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Analytical Data Package Prepared For

Brown and Caldwell

Yerington Air Quality - Event #87

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.: 32990

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
32140		000516	J6G180224-1	H9GDP1AG	9H9GDP10	6200105
		000516	J6G180224-1	H9GDP1AA	9H9GDP10	6200109
		000516	J6G180224-1	H9GDP1AE	9H9GDP10	6200110
		000516	J6G180224-1	H9GDP1AF	9H9GDP10	6200111
		000516	J6G180224-1	H9GDP1AC	9H9GDP10	6200115
		000516	J6G180224-1	H9GDP1AD	9H9GDP10	6200116
		000517	J6G180224-2	H9GDW1AG	9H9GDW10	6200105
		000517	J6G180224-2	H9GDW1AA	9H9GDW10	6200109
		000517	J6G180224-2	H9GDW1AE	9H9GDW10	6200110
		000517	J6G180224-2	H9GDW1AF	9H9GDW10	6200111
		000517	J6G180224-2	H9GDW1AC	9H9GDW10	6200115
		000517	J6G180224-2	H9GDW1AD	9H9GDW10	6200116
		000518	J6G180224-3	H9GD11AG	9H9GD110	6200105
		000518	J6G180224-3	H9GD11AA	9H9GD110	6200109
		000518	J6G180224-3	H9GD11AE	9H9GD110	6200110
		000518	J6G180224-3	H9GD11AF	9H9GD110	6200111
		000518	J6G180224-3	H9GD11AC	9H9GD110	6200115
		000518	J6G180224-3	H9GD11AD	9H9GD110	6200116
		000519	J6G180224-4	H9GD41AG	9H9GD410	6200105
		000519	J6G180224-4	H9GD41AA	9H9GD410	6200109
		000519	J6G180224-4	H9GD41AE	9H9GD410	6200110
		000519	J6G180224-4	H9GD41AF	9H9GD410	6200111
		000519	J6G180224-4	H9GD41AC	9H9GD410	6200115
		000519	J6G180224-4	H9GD41AD	9H9GD410	6200116
		000520	J6G180224-5	H9GD61AG	9H9GD610	6200105
		000520	J6G180224-5	H9GD61AA	9H9GD610	6200109

Report No.: 32990

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
32140		000520	J6G180224-5	H9GD61AE	9H9GD610	6200110
		000520	J6G180224-5	H9GD61AF	9H9GD610	6200111
		000520	J6G180224-5	H9GD61AC	9H9GD610	6200115
		000520	J6G180224-5	H9GD61AD	9H9GD610	6200116
		000521	J6G180224-6	H9GD81AG	9H9GD810	6200105
		000521	J6G180224-6	H9GD81AA	9H9GD810	6200109
		000521	J6G180224-6	H9GD81AE	9H9GD810	6200110
		000521	J6G180224-6	H9GD81AF	9H9GD810	6200111
		000521	J6G180224-6	H9GD81AC	9H9GD810	6200115
		000521	J6G180224-6	H9GD81AD	9H9GD810	6200116
		000522	J6G180224-7	H9GEC1AG	9H9GEC10	6200105
		000522	J6G180224-7	H9GEC1AA	9H9GEC10	6200109
		000522	J6G180224-7	H9GEC1AE	9H9GEC10	6200110
		000522	J6G180224-7	H9GEC1AF	9H9GEC10	6200111
		000522	J6G180224-7	H9GEC1AC	9H9GEC10	6200115
		000522	J6G180224-7	H9GEC1AD	9H9GEC10	6200116
		000523	J6G180224-8	H9GED1AG	9H9GED10	6200105
		000523	J6G180224-8	H9GED1AA	9H9GED10	6200109
		000523	J6G180224-8	H9GED1AE	9H9GED10	6200110
		000523	J6G180224-8	H9GED1AF	9H9GED10	6200111
		000523	J6G180224-8	H9GED1AC	9H9GED10	6200115
		000523	J6G180224-8	H9GED1AD	9H9GED10	6200116
		P-0691	J6G180224-9	H9GEF1AG	9H9GEF10	6200105
		P-0691	J6G180224-9	H9GEF1AA	9H9GEF10	6200109
		P-0691	J6G180224-9	H9GEF1AE	9H9GEF10	6200110
		P-0691	J6G180224-9	H9GEF1AF	9H9GEF10	6200111
		P-0691	J6G180224-9	H9GEF1AC	9H9GEF10	6200115
		P-0691	J6G180224-9	H9GEF1AD	9H9GEF10	6200116
		P-0692	J6G180224-10	H9GEK1AG	9H9GEK10	6200105
		P-0692	J6G180224-10	H9GEK1AA	9H9GEK10	6200109
		P-0692	J6G180224-10	H9GEK1AE	9H9GEK10	6200110
		P-0692	J6G180224-10	H9GEK1AF	9H9GEK10	6200111
		P-0692	J6G180224-10	H9GEK1AC	9H9GEK10	6200115
		P-0692	J6G180224-10	H9GEK1AD	9H9GEK10	6200116
		P-0693	J6G180224-11	H9GEM1AG	9H9GEM10	6200105
		P-0693	J6G180224-11	H9GEM1AA	9H9GEM10	6200109
		P-0693	J6G180224-11	H9GEM1AE	9H9GEM10	6200110
		P-0693	J6G180224-11	H9GEM1AF	9H9GEM10	6200111
		P-0693	J6G180224-11	H9GEM1AC	9H9GEM10	6200115

Report No.: 32990

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
32140		P-0693	J6G180224-11	H9GEM1AD	9H9GEM10	6200116
		P-0694	J6G180224-12	H9GEQ1AG	9H9GEQ10	6200105
		P-0694	J6G180224-12	H9GEQ1AA	9H9GEQ10	6200109
		P-0694	J6G180224-12	H9GEQ1AE	9H9GEQ10	6200110
		P-0694	J6G180224-12	H9GEQ1AF	9H9GEQ10	6200111
		P-0694	J6G180224-12	H9GEQ1AC	9H9GEQ10	6200115
		P-0694	J6G180224-12	H9GEQ1AD	9H9GEQ10	6200116
		P-0695	J6G180224-13	H9GER1AG	9H9GER10	6200105
		P-0695	J6G180224-13	H9GER1AA	9H9GER10	6200109
		P-0695	J6G180224-13	H9GER1AE	9H9GER10	6200110
		P-0695	J6G180224-13	H9GER1AF	9H9GER10	6200111
		P-0695	J6G180224-13	H9GER1AC	9H9GER10	6200115
		P-0695	J6G180224-13	H9GER1AD	9H9GER10	6200116
		P-0696	J6G180224-14	H9GE01AG	9H9GE010	6200105
		P-0696	J6G180224-14	H9GE01AA	9H9GE010	6200109
		P-0696	J6G180224-14	H9GE01AE	9H9GE010	6200110
		P-0696	J6G180224-14	H9GE01AF	9H9GE010	6200111
		P-0696	J6G180224-14	H9GE01AC	9H9GE010	6200115
		P-0696	J6G180224-14	H9GE01AD	9H9GE010	6200116
		P-0697	J6G180224-15	H9GE51AG	9H9GE510	6200105
		P-0697	J6G180224-15	H9GE51AA	9H9GE510	6200109
		P-0697	J6G180224-15	H9GE51AE	9H9GE510	6200110
		P-0697	J6G180224-15	H9GE51AF	9H9GE510	6200111
		P-0697	J6G180224-15	H9GE51AC	9H9GE510	6200115
		P-0697	J6G180224-15	H9GE51AD	9H9GE510	6200116

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	:	87
PO Number	:	129682.001
Sample Type	:	Fifteen (15) Filters
SDG Number	:	32140

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 J6G180224.

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:
Samples 000522 and 000523 were out of order when the planchets were placed on the cards. The results are below CRDL. Data is accepted. Except as noted, 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 for samples 000522 (5.6 pCi/Filter) and 000523 (5.5 pCi/Filter). Data is accepted. Except as noted, the LCS, batch blank and sample results are within acceptance limits.

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

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

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

Reviewed and approved:

Sherryl A. Adam
Project Manager

Drinking Water Method Cross References

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

Uncertainty Estimation

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

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

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

Report Definitions

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

Sample Results Summary

STL Richland STLR

Ordered by Client Sample ID, Batch No.

Date: 15-Aug-06

Report No. : 32990

SDG No: 32140

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RER2
000516	H9GDP1AG	U-234	0.0840 +- 0.291	ND	pCi/sample	71%	0.791	
		U-235	-0.0560 +- 0.0798	ND	pCi/sample	71%	0.791	
		U-238	0.168 +- 0.413	ND	pCi/sample	71%	0.962	
000516	H9GDP1AA	TH-228	0.00000195 +- 0.165	ND	pCi/sample	100%	0.42	
		TH-230	0.170 +- 0.176	ND	pCi/sample	100%	0.227	
		TH-232	0.151 +- 0.154	ND	pCi/sample	100%	0.102	
000516	H9GDP1AE	ALPHA	5.06 +- 3.76	ND	pCi/sample	100%	5.79	
000516	H9GDP1AF	BETA	39.2 +- 7.13	=	pCi/sample	100%	5.52	
000516	H9GDP1AC	RA-226	0.0957 +- 0.277	ND	pCi/sample	100%	0.499	
000516	H9GDP1AD	RA-228	0.729 +- 1.12	ND	pCi/sample	87%	2.52	
000517	H9GDW1AG	U-234	0.224 +- 0.261	ND	pCi/sample	102%	0.202	
		U-235	0.0298 +- 0.158	ND	pCi/sample	102%	0.471	
		U-238	0.104 +- 0.218	ND	pCi/sample	102%	0.471	
000517	H9GDW1AA	TH-228	0.153 +- 0.224	ND	pCi/sample	98%	0.411	
		TH-230	0.425 +- 0.270	=	pCi/sample	98%	0.222	
		TH-232	0.0370 +- 0.117	ND	pCi/sample	98%	0.272	
000517	H9GDW1AE	ALPHA	0.725 +- 2.27	ND	pCi/sample	100%	5.11	
000517	H9GDW1AF	BETA	39.7 +- 7.06	=	pCi/sample	100%	5.36	
000517	H9GDW1AC	RA-226	0.161 +- 0.243	ND	pCi/sample	105%	0.418	
000517	H9GDW1AD	RA-228	0.641 +- 0.941	ND	pCi/sample	97%	2.11	
000518	H9GD11AG	U-234	0.162 +- 0.367	ND	pCi/sample	95%	0.83	
		U-235	-0.0607 +- 0.0707	ND	pCi/sample	95%	0.638	
		U-238	-0.1210 +- 0.101	ND	pCi/sample	95%	0.789	
000518	H9GD11AA	TH-228	0.0672 +- 0.135	ND	pCi/sample	99%	0.269	
		TH-230	0.261 +- 0.218	=	pCi/sample	99%	0.118	
		TH-232	0.0434 +- 0.0872	ND	pCi/sample	99%	0.118	
000518	H9GD11AE	ALPHA	2.36 +- 2.81	ND	pCi/sample	100%	5.17	
000518	H9GD11AF	BETA	37.9 +- 6.79	=	pCi/sample	100%	5.24	
000518	H9GD11AC	RA-226	0.182 +- 0.197	ND	pCi/sample	90%	0.317	
000518	H9GD11AD	RA-228	0.218 +- 1.04	ND	pCi/sample	80%	2.43	

