1422.52	1413	20	2.02E-01	6.4	
5	0	383.62	67	4	1.01	1533.30	1524	18	3.69E-02	14.4	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 14:54:50

Configuration : $DISK1:[GER13.SAMPLE]H9GAA1AC_280761424.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 14:24:33
Sample ID : H9GAA1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.38 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	208	33.00	2.704E+00	7.779E+02	7.791E+02	11.17
	276.40	71	6.90	2.897E+00	1.179E+03	1.181E+03	23.01
	302.84	143	17.80	2.900E+00	9.263E+02	9.279E+02	13.58
	356.00	364	62.05*	2.903E+00	6.729E+02	6.741E+02	8.37
	383.85	67	8.70	2.902E+00	8.779E+02	8.794E+02	15.34

Flag: "*" = Keyline

Sample ID : H9GAA1AC Acquisition date : 28-JUL-2006 14:24:33

None

Flags: "T" = Tentatively associated

Sample ID : H9GAA1AC
Acquisition date : 28-JUL-2006 14:24:33

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	1.196E+03	23.01	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 14:54:52

Configuration : $DISK1:[GER13.SAMPLE]H9GAA1AC_280761424.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 14:24:33
Sample ID : H9GAA1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.38 0.0%
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	6.741E+02	5.642E+01	5.852E+01	1.170E+00	11.518

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-1.387E+02		7.710E+01	2.441E+02	4.897E+00	-0.568
NA-22	-8.570E+00		5.100E+00	1.610E+01	3.397E-01	-0.532
K-40	-8.124E+01		9.544E+01	4.512E+02	9.634E+00	-0.180
SC-46	-5.042E+00		5.441E+00	2.250E+01	4.699E-01	-0.224
CR-51	4.235E+01		9.168E+01	3.493E+02	6.988E+00	0.121
MN-54	-2.921E+00		5.411E+00	2.012E+01	4.121E-01	-0.145
CO-57	9.649E+01		1.129E+02	4.181E+02	8.618E+00	0.231
CO-58	1.044E+01		5.701E+00	2.582E+01	5.279E-01	0.405
FE-59	3.318E+00		1.044E+01	4.249E+01	8.860E-01	0.078
CO-60	1.096E+00		3.702E+00	1.598E+01	3.384E-01	0.069
ZN-65	-2.087E+01		8.554E+00	2.249E+01	4.694E-01	-0.928
SE-75	-3.365E+01		1.781E+01	5.719E+01	1.147E+00	-0.588
SR-85	-4.801E+01		1.240E+01	3.315E+01	6.659E-01	-1.448
Y-88	4.469E+00		3.595E+00	1.793E+01	3.917E-01	0.249
NB-94	-9.145E+00		4.363E+00	1.268E+01	2.604E-01	-0.721
NB-95	-7.025E+00		7.299E+00	2.509E+01	5.116E-01	-0.280
TC-95M	3.209E+00		1.894E+01	6.917E+01	1.397E+00	0.046
ZR-95	-9.963E-01		1.117E+01	4.232E+01	8.623E-01	-0.024
ZRNB-95	-1.263E+01		1.348E+01	4.645E+01	9.472E-01	-0.272
MO-99	2.197E+02		1.265E+02	4.847E+02	9.974E+00	0.453
RH-101	2.536E+01		1.558E+01	5.875E+01	1.188E+00	0.432
RH-102M	6.360E+00		6.886E+00	2.763E+01	5.540E-01	0.230
RU-103	4.605E+00		8.912E+00	3.448E+01	6.922E-01	0.134
RU-106DA	5.170E+01		6.538E+01	2.634E+02	5.322E+00	0.196
AG-108M	-1.055E+01		6.694E+00	2.185E+01	4.376E-01	-0.483
AG-110M	3.476E+00		5.736E+00	2.501E+01	5.140E-01	0.139
SN-113DA	3.967E+00		1.152E+01	4.431E+01	8.865E-01	0.090

Sample ID : H9GAA1AC Acquisition date : 28-JUL-2006 14:24:33

---- Non-Identified Nuclides ----

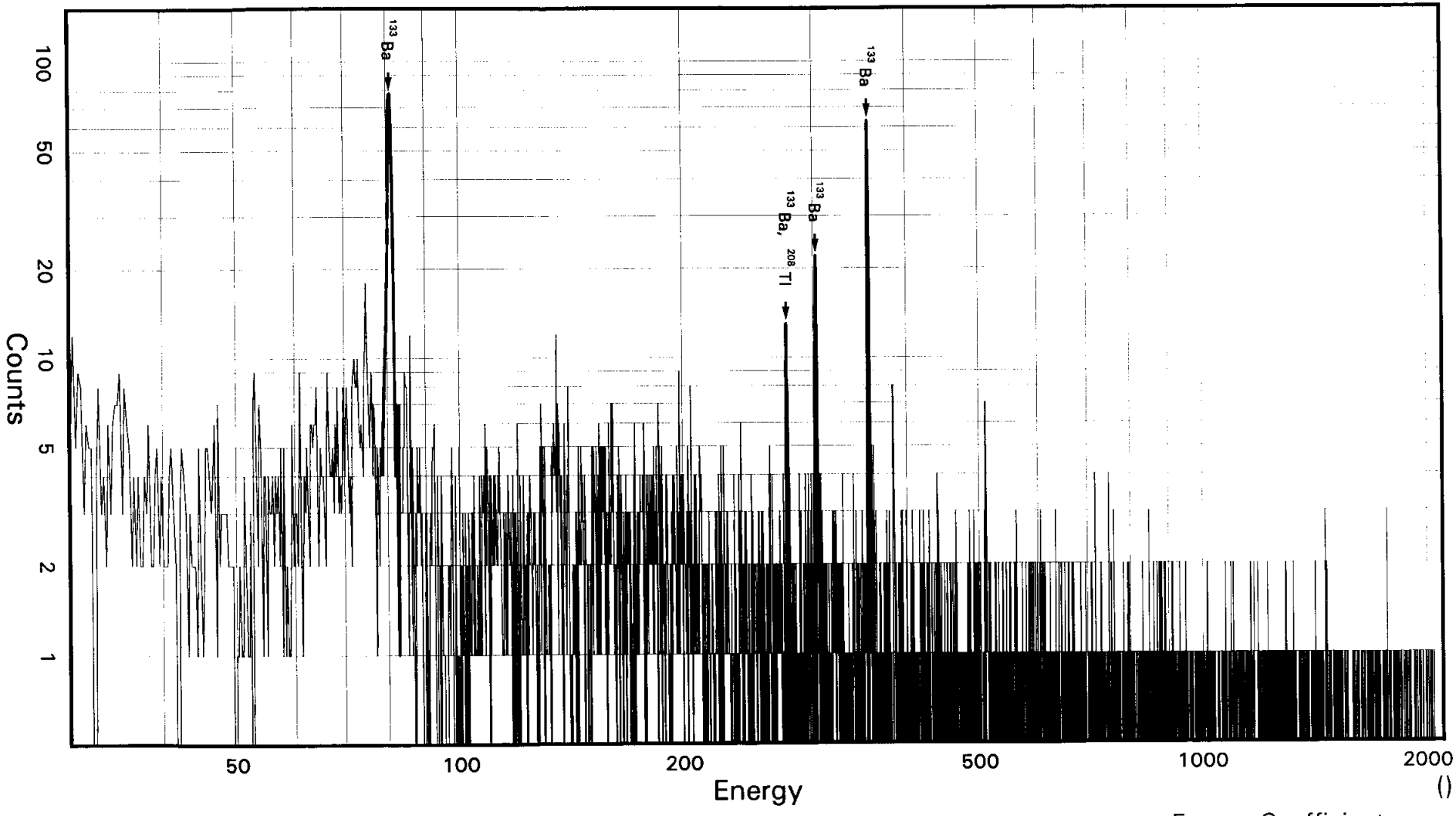
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	-1.697E+01		6.908E+00	2.022E+01	4.081E-01	-0.839
SB-125	3.118E+01		2.349E+01	9.610E+01	1.924E+00	0.324
SN-126DA	3.506E+00		5.073E+00	2.109E+01	4.273E-01	0.166
I-131	1.188E+01		2.342E+01	8.891E+01	1.778E+00	0.134
CS-134	7.691E-01		5.862E+00	2.306E+01	4.712E-01	0.033
CS-137DA	8.794E+00		6.186E+00	2.697E+01	5.463E-01	0.326
LA-138	-4.174E+00		4.930E+00	1.858E+01	3.962E-01	-0.225
CE-139	1.527E+01		1.564E+01	5.748E+01	1.172E+00	0.266
BA-140	8.641E+00		4.383E+01	1.652E+02	3.323E+00	0.052
BALA-140	-7.855E+00		1.214E+01	4.652E+01	1.002E+00	-0.169
LA-140	-5.673E+01		1.485E+02	6.028E+02	1.298E+01	-0.094
CE-141	3.024E+00		2.803E+01	1.005E+02	2.064E+00	0.030
CE-144	9.073E+01		1.021E+02	3.827E+02	7.899E+00	0.237
CEPR-144	1.824E+02		2.043E+02	7.657E+02	1.580E+01	0.238
PM-144	1.471E+00		6.539E+00	2.528E+01	5.106E-01	0.058
PM-146	1.173E+00		1.104E+01	4.138E+01	8.293E-01	0.028
EU-152	6.823E+00		2.990E+01	1.103E+02	2.205E+00	0.062
EU-154	-2.278E+01		1.443E+01	4.636E+01	9.781E-01	-0.491
EU-155	-6.724E+01		4.800E+01	1.621E+02	3.403E+00	-0.415
HF-181	1.527E+01		8.581E+00	3.677E+01	7.376E-01	0.415
BI-207	-6.244E-01		5.979E+00	2.290E+01	4.614E-01	-0.027
TL-208	-2.373E+00		7.933E+00	3.087E+01	6.224E-01	-0.077
BI-210M	-1.864E+00		1.932E+01	6.950E+01	1.394E+00	-0.027
BI-212	1.007E+02		9.147E+01	3.773E+02	1.153E+01	0.267
PB-212	3.249E+01		2.443E+01	9.494E+01	1.909E+00	0.342
BI-214	-3.067E+01		1.525E+01	5.867E+01	1.184E+00	-0.523
PB-214	2.486E+01		2.946E+01	1.029E+02	2.059E+00	0.242
RA-223	2.610E+01		6.917E+01	2.557E+02	5.128E+00	0.102
RA-224DA	3.279E+01		2.465E+01	9.580E+01	1.926E+00	0.342
RA-226DA	-3.057E+01		1.526E+01	5.872E+01	1.186E+00	-0.521
AC-227DA	-2.681E+01		9.359E+01	3.334E+02	6.705E+00	-0.080
AC-228	1.289E+00		2.275E+01	9.463E+01	1.948E+00	0.014
RA-228DA	1.293E+00		2.282E+01	9.491E+01	1.954E+00	0.014
TH-228DA	-6.666E+00		2.228E+01	8.672E+01	1.748E+00	-0.077
TH-232DA	6.772E+01		7.149E+01	2.711E+02	5.423E+00	0.250
TH-234DA	1.076E+03		7.396E+02	3.316E+03	6.869E+01	0.325
U-234DA	2.585E+01		5.158E+01	1.956E+02	3.917E+00	0.132
U-235HP	-2.320E+01		1.056E+02	3.732E+02	7.669E+00	-0.062
NP-237DA	6.836E+00		2.536E+01	9.273E+01	1.856E+00	0.074
U-238DA	2.486E+01		2.946E+01	1.029E+02	2.059E+00	0.242
U-238DHP	-5.825E+02		3.201E+02	1.021E+03	2.253E+01	-0.570
AM-241HP	-2.245E+01		3.102E+01	1.066E+02	2.369E+00	-0.211

STL Richland WA.

BA133

Sample ID: H9GAC1AC
Detector ID: GER6 1

Batch ID: 6200133



Acquisition Start: 28-JUL-2006 14:24:44.91
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: H9GAC1AC

CONFIGURATION ID: GER6:H9GAC1AC_280761424
TITLE : BA133
SAMPLE ID : H9GAC1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 14:24:44
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 14:55:05

Configuration : $DISK1:[GER6.SAMPLE]H9GAC1AC_280761424.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 14:24:44
Sample ID : H9GAC1AC 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	80.84	350	72	1.04	324.53	316	17	1.94E-01	7.7	
2	0	276.43	55	4	1.22	1108.90	1102	14	3.08E-02	15.2	
3	0	291.52	14	3	0.67	1169.43	1162	13	7.65E-03	38.1	
4	0	302.87	109	10	1.20	1214.91	1207	19	6.03E-02	11.8	
5	0	356.08	357	10	1.39	1428.30	1418	24	1.98E-01	5.9	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 14:55:05

Configuration : $DISK1:[GER6.SAMPLE]H9GAC1AC_280761424.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 : H9GAC1AC
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 14:24:44
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	350	33.00	2.166E+00	1.631E+03	1.634E+03	9.45
	276.40	55	6.90	2.334E+00	1.148E+03	1.150E+03	16.14
	302.84	109	17.80	2.337E+00	8.696E+02	8.710E+02	12.95
	356.00	357	62.05*	2.339E+00	8.197E+02	8.210E+02	7.97
	383.85	------	8.70	2.338E+00	------	Line Not Found	------

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H9GAC1AC
Acquisition date : 28-JUL-2006 14:24:44

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	291.52	14	3	0.67	1169.43	1162	13	7.65E-03	38.1	2.34E+00	

Flags: "T" = Tentatively associated

Sample ID : H9GAC1AC
Acquisition date : 28-JUL-2006 14:24:44

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	1.165E+03	16.14	Abun.
			510.84	21.60	--- Not Found ---		
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		5.44			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 14:55:07

Configuration : $DISK1:[GER6.SAMPLE]H9GAC1AC_280761424.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 14:24:44
Sample ID : H9GAC1AC 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	8.210E+02	6.541E+01	5.842E+01	1.168E+00	14.054

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-9.446E+01		6.854E+01	2.240E+02	4.494E+00	-0.422
NA-22	-2.836E+00		5.207E+00	1.990E+01	4.213E-01	-0.143
K-40	-5.658E+01		6.840E+01	3.289E+02	7.051E+00	-0.172
SC-46	-3.108E+00		5.544E+00	2.108E+01	4.413E-01	-0.147
CR-51	7.393E+01		1.227E+02	4.713E+02	9.429E+00	0.157
MN-54	-6.080E+00		5.211E+00	1.791E+01	3.673E-01	-0.340
CO-57	1.145E+02		1.293E+02	4.905E+02	1.013E+01	0.233
CO-58	-1.573E+00		4.805E+00	1.927E+01	3.945E-01	-0.082
FE-59	6.022E+00		8.499E+00	3.956E+01	8.271E-01	0.152
CO-60	-2.176E-03		2.150E+00	1.117E+01	2.374E-01	0.000
ZN-65	2.133E-01		1.039E+01	4.250E+01	8.896E-01	0.005
SE-75	-2.403E+01		1.628E+01	5.287E+01	1.061E+00	-0.455
SR-85	-3.127E+01		1.253E+01	3.836E+01	7.708E-01	-0.815
Y-88	-3.474E+00		3.414E+00	1.229E+01	2.699E-01	-0.283
NB-94	1.242E-01		5.205E+00	2.101E+01	4.321E-01	0.006
NB-95	-4.772E+00		6.645E+00	2.459E+01	5.020E-01	-0.194
TC-95M	1.251E+01		1.802E+01	6.932E+01	1.401E+00	0.181
ZR-95	-1.972E+01		1.231E+01	4.020E+01	8.200E-01	-0.491
ZRNB-95	-5.686E+00		1.183E+01	4.530E+01	9.247E-01	-0.126
MO-99	1.882E+01		1.094E+02	4.137E+02	8.527E+00	0.045
RH-101	2.248E+01		1.631E+01	6.244E+01	1.264E+00	0.360
RH-102M	3.288E+00		5.862E+00	2.454E+01	4.922E-01	0.134
RU-103	8.493E-01		8.674E+00	3.421E+01	6.869E-01	0.025
RU-106DA	9.245E+01		5.936E+01	2.711E+02	5.481E+00	0.341
AG-108M	-3.011E+00		6.392E+00	2.401E+01	4.809E-01	-0.125
AG-110M	-3.849E+00		8.037E+00	3.005E+01	6.185E-01	-0.128
SN-113DA	5.963E+00		1.248E+01	4.944E+01	9.891E-01	0.121

Sample ID : H9GAC1AC Acquisition date : 28-JUL-2006 14:24:44

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	1.262E+01		7.435E+00	3.283E+01	6.629E-01	0.384
SB-125	2.571E+01		2.035E+01	8.954E+01	1.793E+00	0.287
SN-126DA	-1.369E+00		5.942E+00	2.292E+01	4.647E-01	-0.060
I-131	-5.086E+01		2.326E+01	6.936E+01	1.387E+00	-0.733
CS-134	1.878E+01		7.902E+00	3.652E+01	7.470E-01	0.514
CS-137DA	4.846E+00		7.337E+00	3.052E+01	6.186E-01	0.159
LA-138	4.242E+00		5.459E+00	2.691E+01	5.758E-01	0.158
CE-139	-5.586E+00		1.299E+01	4.648E+01	9.487E-01	-0.120
BA-140	2.358E+01		4.237E+01	1.732E+02	3.485E+00	0.136
BALA-140	-1.124E-01		7.561E+00	3.890E+01	8.414E-01	-0.003
LA-140	-1.492E+00		9.994E+01	5.141E+02	1.112E+01	-0.003
CE-141	3.290E+01		2.641E+01	1.047E+02	2.154E+00	0.314
CE-144	-1.006E+01		1.228E+02	4.302E+02	8.896E+00	-0.023
CEPR-144	-2.346E+01		2.455E+02	8.590E+02	1.777E+01	-0.027
PM-144	-1.103E+01		6.463E+00	2.084E+01	4.213E-01	-0.529
PM-146	2.186E+00		9.752E+00	3.864E+01	7.744E-01	0.057
EU-152	9.150E+00		2.659E+01	1.046E+02	2.092E+00	0.088
EU-154	-1.212E+01		1.518E+01	5.577E+01	1.180E+00	-0.217
EU-155	-5.802E+01		4.720E+01	1.591E+02	3.351E+00	-0.365
HF-181	2.128E+00		9.534E+00	3.712E+01	7.448E-01	0.057
BI-207	4.242E+00		5.744E+00	2.449E+01	4.936E-01	0.173
TL-208	3.174E+00		7.702E+00	3.226E+01	6.507E-01	0.098
BI-210M	-6.582E+00		1.718E+01	6.170E+01	1.238E+00	-0.107
BI-212	2.788E+01		8.219E+01	3.398E+02	1.039E+01	0.082
PB-212	1.447E+01		2.234E+01	8.879E+01	1.786E+00	0.163
BI-214	-2.982E+01		1.616E+01	5.636E+01	1.139E+00	-0.529
PB-214	2.882E+01		2.824E+01	9.764E+01	1.953E+00	0.295
RA-223	7.450E+01		6.425E+01	2.566E+02	5.146E+00	0.290
RA-224DA	1.460E+01		2.254E+01	8.960E+01	1.802E+00	0.163
RA-226DA	-2.982E+01		1.616E+01	5.636E+01	1.139E+00	-0.529
AC-227DA	-5.434E+01		7.720E+01	2.734E+02	5.500E+00	-0.199
AC-228	-4.671E+00		1.928E+01	8.413E+01	1.735E+00	-0.056
RA-228DA	-4.685E+00		1.934E+01	8.438E+01	1.740E+00	-0.056
TH-228DA	8.915E+00		2.163E+01	9.062E+01	1.828E+00	0.098
TH-232DA	9.847E+01		5.986E+01	2.558E+02	5.117E+00	0.385
TH-234DA	-6.970E+02		6.087E+02	2.112E+03	4.384E+01	-0.330
U-234DA	9.122E+01		5.324E+01	2.015E+02	4.034E+00	0.453
U-235HP	1.316E+01		9.162E+01	3.466E+02	7.133E+00	0.038
NP-237DA	7.219E+00		1.982E+01	7.852E+01	1.571E+00	0.092
U-238DA	2.882E+01		2.824E+01	9.764E+01	1.953E+00	0.295
U-238DHP	6.178E+02		3.479E+02	1.371E+03	3.042E+01	0.451
AM-241HP	-3.575E+01		3.092E+01	1.045E+02	2.335E+00	-0.342