STL Richland

rptSTLRchSaSum
V4.15.0 A97

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

= ERPIMS - Equal To, Analyte Detected

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

Sample Results Summary

STL Richland STLR

Ordered by Client Sample ID, Batch No.

Date: 15-Aug-06

Report No. : 32990

SDG No: 32140

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RER2
000519	H9GD41AG	U-234	0.182 +- 0.366	ND	pCi/sample	94%	0.79	
		U-235	0.00000 +- 0.248	ND	pCi/sample	94%	0.274	
		U-238	0.182 +- 0.366	ND	pCi/sample	94%	0.79	
000519	H9GD41AA	TH-228	0.179 +- 0.182	ND	pCi/sample	102%	0.121	
		TH-230	0.260 +- 0.217	=	pCi/sample	102%	0.117	
		TH-232	0.0433 +- 0.0870	ND	pCi/sample	102%	0.117	
000519	H9GD41AE	ALPHA	5.89 +- 3.79	=	pCi/sample	100%	5.33	
000519	H9GD41AF	BETA	42.2 +- 8.78	=	pCi/sample	100%	5.05	
000519	H9GD41AC	RA-226	0.0203 +- 0.216	ND	pCi/sample	93%	0.42	
000519	H9GD41AD	RA-228	1.44 +- 1.08	ND	pCi/sample	83%	2.25	
000520	H9GD61AG	U-234	0.0369 +- 0.195	ND	pCi/sample	103%	0.582	
		U-235	0.0553 +- 0.192	ND	pCi/sample	103%	0.521	
		U-238	0.0184 +- 0.199	ND	pCi/sample	103%	0.633	
000520	H9GD61AA	TH-228	0.134 +- 0.159	ND	pCi/sample	110%	0.229	
		TH-230	0.296 +- 0.216	=	pCi/sample	110%	0.1	
		TH-232	-0.0185 +- 0.0371	ND	pCi/sample	110%	0.222	
000520	H9GD61AE	ALPHA	1.13 +- 2.00	ND	pCi/sample	100%	4.06	
000520	H9GD61AF	BETA	44.8 +- 7.98	=	pCi/sample	100%	5.72	
000520	H9GD61AC	RA-226	0.138 +- 0.156	ND	pCi/sample	98%	0.252	
000520	H9GD61AD	RA-228	1.35 +- 1.01	ND	pCi/sample	85%	2.1	
000521	H9GD81AG	U-234	0.204 +- 0.290	ND	pCi/sample	94%	0.277	
		U-235	-0.0204 +- 0.0409	ND	pCi/sample	94%	0.489	
		U-238	-0.0408 +- 0.0581	ND	pCi/sample	94%	0.577	
000521	H9GD81AA	TH-228	0.0592 +- 0.153	ND	pCi/sample	97%	0.332	
		TH-230	0.287 +- 0.226	=	pCi/sample	97%	0.23	
		TH-232	0.0766 +- 0.144	ND	pCi/sample	97%	0.282	
000521	H9GD81AE	ALPHA	2.01 +- 2.88	ND	pCi/sample	100%	5.64	
000521	H9GD81AF	BETA	47.3 +- 8.37	=	pCi/sample	100%	5.55	
000521	H9GD81AC	RA-226	0.134 +- 0.199	ND	pCi/sample	99%	0.341	
000521	H9GD81AD	RA-228	1.88 +- 0.871	=	pCi/sample	89%	1.51	

STL Richland

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

= ERPIMS - Equal To, Analyte Detected

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

Sample Results Summary

STL Richland STLR

Ordered by Client Sample ID, Batch No.

Date: 15-Aug-06

Report No. : 32990

SDG No: 32140

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RER2
000522	H9GEC1AG	U-234	-0.0277 +- 0.0556	ND	pCi/sample	71%	0.664	
		U-235	0.139 +- 0.278	ND	pCi/sample	71%	0.376	
		U-238	-0.0277 +- 0.0556	ND	pCi/sample	71%	0.664	
000522	H9GEC1AA	TH-228	-0.0700 +- 0.141	ND	pCi/sample	30%	0.84	
		TH-230	1.63 +- 1.01	=	pCi/sample	30%	0.368	
		TH-232	0.136 +- 0.273	ND	pCi/sample	30%	0.368	
000522	H9GEC1AE	ALPHA	0.435 +- 1.98	ND	pCi/sample	100%	4.67	
000522	H9GEC1AF	BETA	0.666 +- 2.70	ND	pCi/sample	100%	5.65	
000522	H9GEC1AC	RA-226	-0.1270 +- 0.225	ND	pCi/sample	101%	0.496	
000522	H9GEC1AD	RA-228	1.62 +- 0.843	=	pCi/sample	91%	1.53	
000523	H9GED1AG	U-234	0.105 +- 0.210	ND	pCi/sample	89%	0.284	
		U-235	-0.0210 +- 0.0420	ND	pCi/sample	89%	0.502	
		U-238	0.105 +- 0.210	ND	pCi/sample	89%	0.284	
000523	H9GED1AA	TH-228	0.0707 +- 0.142	ND	pCi/sample	75%	0.283	
		TH-230	0.0229 +- 0.102	ND	pCi/sample	75%	0.274	
		TH-232	-0.0457 +- 0.0652	ND	pCi/sample	75%	0.336	
000523	H9GED1AE	ALPHA	0.712 +- 2.19	ND	pCi/sample	100%	4.95	
000523	H9GED1AF	BETA	1.68 +- 2.70	ND	pCi/sample	100%	5.5	
000523	H9GED1AC	RA-226	-0.0617 +- 0.282	ND	pCi/sample	95%	0.564	
000523	H9GED1AD	RA-228	1.13 +- 0.841	ND	pCi/sample	85%	1.73	
P-0691	H9GEF1AG	U-234	-0.0396 +- 0.0564	ND	pCi/sample	99%	0.559	
		U-235	0.0990 +- 0.199	ND	pCi/sample	99%	0.268	
		U-238	-0.0396 +- 0.0564	ND	pCi/sample	99%	0.559	
P-0691	H9GEF1AA	TH-228	0.129 +- 0.151	ND	pCi/sample	79%	0.116	
		TH-230	0.292 +- 0.227	=	pCi/sample	79%	0.113	
		TH-232	-0.0208 +- 0.0418	ND	pCi/sample	79%	0.25	
P-0691	H9GEF1AE	ALPHA	2.08 +- 2.53	ND	pCi/sample	100%	4.66	
P-0691	H9GEF1AF	BETA	31.2 +- 5.84	=	pCi/sample	100%	5.08	
P-0691	H9GEF1AC	RA-226	0.0823 +- 0.196	ND	pCi/sample	97%	0.363	
P-0691	H9GEF1AD	RA-228	1.19 +- 0.722	ND	pCi/sample	88%	1.38	

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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Sample Results Summary

STL Richland STLR

Ordered by Client Sample ID, Batch No.

Date: 15-Aug-06

Report No. : 32990

SDG No: 32140

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RER2
P-0692	H9GEK1AG	U-234	0.176 +- 0.281	ND	pCi/sample	105%	0.469	
		U-235	0.00000 +- 0.240	ND	pCi/sample	105%	0.265	
		U-238	-0.0196 +- 0.0393	ND	pCi/sample	105%	0.469	
P-0692	H9GEK1AA	TH-228	0.154 +- 0.220	ND	pCi/sample	86%	0.378	
		TH-230	0.125 +- 0.181	ND	pCi/sample	86%	0.299	
		TH-232	0.0249 +- 0.111	ND	pCi/sample	86%	0.299	
P-0692	H9GEK1AE	ALPHA	-0.0379 +- 1.23	ND	pCi/sample	100%	3.58	
P-0692	H9GEK1AF	BETA	35.6 +- 6.41	=	pCi/sample	100%	5.11	
P-0692	H9GEK1AC	RA-226	0.0129 +- 0.154	ND	pCi/sample	92%	0.311	
P-0692	H9GEK1AD	RA-228	1.26 +- 0.924	ND	pCi/sample	81%	1.9	
P-0693	H9GEM1AG	U-234	0.0985 +- 0.198	ND	pCi/sample	89%	0.267	
		U-235	0.0788 +- 0.201	ND	pCi/sample	89%	0.472	
		U-238	0.0788 +- 0.201	ND	pCi/sample	89%	0.472	
P-0693	H9GEM1AA	TH-228	0.00000899 +- 0.187	ND	pCi/sample	85%	0.501	
		TH-230	0.157 +- 0.183	ND	pCi/sample	85%	0.142	
		TH-232	0.00000 +- 0.128	ND	pCi/sample	85%	0.142	
P-0693	H9GEM1AE	ALPHA	7.43 +- 4.28	=	pCi/sample	100%	5.59	
P-0693	H9GEM1AF	BETA	42.4 +- 7.25	=	pCi/sample	100%	4.93	
P-0693	H9GEM1AC	RA-226	-0.0214 +- 0.161	ND	pCi/sample	87%	0.357	
P-0693	H9GEM1AD	RA-228	1.49 +- 0.995	ND	pCi/sample	77%	1.99	
P-0694	H9GEQ1AG	U-234	0.00000 +- 0.305	ND	pCi/sample	81%	0.338	
		U-235	0.00000 +- 0.305	ND	pCi/sample	81%	0.338	
		U-238	0.0997 +- 0.255	ND	pCi/sample	81%	0.597	
P-0694	H9GEQ1AA	TH-228	-0.0780 +- 0.124	ND	pCi/sample	102%	0.42	
		TH-230	0.245 +- 0.208	=	pCi/sample	102%	0.227	
		TH-232	0.00000 +- 0.0925	ND	pCi/sample	102%	0.102	
P-0694	H9GEQ1AE	ALPHA	2.61 +- 2.71	ND	pCi/sample	100%	4.67	
P-0694	H9GEQ1AF	BETA	40.3 +- 7.12	=	pCi/sample	100%	5.19	
P-0694	H9GEQ1AC	RA-226	-0.00259 +- 0.158	ND	pCi/sample	99%	0.315	
P-0694	H9GEQ1AD	RA-228	0.867 +- 0.779	ND	pCi/sample	89%	1.64	

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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. : 32990

SDG No: 32140

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RER2
P-0695	H9GER1AG	U-234	-0.0155 +- 0.0220	ND	pCi/sample	100%	0.442	
		U-235	0.0736 +- 0.196	ND	pCi/sample	100%	0.483	
		U-238	0.0503 +- 0.197	ND	pCi/sample	100%	0.574	
P-0695	H9GER1AA	TH-228	0.0371 +- 0.174	ND	pCi/sample	102%	0.4	
		TH-230	0.521 +- 0.296	=	pCi/sample	102%	0.216	
		TH-232	-0.0359 +- 0.0512	ND	pCi/sample	102%	0.265	
P-0695	H9GER1AE	ALPHA	1.45 +- 2.43	ND	pCi/sample	100%	4.9	
P-0695	H9GER1AF	BETA	30.9 +- 5.98	=	pCi/sample	100%	5.33	
P-0695	H9GER1AC	RA-226	0.0281 +- 0.248	ND	pCi/sample	88%	0.49	
P-0695	H9GER1AD	RA-228	3.83 +- 1.27	=	pCi/sample	78%	1.88	
P-0696	H9GE01AG	U-234	-0.0362 +- 0.0302	ND	pCi/sample	97%	0.448	
		U-235	0.0573 +- 0.153	ND	pCi/sample	97%	0.376	
		U-238	0.0452 +- 0.153	ND	pCi/sample	97%	0.426	
P-0696	H9GE01AA	TH-228	0.110 +- 0.160	ND	pCi/sample	108%	0.264	
		TH-230	0.640 +- 0.350	=	pCi/sample	108%	0.116	
		TH-232	0.00000 +- 0.105	ND	pCi/sample	108%	0.116	
P-0696	H9GE01AE	ALPHA	3.45 +- 2.92	ND	pCi/sample	100%	4.61	
P-0696	H9GE01AF	BETA	34.2 +- 7.12	=	pCi/sample	100%	5.05	
P-0696	H9GE01AC	RA-226	0.0623 +- 0.186	ND	pCi/sample	100%	0.348	
P-0696	H9GE01AD	RA-228	2.08 +- 1.02	=	pCi/sample	87%	1.94	
P-0697	H9GE51AG	U-234	0.204 +- 0.317	ND	pCi/sample	94%	0.508	
		U-235	0.0933 +- 0.224	ND	pCi/sample	94%	0.508	
		U-238	0.0933 +- 0.224	ND	pCi/sample	94%	0.508	
P-0697	H9GE51AA	TH-228	0.182 +- 0.185	ND	pCi/sample	104%	0.123	
		TH-230	0.132 +- 0.154	ND	pCi/sample	104%	0.119	
		TH-232	0.0440 +- 0.0884	ND	pCi/sample	104%	0.119	
P-0697	H9GE51AE	ALPHA	1.82 +- 2.09	ND	pCi/sample	100%	3.52	
P-0697	H9GE51AF	BETA	36.6 +- 6.50	=	pCi/sample	100%	4.96	
P-0697	H9GE51AC	RA-226	0.115 +- 0.127	ND	pCi/sample	89%	0.188	
P-0697	H9GE51AD	RA-228	1.41 +- 1.07	ND	pCi/sample	79%	2.22	

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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. : 32990

SDG No: 32140

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. : 32990

SDG No.: 32140

QC Type	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	Recovery	Bias	MDC|MDA
BLANK QC	H9HTL1AA	U-234	-0.00262 +- 0.00238	N	pCi/sample	99%			0.037
		U-235	-0.000524 +- 0.00105	N	pCi/sample	99%			0.0263
		U-238	-0.00105 +- 0.00149	N	pCi/sample	99%			0.0299
BLANK QC	H9HTN1AA	TH-228	0.00476 +- 0.00955	N	pCi/sample	104%			0.019
		TH-230	0.0215 +- 0.0167	=	pCi/sample	104%			0.00832
		TH-232	-0.00154 +- 0.00308	N	pCi/sample	104%			0.0184
BLANK QC	H9HTW1AA	ALPHA	0.0145 +- 0.0448	N	pCi/sample	100%			0.101
BLANK QC	H9HT21AA	BETA	0.165 +- 0.217	N	pCi/sample	100%			0.437
BLANK QC	H9HT71AA	RA-226	-0.00438 +- 0.0330	N	pCi/sample	100%			0.0733
BLANK QC	H9HVE1AA	RA-228	0.344 +- 0.226	N	pCi/sample	90%			0.462
LCS	H9HTL1AC	U-234	0.850 +- 0.225	=	pCi/sample	94%	88%	-0.1	0.0372
		U-238	0.905 +- 0.235	=	pCi/sample	94%	89%	-0.1	0.0423
LCS	H9HTN1AC	TH-230	1.92 +- 0.366	=	pCi/sample	99%	105%	0.0	0.0188
LCS	H9HTW1AC	ALPHA	2.41 +- 0.559	=	pCi/sample	100%	101%	0.0	0.0897
LCS	H9HT21AC	BETA	4.72 +- 0.746	=	pCi/sample	100%	103%	0.0	0.445
LCS	H9HT71AC	RA-226	1.22 +- 0.306	=	pCi/sample	86%	88%	-0.1	0.127
LCS	H9HVE1AC	RA-228	4.75 +- 0.755	=	pCi/sample	77%	94%	-0.1	0.567

Number of Results: 17

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

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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:** 32140 | **Collection Date:** 7/3/2006 9:40:00 AM

Lot-Sample No.: J6G180224-1 | **Report No. :** 32990 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: 000516 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #87

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: 6200105	**Work Order:** H9GDP1AG			**Report DB ID:** 9H9GDP10								
U-234	**0.0840**	ND	0.29	0.29	0.791	pCi/sample	71%	*0.11*	7/30/06 10:17 a	1.0	0.06169	E908.0
						0.206	1.0	*0.58*		Sample	Sample	ALP1
U-235	**-0.0560**	ND	0.079	0.080	0.791	pCi/sample	71%	*-0.07*	7/30/06 10:17 a	1.0	0.06169	E908.0
						0.206	1.0	*-(1.4)*		Sample	Sample	ALP1
U-238	**0.168**	ND	0.41	0.41	0.962	pCi/sample	71%	*0.17*	7/30/06 10:17 a	1.0	0.06169	E908.0
						0.291	1.0	*0.81*		Sample	Sample	ALP1
								Ratio U-234/238 = 0.5				
Batch: 6200109	**Work Order:** H9GDP1AA			**Report DB ID:** 9H9GDP10								
TH-228	**0.00000195**	ND	0.17	0.17	0.42	pCi/sample	100%	*0.*	7/28/06 08:02 p	1.0	0.08202	ISOTH
						0.157	1.0	*0.*		Sample	Sample	ALP171
TH-230	**0.170**	ND	0.17	0.18	0.227	pCi/sample	100%	*0.75*	7/28/06 08:02 p	1.0	0.08202	ISOTH
						0.0622	1.0	*(1.9)*		Sample	Sample	ALP171
TH-232	**0.151**	ND	0.15	0.15	0.102	pCi/sample	100%	*(1.5)*	7/28/06 08:02 p	1.0	0.08202	ISOTH
							1.0	*(2.)*		Sample	Sample	ALP171
Batch: 6200110	**Work Order:** H9GDP1AE			**Report DB ID:** 9H9GDP10								
ALPHA	**5.06**	ND	3.6	3.8	5.79	pCi/sample	100%	*0.87*	8/5/06 01:41 p	1.0	0.02086	E900.0
						2.39	20.0	*(2.7)*		Sample	Sample	GPC10A
Batch: 6200111	**Work Order:** H9GDP1AF			**Report DB ID:** 9H9GDP10								
BETA	**39.2**	=	4.5	7.1	5.52	pCi/sample	100%	*(7.1)*	8/3/06 07:32 a	1.0	0.08325	E900.0
						2.65	5.0	*(11.)*		Sample	Sample	GPC31D
Batch: 6200115	**Work Order:** H9GDP1AC			**Report DB ID:** 9H9GDP10								

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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: 32140
Collection Date: 7/3/2006 9:40:00 AM
Lot-Sample No.: J6G180224-1
Report No. : 32990
Received Date: 7/18/2006 10:00:00 AM
Client Sample ID: 000516
COC No. :
Matrix: FILTER AIR

Yerington Air Quality - Event #87

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	0.0957	ND	0.28	0.28	0.499	pCi/sample	100%	*0.19*	8/9/06 12:45 p	0.833	0.24766	E903.1
						0.227	1.0	*0.69*		Sample	Sample	ASC1HB
Batch: 6200116	**Work Order:** H9GDP1AD			**Report DB ID:** 9H9GDP10								
RA-228	0.729	ND	1.0	1.1	2.52	pCi/sample	87%	*0.29*	8/11/06 06:08 a	1.0	0.24766	E904.0
						1.16	3.1	*(1.3)*		Sample	Sample	GPC7A