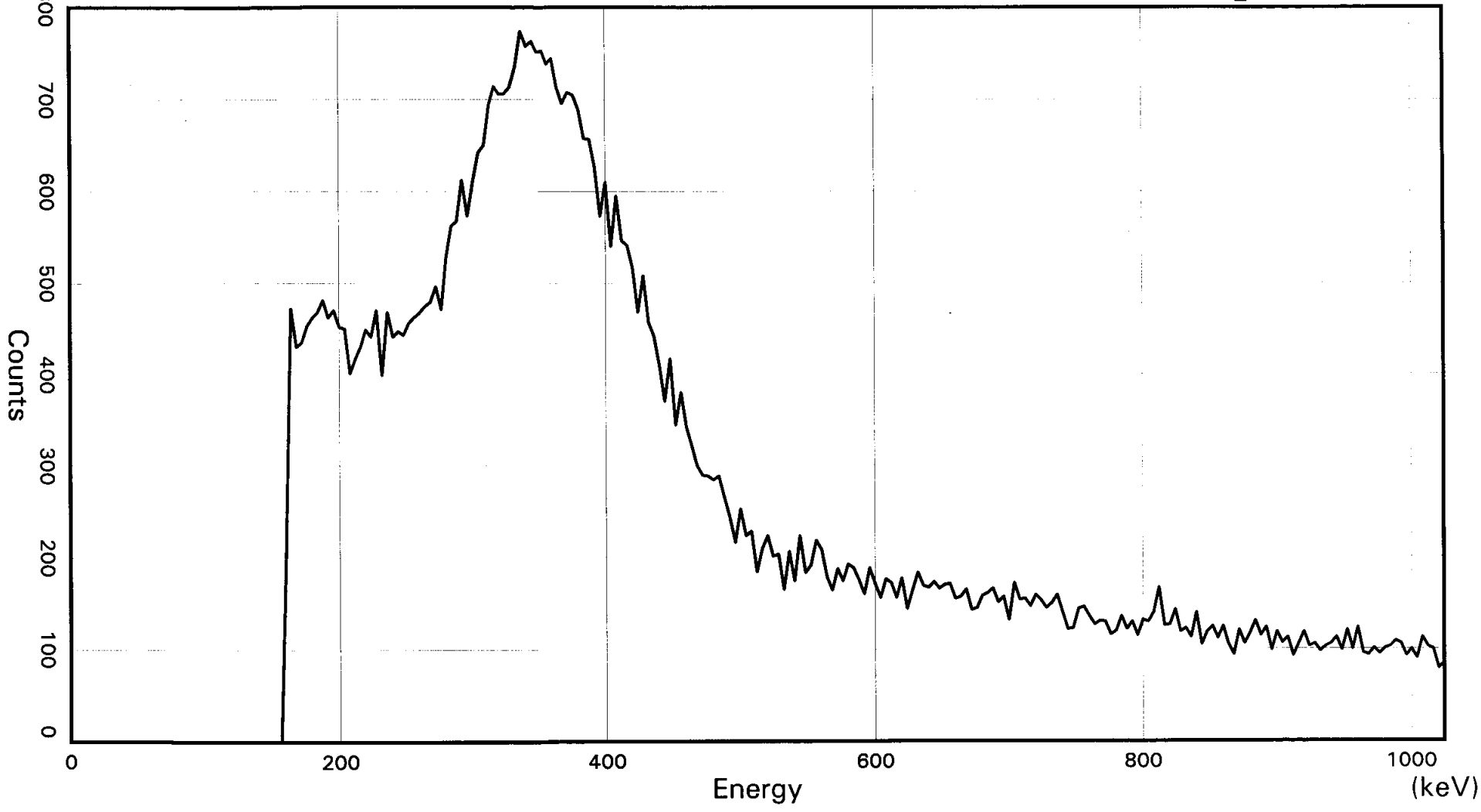
STL Richland WA.

BA133

Sample ID: H9GAE1AC

Detector ID: NAI1 1

Library: [NUC_LIBR]BA133.NLB



Acquisition Start:	28-JUL-2006 14:59:38.99
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: H9GAE1AC

CONFIGURATION ID: NAI1:H9GAE1AC_280761459
TITLE : BA133
SAMPLE ID : H9GAE1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 14:59:38
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 15:29:43

```
Configuration     : RDND06$DKA100:[NAI1.SAMPLE]H9GAE1AC_280761459.CNF;1
Analyses by       : NAI V3.0
Sample title      : BA133
Sample date       : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 14:59:38
Sample ID         : H9GAE1AC             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:	5.6	4.3	3.6	3.5	5.7	4.1	4.4	1.6
88:	1.2	0.3	0.6	-0.2	0.0	-1.4	0.1	-0.4
96:	-1.1	-1.7	-2.6	-4.9	-3.4	-3.5	-1.2	-3.5
104:	-2.2	-3.8	-5.6	-2.7	-5.1	-3.8	-5.4	-5.5
112:	-2.2	-5.9						

List of Suspicious Channels

81	82	83	84	85

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	1.25E+01	0.00E+00	1.03E+00
2	3.21E+00	0.00E+00	1.06E+00
3	7.71E-01	0.00E+00	1.08E+00

Sample ID : H9GAE1AC
Acquisition date : 28-JUL-2006 14:59:38

Brief Report

Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	741.	8.28

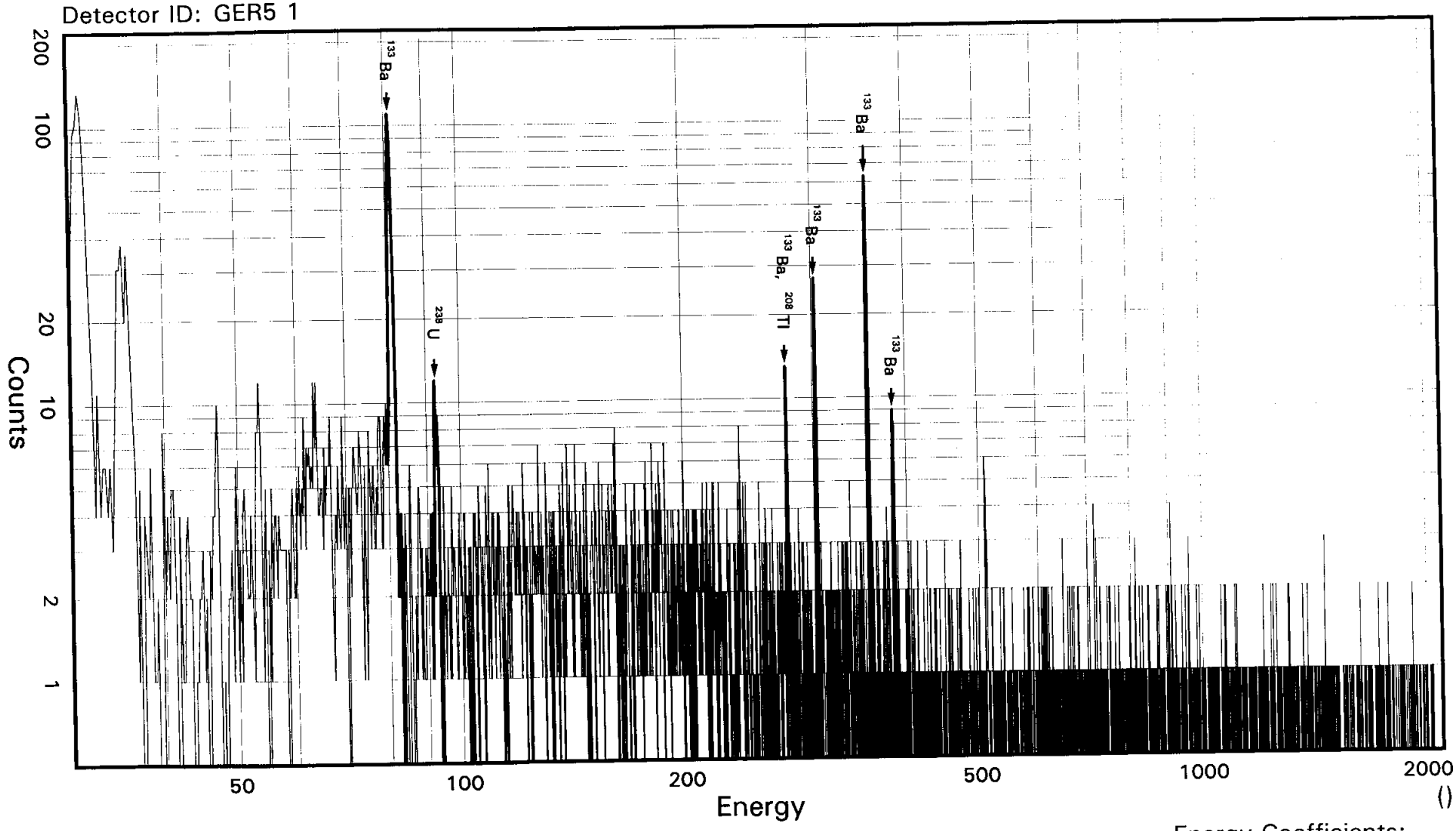
Total Activity :	741.	

STL Richland WA.

BA133

Batch ID: 6200133

Sample ID: H9GAG1AC
Detector ID: GER5 1



Acquisition Start: 28-JUL-2006 14:59:49.97
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: H9GAG1AC

CONFIGURATION ID: GER5:H9GAG1AC_280761459
TITLE : BA133
SAMPLE ID : H9GAG1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 14:59:49
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 15:30:06

Configuration : RDND06$DKA100:[GER5.SAMPLE]H9GAG1AC_280761459.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 14:59:49
Sample ID : H9GAG1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Start energy : 19.57 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	5	28.58	49	53	1.40	116.12	110	27	2.73E-02	37.2	2.42E+00
2	5	30.96	579	59	1.08	125.67	110	27	3.22E-01	5.0	
3	0	35.44	177	49	1.36	143.62	137	15	9.86E-02	11.6	
4	0	53.71*	25	26	0.79	216.87	210	12	1.41E-02	46.3	
5	0	81.08	386	58	0.85	326.62	321	15	2.15E-01	6.9	
6	0	92.59*	22	8	1.16	372.78	367	11	1.22E-02	41.0	
7	0	276.01	40	8	0.44	1108.21	1099	15	2.20E-02	22.0	
8	0	302.73	110	3	0.82	1215.37	1206	16	6.09E-02	10.4	
9	0	355.96	302	4	1.23	1428.79	1421	15	1.68E-01	5.9	
10	0	383.92	45	3	1.45	1540.89	1535	11	2.52E-02	16.4	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 28-JUL-2006 15:30:06

Configuration : RDND06$DKA100:[GER5.SAMPLE]H9GAG1AC_280761459.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 14:59:49
Sample ID : H9GAG1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	386	33.00	1.924E+00	2.028E+03	2.032E+03	8.79
	276.40	40	6.90	2.077E+00	9.222E+02	9.237E+02	22.66
	302.84	110	17.80	2.080E+00	9.877E+02	9.893E+02	11.67
	356.00	302	62.05*	2.082E+00	7.804E+02	7.817E+02	8.00
	383.85	45	8.70	2.081E+00	8.365E+02	8.379E+02	17.27

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H9GAG1AC Acquisition date : 28-JUL-2006 14:59:49

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
5	28.58	49	53	1.40	116.12	110	27	2.73E-02	37.2	1.66E+00	
5	30.96	579	59	1.08	125.67	110	27	3.22E-01	5.0	1.68E+00	
0	35.44	177	49	1.36	143.62	137	15	9.86E-02	11.6	1.72E+00	
0	53.71	25	26	0.79	216.87	210	12	1.41E-02	46.3	1.83E+00	
0	92.59	22	8	1.16	372.78	367	11	1.22E-02	41.0	1.95E+00	T

Flags: "T" = Tentatively associated

Sample ID : H9GAG1AC Acquisition date : 28-JUL-2006 14:59:49

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	9.358E+02	22.66	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	6.927E+02	41.41	
		% Abundances Found =		58.74			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.1 Generated 28-JUL-2006 15:30:07

Configuration : RDND06$DKA100:[GER5.SAMPLE]H9GAG1AC_280761459.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 14:59:49
Sample ID : H9GAG1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.817E+02	6.253E+01	4.590E+01	9.180E-01	17.030

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	3.306E+01		6.062E+01	2.604E+02	5.224E+00	0.127
NA-22	-1.587E+00		2.893E+00	1.257E+01	2.666E-01	-0.126
NA-24	2.021E-02		5.085E-02	Half-Life too short		
K-40	7.864E+00		6.562E+01	3.139E+02	6.743E+00	0.025
SC-46	1.696E+00		4.835E+00	2.173E+01	4.557E-01	0.078
CR-51	6.410E+01		1.027E+02	4.088E+02	8.180E+00	0.157
MN-54	3.181E+00		4.169E+00	2.011E+01	4.128E-01	0.158
CO-57	-3.078E+01		1.295E+02	4.562E+02	9.430E+00	-0.067
CO-58	1.885E+00		6.147E+00	2.582E+01	5.291E-01	0.073
FE-59	-3.577E+00		7.718E+00	3.172E+01	6.641E-01	-0.113
CO-60	-1.554E+00		4.467E+00	1.840E+01	3.917E-01	-0.084
ZN-65	-3.730E+00		1.029E+01	4.073E+01	8.537E-01	-0.092
SE-75	-4.856E+00		1.587E+01	5.807E+01	1.165E+00	-0.084
SR-85	-3.765E+01		1.208E+01	3.250E+01	6.532E-01	-1.158
Y-88	3.767E+00		2.671E+00	1.748E+01	3.850E-01	0.216
NB-94	-8.152E+00		5.203E+00	1.696E+01	3.490E-01	-0.481
NB-95	-6.128E+00		5.978E+00	2.111E+01	4.313E-01	-0.290
TC-95M	-1.199E+00		1.981E+01	7.266E+01	1.469E+00	-0.017
ZR-95	6.224E+00		8.006E+00	3.894E+01	7.949E-01	0.160
ZRNB-95	-1.129E+01		1.101E+01	3.889E+01	7.944E-01	-0.290
MO-99	1.108E+01		1.578E+02	5.623E+02	1.160E+01	0.020
RH-101	-1.425E+01		1.679E+01	5.850E+01	1.185E+00	-0.244
RH-102M	-3.643E+00		6.432E+00	2.397E+01	4.808E-01	-0.152
RU-103	2.784E-01		8.704E+00	3.426E+01	6.880E-01	0.008
RU-106DA	-1.978E+00		5.150E+01	2.152E+02	4.352E+00	-0.009
AG-108M	-1.157E-01		8.704E+00	3.343E+01	6.695E-01	-0.003
AG-110M	9.532E+00		6.539E+00	3.284E+01	6.767E-01	0.290

Sample ID : H9GAG1AC Acquisition date : 28-JUL-2006 14:59:49

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	-9.056E+00		1.097E+01	3.966E+01	7.935E-01	-0.228
SB-124	-1.195E+01		7.379E+00	2.405E+01	4.858E-01	-0.497
SB-125	1.078E+01		2.566E+01	1.031E+02	2.064E+00	0.105
SN-126DA	-4.484E-01		5.494E+00	2.231E+01	4.526E-01	-0.020
I-131	4.219E+01		2.085E+01	9.344E+01	1.869E+00	0.452
CS-134	1.001E+01		5.245E+00	2.765E+01	5.660E-01	0.362
CS-137DA	-1.703E+00		6.270E+00	2.501E+01	5.071E-01	-0.068
LA-138	-9.788E+00		5.297E+00	1.226E+01	2.628E-01	-0.799
CE-139	2.237E+01		1.406E+01	5.761E+01	1.177E+00	0.388
BA-140	2.967E+01		3.573E+01	1.586E+02	3.192E+00	0.187
BALA-140	-6.161E+00		6.170E+00	1.612E+01	3.496E-01	-0.382
LA-140	-8.215E+01		8.227E+01	2.150E+02	4.662E+00	-0.382
CE-141	-2.327E+01		3.399E+01	1.160E+02	2.387E+00	-0.201
CE-144	-1.032E+02		1.266E+02	4.301E+02	8.904E+00	-0.240
CEPR-144	-2.026E+02		2.534E+02	8.619E+02	1.784E+01	-0.235
PM-144	8.393E+00		5.926E+00	2.756E+01	5.574E-01	0.304
PM-146	7.354E+00		8.951E+00	3.922E+01	7.861E-01	0.188
EU-152	-2.247E+01		3.579E+01	1.294E+02	2.589E+00	-0.174
EU-154	-4.448E+00		8.106E+00	3.523E+01	7.470E-01	-0.126
EU-155	3.941E+01		6.461E+01	2.417E+02	5.099E+00	0.163
HF-181	-2.739E+00		7.531E+00	2.931E+01	5.881E-01	-0.093
BI-207	-5.980E+00		5.038E+00	1.778E+01	3.584E-01	-0.336
TL-208	5.867E+00		7.234E+00	3.159E+01	6.374E-01	0.186
BI-210M	-1.007E+01		1.935E+01	6.904E+01	1.385E+00	-0.146
BI-212	1.589E+02		8.067E+01	4.015E+02	1.228E+01	0.396
PB-212	3.430E+01		2.792E+01	1.129E+02	2.271E+00	0.304
BI-214	-1.800E+00		1.497E+01	5.847E+01	1.181E+00	-0.031
PB-214	-1.945E+01		2.431E+01	7.168E+01	1.434E+00	-0.271
RA-223	-3.831E+01		7.897E+01	2.800E+02	5.615E+00	-0.137
RA-224DA	3.462E+01		2.818E+01	1.140E+02	2.292E+00	0.304
RA-226DA	-1.660E+00		1.498E+01	5.857E+01	1.184E+00	-0.028
AC-227DA	-6.280E+01		1.098E+02	3.857E+02	7.760E+00	-0.163
AC-228	1.009E+01		2.407E+01	1.050E+02	2.167E+00	0.096
RA-228DA	1.012E+01		2.414E+01	1.053E+02	2.174E+00	0.096
TH-228DA	1.648E+01		2.032E+01	8.874E+01	1.790E+00	0.186
TH-232DA	-4.950E-01		6.763E+01	2.604E+02	5.208E+00	-0.002
TH-234DA	-5.003E+02		6.229E+02	2.375E+03	4.937E+01	-0.211
U-234DA	2.621E+01		4.317E+01	1.712E+02	3.428E+00	0.153
U-235HP	1.537E+02		1.269E+02	4.835E+02	9.961E+00	0.318
NP-237DA	9.655E+00		2.458E+01	9.463E+01	1.894E+00	0.102
U-238DA	-1.945E+01		2.431E+01	7.168E+01	1.434E+00	-0.271
U-238DHP	7.391E+01		5.432E+02	2.038E+03	4.536E+01	0.036
AM-241HP	-6.864E+01		4.676E+01	1.570E+02	3.523E+00	-0.437

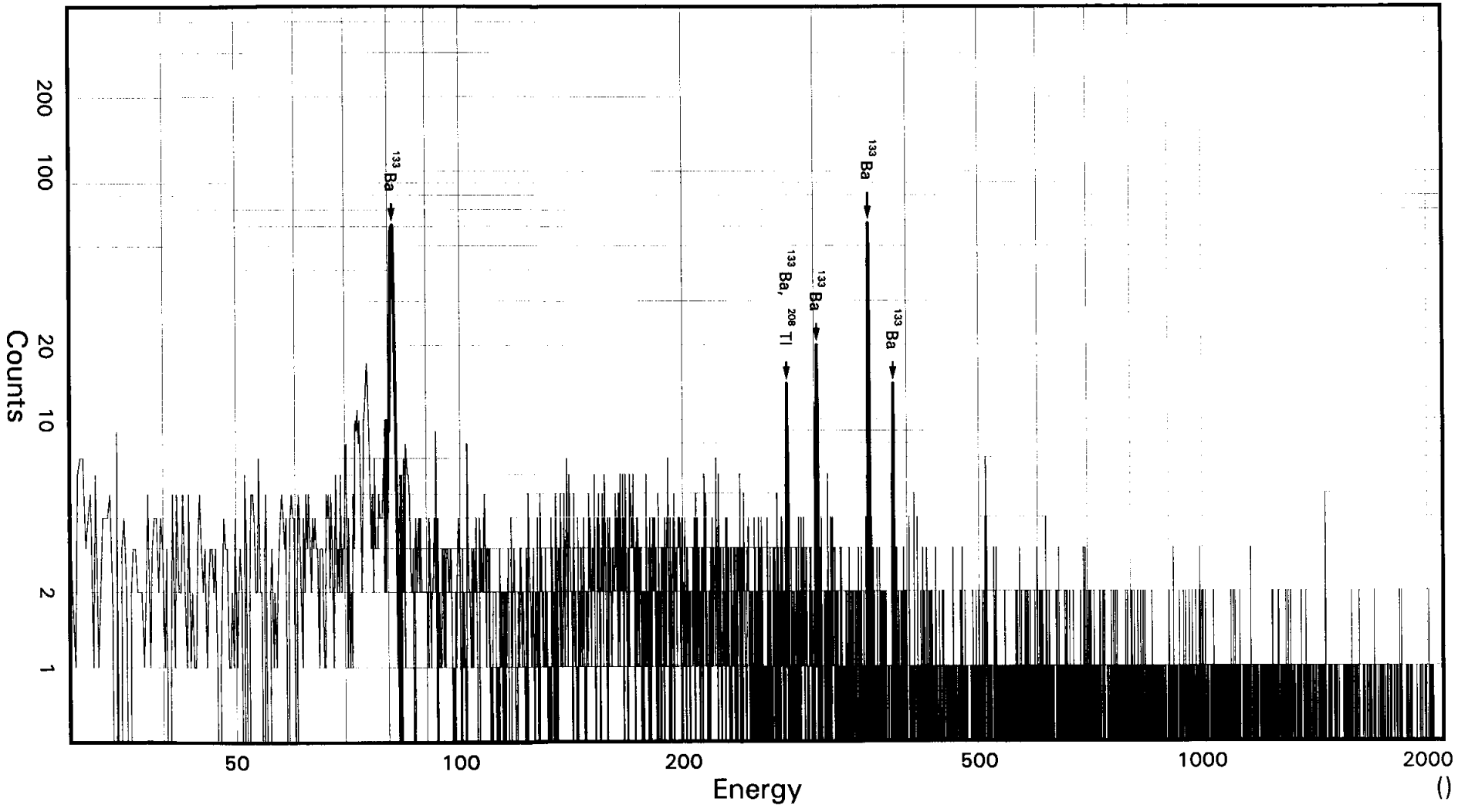
STL Richland WA.

BA133

Sample ID: H9GAJ1AC

Detector ID: GER4 1

Batch ID: 6200133



Acquisition Start: 28-JUL-2006 15:01:13.19

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: H9GAJ1AC

CONFIGURATION ID: GER4:H9GAJ1AC_280761501
TITLE : BA133
SAMPLE ID : H9GAJ1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 15:01:13
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 05:19:46.10
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 15:31:33