Number of Results: 10

Comments:

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FORM I

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland | **SDG:** 32140 | **Collection Date:** 7/3/2006 9:55:00 AM

Lot-Sample No.: J6G180224-2 | **Report No. :** 32990 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: 000517 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #87

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: 6200105	**Work Order:** H9GDW1AG			**Report DB ID:** 9H9GDW10								
U-234	**0.224**	ND	0.26	0.26	0.202	pCi/sample	102%	*(1.1)*	7/30/06 10:18 a	1.0	0.0834	E908.0
							1.0	*(1.7)*		Sample	Sample	ALP2
U-235	**0.0298**	ND	0.16	0.16	0.471	pCi/sample	102%	*0.06*	7/30/06 10:18 a	1.0	0.0834	E908.0
						0.134	1.0	*0.38*		Sample	Sample	ALP2
U-238	**0.104**	ND	0.22	0.22	0.471	pCi/sample	102%	*0.22*	7/30/06 10:18 a	1.0	0.0834	E908.0
						0.134	1.0	*0.96*		Sample	Sample	ALP2
								Ratio U-234/238 = 2.1				
Batch: 6200109	**Work Order:** H9GDW1AA			**Report DB ID:** 9H9GDW10								
TH-228	**0.153**	ND	0.22	0.22	0.411	pCi/sample	98%	*0.37*	7/28/06 08:02 p	1.0	0.08337	ISOTH
						0.154	1.0	*(1.4)*		Sample	Sample	ALP172
TH-230	**0.425**	=	0.26	0.27	0.222	pCi/sample	98%	*(1.9)*	7/28/06 08:02 p	1.0	0.08337	ISOTH
						0.0608	1.0	*(3.2)*		Sample	Sample	ALP172
TH-232	**0.0370**	ND	0.12	0.12	0.272	pCi/sample	98%	*0.14*	7/28/06 08:02 p	1.0	0.08337	ISOTH
						0.086	1.0	*0.63*		Sample	Sample	ALP172
Batch: 6200110	**Work Order:** H9GDW1AE			**Report DB ID:** 9H9GDW10								
ALPHA	**0.725**	ND	2.3	2.3	5.11	pCi/sample	100%	*0.14*	8/5/06 01:41 p	1.0	0.02078	E900.0
						2.07	20.0	*0.64*		Sample	Sample	GPC10B
Batch: 6200111	**Work Order:** H9GDW1AF			**Report DB ID:** 9H9GDW10								
BETA	**39.7**	=	4.4	7.1	5.36	pCi/sample	100%	*(7.4)*	8/3/06 07:32 a	1.0	0.08345	E900.0
						2.57	5.0	*(11.3)*		Sample	Sample	GPC32A
Batch: 6200115	**Work Order:** H9GDW1AC			**Report DB ID:** 9H9GDW10								

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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:** 32140 | **Collection Date:** 7/3/2006 9:55:00 AM

Lot-Sample No.: J6G180224-2 | **Report No. :** 32990 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: 000517 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #87

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	**0.161**	ND	0.24	0.24	0.418	pCi/sample	105%	*0.38*	8/9/06 12:42 p	0.833	0.24939	E903.1
						0.183	1.0	*(1.3)*		Sample	Sample	ASC2RC
Batch: 6200116	**Work Order:** H9GDW1AD			**Report DB ID:** 9H9GDW10								
RA-228	**0.641**	ND	0.94	0.94	2.11	pCi/sample	97%	*0.3*	8/11/06 06:08 a	1.0	0.24939	E904.0
						0.96	3.1	*(1.4)*		Sample	Sample	GPC7B

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

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

FORM I

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland | **SDG:** 32140 | **Collection Date:** 7/3/2006 10:15:00 AM

Lot-Sample No.: J6G180224-3 | **Report No. :** 32990 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: 000518 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #87

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: 6200105	**Work Order:** H9GD11AG			**Report DB ID:** 9H9GD110								
U-234	**0.162**	ND	0.37	0.37	0.83	pCi/sample	95%	*0.19*	7/30/06 10:18 a	1.0	0.06211	E908.0
						0.278	1.0	*0.88*		Sample	Sample	ALP3
U-235	**-0.0607**	ND	0.070	0.071	0.638	pCi/sample	95%	*-0.1*	7/30/06 10:18 a	1.0	0.06211	E908.0
						0.182	1.0	*-(1.7)*		Sample	Sample	ALP3
U-238	**-0.1210**	ND	0.099	0.10	0.789	pCi/sample	95%	*-0.15*	7/30/06 10:18 a	1.0	0.06211	E908.0
						0.258	1.0	*-(2.4)*		Sample	Sample	ALP3
								Ratio U-234/238 = -1.3				
Batch: 6200109	**Work Order:** H9GD11AA			**Report DB ID:** 9H9GD110								
TH-228	**0.0672**	ND	0.13	0.13	0.269	pCi/sample	99%	*0.25*	7/28/06 08:02 p	1.0	0.08282	ISOTH
						0.0737	1.0	*1.*		Sample	Sample	ALP173
TH-230	**0.261**	=	0.21	0.22	0.118	pCi/sample	99%	*(2.2)*	7/28/06 08:02 p	1.0	0.08282	ISOTH
							1.0	*(2.4)*		Sample	Sample	ALP173
TH-232	**0.0434**	ND	0.087	0.087	0.118	pCi/sample	99%	*0.37*	7/28/06 08:02 p	1.0	0.08282	ISOTH
							1.0	*1.*		Sample	Sample	ALP173
Batch: 6200110	**Work Order:** H9GD11AE			**Report DB ID:** 9H9GD110								
ALPHA	**2.36**	ND	2.8	2.8	5.17	pCi/sample	100%	*0.46*	8/5/06 01:41 p	1.0	0.02079	E900.0
						2.08	20.0	*(1.7)*		Sample	Sample	GPC10C
Batch: 6200111	**Work Order:** H9GD11AF			**Report DB ID:** 9H9GD110								
BETA	**37.9**	=	4.3	6.8	5.24	pCi/sample	100%	*(7.2)*	8/3/06 07:32 a	1.0	0.08297	E900.0
						2.51	5.0	*(11.2)*		Sample	Sample	GPC32B
Batch: 6200115	**Work Order:** H9GD11AC			**Report DB ID:** 9H9GD110								

STL Richland
rptSTLRchSample
V4.15.0 A97

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

FORM I

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180224-3
Client Sample ID: 000518
Yerington Air Quality - Event #87

SDG: 32140
Report No. : 32990
COC No. :

Collection Date: 7/3/2006 10:15:00 AM
Received Date: 7/18/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	**0.182**	ND	0.19	0.20	0.317	pCi/sample	90%	*0.57*	8/9/06 12:45 p	0.833	0.25024	E903.1
						0.134	1.0	*(1.8)*		Sample	Sample	ASC3MA
Batch: 6200116	**Work Order:** H9GD11AD			**Report DB ID:** 9H9GD110								
RA-228	**0.218**	ND	0.68	1.0	2.43	pCi/sample	80%	*0.09*	8/11/06 06:08 a	1.0	0.25024	E904.0
						1.11	3.1	*0.42*		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:** 32140 | **Collection Date:** 7/3/2006 10:35:00 AM

Lot-Sample No.: J6G180224-4 | **Report No. :** 32990 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: 000519 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #87

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: 6200105	**Work Order:** H9GD41AG			**Report DB ID:** 9H9GD410								
U-234	**0.182**	ND	0.36	0.37	0.79	pCi/sample	94%	*0.23*	7/30/06 10:18 a	1.0	0.06245	E908.0
						0.258	1.0	*1.*		Sample	Sample	ALP4
U-235	**0.00000**	ND	0.0000	0.25	0.274	pCi/sample	94%	*0.*	7/30/06 10:18 a	1.0	0.06245	E908.0
							1.0	*0.*		Sample	Sample	ALP4
U-238	**0.182**	ND	0.36	0.37	0.79	pCi/sample	94%	*0.23*	7/30/06 10:18 a	1.0	0.06245	E908.0
						0.258	1.0	*1.*		Sample	Sample	ALP4
								Ratio U-234/238 = 1.0				
Batch: 6200109	**Work Order:** H9GD41AA			**Report DB ID:** 9H9GD410								
TH-228	**0.179**	ND	0.18	0.18	0.121	pCi/sample	102%	*(1.5)*	7/28/06 08:02 p	1.0	0.08386	ISOTH
							1.0	*(2.)*		Sample	Sample	ALP174
TH-230	**0.260**	=	0.21	0.22	0.117	pCi/sample	102%	*(2.2)*	7/28/06 08:02 p	1.0	0.08386	ISOTH
							1.0	*(2.4)*		Sample	Sample	ALP174
TH-232	**0.0433**	ND	0.087	0.087	0.117	pCi/sample	102%	*0.37*	7/28/06 08:02 p	1.0	0.08386	ISOTH
							1.0	*1.*		Sample	Sample	ALP174
Batch: 6200110	**Work Order:** H9GD41AE			**Report DB ID:** 9H9GD410								
ALPHA	**5.89**	=	3.6	3.8	5.33	pCi/sample	100%	*(1.1)*	8/5/06 01:41 p	1.0	0.02098	E900.0
						2.19	20.0	*(3.1)*		Sample	Sample	GPC10D
Batch: 6200111	**Work Order:** H9GD41AF			**Report DB ID:** 9H9GD410								
BETA	**42.2**	=	4.4	8.8	5.05	pCi/sample	100%	*(8.4)*	8/3/06 07:32 a	1.0	0.08346	E900.0
						2.42	5.0	*(9.6)*		Sample	Sample	GPC32C
Batch: 6200115	**Work Order:** H9GD41AC			**Report DB ID:** 9H9GD410								

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:** 32140 | **Collection Date:** 7/3/2006 10:35:00 AM

Lot-Sample No.: J6G180224-4 | **Report No. :** 32990 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: 000519 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #87

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	**0.0203**	ND	0.22	0.22	0.42	pCi/sample	93%	*0.05*	8/9/06 12:43 p	0.833	0.25026	E903.1
						0.182	1.0	*0.19*		Sample	Sample	ASC4UA
Batch: 6200116	**Work Order:** H9GD41AD			**Report DB ID:** 9H9GD410								
RA-228	**1.44**	ND	1.0	1.1	2.25	pCi/sample	83%	*0.64*	8/11/06 06:08 a	1.0	0.25026	E904.0
						1.02	3.1	*(2.7)*		Sample	Sample	GPC1C

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 | **SDG:** 32140 | **Collection Date:** 7/3/2006 10:50:00 AM

Lot-Sample No.: J6G180224-5 | **Report No. :** 32990 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: 000520 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #87

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: 6200105	**Work Order:** H9GD61AG			**Report DB ID:** 9H9GD610								
U-234	**0.0369**	ND	0.20	0.20	0.582	pCi/sample	103%	*0.06*	7/30/06 10:19 a	1.0	0.06232	E908.0
						0.166	1.0	*0.38*		Sample	Sample	ALP5
U-235	**0.0553**	ND	0.19	0.19	0.521	pCi/sample	103%	*0.11*	7/30/06 10:19 a	1.0	0.06232	E908.0
						0.136	1.0	*0.58*		Sample	Sample	ALP5
U-238	**0.0184**	ND	0.20	0.20	0.633	pCi/sample	103%	*0.03*	7/30/06 10:19 a	1.0	0.06232	E908.0
						0.192	1.0	*0.19*		Sample	Sample	ALP5
								Ratio U-234/238 = 2.0				
Batch: 6200109	**Work Order:** H9GD61AA			**Report DB ID:** 9H9GD610								
TH-228	**0.134**	ND	0.16	0.16	0.229	pCi/sample	110%	*0.58*	7/28/06 08:02 p	1.0	0.08304	ISOTH
						0.0628	1.0	*(1.7)*		Sample	Sample	ALP175
TH-230	**0.296**	=	0.21	0.22	0.1	pCi/sample	110%	*(3.)*	7/28/06 08:02 p	1.0	0.08304	ISOTH
							1.0	*(2.7)*		Sample	Sample	ALP175
TH-232	**-0.0185**	ND	0.037	0.037	0.222	pCi/sample	110%	*-0.08*	7/28/06 08:02 p	1.0	0.08304	ISOTH
						0.0608	1.0	*-1.*		Sample	Sample	ALP175
Batch: 6200110	**Work Order:** H9GD61AE			**Report DB ID:** 9H9GD610								
ALPHA	**1.13**	ND	2.0	2.0	4.06	pCi/sample	100%	*0.28*	8/5/06 01:41 p	1.0	0.02076	E900.0
						1.52	20.0	*(1.1)*		Sample	Sample	GPC10E
Batch: 6200111	**Work Order:** H9GD61AF			**Report DB ID:** 9H9GD610								
BETA	**44.8**	=	4.7	8.0	5.72	pCi/sample	100%	*(7.8)*	8/3/06 07:32 a	1.0	0.08362	E900.0
						2.75	5.0	*(11.2)*		Sample	Sample	GPC32D
Batch: 6200115	**Work Order:** H9GD61AC			**Report DB ID:** 9H9GD610								

STL Richland
rptSTLRchSample
V4.15.0 A97

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

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180224-5
Client Sample ID: 000520
Yerington Air Quality - Event #87

SDG: 32140
Report No. : 32990
COC No. :

Collection Date: 7/3/2006 10:50:00 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	**0.138**	ND	0.15	0.16	0.252	pCi/sample	98%	*0.55*	8/9/06 12:44 p	0.833	0.24977	E903.1
						0.104	1.0	*(1.8)*		Sample	Sample	ASC6MB
Batch: 6200116	**Work Order:** H9GD61AD			**Report DB ID:** 9H9GD610								
RA-228	**1.35**	ND	0.95	1.0	2.1	pCi/sample	85%	*0.64*	8/11/06 06:08 a	1.0	0.24977	E904.0
						0.947	3.1	*(2.7)*		Sample	Sample	GPC1D

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

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

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland | **SDG:** 32140 | **Collection Date:** 7/3/2006 11:05:00 AM

Lot-Sample No.: J6G180224-6 | **Report No. :** 32990 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: 000521 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #87

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: 6200105	**Work Order:** H9GD81AG			**Report DB ID:** 9H9GD810								
U-234	**0.204**	ND	0.29	0.29	0.277	pCi/sample	94%	*0.74*	7/30/06 10:19 a	1.0	0.06253	E908.0
							1.0	*(1.4)*		Sample	Sample	ALP6
U-235	**-0.0204**	ND	0.041	0.041	0.489	pCi/sample	94%	*-0.04*	7/30/06 10:19 a	1.0	0.06253	E908.0
						0.106	1.0	*-1.*		Sample	Sample	ALP6
U-238	**-0.0408**	ND	0.058	0.058	0.577	pCi/sample	94%	*-0.07*	7/30/06 10:19 a	1.0	0.06253	E908.0
						0.15	1.0	*-(1.4)*		Sample	Sample	ALP6
								Ratio U-234/238 = -5.0				
Batch: 6200109	**Work Order:** H9GD81AA			**Report DB ID:** 9H9GD810								
TH-228	**0.0592**	ND	0.15	0.15	0.332	pCi/sample	97%	*0.18*	7/28/06 08:02 p	1.0	0.08349	ISOTH
						0.113	1.0	*0.77*		Sample	Sample	ALP176
TH-230	**0.287**	=	0.22	0.23	0.23	pCi/sample	97%	*(1.3)*	7/28/06 08:02 p	1.0	0.08349	ISOTH
						0.063	1.0	*(2.5)*		Sample	Sample	ALP176
TH-232	**0.0766**	ND	0.14	0.14	0.282	pCi/sample	97%	*0.27*	7/28/06 08:02 p	1.0	0.08349	ISOTH
						0.089	1.0	*(1.1)*		Sample	Sample	ALP176
Batch: 6200110	**Work Order:** H9GD81AE			**Report DB ID:** 9H9GD810								
ALPHA	**2.01**	ND	2.9	2.9	5.64	pCi/sample	100%	*0.36*	8/6/06 09:29 a	1.0	0.02105	E900.0
						2.33	20.0	*(1.4)*		Sample	Sample	GPC10A
Batch: 6200111	**Work Order:** H9GD81AF			**Report DB ID:** 9H9GD810								
BETA	**47.3**	=	4.7	8.4	5.55	pCi/sample	100%	*(8.5)*	8/3/06 10:09 a	1.0	0.08391	E900.0
						2.67	5.0	*(11.3)*		Sample	Sample	GPC26A
Batch: 6200115	**Work Order:** H9GD81AC			**Report DB ID:** 9H9GD810								

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.: J6G180224-6
Client Sample ID: 000521
Yerington Air Quality - Event #87

SDG: 32140
Report No. : 32990
COC No. :

Collection Date: 7/3/2006 11:05:00 AM
Received Date: 7/18/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	**0.134**	ND	0.20	0.20	0.341	pCi/sample	99%	*0.39*	8/9/06 12:46 p	0.833	0.25031	E903.1
						0.146	1.0	*(1.4)*		Sample	Sample	ASC7UA
Batch: 6200116	**Work Order:** H9GD81AD			**Report DB ID:** 9H9GD810								
RA-228	**1.88**	=	0.81	0.87	1.51	pCi/sample	89%	*(1.2)*	8/11/06 06:08 a	1.0	0.25031	E904.0
						0.643	3.1	*(4.3)*		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:** 32140 | **Collection Date:** 7/3/2006 10:00:00 AM

Lot-Sample No.: J6G180224-7 | **Report No. :** 32990 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: 000522 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #87

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: 6200105	**Work Order:** H9GEC1AG			**Report DB ID:** 9H9GEC10								
U-234	-0.0277	ND	0.055	0.056	0.664	pCi/sample	71%	*-0.04*	7/30/06 10:19 a	1.0	0.06267	E908.0
						0.144	1.0	*-1.*		Sample	Sample	ALP7
U-235	0.139	ND	0.28	0.28	0.376	pCi/sample	71%	*0.37*	7/30/06 10:19 a	1.0	0.06267	E908.0
							1.0	*1.*		Sample	Sample	ALP7
U-238	-0.0277	ND	0.055	0.056	0.664	pCi/sample	71%	*-0.04*	7/30/06 10:19 a	1.0	0.06267	E908.0
						0.144	1.0	*-1.*		Sample	Sample	ALP7
								Ratio U-234/238 = 1.0				
Batch: 6200109	**Work Order:** H9GEC1AA			**Report DB ID:** 9H9GEC10								
TH-228	-0.0700	ND	0.14	0.14	0.84	pCi/sample	30%	*-0.08*	7/28/06 08:02 p	1.0	0.08401	ISOTH
						0.23	1.0	*-0.99*		Sample	Sample	ALP177
TH-230	1.63	=	0.94	1.0	0.368	pCi/sample	30%	*(4.4)*	7/28/06 08:02 p	1.0	0.08401	ISOTH
							1.0	*(3.2)*		Sample	Sample	ALP177
TH-232	0.136	ND	0.27	0.27	0.368	pCi/sample	30%	*0.37*	7/28/06 08:02 p	1.0	0.08401	ISOTH
							1.0	*0.99*		Sample	Sample	ALP177
Batch: 6200110	**Work Order:** H9GEC1AE			**Report DB ID:** 9H9GEC10								
ALPHA	0.435	ND	2.0	2.0	4.67	pCi/sample	100%	*0.09*	8/6/06 09:29 a	1.0	0.02096	E900.0
						1.85	20.0	*0.44*		Sample	Sample	GPC10B
Batch: 6200111	**Work Order:** H9GEC1AF			**Report DB ID:** 9H9GEC10								
BETA	0.666	ND	2.7	2.7	5.65	pCi/sample	100%	*0.12*	8/3/06 10:09 a	1.0	0.08416	E900.0
						2.71	5.0	*0.49*		Sample	Sample	GPC26B
Batch: 6200115	**Work Order:** H9GEC1AC			**Report DB ID:** 9H9GEC10								