```
Configuration     : $DISK1:[GER4.SAMPLE]H9GAJ1AC_280761501.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 15:01:13
Sample ID         : H9GAJ1AC             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	75.00*	19	38	1.10	301.78	297	10	1.06E-02	71.4	
2	0	81.13	238	59	0.91	326.43	319	16	1.32E-01	9.7	
3	0	276.19	56	3	0.87	1109.96	1103	13	3.09E-02	15.0	
4	0	303.04	92	18	1.22	1217.81	1208	15	5.13E-02	14.0	
5	0	355.97	311	0	1.08	1430.42	1422	17	1.73E-01	5.7	
6	0	384.02	53	4	0.51	1543.12	1535	18	2.95E-02	16.6	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 15:31:34

Configuration : $DISK1:[GER4.SAMPLE]H9GAJ1AC_280761501.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 15:01:13
Sample ID : H9GAJ1AC 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	238	33.00	2.043E+00	1.179E+03	1.181E+03	11.21
	276.40	56	6.90	2.202E+00	1.220E+03	1.222E+03	15.98
	302.84	92	17.80	2.205E+00	7.833E+02	7.846E+02	15.02
	356.00	311	62.05*	2.207E+00	7.568E+02	7.581E+02	8.85
	383.85	53	8.70	2.207E+00	9.218E+02	9.233E+02	17.67

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H9GAJ1AC Acquisition date : 28-JUL-2006 15:01:13

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	75.00	19	38	1.10	301.78	297	10	1.06E-02	71.4	2.03E+00	

Flags: "T" = Tentatively associated

Sample ID : H9GAJ1AC Acquisition date : 28-JUL-2006 15:01:13

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	1.238E+03	15.98	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 15:31:36

Configuration : $DISK1:[GER4.SAMPLE]H9GAJ1AC_280761501.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 15:01:13
Sample ID : H9GAJ1AC 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	7.581E+02	6.711E+01	5.272E+01	2.471E+00	14.380

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-4.790E+01		6.314E+01	2.306E+02	8.420E+00	-0.208
NA-22	-3.790E-02		3.241E+00	1.495E+01	5.764E-01	-0.003
K-40	4.712E+01		7.889E+01	3.941E+02	1.539E+01	0.120
SC-46	1.239E+01		6.621E+00	3.107E+01	1.185E+00	0.399
CR-51	-1.162E+02		1.131E+02	3.888E+02	9.024E+00	-0.299
MN-54	-5.628E+00		6.163E+00	2.229E+01	8.323E-01	-0.253
CO-57	1.806E+01		1.024E+02	3.873E+02	9.285E+00	0.047
CO-58	4.608E+00		4.518E+00	2.195E+01	8.185E-01	0.210
FE-59	-8.860E+00		9.415E+00	3.466E+01	1.319E+00	-0.256
CO-60	-4.972E+00		2.888E+00	4.355E+00	1.686E-01	-1.142
ZN-65	5.834E-01		9.929E+00	4.189E+01	1.597E+00	0.014
SE-75	-5.406E+00		1.739E+01	6.380E+01	1.485E+00	-0.085
SR-85	-3.378E+01		1.130E+01	3.105E+01	1.136E+00	-1.088
Y-88	-1.683E+00		3.927E+00	1.646E+01	6.588E-01	-0.102
NB-94	2.312E-01		4.840E+00	2.035E+01	7.620E-01	0.011
NB-95	5.266E+00		6.760E+00	2.934E+01	1.090E+00	0.179
TC-95M	-7.040E+00		1.725E+01	6.140E+01	1.440E+00	-0.115
ZR-95	-1.296E+01		1.087E+01	3.692E+01	1.371E+00	-0.351
ZRNB-95	9.699E+00		1.245E+01	5.404E+01	2.008E+00	0.179
MO-99	1.745E+02		1.344E+02	5.280E+02	1.263E+01	0.331
RH-101	2.272E+01		1.614E+01	6.304E+01	1.481E+00	0.360
RH-102M	3.332E+00		6.778E+00	2.792E+01	1.019E+00	0.119
RU-103	-8.096E+00		8.042E+00	2.820E+01	1.030E+00	-0.287
RU-106DA	2.827E+01		6.509E+01	2.696E+02	9.923E+00	0.105
AG-108M	-5.907E+00		7.725E+00	2.801E+01	1.021E+00	-0.211
AG-110M	4.447E+00		4.376E+00	2.363E+01	8.857E-01	0.188
SN-113DA	-4.111E+00		1.048E+01	3.882E+01	1.414E+00	-0.106

Sample ID : H9GAJ1AC Acquisition date : 28-JUL-2006 15:01:13

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	-5.448E+00		8.605E+00	3.151E+01	1.158E+00	-0.173
SB-125	-1.876E+01		2.022E+01	7.292E+01	2.658E+00	-0.257
SN-126DA	1.197E+00		4.972E+00	2.114E+01	7.804E-01	0.057
I-131	-7.480E+00		1.804E+01	6.678E+01	2.431E+00	-0.112
CS-134	-8.030E+00		7.041E+00	2.390E+01	8.901E-01	-0.336
CS-137DA	-1.593E+00		5.908E+00	2.358E+01	8.699E-01	-0.068
LA-138	2.211E-01		5.851E+00	2.609E+01	1.017E+00	0.008
CE-139	1.982E+00		1.593E+01	5.850E+01	1.386E+00	0.034
BA-140	-1.202E+00		2.863E+01	1.197E+02	4.382E+00	-0.010
BALA-140	1.686E+01		9.792E+00	6.044E+01	2.382E+00	0.279
LA-140	2.248E+02		1.306E+02	8.062E+02	3.178E+01	0.279
CE-141	-5.965E+00		2.435E+01	9.018E+01	2.153E+00	-0.066
CE-144	-6.352E+01		8.529E+01	3.078E+02	7.389E+00	-0.206
CEPR-144	-2.123E+02		1.771E+02	6.138E+02	1.474E+01	-0.346
PM-144	-1.150E+01		7.503E+00	2.485E+01	9.143E-01	-0.463
PM-146	3.915E+00		7.850E+00	3.407E+01	1.243E+00	0.115
EU-152	-1.577E+01		2.927E+01	1.057E+02	2.453E+00	-0.149
EU-154	-1.062E-01		9.082E+00	4.189E+01	1.615E+00	-0.003
EU-155	-3.212E+01		5.448E+01	1.897E+02	4.638E+00	-0.169
HF-181	-8.443E+00		5.208E+00	1.562E+01	5.704E-01	-0.540
BI-207	4.898E+00		5.351E+00	2.385E+01	8.748E-01	0.205
TL-208	-9.085E+00		7.196E+00	2.714E+01	9.965E-01	-0.335
BI-210M	2.053E+01		1.879E+01	7.566E+01	1.761E+00	0.271
BI-212	1.769E+02		8.724E+01	4.171E+02	1.815E+01	0.424
PB-212	-5.612E+01		2.510E+01	8.467E+01	1.976E+00	-0.663
BI-214	-2.900E+00		1.555E+01	6.434E+01	2.366E+00	-0.045
PB-214	6.993E+00		2.301E+01	7.785E+01	1.806E+00	0.090
RA-223	-8.743E+00		7.069E+01	2.631E+02	6.120E+00	-0.033
RA-224DA	-5.663E+01		2.533E+01	8.544E+01	1.994E+00	-0.663
RA-226DA	-3.033E+00		1.554E+01	6.425E+01	2.363E+00	-0.047
AC-227DA	-5.611E+01		8.747E+01	3.032E+02	7.078E+00	-0.185
AC-228	-4.284E+01		1.739E+01	6.050E+01	2.272E+00	-0.708
RA-228DA	-4.297E+01		1.744E+01	6.068E+01	2.279E+00	-0.708
TH-228DA	-2.552E+01		2.021E+01	7.624E+01	2.799E+00	-0.335
TH-232DA	-2.649E+01		6.289E+01	2.299E+02	5.335E+00	-0.115
TH-234DA	-2.598E+02		6.456E+02	2.595E+03	9.810E+01	-0.100
U-234DA	-4.568E+01		4.660E+01	1.620E+02	3.764E+00	-0.282
U-235HP	-7.007E+01		9.708E+01	3.463E+02	8.273E+00	-0.202
NP-237DA	4.216E+01		2.307E+01	9.862E+01	2.290E+00	0.427
U-238DA	6.993E+00		2.301E+01	7.785E+01	1.806E+00	0.090
U-238DHP	1.847E+02		3.301E+02	1.288E+03	3.322E+01	0.143
AM-241HP	-1.254E+01		3.501E+01	1.271E+02	3.301E+00	-0.099

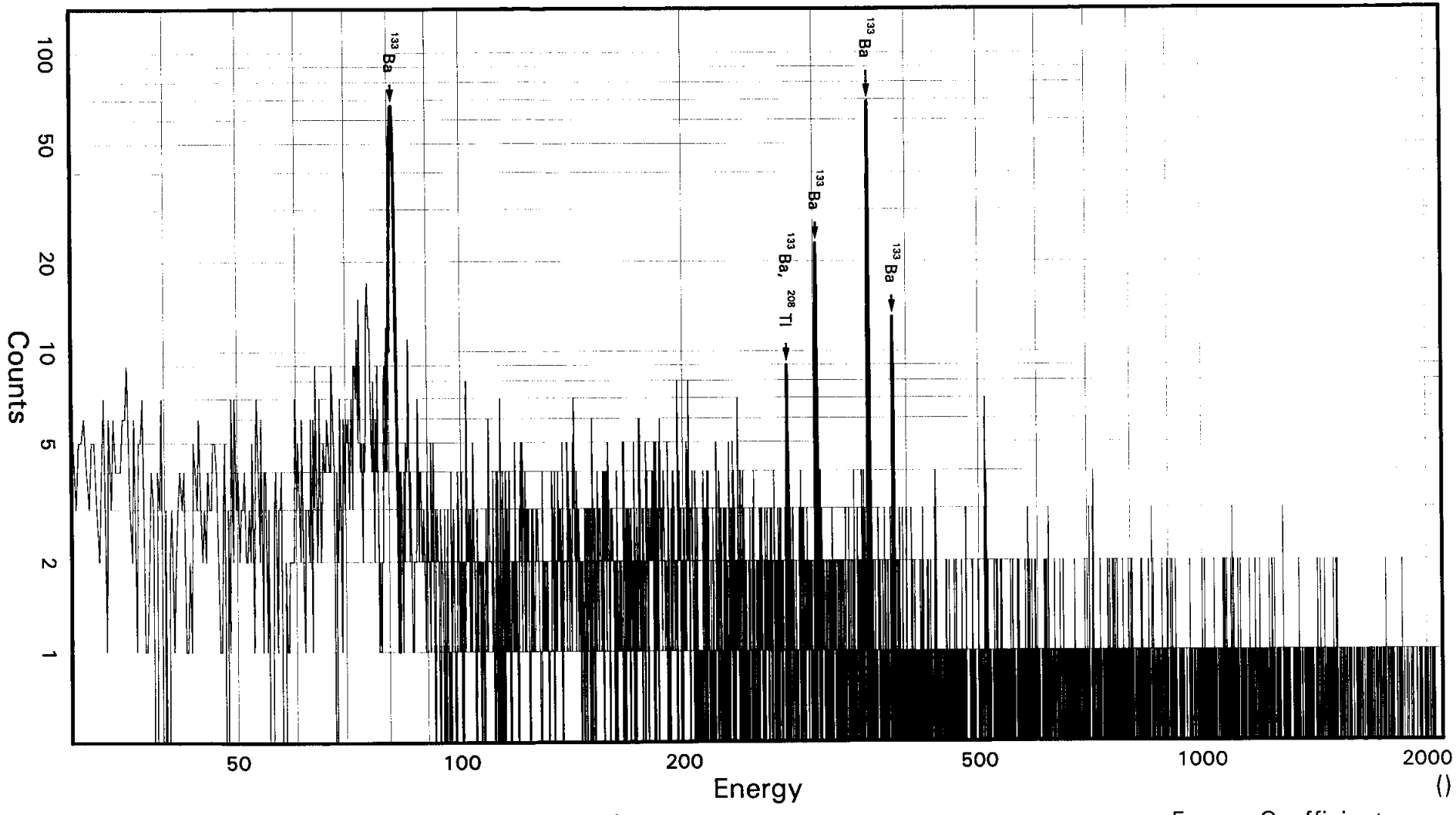
STL Richland WA.