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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 | **SDG:** 32140 | **Collection Date:** 7/3/2006 10:00:00 AM

Lot-Sample No.: J6G180224-7 | **Report No. :** 32990 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: 000522 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #87

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	-0.1270	ND	0.22	0.23	0.496	pCi/sample	101%	*-0.26*	8/9/06 12:44 p	0.833	0.24987	E903.1
						0.215	1.0	*-(1.1)*		Sample	Sample	ASC8RD
Batch: 6200116	**Work Order:** H9GEC1AD			**Report DB ID:** 9H9GEC10								
RA-228	1.62	=	0.76	0.84	1.53	pCi/sample	91%	*(1.1)*	8/11/06 06:08 a	1.0	0.24987	E904.0
						0.658	3.1	*(3.8)*		Sample	Sample	GPC3B

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.
= 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:** 32140 | **Collection Date:** 7/3/2006 9:45:00 AM

Lot-Sample No.: J6G180224-8 | **Report No. :** 32990 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: 000523 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #87

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: 6200105	**Work Order:** H9GED1AG			**Report DB ID:** 9H9GED10								
U-234	0.105	ND	0.21	0.21	0.284	pCi/sample	89%	*0.37*	7/30/06 10:19 a	1.0	0.06177	E908.0
							1.0	*1.*		Sample	Sample	ALP8
U-235	-0.0210	ND	0.042	0.042	0.502	pCi/sample	89%	*-0.04*	7/30/06 10:19 a	1.0	0.06177	E908.0
						0.109	1.0	*-1.*		Sample	Sample	ALP8
U-238	0.105	ND	0.21	0.21	0.284	pCi/sample	89%	*0.37*	7/30/06 10:19 a	1.0	0.06177	E908.0
							1.0	*1.*		Sample	Sample	ALP8
								Ratio U-234/238 = 1.0				
Batch: 6200109	**Work Order:** H9GED1AA			**Report DB ID:** 9H9GED10								
TH-228	0.0707	ND	0.14	0.14	0.283	pCi/sample	75%	*0.25*	7/28/06 08:02 p	1.0	0.08347	ISOTH
						0.0776	1.0	*1.*		Sample	Sample	ALP178
TH-230	0.0229	ND	0.10	0.10	0.274	pCi/sample	75%	*0.08*	7/28/06 08:02 p	1.0	0.08347	ISOTH
						0.0752	1.0	*0.45*		Sample	Sample	ALP178
TH-232	-0.0457	ND	0.065	0.065	0.336	pCi/sample	75%	*-0.14*	7/28/06 08:02 p	1.0	0.08347	ISOTH
						0.106	1.0	*-(1.4)*		Sample	Sample	ALP178
Batch: 6200110	**Work Order:** H9GED1AE			**Report DB ID:** 9H9GED10								
ALPHA	0.712	ND	2.2	2.2	4.95	pCi/sample	100%	*0.14*	8/6/06 09:29 a	1.0	0.02078	E900.0
						1.97	20.0	*0.65*		Sample	Sample	GPC10C
Batch: 6200111	**Work Order:** H9GED1AF			**Report DB ID:** 9H9GED10								
BETA	1.68	ND	2.7	2.7	5.5	pCi/sample	100%	*0.31*	8/3/06 10:09 a	1.0	0.08278	E900.0
						2.63	5.0	*(1.2)*		Sample	Sample	GPC26C
Batch: 6200115	**Work Order:** H9GED1AC			**Report DB ID:** 9H9GED10								

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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:** 32140 | **Collection Date:** 7/3/2006 9:45:00 AM

Lot-Sample No.: J6G180224-8 | **Report No. :** 32990 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: 000523 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #87

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	-0.0617	ND	0.28	0.28	0.564	pCi/sample	95%	*-0.11*	8/9/06 12:43 p	0.833	0.25046	E903.1
						0.251	1.0	*-0.44*		Sample	Sample	ASC9RC
Batch: 6200116	**Work Order:** H9GED1AD			**Report DB ID:** 9H9GED10								
RA-228	1.13	ND	0.80	0.84	1.73	pCi/sample	85%	*0.65*	8/11/06 06:08 a	1.0	0.25046	E904.0
						0.749	3.1	*(2.7)*		Sample	Sample	GPC3C

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.
= 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:** 32140 | **Collection Date:** 7/3/2006 9:30:00 AM

Lot-Sample No.: J6G180224-9 | **Report No. :** 32990 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: P-0691 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #87

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: 6200105	**Work Order:** H9GEF1AG			**Report DB ID:** 9H9GEF10								
U-234	-0.0396	ND	0.056	0.056	0.559	pCi/sample	99%	*-0.07*	7/30/06 10:20 a	1.0	0.06233	E908.0
						0.146	1.0	*-(1.4)*		Sample	Sample	ALP9
U-235	0.0990	ND	0.20	0.20	0.268	pCi/sample	99%	*0.37*	7/30/06 10:20 a	1.0	0.06233	E908.0
							1.0	*1.*		Sample	Sample	ALP9
U-238	-0.0396	ND	0.056	0.056	0.559	pCi/sample	99%	*-0.07*	7/30/06 10:20 a	1.0	0.06233	E908.0
						0.146	1.0	*-(1.4)*		Sample	Sample	ALP9
								Ratio U-234/238 = 1.0				
Batch: 6200109	**Work Order:** H9GEF1AA			**Report DB ID:** 9H9GEF10								
TH-228	0.129	ND	0.15	0.15	0.116	pCi/sample	79%	*(1.1)*	7/28/06 08:03 p	1.0	0.08368	ISOTH
							1.0	*(1.7)*		Sample	Sample	ALP114
TH-230	0.292	=	0.22	0.23	0.113	pCi/sample	79%	*(2.6)*	7/28/06 08:03 p	1.0	0.08368	ISOTH
							1.0	*(2.6)*		Sample	Sample	ALP114
TH-232	-0.0208	ND	0.042	0.042	0.25	pCi/sample	79%	*-0.08*	7/28/06 08:03 p	1.0	0.08368	ISOTH
						0.0685	1.0	*-1.*		Sample	Sample	ALP114
Batch: 6200110	**Work Order:** H9GEF1AE			**Report DB ID:** 9H9GEF10								
ALPHA	2.08	ND	2.5	2.5	4.66	pCi/sample	100%	*0.45*	8/6/06 09:29 a	1.0	0.02077	E900.0
						1.85	20.0	*(1.6)*		Sample	Sample	GPC10D
Batch: 6200111	**Work Order:** H9GEF1AF			**Report DB ID:** 9H9GEF10								
BETA	31.2	=	4.0	5.8	5.08	pCi/sample	100%	*(6.1)*	8/3/06 10:09 a	1.0	0.0835	E900.0
						2.43	5.0	*(10.7)*		Sample	Sample	GPC26D
Batch: 6200115	**Work Order:** H9GEF1AC			**Report DB ID:** 9H9GEF10								

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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: 32140
Collection Date: 7/3/2006 9:30:00 AM
Lot-Sample No.: J6G180224-9
Report No. : 32990
Received Date: 7/18/2006 10:00:00 AM
Client Sample ID: P-0691
COC No. :
Matrix: FILTER AIR

Yerington Air Quality - Event #87

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	**0.0823**	ND	0.20	0.20	0.363	pCi/sample	97%	*0.23*	8/9/06 01:19 p	0.833	0.25812	E903.1
						0.15	1.0	*0.84*		Sample	Sample	ASCASC
Batch: 6200116	**Work Order:** H9GEF1AD			**Report DB ID:** 9H9GEF10								
RA-228	**1.19**	ND	0.68	0.72	1.38	pCi/sample	88%	*0.86*	8/11/06 06:08 a	1.0	0.25815	E904.0
						0.58	3.1	*(3.3)*		Sample	Sample	GPC3D

Number of Results: 10

Comments:

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

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland | **SDG:** 32140 | **Collection Date:** 7/3/2006 9:50:00 AM

Lot-Sample No.: J6G180224-10 | **Report No. :** 32990 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: P-0692 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #87

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: 6200105	**Work Order:** H9GEK1AG			**Report DB ID:** 9H9GEK10								
U-234	**0.176**	ND	0.28	0.28	0.469	pCi/sample	105%	*0.38*	7/30/06 10:20 a	1.0	0.06227	E908.0
						0.102	1.0	*(1.3)*		Sample	Sample	ALP10
U-235	**0.00000**	ND	0.0000	0.24	0.265	pCi/sample	105%	*0.*	7/30/06 10:20 a	1.0	0.06227	E908.0
							1.0	*0.*		Sample	Sample	ALP10
U-238	**-0.0196**	ND	0.039	0.039	0.469	pCi/sample	105%	*-0.04*	7/30/06 10:20 a	1.0	0.06227	E908.0
						0.102	1.0	*-1.*		Sample	Sample	ALP10
								Ratio U-234/238 = -9.0				
Batch: 6200109	**Work Order:** H9GEK1AA			**Report DB ID:** 9H9GEK10								
TH-228	**0.154**	ND	0.22	0.22	0.378	pCi/sample	86%	*0.41*	7/28/06 08:03 p	1.0	0.08399	ISOTH
						0.12	1.0	*(1.4)*		Sample	Sample	ALP119
TH-230	**0.125**	ND	0.18	0.18	0.299	pCi/sample	86%	*0.42*	7/28/06 08:03 p	1.0	0.08399	ISOTH
						0.0819	1.0	*(1.4)*		Sample	Sample	ALP119
TH-232	**0.0249**	ND	0.11	0.11	0.299	pCi/sample	86%	*0.08*	7/28/06 08:03 p	1.0	0.08399	ISOTH
						0.0819	1.0	*0.45*		Sample	Sample	ALP119
Batch: 6200110	**Work Order:** H9GEK1AE			**Report DB ID:** 9H9GEK10								
ALPHA	**-0.0379**	ND	1.2	1.2	3.58	pCi/sample	100%	*-0.01*	8/6/06 09:29 a	1.0	0.02073	E900.0
						1.28	20.0	*-0.06*		Sample	Sample	GPC10E
Batch: 6200111	**Work Order:** H9GEK1AF			**Report DB ID:** 9H9GEK10								
BETA	**35.6**	=	4.2	6.4	5.11	pCi/sample	100%	*(7.)*	8/3/06 10:09 a	1.0	0.08305	E900.0
						2.44	5.0	*(11.1)*		Sample	Sample	GPC27A
Batch: 6200115	**Work Order:** H9GEK1AC			**Report DB ID:** 9H9GEK10								