BA133

Sample ID: H9GAK1AC

Detector ID: GER7 1

Batch ID: 6200133



Acquisition Start: 28-JUL-2006 15:01:23.59

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: H9GAK1AC

CONFIGURATION ID: GER7:H9GAK1AC_280761501
TITLE : BA133
SAMPLE ID : H9GAK1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 15:01:23
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 15:31:50

```
Configuration     : $DISK1:[GER7.SAMPLE]H9GAK1AC_280761501.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 15:01:23
Sample ID         : H9GAK1AC             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	294	61	1.10	322.80	316	14	1.63E-01	8.2	
2	0	276.36	32	7	0.77	1105.88	1098	14	1.78E-02	24.9	
3	0	302.90	114	16	1.26	1212.19	1203	21	6.31E-02	12.8	
4	0	356.06	300	13	1.00	1425.14	1417	17	1.67E-01	6.4	
5	0	383.67	49	0	1.23	1535.73	1530	11	2.72E-02	14.3	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 15:31:50

Configuration : $DISK1:[GER7.SAMPLE]H9GAK1AC_280761501.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 15:01:23
Sample ID : H9GAK1AC 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	294	33.00	1.923E+00	1.546E+03	1.548E+03	9.81
	276.40	32	6.90	2.076E+00	7.448E+02	7.460E+02	25.48
	302.84	114	17.80	2.078E+00	1.024E+03	1.026E+03	13.92
	356.00	300	62.05*	2.080E+00	7.748E+02	7.761E+02	8.35
	383.85	49	8.70	2.080E+00	9.026E+02	9.041E+02	15.27

Flag: "*" = Keyline

Sample ID : H9GAK1AC Acquisition date : 28-JUL-2006 15:01:23

None

Flags: "T" = Tentatively associated

Sample ID : H9GAK1AC Acquisition date : 28-JUL-2006 15:01:23

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	7.557E+02	25.48	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 15:31:53

Configuration : $DISK1:[GER7.SAMPLE]H9GAK1AC_280761501.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 15:01:23
Sample ID : H9GAK1AC 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	7.761E+02	6.483E+01	5.333E+01	1.067E+00	14.554

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-7.265E+01		6.120E+01	2.084E+02	4.182E+00	-0.349
NA-22	4.052E-02		2.391E+00	1.258E+01	2.668E-01	0.003
K-40	-2.804E+01		5.520E+01	2.924E+02	6.281E+00	-0.096
SC-46	-5.533E+00		4.106E+00	1.332E+01	2.793E-01	-0.415
CR-51	8.299E+01		1.104E+02	4.407E+02	8.817E+00	0.188
MN-54	-5.018E+00		4.443E+00	1.558E+01	3.197E-01	-0.322
CO-57	6.003E+01		1.075E+02	4.164E+02	8.607E+00	0.144
CO-58	-4.906E+00		4.100E+00	1.421E+01	2.911E-01	-0.345
FE-59	-3.545E+00		1.138E+01	4.482E+01	9.382E-01	-0.079
CO-60	1.135E-02		2.412E+00	1.258E+01	2.679E-01	0.001
ZN-65	3.316E+00		7.630E+00	3.652E+01	7.655E-01	0.091
SE-75	4.380E-01		1.516E+01	5.807E+01	1.165E+00	0.008
SR-85	-2.321E+01		1.235E+01	3.850E+01	7.738E-01	-0.603
Y-88	-1.760E+00		3.194E+00	1.386E+01	3.053E-01	-0.127
NB-94	6.551E+00		4.694E+00	2.324E+01	4.783E-01	0.282
NB-95	-1.638E+00		5.785E+00	2.357E+01	4.815E-01	-0.069
TC-95M	4.428E+01		2.097E+01	8.429E+01	1.705E+00	0.525
ZR-95	2.020E+01		1.295E+01	5.917E+01	1.208E+00	0.341
ZRNB-95	-3.018E+00		1.066E+01	4.342E+01	8.870E-01	-0.069
MO-99	-1.244E+02		1.375E+02	4.813E+02	9.930E+00	-0.258
RH-101	2.622E+01		1.644E+01	6.516E+01	1.319E+00	0.402
RH-102M	4.961E+00		5.694E+00	2.554E+01	5.123E-01	0.194
RU-103	-8.964E+00		6.191E+00	1.970E+01	3.956E-01	-0.455
RU-106DA	8.444E+01		6.942E+01	3.049E+02	6.166E+00	0.277
AG-108M	-2.391E+01		9.198E+00	2.585E+01	5.177E-01	-0.925
AG-110M	2.195E+00		6.223E+00	2.799E+01	5.767E-01	0.078
SN-113DA	-1.354E+00		1.170E+01	4.544E+01	9.091E-01	-0.030

Sample ID : H9GAK1AC Acquisition date : 28-JUL-2006 15:01:23

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	-1.706E+00		5.468E+00	2.205E+01	4.454E-01	-0.077
SB-125	1.136E+01		2.046E+01	8.717E+01	1.745E+00	0.130
SN-126DA	-1.801E+00		4.937E+00	1.951E+01	3.958E-01	-0.092
I-131	4.123E+00		2.180E+01	8.361E+01	1.672E+00	0.049
CS-134	5.961E+00		6.386E+00	2.906E+01	5.948E-01	0.205
CS-137DA	7.496E+00		6.671E+00	3.028E+01	6.141E-01	0.248
LA-138	-8.023E+00		6.941E+00	2.390E+01	5.126E-01	-0.336
CE-139	-8.794E-01		1.389E+01	5.142E+01	1.050E+00	-0.017
BA-140	-3.421E+01		4.372E+01	1.604E+02	3.228E+00	-0.213
BALA-140	1.194E+01		8.468E+00	5.539E+01	1.201E+00	0.216
LA-140	1.593E+02		1.129E+02	7.389E+02	1.602E+01	0.216
CE-141	-4.695E+01		2.815E+01	9.295E+01	1.913E+00	-0.505
CE-144	1.976E+01		9.994E+01	3.821E+02	7.910E+00	0.052
CEPR-144	3.826E+01		1.998E+02	7.635E+02	1.581E+01	0.050
PM-144	-9.880E+00		6.650E+00	2.179E+01	4.406E-01	-0.453
PM-146	2.825E+00		9.004E+00	3.750E+01	7.517E-01	0.075
EU-152	5.453E+01		3.237E+01	1.373E+02	2.746E+00	0.397
EU-154	1.137E-01		6.700E+00	3.525E+01	7.475E-01	0.003
EU-155	-4.106E+01		5.039E+01	1.740E+02	3.671E+00	-0.236
HF-181	-2.490E+00		6.056E+00	2.425E+01	4.866E-01	-0.103
BI-207	4.479E+00		4.801E+00	2.268E+01	4.572E-01	0.198
TL-208	-4.618E+00		8.515E+00	3.342E+01	6.742E-01	-0.138
BI-210M	-1.528E+00		1.760E+01	6.657E+01	1.336E+00	-0.023
BI-212	-8.077E+00		8.828E+01	3.495E+02	1.069E+01	-0.023
PB-212	-2.711E+01		2.489E+01	9.164E+01	1.843E+00	-0.296
BI-214	-1.267E+01		1.216E+01	5.075E+01	1.026E+00	-0.250
PB-214	1.526E+01		2.943E+01	1.044E+02	2.088E+00	0.146
RA-223	5.376E+01		6.824E+01	2.723E+02	5.461E+00	0.197
RA-224DA	-2.736E+01		2.512E+01	9.248E+01	1.860E+00	-0.296
RA-226DA	-1.253E+01		1.218E+01	5.088E+01	1.028E+00	-0.246
AC-227DA	1.152E+01		9.821E+01	3.696E+02	7.436E+00	0.031
AC-228	2.126E+01		2.066E+01	9.310E+01	1.922E+00	0.228
RA-228DA	2.133E+01		2.072E+01	9.338E+01	1.928E+00	0.228
TH-228DA	-1.297E+01		2.392E+01	9.386E+01	1.894E+00	-0.138
TH-232DA	9.693E+01		6.695E+01	2.819E+02	5.638E+00	0.344
TH-234DA	5.347E+02		7.172E+02	3.356E+03	6.974E+01	0.159
U-234DA	1.742E+01		4.730E+01	1.831E+02	3.667E+00	0.095
U-235HP	1.278E+02		1.138E+02	4.481E+02	9.231E+00	0.285
NP-237DA	-3.077E+01		2.359E+01	7.872E+01	1.575E+00	-0.391
U-238DA	1.526E+01		2.943E+01	1.044E+02	2.088E+00	0.146
U-238DHP	-1.298E+02		3.869E+02	1.433E+03	3.191E+01	-0.091
AM-241HP	2.891E+01		3.403E+01	1.341E+02	3.009E+00	0.216

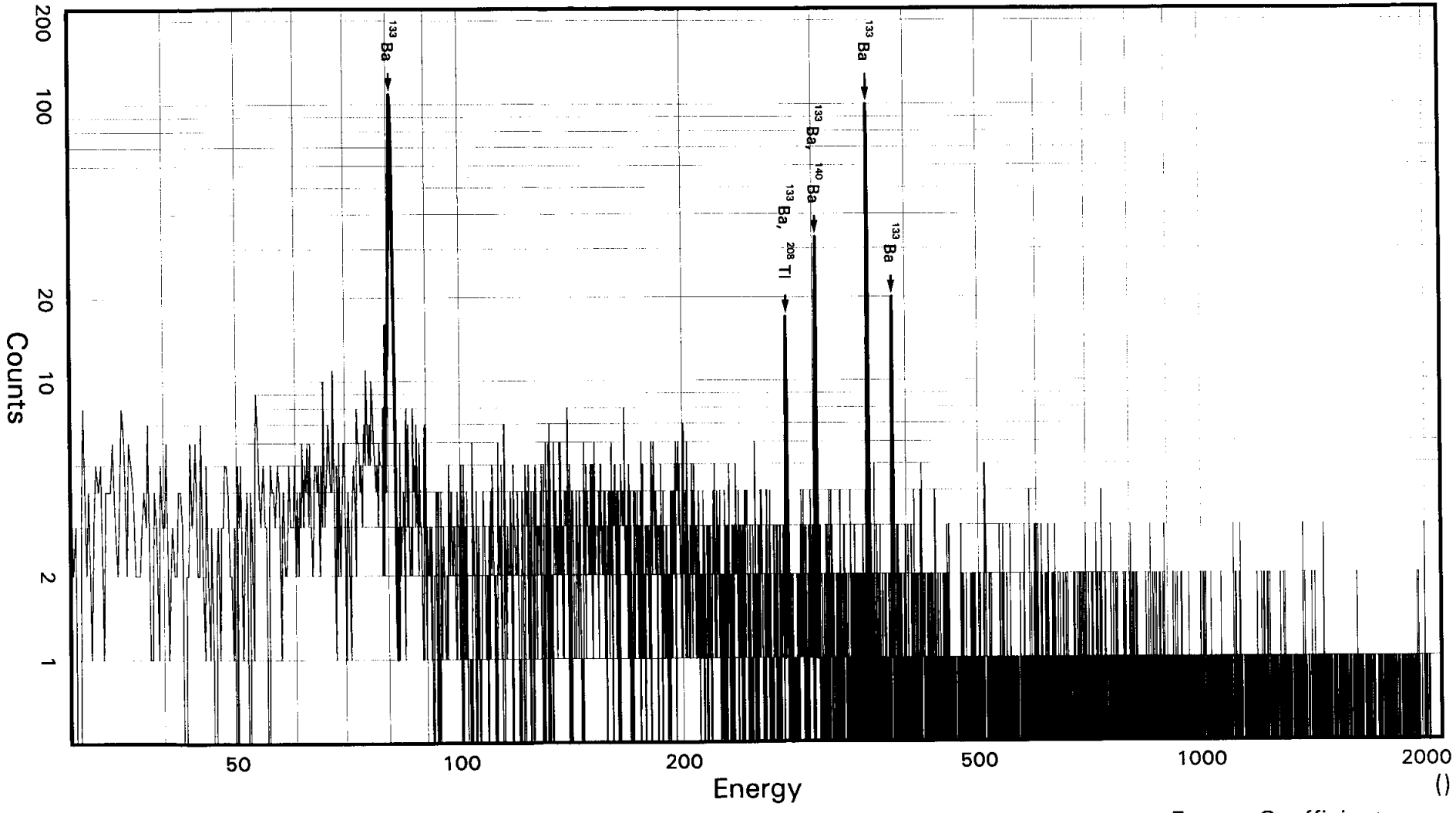
STL Richland WA.

BA133

Sample ID: H9GAL1AC

Detector ID: GER12 1

Batch ID: 6200133



Acquisition Start: 28-JUL-2006 15:01:35.64

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: H9GAL1AC

CONFIGURATION ID: GER12:H9GAL1AC_280761501
TITLE : BA133
SAMPLE ID : H9GAL1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 15:01:35
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 15:32:06

Configuration : $DISK1:[GER12.SAMPLE]H9GAL1AC_280761501.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 15:01:35
Sample ID : H9GAL1AC 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	80.86	387	42	0.73	277.25	269	15	2.15E-01	6.2	
2	0	276.72	62	21	1.06	1071.72	1062	17	3.46E-02	21.1	
3	0	302.92	124	23	0.87	1177.97	1171	17	6.87E-02	12.5	
4	0	356.10	423	18	0.94	1393.68	1387	17	2.35E-01	5.5	
5	0	383.93	81	8	0.98	1506.58	1497	15	4.47E-02	13.4	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 15:32:07

Configuration : $DISK1:[GER12.SAMPLE]H9GAL1AC_280761501.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 15:01:35
Sample ID : H9GAL1AC 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	387	33.00	2.899E+00	1.348E+03	1.351E+03	8.28
	276.40	62	6.90	3.105E+00	9.704E+02	9.720E+02	21.78
	302.84	124	17.80	3.109E+00	7.449E+02	7.461E+02	13.57
	356.00	423	62.05*	3.111E+00	7.297E+02	7.309E+02	7.66
	383.85	81	8.70	3.111E+00	9.915E+02	9.931E+02	14.43

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H9GAL1AC

Acquisition date : 28-JUL-2006 15:01:35

None

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : H9GAL1AC

Acquisition date : 28-JUL-2006 15:01:35

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
BA-140	12.79D	0.71	162.64	6.70	--- Not Found ---		Abun.
			304.84	4.50	4.834E+03	13.57	
			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	9.846E+02	21.78	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 15:32:10

Configuration : $DISK1:[GER12.SAMPLE]H9GAL1AC_280761501.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 15:01:35
Sample ID : H9GAL1AC 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	7.309E+02	5.602E+01	4.449E+01	8.899E-01	16.426

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-8.234E+00		4.993E+01	1.905E+02	3.820E+00	-0.043
NA-22	3.453E+00		2.532E+00	1.365E+01	2.877E-01	0.253
K-40	-2.741E+01		4.452E+01	2.217E+02	4.729E+00	-0.124
SC-46	3.599E+00		3.202E+00	1.579E+01	3.295E-01	0.228
CR-51	-8.283E+01		7.662E+01	2.578E+02	5.157E+00	-0.321
MN-54	3.367E+00		3.714E+00	1.680E+01	3.439E-01	0.200
CO-57	-2.055E+01		8.391E+01	3.019E+02	6.219E+00	-0.068
CO-58	-4.363E+00		5.381E+00	1.932E+01	3.949E-01	-0.226
FE-59	6.832E+00		6.034E+00	2.982E+01	6.214E-01	0.229
CO-60	3.869E-01		2.824E+00	1.265E+01	2.676E-01	0.031
ZN-65	2.211E+00		6.795E+00	2.960E+01	6.174E-01	0.075
SE-75	-1.089E+01		1.107E+01	3.831E+01	7.683E-01	-0.284
SR-85	-2.886E+01		7.669E+00	1.961E+01	3.939E-01	-1.471
Y-88	-3.102E-02		1.786E+00	9.173E+00	2.001E-01	-0.003
NB-94	2.151E+00		3.129E+00	1.440E+01	2.956E-01	0.149
NB-95	5.376E+00		4.112E+00	1.966E+01	4.008E-01	0.273
TC-95M	-2.051E+00		1.305E+01	4.825E+01	9.747E-01	-0.043
ZR-95	1.332E+01		7.509E+00	3.628E+01	7.389E-01	0.367
ZRNB-95	9.902E+00		7.575E+00	3.622E+01	7.382E-01	0.273
MO-99	-4.232E+01		9.178E+01	3.348E+02	6.884E+00	-0.126
RH-101	-9.091E+00		1.323E+01	4.602E+01	9.307E-01	-0.198
RH-102M	4.743E+00		5.745E+00	2.328E+01	4.669E-01	0.204
RU-103	2.205E+00		4.551E+00	1.972E+01	3.957E-01	0.112
RU-106DA	-9.023E-01		4.500E+01	1.778E+02	3.591E+00	-0.005
AG-108M	-8.704E-01		5.800E+00	2.195E+01	4.396E-01	-0.040
AG-110M	2.886E+00		6.276E+00	2.589E+01	5.317E-01	0.111
SN-113DA	1.171E+00		8.504E+00	3.324E+01	6.650E-01	0.035

---- Non-Identified Nuclides ----

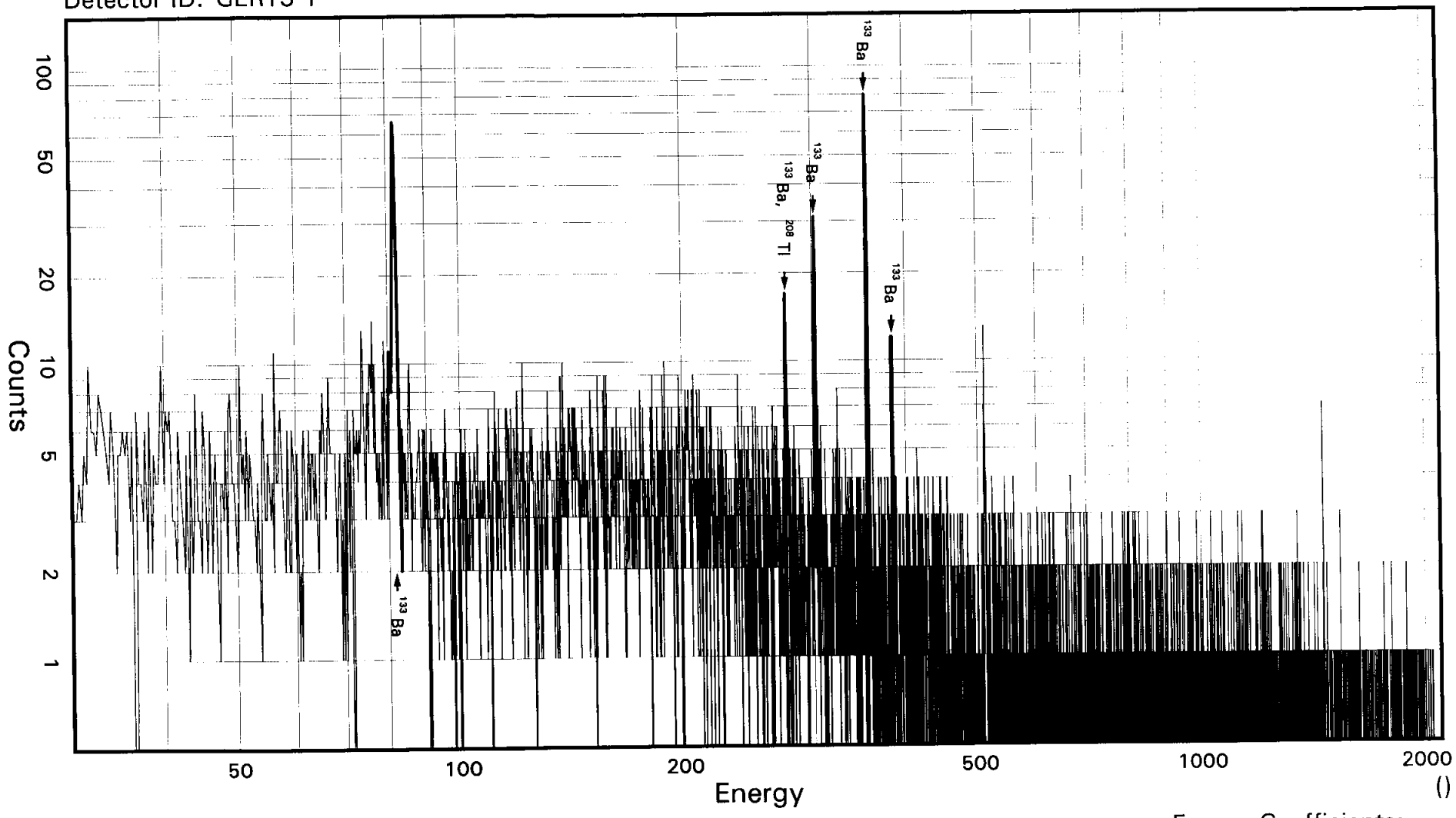
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	-5.474E+00		5.671E+00	1.991E+01	4.018E-01	-0.275
SB-125	2.934E+01		1.655E+01	7.397E+01	1.481E+00	0.397
SN-126DA	-1.022E-01		2.701E+00	1.168E+01	2.365E-01	-0.009
I-131	-2.077E+01		1.436E+01	4.830E+01	9.661E-01	-0.430
CS-134	1.421E+00		4.246E+00	1.820E+01	3.718E-01	0.078
CS-137DA	4.955E+00		4.469E+00	2.022E+01	4.094E-01	0.245
LA-138	5.111E+00		3.842E+00	2.052E+01	4.370E-01	0.249
CE-139	2.959E+01		1.102E+01	4.540E+01	9.251E-01	0.652
BA-140	-2.623E+01		2.898E+01	1.047E+02	2.105E+00	-0.251
BALA-140	3.958E+00		3.964E+00	2.911E+01	6.259E-01	0.136
LA-140	5.280E+01		5.288E+01	3.882E+02	8.349E+00	0.136
CE-141	-2.233E+01		1.869E+01	6.314E+01	1.296E+00	-0.354
CE-144	-5.989E+00		7.899E+01	2.885E+02	5.951E+00	-0.021
CEPR-144	-1.367E+01		1.579E+02	5.763E+02	1.189E+01	-0.024
PM-144	6.433E+00		4.146E+00	1.918E+01	3.873E-01	0.335
PM-146	4.519E+00		8.370E+00	3.326E+01	6.665E-01	0.136
EU-152	1.482E+01		1.807E+01	7.629E+01	1.526E+00	0.194
EU-154	7.649E+00		6.615E+00	3.579E+01	7.542E-01	0.214
EU-155	-4.093E+01		3.198E+01	1.107E+02	2.322E+00	-0.370
HF-181	2.726E+00		4.860E+00	2.124E+01	4.260E-01	0.128
BI-207	1.221E+00		3.276E+00	1.447E+01	2.915E-01	0.084
TL-208	-4.009E+00		4.869E+00	1.772E+01	3.571E-01	-0.226
BI-210M	4.334E+00		1.289E+01	4.936E+01	9.898E-01	0.088
BI-212	-1.643E+01		6.142E+01	2.423E+02	7.400E+00	-0.068
PB-212	-9.374E+00		1.661E+01	5.939E+01	1.194E+00	-0.158
BI-214	1.639E+01		1.123E+01	4.837E+01	9.765E-01	0.339
PB-214	-3.626E+01		2.044E+01	6.025E+01	1.205E+00	-0.602
RA-223	4.004E+01		4.559E+01	1.820E+02	3.649E+00	0.220
RA-224DA	-9.459E+00		1.676E+01	5.993E+01	1.205E+00	-0.158
RA-226DA	1.639E+01		1.123E+01	4.838E+01	9.765E-01	0.339
AC-227DA	6.765E+01		6.637E+01	2.607E+02	5.242E+00	0.260
AC-228	3.340E+00		1.339E+01	5.608E+01	1.154E+00	0.060