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FORM I

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland
SDG: 32140
Collection Date: 7/3/2006 9:50:00 AM
Lot-Sample No.: J6G180224-10
Report No. : 32990
Received Date: 7/18/2006 10:00:00 AM
Client Sample ID: P-0692
COC No. :
Matrix: FILTER AIR

Yerington Air Quality - Event #87

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	**0.0129**	ND	0.15	0.15	0.311	pCi/sample	92%	*0.04*	8/9/06 01:18 p	0.833	0.25142	E903.1
						0.13	1.0	*0.17*		Sample	Sample	ASCCSA
Batch: 6200116	**Work Order:** H9GEK1AD			**Report DB ID:** 9H9GEK10								
RA-228	**1.26**	ND	0.90	0.92	1.9	pCi/sample	81%	*0.66*	8/11/06 06:08 a	1.0	0.25142	E904.0
						0.83	3.1	*(2.7)*		Sample	Sample	GPC4A

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.
= 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:** 32140 | **Collection Date:** 7/3/2006 10:10:00 AM

Lot-Sample No.: J6G180224-11 | **Report No. :** 32990 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: P-0693 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #87

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: 6200105	**Work Order:** H9GEM1AG			**Report DB ID:** 9H9GEM10								
U-234	**0.0985**	ND	0.20	0.20	0.267	pCi/sample	89%	*0.37*	7/30/06 10:20 a	1.0	0.06241	E908.0
							1.0	*1.*		Sample	Sample	ALP11
U-235	**0.0788**	ND	0.20	0.20	0.472	pCi/sample	89%	*0.17*	7/30/06 10:20 a	1.0	0.06241	E908.0
						0.103	1.0	*0.78*		Sample	Sample	ALP11
U-238	**0.0788**	ND	0.20	0.20	0.472	pCi/sample	89%	*0.17*	7/30/06 10:20 a	1.0	0.06241	E908.0
						0.103	1.0	*0.78*		Sample	Sample	ALP11
								Ratio U-234/238 = 1.3				
Batch: 6200109	**Work Order:** H9GEM1AA			**Report DB ID:** 9H9GEM10								
TH-228	**0.00000899**	ND	0.19	0.19	0.501	pCi/sample	85%	*0.*	7/28/06 08:03 p	1.0	0.08442	ISOTH
						0.177	1.0	*0.*		Sample	Sample	ALP120
TH-230	**0.157**	ND	0.18	0.18	0.142	pCi/sample	85%	*(1.1)*	7/28/06 08:03 p	1.0	0.08442	ISOTH
							1.0	*(1.7)*		Sample	Sample	ALP120
TH-232	**0.00000**	ND	0.0000	0.13	0.142	pCi/sample	85%	*0.*	7/28/06 08:03 p	1.0	0.08442	ISOTH
							1.0	*0.*		Sample	Sample	ALP120
Batch: 6200110	**Work Order:** H9GEM1AE			**Report DB ID:** 9H9GEM10								
ALPHA	**7.43**	=	4.0	4.3	5.59	pCi/sample	100%	*(1.3)*	8/6/06 12:14 p	1.0	0.02121	E900.0
						2.31	20.0	*(3.5)*		Sample	Sample	GPC10A
Batch: 6200111	**Work Order:** H9GEM1AF			**Report DB ID:** 9H9GEM10								
BETA	**42.4**	=	4.3	7.2	4.93	pCi/sample	100%	*(8.6)*	8/3/06 10:09 a	1.0	0.08386	E900.0
						2.36	5.0	*(11.7)*		Sample	Sample	GPC27C
Batch: 6200115	**Work Order:** H9GEM1AC			**Report DB ID:** 9H9GEM10								

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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: 32140
Collection Date: 7/3/2006 10:10:00 AM
Lot-Sample No.: J6G180224-11
Report No. : 32990
Received Date: 7/18/2006 10:00:00 AM
Client Sample ID: P-0693
COC No. :
Matrix: FILTER AIR

Yerington Air Quality - Event #87

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	-0.0214	ND	0.16	0.16	0.357	pCi/sample	87%	*-0.06*	8/9/06 01:12 p	0.833	0.24956	E903.1
						0.144	1.0	*-0.27*		Sample	Sample	ASCDSA
Batch: 6200116	**Work Order:** H9GEM1AD			**Report DB ID:** 9H9GEM10								
RA-228	1.49	ND	0.93	1.0	1.99	pCi/sample	77%	*0.75*	8/11/06 06:08 a	1.0	0.24956	E904.0
						0.865	3.1	*(3.)*		Sample	Sample	GPC4B

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

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

FORM I

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180224-12
Client Sample ID: P-0694
Yerington Air Quality - Event #87

SDG: 32140
Report No. : 32990
COC No. :

Collection Date: 7/3/2006 10:30:00 AM
Received Date: 7/18/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6200105	**Work Order:** H9GEQ1AG			**Report DB ID:** 9H9GEQ10								
U-234	0.00000	ND	0.0000	0.31	0.338	pCi/sample	81%	0.	7/30/06 10:21 a	1.0	0.06106	E908.0
							1.0	0.		Sample	Sample	ALP12
U-235	0.00000	ND	0.0000	0.31	0.338	pCi/sample	81%	0.	7/30/06 10:21 a	1.0	0.06106	E908.0
							1.0	0.		Sample	Sample	ALP12
U-238	0.0997	ND	0.25	0.25	0.597	pCi/sample	81%	0.17	7/30/06 10:21 a	1.0	0.06106	E908.0
						0.13	1.0	0.78		Sample	Sample	ALP12
Batch: 6200109	**Work Order:** H9GEQ1AA			**Report DB ID:** 9H9GEQ10								
TH-228	-0.0780	ND	0.12	0.12	0.42	pCi/sample	102%	-0.19	7/29/06 01:47 p	1.0	0.08211	ISOTH
						0.157	1.0	-(1.3)		Sample	Sample	ALP171
TH-230	0.245	=	0.20	0.21	0.227	pCi/sample	102%	(1.1)	7/29/06 01:47 p	1.0	0.08211	ISOTH
						0.0621	1.0	(2.4)		Sample	Sample	ALP171
TH-232	0.00000	ND	0.0000	0.092	0.102	pCi/sample	102%	0.	7/29/06 01:47 p	1.0	0.08211	ISOTH
							1.0	0.		Sample	Sample	ALP171
Batch: 6200110	**Work Order:** H9GEQ1AE			**Report DB ID:** 9H9GEQ10								
ALPHA	2.61	ND	2.7	2.7	4.67	pCi/sample	100%	0.56	8/6/06 12:14 p	1.0	0.02083	E900.0
						1.84	20.0	(1.9)		Sample	Sample	GPC10B
Batch: 6200111	**Work Order:** H9GEQ1AF			**Report DB ID:** 9H9GEQ10								
BETA	40.3	=	4.4	7.1	5.19	pCi/sample	100%	(7.8)	8/3/06 10:09 a	1.0	0.0815	E900.0
						2.49	5.0	(11.3)		Sample	Sample	GPC27D
Batch: 6200115	**Work Order:** H9GEQ1AC			**Report DB ID:** 9H9GEQ10								

STL Richland
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V4.15.0 A97

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

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180224-12
Client Sample ID: P-0694
Yerington Air Quality - Event #87

SDG: 32140
Report No. : 32990
COC No. :

Collection Date: 7/3/2006 10:30:00 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	-0.00259	ND	0.16	0.16	0.315	pCi/sample	99%	*-0.01*	8/9/06 01:19 p	0.833	0.24998	E903.1
						0.136	1.0	*-0.03*		Sample	Sample	ASCEHB
Batch: 6200116	**Work Order:** H9GEQ1AD			**Report DB ID:** 9H9GEQ10								
RA-228	0.867	ND	0.77	0.78	1.64	pCi/sample	89%	*0.53*	8/11/06 06:08 a	1.0	0.24998	E904.0
						0.71	3.1	*(2.2)*		Sample	Sample	GPC4C

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:** 32140 | **Collection Date:** 7/3/2006 10:45:00 AM

Lot-Sample No.: J6G180224-13 | **Report No. :** 32990 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: P-0695 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #87

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: 6200105	**Work Order:** H9GER1AG			**Report DB ID:** 9H9GER10								
U-234	-0.0155	ND	0.022	0.022	0.442	pCi/sample	100%	*-0.04*	7/30/06 10:21 a	1.0	0.06235	E908.0
						0.0901	1.0	*-(1.4)*		Sample	Sample	ALP69
U-235	0.0736	ND	0.20	0.20	0.483	pCi/sample	100%	*0.15*	7/30/06 10:21 a	1.0	0.06235	E908.0
						0.11	1.0	*0.75*		Sample	Sample	ALP69
U-238	0.0503	ND	0.20	0.20	0.574	pCi/sample	100%	*0.09*	7/30/06 10:21 a	1.0	0.06235	E908.0
						0.156	1.0	*0.51*		Sample	Sample	ALP69
								Ratio U-234/238 = -0.3				
Batch: 6200109	**Work Order:** H9GER1AA			**Report DB ID:** 9H9GER10								
TH-228	0.0371	ND	0.17	0.17	0.4	pCi/sample	102%	*0.09*	7/29/06 01:47 p	1.0	0.08376	ISOTH
						0.15	1.0	*0.43*		Sample	Sample	ALP172
TH-230	0.521	=	0.28	0.30	0.216	pCi/sample	102%	*(2.4)*	7/29/06 01:47 p	1.0	0.08376	ISOTH
						0.0591	1.0	*(3.5)*		Sample	Sample	ALP172
TH-232	-0.0359	ND	0.051	0.051	0.265	pCi/sample	102%	*-0.14*	7/29/06 01:47 p	1.0	0.08376	ISOTH
						0.0836	1.0	*-(1.4)*		Sample	Sample	ALP172
Batch: 6200110	**Work Order:** H9GER1AE			**Report DB ID:** 9H9GER10								
ALPHA	1.45	ND	2.4	2.4	4.9	pCi/sample	100%	*0.3*	8/6/06 12:14 p	1.0	0.02101	E900.0
						1.95	20.0	*(1.2)*		Sample	Sample	GPC10C
Batch: 6200111	**Work Order:** H9GER1AF			**Report DB ID:** 9H9GER10								
BETA	30.9	=	4.1	6.0	5.33	pCi/sample	100%	*(5.8)*	8/3/06 10:09 a	1.0	0.08297	E900.0
						2.56	5.0	*(10.3)*		Sample	Sample	GPC31A
Batch: 6200115	**Work Order:** H9GER1AC			**Report DB ID:** 9H9GER10								