RA-228DA	3.350E+00		1.343E+01	5.625E+01	1.157E+00	0.060
TH-228DA	-1.126E+01		1.368E+01	4.976E+01	1.003E+00	-0.226
TH-232DA	1.483E+01		4.253E+01	1.656E+02	3.312E+00	0.090
TH-234DA	-3.038E+02		5.280E+02	2.048E+03	4.239E+01	-0.148
U-234DA	-2.917E+01		3.393E+01	1.172E+02	2.346E+00	-0.249
U-235HP	-7.217E+01		7.007E+01	2.403E+02	4.936E+00	-0.300
NP-237DA	8.991E-01		1.703E+01	6.359E+01	1.272E+00	0.014
U-238DA	-3.626E+01		2.044E+01	6.025E+01	1.205E+00	-0.602
U-238DHP	-2.762E+01		2.508E+02	9.025E+02	1.987E+01	-0.031
AM-241HP	2.658E+00		2.427E+01	8.957E+01	1.986E+00	0.030

STL Richland WA.

BA133

Sample ID: H9GAM1AC
Detector ID: GER13 1

Batch ID: 6200133



Acquisition Start: 28-JUL-2006 15:01:45.77
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: H9GAM1AC

CONFIGURATION ID: GER13:H9GAM1AC_280761501
TITLE : BA133
SAMPLE ID : H9GAM1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 15:01:45
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 15:32:24

Configuration : $DISK1:[GER13.SAMPLE]H9GAM1AC_280761501.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 15:01:45
Sample ID : H9GAM1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.38 0.0%
Start energy : 19.35 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	226	64	0.73	328.72	321	16	1.25E-01	10.4	
2	0	276.39	72	25	0.48	1105.28	1095	20	4.00E-02	20.7	
3	0	302.67	105	38	1.08	1210.16	1203	13	5.81E-02	15.7	
4	0	355.74	412	14	1.22	1422.01	1412	19	2.29E-01	5.4	
5	0	384.02	78	4	1.33	1534.89	1526	20	4.31E-02	13.3	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 15:32:25

Configuration : $DISK1:[GER13.SAMPLE]H9GAM1AC_280761501.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 : H9GAM1AC
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 15:01:45
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.38 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	226	33.00	2.704E+00	8.430E+02	8.444E+02	11.70
	276.40	72	6.90	2.897E+00	1.200E+03	1.202E+03	21.39
	302.84	105	17.80	2.900E+00	6.750E+02	6.762E+02	16.61
	356.00	412	62.05*	2.903E+00	7.624E+02	7.637E+02	7.62
	383.85	78	8.70	2.902E+00	1.025E+03	1.027E+03	14.37

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H9GAM1AC

Acquisition date : 28-JUL-2006 15:01:45

None

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : H9GAM1AC

Acquisition date : 28-JUL-2006 15:01:45

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	1.218E+03	21.39	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 15:32:27

Configuration : $DISK1:[GER13.SAMPLE]H9GAM1AC_280761501.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 15:01:45
Sample ID : H9GAM1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.38 0.0%
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	7.637E+02	5.820E+01	4.414E+01	8.828E-01	17.302

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-2.018E+00		7.330E+01	2.730E+02	5.476E+00	-0.007
NA-22	3.840E+00		4.100E+00	1.851E+01	3.904E-01	0.208
K-40	-1.031E+02		9.146E+01	4.379E+02	9.351E+00	-0.235
SC-46	-2.369E+00		6.274E+00	2.599E+01	5.428E-01	-0.091
CR-51	1.055E+02		1.256E+02	4.686E+02	9.376E+00	0.225
MN-54	-2.921E+00		5.411E+00	2.012E+01	4.121E-01	-0.145
CO-57	3.806E+01		1.074E+02	3.913E+02	8.065E+00	0.097
CO-58	-3.302E+00		5.191E+00	1.938E+01	3.964E-01	-0.170
FE-59	4.841E+00		9.510E+00	4.010E+01	8.362E-01	0.121
CO-60	2.935E+00		4.706E+00	1.989E+01	4.212E-01	0.148
ZN-65	-6.163E+00		1.140E+01	4.219E+01	8.807E-01	-0.146
SE-75	-1.737E+00		1.882E+01	6.721E+01	1.348E+00	-0.026
SR-85	-3.015E+01		1.159E+01	3.463E+01	6.956E-01	-0.871
Y-88	-1.265E+00		2.278E+00	9.848E+00	2.152E-01	-0.128
NB-94	-9.190E-01		5.079E+00	1.963E+01	4.031E-01	-0.047
NB-95	-6.812E-01		6.073E+00	2.329E+01	4.748E-01	-0.029
TC-95M	4.022E+00		2.086E+01	7.566E+01	1.529E+00	0.053
ZR-95	-5.758E+00		1.119E+01	4.066E+01	8.284E-01	-0.142
ZRNB-95	-1.565E+00		1.115E+01	4.265E+01	8.697E-01	-0.037
MO-99	-8.934E+01		1.396E+02	4.802E+02	9.880E+00	-0.186
RH-101	2.502E+01		1.556E+01	5.864E+01	1.186E+00	0.427
RH-102M	8.666E+00		7.306E+00	2.948E+01	5.911E-01	0.294
RU-103	-2.003E+00		7.077E+00	2.648E+01	5.315E-01	-0.076
RU-106DA	-2.966E+01		6.205E+01	2.281E+02	4.610E+00	-0.130
AG-108M	1.153E+01		8.359E+00	3.369E+01	6.746E-01	0.342
AG-110M	6.255E+00		6.961E+00	2.978E+01	6.120E-01	0.210
SN-113DA	1.560E+01		1.192E+01	4.826E+01	9.655E-01	0.323

Sample ID : H9GAM1AC Acquisition date : 28-JUL-2006 15:01:45

---- Non-Identified Nuclides ----

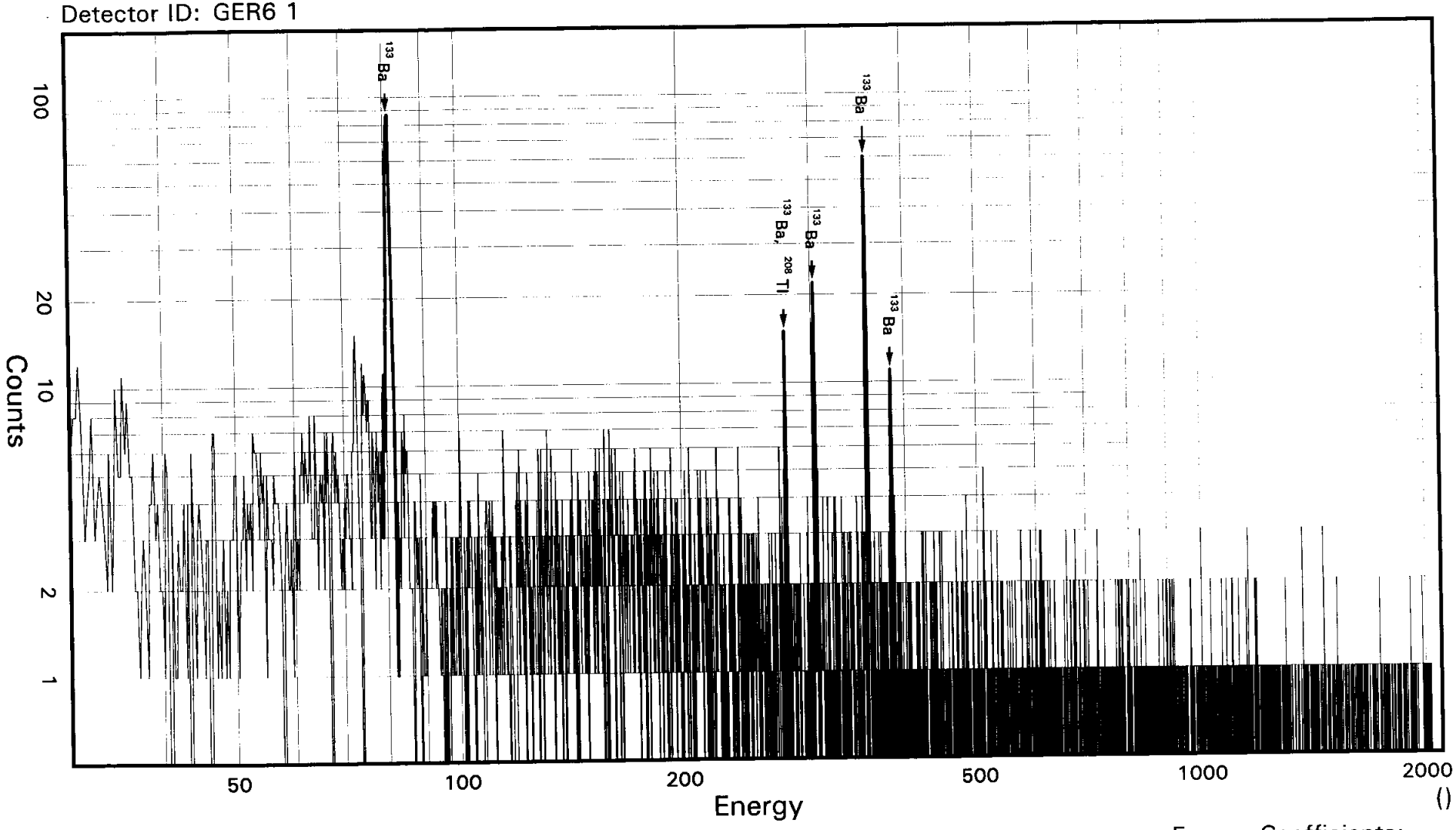
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	1.027E+01		7.306E+00	3.051E+01	6.159E-01	0.337
SB-125	-2.082E+01		2.363E+01	8.267E+01	1.655E+00	-0.252
SN-126DA	2.292E+00		5.925E+00	2.336E+01	4.732E-01	0.098
I-131	-4.878E+01		2.219E+01	7.016E+01	1.403E+00	-0.695
CS-134	3.392E+00		7.394E+00	2.878E+01	5.880E-01	0.118
CS-137DA	5.712E-02		6.401E+00	2.478E+01	5.019E-01	0.002
LA-138	2.583E-01		5.100E+00	2.203E+01	4.695E-01	0.012
CE-139	-1.134E+01		1.494E+01	5.079E+01	1.035E+00	-0.223
BA-140	-2.073E+01		3.976E+01	1.425E+02	2.867E+00	-0.145
BALA-140	1.341E+01		7.584E+00	4.658E+01	1.003E+00	0.288
LA-140	1.133E+02		1.136E+02	6.097E+02	1.313E+01	0.186
CE-141	-2.368E+01		3.035E+01	1.037E+02	2.128E+00	-0.228
CE-144	-1.150E+02		1.018E+02	3.441E+02	7.102E+00	-0.334
CEPR-144	-2.256E+02		2.038E+02	6.899E+02	1.424E+01	-0.327
PM-144	3.864E-02		6.190E+00	2.371E+01	4.790E-01	0.002
PM-146	2.307E+01		9.960E+00	4.349E+01	8.715E-01	0.531
EU-152	5.590E+01		3.341E+01	1.314E+02	2.627E+00	0.425
EU-154	1.322E+01		1.186E+01	5.394E+01	1.138E+00	0.245
EU-155	4.279E+01		4.940E+01	1.882E+02	3.953E+00	0.227
HF-181	4.776E+00		8.500E+00	3.364E+01	6.748E-01	0.142
BI-207	4.575E+00		5.843E+00	2.405E+01	4.845E-01	0.190
TL-208	3.067E+00		7.009E+00	2.949E+01	5.945E-01	0.104
BI-210M	2.943E+01		2.189E+01	8.306E+01	1.666E+00	0.354
BI-212	-4.397E+00		7.624E+01	2.953E+02	9.022E+00	-0.015
PB-212	-1.928E+01		2.527E+01	8.943E+01	1.798E+00	-0.216
BI-214	-3.089E+01		1.400E+01	5.459E+01	1.102E+00	-0.566
PB-214	-2.620E+01		2.665E+01	8.277E+01	1.655E+00	-0.317
RA-223	2.288E+01		7.492E+01	2.737E+02	5.487E+00	0.084
RA-224DA	-1.946E+01		2.550E+01	9.024E+01	1.814E+00	-0.216
RA-226DA	-3.079E+01		1.401E+01	5.465E+01	1.103E+00	-0.563
AC-227DA	-1.035E+01		9.343E+01	3.358E+02	6.753E+00	-0.031
AC-228	-4.788E+01		1.966E+01	6.766E+01	1.393E+00	-0.708
RA-228DA	-4.802E+01		1.972E+01	6.786E+01	1.397E+00	-0.708
TH-228DA	8.616E+00		1.969E+01	8.283E+01	1.670E+00	0.104
TH-232DA	5.347E+01		6.783E+01	2.570E+02	5.140E+00	0.208
TH-234DA	-2.644E+01		5.220E+02	2.185E+03	4.527E+01	-0.012
U-234DA	-2.182E+01		4.719E+01	1.725E+02	3.454E+00	-0.127
U-235HP	1.355E+01		1.198E+02	4.261E+02	8.755E+00	0.032
NP-237DA	1.641E+01		2.290E+01	8.699E+01	1.741E+00	0.189
U-238DA	-2.620E+01		2.665E+01	8.277E+01	1.655E+00	-0.317
U-238DHP	-2.152E+02		3.123E+02	1.069E+03	2.358E+01	-0.201
AM-241HP	-1.792E+01		3.127E+01	1.084E+02	2.408E+00	-0.165

STL Richland WA.

BA133

Sample ID: H9GAN1AC
Detector ID: GER6 1

Batch ID: 6200133



Acquisition Start: 28-JUL-2006 15:02:04.36
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: H9GAN1AC

CONFIGURATION ID: GER6:H9GAN1AC_280761502
TITLE : BA133
SAMPLE ID : H9GAN1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 15:02:04
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 05:20:03.87
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 15:32:40

Configuration : $DISK1:[GER6.SAMPLE]H9GAN1AC_280761502.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 15:02:04
Sample ID : H9GAN1AC 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	72.59*	14	25	0.64	291.45	287	10	8.04E-03	78.5	
2	0	80.90	366	62	0.98	324.79	316	15	2.03E-01	7.0	
3	0	276.60	42	16	0.52	1109.59	1100	15	2.35E-02	25.3	
4	0	302.85	89	20	1.00	1214.85	1208	14	4.92E-02	15.3	
5	0	356.06	322	16	1.19	1428.22	1417	23	1.79E-01	6.5	
6	0	383.82	62	5	1.18	1539.53	1530	19	3.47E-02	15.2	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 15:32:40

Configuration : $DISK1:[GER6.SAMPLE]H9GAN1AC_280761502.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 : H9GAN1AC
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 15:02:04
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.24 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	366	33.00	2.167E+00	1.705E+03	1.707E+03	8.86
	276.40	42	6.90	2.334E+00	8.759E+02	8.774E+02	25.83
	302.84	89	17.80	2.337E+00	7.096E+02	7.108E+02	16.18
	356.00	322	62.05*	2.339E+00	7.388E+02	7.400E+02	8.44
	383.85	62	8.70	2.338E+00	1.023E+03	1.024E+03	16.09

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H9GAN1AC

Acquisition date : 28-JUL-2006 15:02:04

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	72.59	14	25	0.64	291.45	287	10	8.04E-03	78.5	2.14E+00	

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : H9GAN1AC

Acquisition date : 28-JUL-2006 15:02:04

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	8.888E+02	25.83	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 15:32:43

Configuration : $DISK1:[GER6.SAMPLE]H9GAN1AC_280761502.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 15:02:04
Sample ID : H9GAN1AC 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	7.400E+02	6.247E+01	5.240E+01	1.048E+00	14.122

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	3.837E+01		7.887E+01	3.105E+02	6.228E+00	0.124
NA-22	1.258E+00		3.300E+00	1.591E+01	3.367E-01	0.079
K-40	-8.254E+01		6.571E+01	3.147E+02	6.747E+00	-0.262
SC-46	4.906E+00		5.787E+00	2.552E+01	5.342E-01	0.192
CR-51	1.492E+02		1.151E+02	4.646E+02	9.295E+00	0.321
MN-54	-1.576E+00		4.975E+00	1.955E+01	4.009E-01	-0.081
CO-57	0.000E+00		0.000E+00	3.494E+02	7.214E+00	0.000
CO-58	8.047E+00		5.337E+00	2.545E+01	5.213E-01	0.316
FE-59	3.207E+00		7.979E+00	3.647E+01	7.625E-01	0.088
CO-60	7.597E+00		3.423E+00	1.991E+01	4.230E-01	0.382
ZN-65	4.132E+00		1.009E+01	4.339E+01	9.080E-01	0.095
SE-75	-1.231E+01		1.503E+01	5.205E+01	1.044E+00	-0.236
SR-85	-2.657E+01		1.004E+01	2.940E+01	5.908E-01	-0.904
Y-88	-8.697E-01		3.189E+00	1.414E+01	3.106E-01	-0.062
NB-94	6.657E+00		4.831E+00	2.279E+01	4.686E-01	0.292
NB-95	9.087E+00		5.796E+00	2.785E+01	5.685E-01	0.326
TC-95M	1.130E+01		1.735E+01	6.692E+01	1.353E+00	0.169
ZR-95	4.029E-01		8.068E+00	3.484E+01	7.106E-01	0.012
ZRNB-95	1.324E+01		1.106E+01	5.099E+01	1.041E+00	0.260
MO-99	6.416E+01		1.135E+02	4.371E+02	9.009E+00	0.147
RH-101	6.218E-01		1.331E+01	4.850E+01	9.817E-01	0.013
RH-102M	3.086E+00		6.981E+00	2.790E+01	5.596E-01	0.111
RU-103	-5.756E+00		8.737E+00	3.205E+01	6.436E-01	-0.180
RU-106DA	-3.890E+01		6.387E+01	2.371E+02	4.795E+00	-0.164
AG-108M	-6.434E+00		8.120E+00	2.878E+01	5.764E-01	-0.224
AG-110M	-8.971E+00		7.953E+00	2.715E+01	5.589E-01	-0.330
SN-113DA	1.487E+01		1.168E+01	4.945E+01	9.892E-01	0.301

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	-7.422E+00		7.516E+00	2.590E+01	5.230E-01	-0.287
SB-125	-2.810E+01		1.716E+01	5.418E+01	1.085E+00	-0.519
SN-126DA	3.968E+00		5.535E+00	2.375E+01	4.815E-01	0.167
I-131	-1.501E+01		2.201E+01	7.730E+01	1.546E+00	-0.194
CS-134	7.954E+00		6.555E+00	2.940E+01	6.014E-01	0.271
CS-137DA	2.765E+00		5.760E+00	2.485E+01	5.038E-01	0.111
LA-138	2.415E+00		5.058E+00	2.460E+01	5.264E-01	0.098
CE-139	-1.715E+01		1.575E+01	5.333E+01	1.088E+00	-0.322
BA-140	-1.822E+01		3.750E+01	1.412E+02	2.841E+00	-0.129
BALA-140	1.578E+01		1.193E+01	6.359E+01	1.375E+00	0.248
LA-140	2.105E+02		1.591E+02	8.483E+02	1.835E+01	0.248
CE-141	3.588E+01		2.616E+01	1.046E+02	2.150E+00	0.343
CE-144	-1.391E+02		1.096E+02	3.559E+02	7.360E+00	-0.391
CEPR-144	-2.771E+02		2.192E+02	7.123E+02	1.473E+01	-0.389
PM-144	-7.639E+00		6.517E+00	2.262E+01	4.572E-01	-0.338
PM-146	6.743E+00		8.670E+00	3.700E+01	7.415E-01	0.182
EU-152	6.936E+01		2.731E+01	1.237E+02	2.474E+00	0.561
EU-154	4.419E+00		9.450E+00	4.579E+01	9.693E-01	0.097
EU-155	8.569E+00		4.431E+01	1.677E+02	3.532E+00	0.051
HF-181	-1.232E+00		1.008E+01	3.772E+01	7.568E-01	-0.033
BI-207	1.670E+00		5.401E+00	2.239E+01	4.512E-01	0.075
TL-208	8.175E+00		7.473E+00	3.324E+01	6.704E-01	0.246
BI-210M	2.784E+01		1.545E+01	6.587E+01	1.321E+00	0.423
BI-212	3.956E+01		8.376E+01	3.496E+02	1.068E+01	0.113
PB-212	2.614E+01		2.275E+01	9.239E+01	1.858E+00	0.283
BI-214	7.118E+00		1.788E+01	7.309E+01	1.477E+00	0.097
PB-214	3.329E+01		2.576E+01	9.297E+01	1.859E+00	0.358
RA-223	-6.617E+01		7.087E+01	2.409E+02	4.832E+00	-0.275
RA-224DA	2.638E+01		2.296E+01	9.323E+01	1.875E+00	0.283
RA-226DA	7.120E+00		1.788E+01	7.309E+01	1.477E+00	0.097
AC-227DA	-1.545E+02		8.346E+01	2.662E+02	5.355E+00	-0.580
AC-228	-1.166E+01		2.346E+01	9.453E+01	1.950E+00	-0.123
RA-228DA	-1.170E+01		2.353E+01	9.481E+01	1.955E+00	-0.123
TH-228DA	2.296E+01		2.099E+01	9.335E+01	1.883E+00	0.246
TH-232DA	1.310E+02		6.518E+01	2.790E+02	5.581E+00	0.469
TH-234DA	2.134E+02		7.592E+02	3.207E+03	6.658E+01	0.067
U-234DA	3.698E+01		4.023E+01	1.642E+02	3.288E+00	0.225
U-235HP	-8.920E+01		1.010E+02	3.544E+02	7.293E+00	-0.252
NP-237DA	-4.567E+01		2.150E+01	6.597E+01	1.320E+00	-0.692
U-238DA	3.329E+01		2.576E+01	9.297E+01	1.859E+00	0.358
U-238DHP	-5.872E+01		3.723E+02	1.327E+03	2.944E+01	-0.044
AM-241HP	-1.157E+01		3.131E+01	1.121E+02	2.506E+00	-0.103

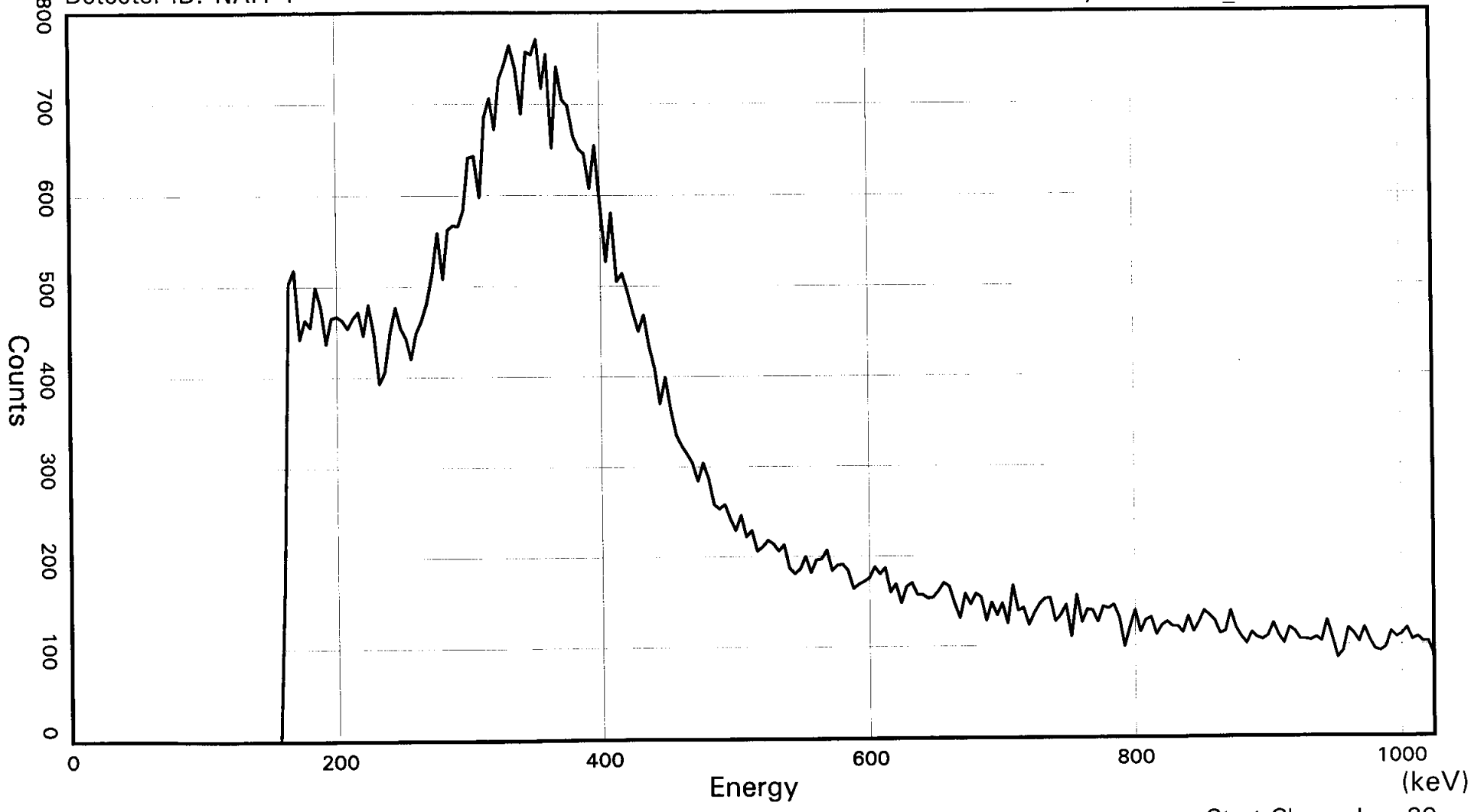
STL Richland WA.

BA133

Sample ID: H9GAP1AC

Detector ID: NAI1 1

Library: [NUC_LIBR]BA133.NLB



Acquisition Start: 28-JUL-2006 15:43:18.44

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: H9GAP1AC

CONFIGURATION ID: NAI1:H9GAP1AC_280761543
TITLE : BA133
SAMPLE ID : H9GAP1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 15:43:18
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 16:13:23

Configuration	: RDND06$DKA100:[NAI1.SAMPLE]H9GAP1AC_280761543.CNF;1		
Analyses by	: NAI V3.0		
Sample title	: BA133		
Sample date	: 19-JUL-2006 12:00:00	Acquisition date	: 28-JUL-2006 15:43:18
Sample ID	: H9GAP1AC	Sample quantity	: 1.0000 sampl
Elapsed live time	: 0 00:30:00.00	Elapsed real time	: 0 00:30:00.66 0.0%
Sample Multiplier	: 1.00	Rejection Coeff.	: 0.00
Gain shift type	: ITER	Threshold Shift	: No
Weighting type	: DERIVED	Calculated counts	: No
Iterations	: 5		

NAI Residuals Report

Ratio of Residuals Over Standard Deviation Per Channel

80:	4.7	6.8	6.6	5.2	4.5	1.6	4.2	2.0
88:	2.9	0.9	1.9	-2.5	1.2	-1.5	0.3	-0.7
96:	-1.2	-2.3	-3.0	-1.5	-4.0	-4.1	-1.7	-4.9
104:	-4.7	-5.1	-5.2	-4.3	-3.3	-4.6	-5.3	-6.1
112:	-4.0	-4.4						

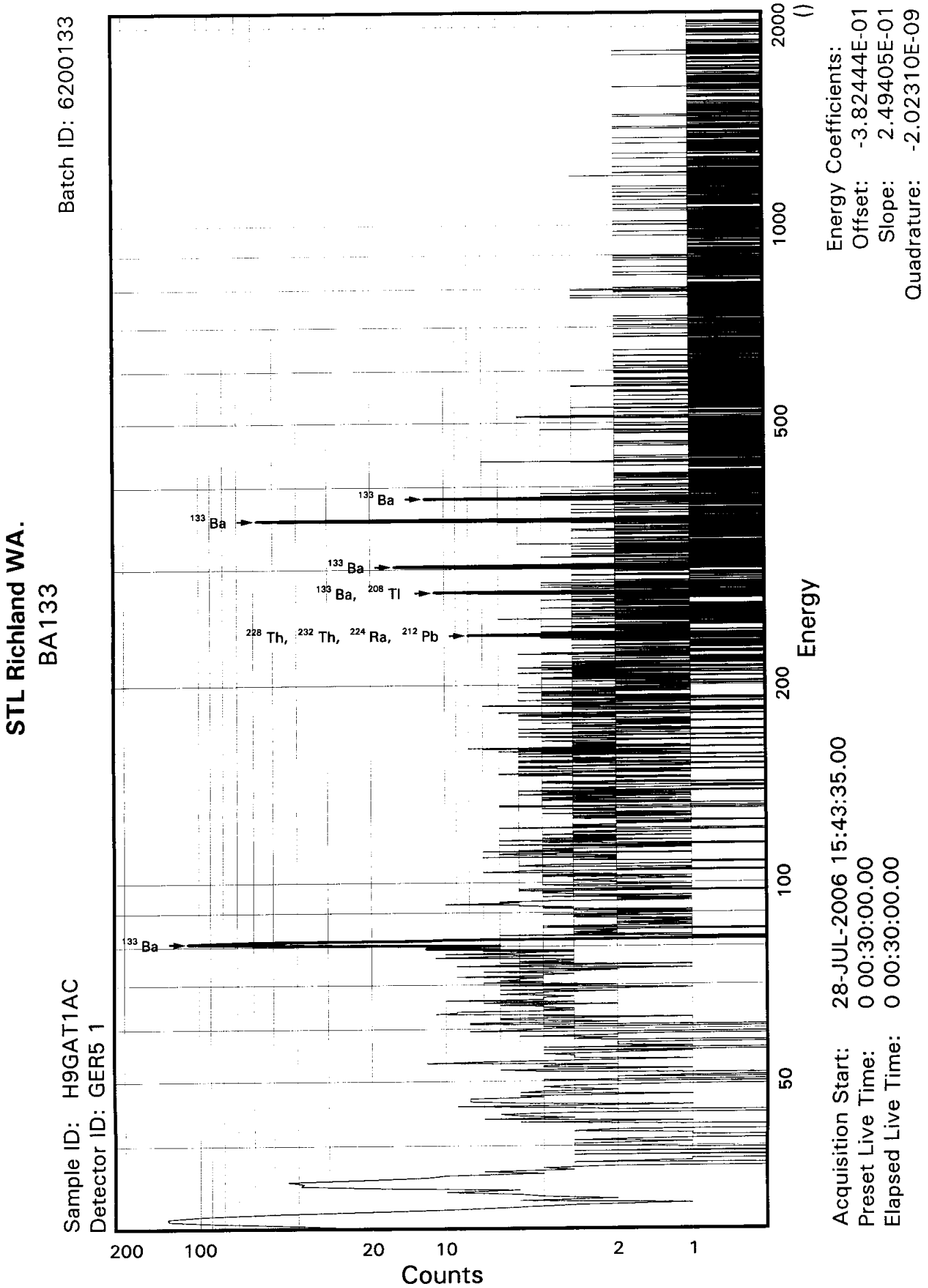
List of Suspicious Channels

81 82 83 87

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	1.41E+01	0.00E+00	1.03E+00
2	5.37E+00	0.00E+00	1.05E+00
3	1.99E+00	0.00E+00	1.07E+00
4	6.91E-01	0.00E+00	1.08E+00

Brief Report

Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	723.	7.64
Total Activity :	723.	


STL Richland WA.
BA133
Batch ID: 6200133
Sample ID: H9GAT1AC
Detector ID: GER5 1
133 Ba
133 Ba
133 Ba
133 Ba, 208 Tl
228 Th, 232 Th, 224 Ra, 212 Pb
133 Ba
Counts
200
100
20
10
2
1
Energy
50
100
200
500
1000
2000
()
Acquisition Start: 28-JUL-2006 15:43:35.00
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: H9GAT1AC

CONFIGURATION ID: GER5:H9GAT1AC_280761543
TITLE : BA133
SAMPLE ID : H9GAT1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 15:43:35
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 16:13:49

Configuration : RDND06$DKA100:[GER5.SAMPLE]H9GAT1AC_280761543.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 15:43:35
Sample ID : H9GAT1AC 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	30.94	581	93	0.96	125.58	116	17	3.23E-01	5.6	
2	0	35.22	187	42	0.90	142.73	135	18	1.04E-01	11.1	
3	0	67.62	33	101	5.63	272.68	251	29	1.82E-02	92.9	
4	0	80.91	402	34	0.87	325.96	317	16	2.23E-01	5.9	
5	0	130.99	13	12	0.73	526.75	519	11	7.22E-03	61.0	
6	0	238.14*	22	11	0.72	956.38	948	15	1.23E-02	41.7	
7	0	276.33	52	3	1.15	1109.48	1103	12	2.88E-02	15.4	
8	0	302.85	86	21	1.41	1215.83	1204	20	4.79E-02	16.7	
9	0	355.91	304	4	1.27	1428.58	1419	17	1.69E-01	5.9	
10	0	384.12	42	16	0.58	1541.70	1534	14	2.33E-02	26.0	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 28-JUL-2006 16:13:49

Configuration : RDND06$DKA100:[GER5.SAMPLE]H9GAT1AC_280761543.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
Sample ID : H9GAT1AC
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 15:43:35
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.23 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	402	33.00	1.924E+00	2.111E+03	2.115E+03	8.04
	276.40	52	6.90	2.077E+00	1.206E+03	1.208E+03	16.34
	302.84	86	17.80	2.080E+00	7.765E+02	7.778E+02	17.53
	356.00	304	62.05*	2.082E+00	7.853E+02	7.866E+02	8.01
	383.85	42	8.70	2.081E+00	7.718E+02	7.731E+02	26.60

Nuclide Type: NP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
PB-212	238.63	22	44.60*	2.070E+00	7.988E+01	7.988E+01	42.00
	300.09	------	3.41	2.079E+00	------	Line Not Found	------

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H9GAT1AC

Acquisition date : 28-JUL-2006 15:43:35

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	30.94	581	93	0.96	125.58	116	17	3.23E-01	5.6	1.68E+00	
0	35.22	187	42	0.90	142.73	135	18	1.04E-01	11.1	1.72E+00	
0	67.62	33	101	5.63	272.68	251	29	1.82E-02	92.9	1.89E+00	
0	130.99	13	12	0.73	526.75	519	11	7.22E-03	61.0	2.01E+00	

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : H9GAT1AC

Acquisition date : 28-JUL-2006 15:43:35

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	1.224E+03	16.34	Abun.
			510.84	21.60	--- Not Found ---		
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		5.44			
RA-224DA	1.91Y	0.01	238.63*	44.60	8.061E+01	42.00	Abun.
			240.98	3.95	--- Not Found ---		
			583.14	30.25	--- Not Found ---		
			860.37	4.48	--- Not Found ---		
		% Abundances Found =		53.55			
TH-228DA	1.91Y	0.01	238.63	44.60	8.061E+01	42.00	Abun.
			240.98	3.95	--- Not Found ---		
			583.14*	30.25	--- Not Found ---		
			860.37	4.48	--- Not Found ---		
		% Abundances Found =		53.55			
TH-232DA	1.41E+10Y	0.00	238.63	44.60	7.988E+01	42.00	Abun.
			338.32*	12.40	--- Not Found ---		
			583.14	30.25	--- Not Found ---		
			911.07	27.70	--- Not Found ---		
			964.60	5.20	--- Not Found ---		
			969.11	16.60	--- Not Found ---		
		% Abundances Found =		32.61			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.1 Generated 28-JUL-2006 16:13:51

Configuration : RDND06$DKA100:[GER5.SAMPLE]H9GAT1AC_280761543.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
Sample ID : H9GAT1AC
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 15:43:35
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.23 0.0%
Confidence level : 5.00 %
Half life ratio : 8.00
Systematic Error : 5.00 %
Efficiencies at : Peak Energy
WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.866E+02	6.303E+01	4.531E+01	9.062E-01	17.361
PB-212	7.988E+01	3.355E+01	8.352E+01	1.680E+00	0.956

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-1.673E+01		6.365E+01	2.474E+02	4.964E+00	-0.068
NA-22	0.000E+00		8.550E-02	4.622E+00	9.800E-02	0.000
NA-24	2.804E-02		4.612E-02	Half-Life too short		
K-40	-1.048E+02		3.839E+01	1.935E+02	4.157E+00	-0.542
SC-46	5.318E+00		5.479E+00	2.552E+01	5.351E-01	0.208
CR-51	-1.288E+02		1.260E+02	4.245E+02	8.494E+00	-0.303
MN-54	-5.331E+00		3.896E+00	1.234E+01	2.532E-01	-0.432
CO-57	3.263E+01		1.312E+02	4.753E+02	9.824E+00	0.069
CO-58	-3.872E+00		4.535E+00	1.675E+01	3.433E-01	-0.231
FE-59	4.267E+00		1.051E+01	4.589E+01	9.607E-01	0.093
CO-60	4.492E+00		3.660E+00	1.972E+01	4.199E-01	0.228
ZN-65	-1.398E+01		9.771E+00	3.149E+01	6.600E-01	-0.444
SE-75	-3.088E+01		1.772E+01	5.633E+01	1.130E+00	-0.548
SR-85	-3.652E+01		1.216E+01	3.330E+01	6.692E-01	-1.097
Y-88	1.904E+00		3.253E+00	1.748E+01	3.851E-01	0.109
NB-94	3.232E-01		4.548E+00	1.978E+01	4.072E-01	0.016
NB-95	3.345E+00		5.519E+00	2.524E+01	5.156E-01	0.133
TC-95M	1.567E+01		1.883E+01	7.314E+01	1.479E+00	0.214
ZR-95	-2.592E+00		1.108E+01	4.379E+01	8.938E-01	-0.059
ZRNB-95	6.595E+00		1.024E+01	4.695E+01	9.589E-01	0.140
MO-99	-2.839E+01		1.339E+02	4.762E+02	9.825E+00	-0.060
RH-101	3.173E+00		1.623E+01	6.052E+01	1.225E+00	0.052
RH-102M	3.190E+00		6.858E+00	2.832E+01	5.682E-01	0.113
RU-103	-3.424E+00		7.015E+00	2.682E+01	5.385E-01	-0.128
RU-106DA	-4.629E+01		4.375E+01	1.582E+02	3.199E+00	-0.293
AG-108M	-1.111E+01		7.927E+00	2.633E+01	5.274E-01	-0.422

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
AG-110M	2.960E+00		8.233E+00	3.497E+01	7.206E-01	0.085
SN-113DA	1.720E+00		1.270E+01	4.965E+01	9.934E-01	0.035
SB-124	-1.027E+01		7.581E+00	2.573E+01	5.198E-01	-0.399
SB-125	1.115E+01		1.736E+01	7.752E+01	1.552E+00	0.144
SN-126DA	1.678E+00		3.611E+00	1.748E+01	3.545E-01	0.096
I-131	2.141E+00		1.811E+01	7.275E+01	1.455E+00	0.029
CS-134	9.714E+00		8.132E+00	3.536E+01	7.237E-01	0.275
CS-137DA	1.978E+00		4.239E+00	2.053E+01	4.164E-01	0.096
LA-138	7.727E+00		7.733E+00	3.628E+01	7.781E-01	0.213
CE-139	3.329E+00		1.720E+01	6.387E+01	1.304E+00	0.052
BA-140	-5.808E+01		4.246E+01	1.387E+02	2.792E+00	-0.419
BALA-140	-1.234E+01		8.753E+00	1.615E+01	3.502E-01	-0.764
LA-140	-1.664E+02		1.180E+02	2.177E+02	4.721E+00	-0.764
CE-141	4.803E+01		3.341E+01	1.287E+02	2.650E+00	0.373
CE-144	-2.720E+01		1.399E+02	4.230E+02	8.757E+00	-0.064
CEPR-144	-5.944E+01		2.796E+02	8.437E+02	1.747E+01	-0.070
PM-144	4.382E+00		5.792E+00	2.561E+01	5.178E-01	0.171
PM-146	5.149E+00		7.889E+00	3.510E+01	7.036E-01	0.147
EU-152	4.622E+01		2.987E+01	1.294E+02	2.589E+00	0.357
EU-154	0.000E+00		2.396E-01	1.295E+01	2.746E-01	0.000
EU-155	1.632E+01		6.418E+01	2.357E+02	4.972E+00	0.069
HF-181	1.088E+01		8.174E+00	3.738E+01	7.501E-01	0.291
BI-207	7.401E+00		5.240E+00	2.525E+01	5.090E-01	0.293
TL-208	1.796E+01		8.339E+00	3.870E+01	7.809E-01	0.464
BI-210M	-6.973E+00		2.067E+01	7.438E+01	1.492E+00	-0.094
BI-212	4.892E+01		7.864E+01	3.493E+02	1.068E+01	0.140
BI-214	1.223E+01		1.258E+01	5.628E+01	1.137E+00	0.217
PB-214	3.282E+01		1.993E+01	8.295E+01	1.659E+00	0.396
RA-223	1.388E+02		7.966E+01	3.236E+02	6.490E+00	0.429
RA-224DA	8.061E+01	+	3.386E+01	1.032E+02	2.076E+00	0.781
RA-226DA	1.223E+01		1.258E+01	5.628E+01	1.137E+00	0.217
AC-227DA	7.409E+01		1.039E+02	3.535E+02	7.113E+00	0.210
AC-228	-9.790E+00		1.806E+01	7.817E+01	1.614E+00	-0.125
RA-228DA	-9.820E+00		1.811E+01	7.841E+01	1.619E+00	-0.125
TH-228DA	5.045E+01		2.342E+01	1.087E+02	2.193E+00	0.464
TH-232DA	8.699E+00		5.626E+01	2.257E+02	4.515E+00	0.039
TH-234DA	-2.443E+02		6.730E+02	2.754E+03	5.723E+01	-0.089
U-234DA	-6.608E+00		4.343E+01	1.616E+02	3.235E+00	-0.041
U-235HP	-2.192E+02		1.277E+02	4.038E+02	8.317E+00	-0.543
NP-237DA	2.431E+01		2.134E+01	8.927E+01	1.787E+00	0.272
U-238DA	3.282E+01		1.993E+01	8.295E+01	1.659E+00	0.396
U-238DHP	-3.449E+02		5.647E+02	1.822E+03	4.055E+01	-0.189
AM-241HP	2.083E+01		4.372E+01	1.570E+02	3.523E+00	0.133

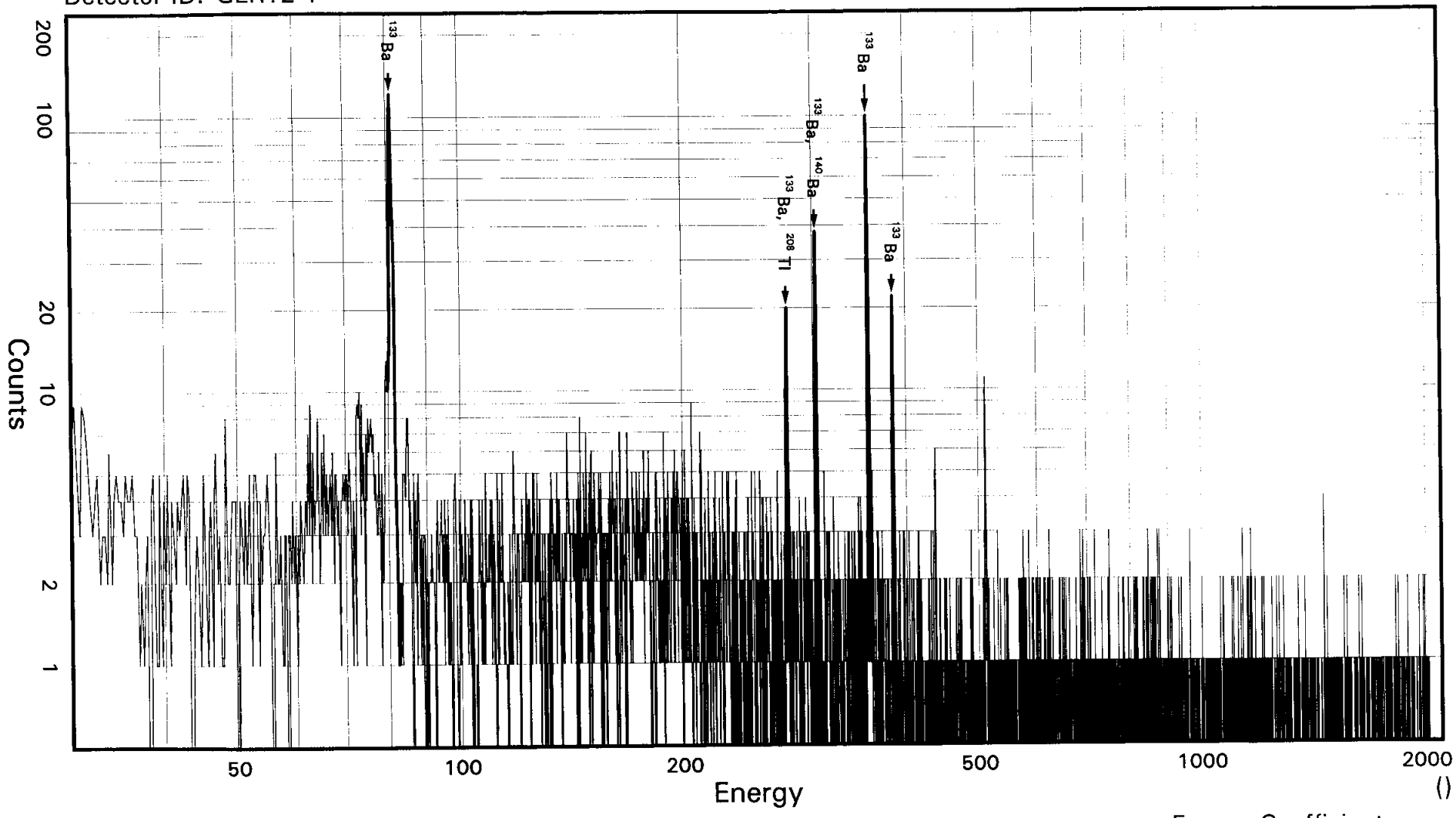
STL Richland WA.

BA133

Sample ID: H9HWQ1AA

Detector ID: GER12 1

Batch ID: 6200133



Acquisition Start: 28-JUL-2006 15:44:21.24

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: H9HWQ1AA

CONFIGURATION ID: GER12:H9HWQ1AA_280761544
TITLE : BA133
SAMPLE ID : H9HWQ1AA

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 15:44:21
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 16:14:38

```
Configuration     : $DISK1:[GER12.SAMPLE]H9HWQ1AA_280761544.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 15:44:21
Sample ID         : H9HWQ1AA             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	81.01	331	62	0.59	277.88	273	11	1.84E-01	7.3	
2	0	276.40	81	15	0.73	1070.40	1063	15	4.50E-02	15.2	
3	0	302.85	151	15	0.81	1177.68	1170	15	8.39E-02	9.9	
4	0	356.14	358	50	0.77	1393.83	1386	17	1.99E-01	7.0	
5	0	384.00	88	8	0.84	1506.85	1499	17	4.92E-02	13.0	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 16:14:39

Configuration : $DISK1:[GER12.SAMPLE]H9HWQ1AA_280761544.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 : H9HWQ1AA
Sample type :
Elapsed live time: 0 00:30:00.00
Energy tolerance : 2.00
Errors propagated: Yes
Efficiency type : Empirical
Abundance limit : 80.00

Acquisition date : 28-JUL-2006 15:44:21
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.34 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	331	33.00	2.899E+00	1.153E+03	1.155E+03	9.13
	276.40	81	6.90	3.105E+00	1.260E+03	1.262E+03	16.16
	302.84	151	17.80	3.109E+00	9.096E+02	9.111E+02	11.25
	356.00	358	62.05*	3.111E+00	6.179E+02	6.189E+02	8.82
	383.85	88	8.70	3.111E+00	1.090E+03	1.092E+03	14.06

Flag: "*" = Keyline

Sample ID : H9HWQ1AA
Acquisition date : 28-JUL-2006 15:44:21

None

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : H9HWQ1AA

Acquisition date : 28-JUL-2006 15:44:21

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	5.913E+03	11.25	
			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	1.279E+03	16.16	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 16:14:41

Configuration : $DISK1:[GER12.SAMPLE]H9HWQ1AA_280761544.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 15:44:21
Sample ID : H9HWQ1AA 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	6.189E+02	5.459E+01	4.525E+01	9.051E-01	13.677

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-2.528E+01		2.932E+01	1.077E+02	2.161E+00	-0.235
NA-22	1.274E+00		2.520E+00	1.231E+01	2.593E-01	0.104
K-40	-2.779E+01		4.949E+01	2.342E+02	4.994E+00	-0.119
SC-46	-1.837E+00		3.534E+00	1.377E+01	2.872E-01	-0.133
CR-51	1.167E+02		7.023E+01	3.000E+02	6.002E+00	0.389
MN-54	-1.091E+00		3.712E+00	1.468E+01	3.006E-01	-0.074
CO-57	-1.697E+01		7.141E+01	2.607E+02	5.371E+00	-0.065
CO-58	-1.005E+00		3.985E+00	1.590E+01	3.249E-01	-0.063
FE-59	-1.595E+01		8.251E+00	2.447E+01	5.098E-01	-0.652
CO-60	2.317E+00		2.770E+00	1.365E+01	2.887E-01	0.170
ZN-65	1.589E-02		6.419E+00	2.720E+01	5.672E-01	0.001
SE-75	4.692E+00		1.044E+01	4.084E+01	8.191E-01	0.115
SR-85	-4.136E+01		9.922E+00	2.615E+01	5.253E-01	-1.581
Y-88	4.960E+00		3.081E+00	1.635E+01	3.565E-01	0.303
NB-94	4.583E+00		3.537E+00	1.670E+01	3.427E-01	0.274
NB-95	-3.755E+00		2.859E+00	9.641E+00	1.965E-01	-0.389
TC-95M	-3.122E+01		1.268E+01	3.946E+01	7.971E-01	-0.791
ZR-95	-5.867E+00		7.679E+00	2.855E+01	5.815E-01	-0.206
ZRNB-95	-6.914E+00		5.266E+00	1.775E+01	3.618E-01	-0.389
MO-99	9.448E+01		9.526E+01	3.737E+02	7.685E+00	0.253
RH-101	-1.037E+01		1.277E+01	4.424E+01	8.947E-01	-0.234
RH-102M	-8.884E-01		3.573E+00	1.421E+01	2.850E-01	-0.063
RU-103	-4.849E+00		4.895E+00	1.704E+01	3.421E-01	-0.285
RU-106DA	4.692E+01		4.539E+01	1.973E+02	3.985E+00	0.238
AG-108M	-1.226E+01		7.027E+00	2.240E+01	4.486E-01	-0.547
AG-110M	-4.855E+00		4.735E+00	1.672E+01	3.435E-01	-0.290
SN-113DA	6.092E+00		6.327E+00	2.818E+01	5.638E-01	0.216

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	-1.957E+00		5.241E+00	1.980E+01	3.996E-01	-0.099
SB-125	-5.146E+00		1.756E+01	6.581E+01	1.318E+00	-0.078
SN-126DA	-4.904E+00		3.808E+00	1.269E+01	2.570E-01	-0.387
I-131	-6.813E+00		1.414E+01	5.264E+01	1.053E+00	-0.129
CS-134	2.038E-01		5.116E+00	2.048E+01	4.182E-01	0.010
CS-137DA	1.019E+00		5.006E+00	2.022E+01	4.094E-01	0.050
LA-138	-5.186E+00		3.008E+00	4.622E+00	9.841E-02	-1.122
CE-139	-7.971E+00		1.081E+01	3.724E+01	7.589E-01	-0.214
BA-140	6.922E-01		2.172E+01	9.176E+01	1.845E+00	0.008
BALA-140	-3.836E+00		3.842E+00	1.072E+01	2.304E-01	-0.358
LA-140	-5.172E+01		5.180E+01	1.445E+02	3.107E+00	-0.358
CE-141	4.086E+00		2.089E+01	7.708E+01	1.582E+00	0.053
CE-144	1.812E+01		7.657E+01	2.857E+02	5.894E+00	0.063
CEPR-144	3.879E+01		1.533E+02	5.725E+02	1.181E+01	0.068
PM-144	-3.367E+00		4.593E+00	1.667E+01	3.367E-01	-0.202
PM-146	-6.974E+00		6.306E+00	2.169E+01	4.347E-01	-0.321
EU-152	1.834E+01		2.402E+01	9.592E+01	1.918E+00	0.191
EU-154	3.479E-01		7.664E+00	3.428E+01	7.224E-01	0.010
EU-155	-1.490E+01		3.088E+01	1.144E+02	2.401E+00	-0.130
HF-181	1.148E+00		5.110E+00	2.125E+01	4.262E-01	0.054
BI-207	-2.964E+00		4.989E+00	1.840E+01	3.706E-01	-0.161
TL-208	1.445E+00		4.926E+00	2.033E+01	4.099E-01	0.071
BI-210M	-1.794E+01		1.285E+01	4.269E+01	8.561E-01	-0.420
BI-212	-2.491E+00		4.986E+01	2.096E+02	6.401E+00	-0.012
PB-212	1.477E+00		1.301E+01	5.013E+01	1.008E+00	0.029
BI-214	-9.884E+00		9.840E+00	3.452E+01	6.968E-01	-0.286
PB-214	-8.834E+00		1.848E+01	6.128E+01	1.226E+00	-0.144
RA-223	4.797E+01		4.491E+01	1.820E+02	3.649E+00	0.264
RA-224DA	1.491E+00		1.313E+01	5.059E+01	1.017E+00	0.029
RA-226DA	-9.978E+00		9.829E+00	3.443E+01	6.951E-01	-0.290
AC-227DA	1.756E+01		5.536E+01	2.142E+02	4.308E+00	0.082
AC-228	1.579E+01		9.837E+00	5.213E+01	1.073E+00	0.303
RA-228DA	1.584E+01		9.867E+00	5.229E+01	1.076E+00	0.303
TH-228DA	4.058E+00		1.384E+01	5.711E+01	1.151E+00	0.071
TH-232DA	1.608E+01		4.992E+01	1.890E+02	3.781E+00	0.085
TH-234DA	-1.457E+02		4.421E+02	1.835E+03	3.799E+01	-0.079
U-234DA	1.018E+01		3.326E+01	1.264E+02	2.531E+00	0.081
U-235HP	-6.506E+01		7.649E+01	2.649E+02	5.441E+00	-0.246
NP-237DA	6.473E+00		1.958E+01	7.324E+01	1.466E+00	0.088
U-238DA	-8.834E+00		1.848E+01	6.128E+01	1.226E+00	-0.144
U-238DHP	3.886E+02		2.505E+02	9.802E+02	2.158E+01	0.396
AM-241HP	5.644E+00		2.066E+01	7.854E+01	1.741E+00	0.072

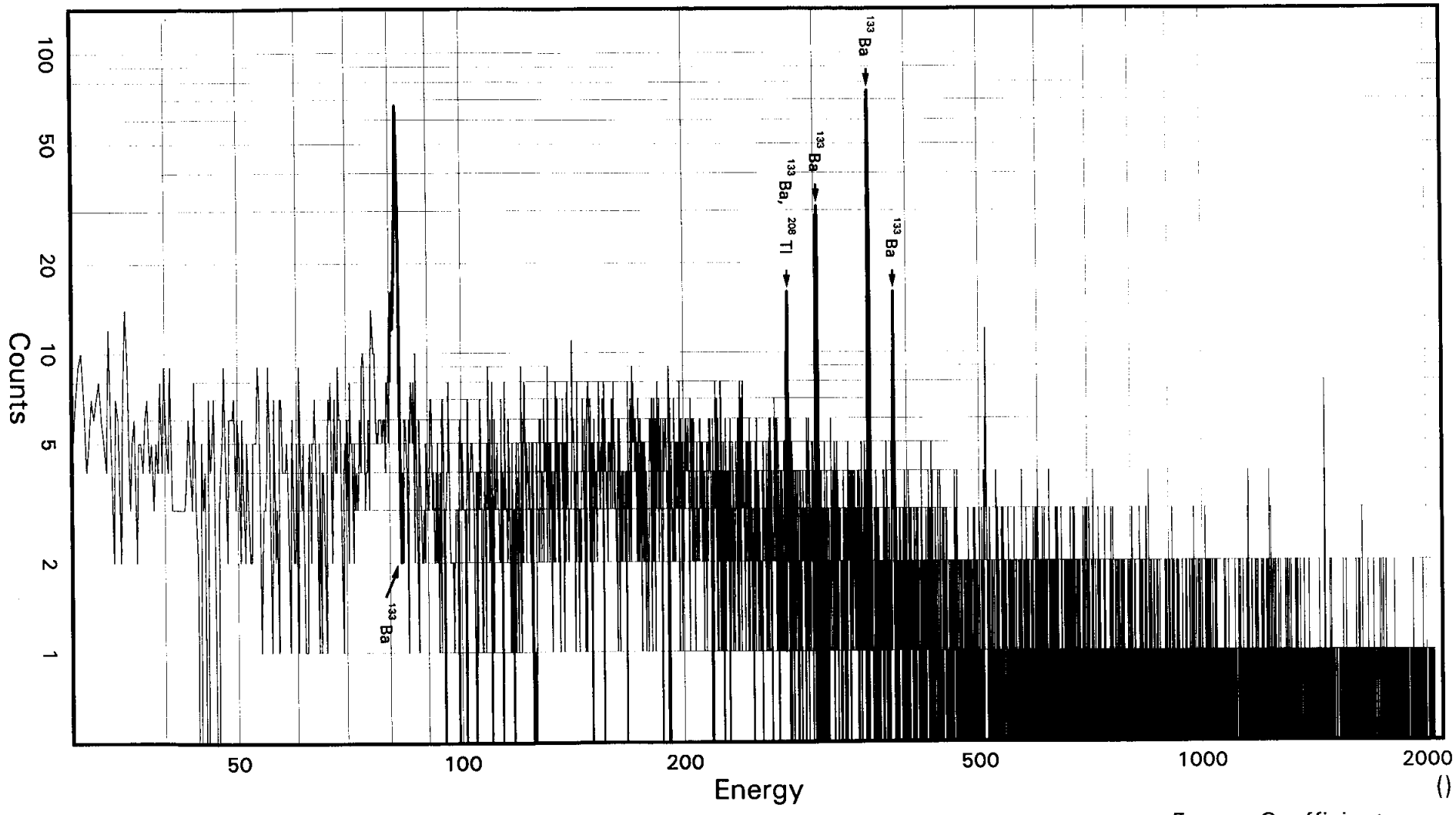
STL Richland WA.

BA133

Sample ID: H9HWQ1AC

Detector ID: GER13 1

Batch ID: 6200133



Acquisition Start: 28-JUL-2006 15:44:46.11

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: H9HWQ1AC

CONFIGURATION ID: GER13:H9HWQ1AC_280761544
TITLE : BA133
SAMPLE ID : H9HWQ1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 15:44:46
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 13-JUN-2006 12:00:00.00
CALIB DATE: 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 16:15:03

Configuration : $DISK1:[GER13.SAMPLE]H9HWQ1AC_280761544.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 15:44:46
Sample ID : H9HWQ1AC 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	81.67	215	60	0.63	328.49	322	13	1.19E-01	10.2	
2	0	276.45	58	30	0.98	1105.54	1095	18	3.25E-02	25.9	
3	0	302.83	133	45	1.17	1210.80	1201	18	7.40E-02	14.6	
4	0	355.82	403	29	1.23	1422.33	1414	17	2.24E-01	5.9	
5	0	383.94	62	17	0.95	1534.57	1528	13	3.42E-02	19.4	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 16:15:04

Configuration : $DISK1:[GER13.SAMPLE]H9HWQ1AC_280761544.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00 Acquisition date : 28-JUL-2006 15:44:46
Sample ID : H9HWQ1AC 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	215	33.00	2.704E+00	8.018E+02	8.084E+02	11.53
	276.40	58	6.90	2.897E+00	9.747E+02	9.827E+02	26.49
	302.84	133	17.80	2.900E+00	8.602E+02	8.672E+02	15.60
	356.00	403	62.05*	2.903E+00	7.452E+02	7.513E+02	7.96
	383.85	62	8.70	2.902E+00	8.133E+02	8.199E+02	20.10

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H9HWQ1AC

Acquisition date : 28-JUL-2006 15:44:46

None

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : H9HWQ1AC
Acquisition date : 28-JUL-2006 15:44:46

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	9.891E+02	26.49	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 16:15:06

Configuration : $DISK1:[GER13.SAMPLE]H9HWQ1AC_280761544.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 15:44:46
Sample ID : H9HWQ1AC 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	7.513E+02	5.984E+01	4.260E+01	8.519E-01	17.639

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-2.206E+01		1.043E+02	3.881E+02	7.784E+00	-0.057
NA-22	-1.314E+00		3.779E+00	1.503E+01	3.172E-01	-0.087
K-40	-4.047E+01		9.517E+01	4.566E+02	9.750E+00	-0.089
SC-46	5.165E+00		7.173E+00	3.391E+01	7.081E-01	0.152
CR-51	-1.425E+02		2.944E+02	1.026E+03	2.052E+01	-0.139
MN-54	-8.503E+00		5.549E+00	1.832E+01	3.753E-01	-0.464
CO-57	1.850E+01		1.255E+02	4.504E+02	9.283E+00	0.041
CO-58	5.707E-01		6.727E+00	2.758E+01	5.640E-01	0.021
FE-59	-1.804E+01		1.527E+01	5.332E+01	1.112E+00	-0.338
CO-60	7.383E+00		3.529E+00	1.854E+01	3.927E-01	0.398
ZN-65	-2.777E+01		9.573E+00	2.112E+01	4.409E-01	-1.315
SE-75	1.056E+01		2.254E+01	8.290E+01	1.663E+00	0.127
SR-85	-6.833E+01		1.726E+01	4.507E+01	9.054E-01	-1.516
Y-88	3.479E+00		4.113E+00	2.032E+01	4.439E-01	0.171
NB-94	-4.455E+00		4.657E+00	1.661E+01	3.411E-01	-0.268
NB-95	-1.579E+01		1.285E+01	4.298E+01	8.764E-01	-0.367
TC-95M	1.341E+01		2.898E+01	1.070E+02	2.161E+00	0.125
ZR-95	-2.096E+00		1.643E+01	6.209E+01	1.265E+00	-0.034
ZRNB-95	-2.103E+01		1.711E+01	5.723E+01	1.167E+00	-0.367
RH-101	8.683E+00		1.646E+01	5.898E+01	1.193E+00	0.147
RH-102M	-1.267E+00		6.058E+00	2.277E+01	4.567E-01	-0.056
RU-103	-1.015E+01		1.455E+01	5.173E+01	1.038E+00	-0.196
RU-106DA	1.264E+02		6.990E+01	3.000E+02	6.062E+00	0.421
AG-108M	-5.924E+00		8.166E+00	2.880E+01	5.767E-01	-0.206
AG-110M	-1.558E+00		7.527E+00	2.921E+01	6.003E-01	-0.053
SN-113DA	2.233E+01		1.399E+01	5.817E+01	1.164E+00	0.384
SB-124	-4.963E+00		1.054E+01	3.877E+01	7.826E-01	-0.128

Sample ID : H9HWQ1AC Acquisition date : 28-JUL-2006 15:44:46

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	-1.279E+00		2.703E+01	9.980E+01	1.998E+00	-0.013
SN-126DA	-1.053E+01		6.277E+00	2.019E+01	4.090E-01	-0.522
I-131	-9.972E+01		4.430E+02	1.641E+03	3.281E+01	-0.061
CS-134	3.983E+00		5.695E+00	2.397E+01	4.897E-01	0.166
CS-137DA	3.759E-01		6.732E+00	2.599E+01	5.263E-01	0.014
LA-138	3.799E+00		4.448E+00	2.203E+01	4.695E-01	0.172
CE-139	-4.940E+00		1.653E+01	5.788E+01	1.180E+00	-0.085
BA-140	3.917E+02		3.087E+02	1.254E+03	2.522E+01	0.312
BALA-140	-6.003E+01		6.004E+01	2.201E+02	4.741E+00	-0.273
CE-141	5.427E+00		5.903E+01	2.121E+02	4.354E+00	0.026
CE-144	-6.979E+01		1.215E+02	4.222E+02	8.714E+00	-0.165
CEPR-144	-1.445E+02		2.428E+02	8.427E+02	1.739E+01	-0.171
PM-144	-7.395E+00		7.523E+00	2.619E+01	5.290E-01	-0.282
PM-146	-1.257E+01		9.370E+00	3.129E+01	6.270E-01	-0.402
EU-152	-4.993E+00		3.380E+01	1.202E+02	2.403E+00	-0.042
EU-154	-3.613E+00		1.039E+01	4.135E+01	8.724E-01	-0.087
EU-155	-4.990E+01		4.971E+01	1.720E+02	3.612E+00	-0.290
HF-181	2.426E+01		1.828E+01	7.367E+01	1.478E+00	0.329
BI-207	9.265E+00		6.919E+00	2.858E+01	5.757E-01	0.324
TL-208	-1.304E+01		7.473E+00	2.605E+01	5.251E-01	-0.501
BI-210M	3.686E+01		1.982E+01	7.789E+01	1.562E+00	0.473
BI-212	6.474E+01		9.835E+01	3.880E+02	1.185E+01	0.167
PB-212	5.059E+00		2.599E+01	9.575E+01	1.925E+00	0.053
BI-214	-1.544E+01		1.444E+01	6.024E+01	1.216E+00	-0.256
PB-214	-2.350E+01		3.037E+01	9.354E+01	1.871E+00	-0.251
RA-223	-2.337E+01		6.945E+01	2.468E+02	4.949E+00	-0.095
RA-224DA	5.292E+00		2.718E+01	1.001E+02	2.013E+00	0.053
RA-226DA	-1.554E+01		1.444E+01	6.020E+01	1.215E+00	-0.258
AC-227DA	-1.254E+01		9.774E+01	3.499E+02	7.037E+00	-0.036
AC-228	1.001E+01		1.937E+01	8.740E+01	1.799E+00	0.115
RA-228DA	1.016E+01		1.966E+01	8.872E+01	1.827E+00	0.115
TH-228DA	-3.797E+01		2.175E+01	7.583E+01	1.529E+00	-0.501
TH-232DA	1.095E+02		7.553E+01	2.913E+02	5.826E+00	0.376
TH-234DA	-3.448E+01		7.405E+02	2.901E+03	6.009E+01	-0.012
U-234DA	-6.008E+01		5.239E+01	1.817E+02	3.638E+00	-0.331
U-235HP	-1.633E+02		1.104E+02	3.634E+02	7.467E+00	-0.449
NP-237DA	-7.770E-01		2.214E+01	8.062E+01	1.613E+00	-0.010
U-238DA	-2.350E+01		3.037E+01	9.354E+01	1.871E+00	-0.251
U-238DHP	4.577E+02		2.762E+02	1.077E+03	2.375E+01	0.425
AM-241HP	-2.049E+00		3.091E+01	1.103E+02	2.451E+00	-0.019