STL Richland
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FORM I

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180224-13
Client Sample ID: P-0695
Yerington Air Quality - Event #87

SDG: 32140
Report No. : 32990
COC No. :

Collection Date: 7/3/2006 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
RA-226	0.0281	ND	0.25	0.25	0.49	pCi/sample	88%	*0.06*	8/9/06 01:20 p	0.833	0.2526	E903.1
						0.207	1.0	*0.23*		Sample	Sample	ASCFSA
Batch: 6200116	**Work Order:** H9GER1AD			**Report DB ID:** 9H9GER10								
RA-228	3.83	=	1.1	1.3	1.88	pCi/sample	78%	*(2.)*	8/11/06 06:08 a	1.0	0.2526	E904.0
						0.811	3.1	*(6.)*		Sample	Sample	GPC4D

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

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

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180224-14
Client Sample ID: P-0696
Yerington Air Quality - Event #87

SDG: 32140
Report No. : 32990
COC No. :

Collection Date: 7/3/2006 11:00:00 AM
Received Date: 7/18/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6200105	**Work Order:** H9GE01AG			**Report DB ID:** 9H9GE010								
U-234	-0.0362	ND	0.030	0.030	0.448	pCi/sample	97%	*-0.08*	7/30/06 10:22 a	1.0	0.08401	E908.0
						0.122	1.0	*-(2.4)*		Sample	Sample	ALP71
U-235	0.0573	ND	0.15	0.15	0.376	pCi/sample	97%	*0.15*	7/30/06 10:22 a	1.0	0.08401	E908.0
						0.086	1.0	*0.75*		Sample	Sample	ALP71
U-238	0.0452	ND	0.15	0.15	0.426	pCi/sample	97%	*0.11*	7/30/06 10:22 a	1.0	0.08401	E908.0
						0.111	1.0	*0.59*		Sample	Sample	ALP71
								Ratio U-234/238 = -0.8				
Batch: 6200109	**Work Order:** H9GE01AA			**Report DB ID:** 9H9GE010								
TH-228	0.110	ND	0.16	0.16	0.264	pCi/sample	108%	*0.42*	7/29/06 01:47 p	1.0	0.08326	ISOTH
						0.0725	1.0	*(1.4)*		Sample	Sample	ALP173
TH-230	0.640	=	0.33	0.35	0.116	pCi/sample	108%	*(5.5)*	7/29/06 01:47 p	1.0	0.08326	ISOTH
							1.0	*(3.7)*		Sample	Sample	ALP173
TH-232	0.00000	ND	0.0000	0.10	0.116	pCi/sample	108%	*0.*	7/29/06 01:47 p	1.0	0.08326	ISOTH
							1.0	*0.*		Sample	Sample	ALP173
Batch: 6200110	**Work Order:** H9GE01AE			**Report DB ID:** 9H9GE010								
ALPHA	3.45	ND	2.8	2.9	4.61	pCi/sample	100%	*0.75*	8/6/06 12:14 p	1.0	0.021	E900.0
						1.83	20.0	*(2.4)*		Sample	Sample	GPC10D
Batch: 6200111	**Work Order:** H9GE01AF			**Report DB ID:** 9H9GE010								
BETA	34.2	=	4.1	7.1	5.05	pCi/sample	100%	*(6.8)*	8/3/06 10:09 a	1.0	0.08227	E900.0
						2.42	5.0	*(9.6)*		Sample	Sample	GPC31B
Batch: 6200115	**Work Order:** H9GE01AC			**Report DB ID:** 9H9GE010								

STL Richland
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FORM I

SAMPLE RESULTS

Date: 15-Aug-06

Lab Name: STL Richland
Lot-Sample No.: J6G180224-14
Client Sample ID: P-0696
Yerington Air Quality - Event #87

SDG: 32140
Report No. : 32990
COC No. :

Collection Date: 7/3/2006 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	**0.0623**	ND	0.19	0.19	0.348	pCi/sample	100%	*0.18*	8/9/06 01:19 p	0.833	0.24856	E903.1
						0.149	1.0	*0.67*		Sample	Sample	ASCGSA
Batch: 6200116	**Work Order:** H9GE01AD			**Report DB ID:** 9H9GE010								
RA-228	**2.08**	=	0.93	1.0	1.94	pCi/sample	87%	*(1.1)*	8/11/06 06:09 a	1.0	0.24856	E904.0
						0.88	3.1	*(4.1)*		Sample	Sample	GPC5A

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 | **SDG:** 32140 | **Collection Date:** 7/3/2006 9:35:00 AM

Lot-Sample No.: J6G180224-15 | **Report No. :** 32990 | **Received Date:** 7/18/2006 10:00:00 AM

Client Sample ID: P-0697 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #87

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: 6200105	**Work Order:** H9GE51AG			**Report DB ID:** 9H9GE510								
U-234	**0.204**	ND	0.32	0.32	0.508	pCi/sample	94%	*0.4*	7/30/06 10:22 a	1.0	0.06193	E908.0
						0.103	1.0	*(1.3)*		Sample	Sample	ALP83
U-235	**0.0933**	ND	0.22	0.22	0.508	pCi/sample	94%	*0.18*	7/30/06 10:22 a	1.0	0.06193	E908.0
						0.103	1.0	*0.83*		Sample	Sample	ALP83
U-238	**0.0933**	ND	0.22	0.22	0.508	pCi/sample	94%	*0.18*	7/30/06 10:22 a	1.0	0.06193	E908.0
						0.103	1.0	*0.83*		Sample	Sample	ALP83
								Ratio U-234/238 = 2.2				
Batch: 6200109	**Work Order:** H9GE51AA			**Report DB ID:** 9H9GE510								
TH-228	**0.182**	ND	0.18	0.18	0.123	pCi/sample	104%	*(1.5)*	7/29/06 01:47 p	1.0	0.08252	ISOTH
							1.0	*(2.)*		Sample	Sample	ALP174
TH-230	**0.132**	ND	0.15	0.15	0.119	pCi/sample	104%	*(1.1)*	7/29/06 01:47 p	1.0	0.08252	ISOTH
							1.0	*(1.7)*		Sample	Sample	ALP174
TH-232	**0.0440**	ND	0.088	0.088	0.119	pCi/sample	104%	*0.37*	7/29/06 01:47 p	1.0	0.08252	ISOTH
							1.0	*1.*		Sample	Sample	ALP174
Batch: 6200110	**Work Order:** H9GE51AE			**Report DB ID:** 9H9GE510								
ALPHA	**1.82**	ND	2.1	2.1	3.52	pCi/sample	100%	*0.52*	8/6/06 12:14 p	1.0	0.02105	E900.0
						1.25	20.0	*(1.7)*		Sample	Sample	GPC10E
Batch: 6200111	**Work Order:** H9GE51AF			**Report DB ID:** 9H9GE510								
BETA	**36.6**	=	4.1	6.5	4.96	pCi/sample	100%	*(7.4)*	8/3/06 10:09 a	1.0	0.08463	E900.0
						2.37	5.0	*(11.3)*		Sample	Sample	GPC31C
Batch: 6200115	**Work Order:** H9GE51AC			**Report DB ID:** 9H9GE510								

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.: J6G180224-15
Client Sample ID: P-0697
Yerington Air Quality - Event #87

SDG: 32140
Report No. : 32990
COC No. :

Collection Date: 7/3/2006 9:35:00 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	**0.115**	ND	0.13	0.13	0.188	pCi/sample	89%	*0.61*	8/9/06 01:18 p	0.833	0.25037	E903.1
						0.0648	1.0	*(1.8)*		Sample	Sample	ASCJSB
Batch: 6200116	**Work Order:** H9GE51AD			**Report DB ID:** 9H9GE510								
RA-228	**1.41**	ND	0.97	1.1	2.22	pCi/sample	79%	*0.64*	8/11/06 06:09 a	1.0	0.25037	E904.0
						1.01	3.1	*(2.6)*		Sample	Sample	GPC5B

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 II

BLANK RESULTS

Date: 15-Aug-06

Lab Name: STL Richland **SDG:** 32140

Lot-Sample No.: J6G190000-105 **Report No. :** 32990 **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: 6200105	Work Order: H9HTL1AA			Report DB ID: H9HTL1AB								
U-234	-0.00262	ND	0.0023	0.0024	0.037	pCi/sample	99%	-0.07	7/30/06 10:22 a	1.0	1.0	E908.0
					0.00963	1.0		-(2.2)		Sample	Sample	ALP84
U-235	-0.000524	ND	0.0010	0.0011	0.0263	pCi/sample	99%	-0.02	7/30/06 10:22 a	1.0	1.0	E908.0
					0.00431	1.0		-1.		Sample	Sample	ALP84
U-238	-0.00105	ND	0.0015	0.0015	0.0299	pCi/sample	99%	-0.04	7/30/06 10:22 a	1.0	1.0	E908.0
					0.00609	1.0		-(1.4)		Sample	Sample	ALP84

Ratio U-234/238 = 2.5

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: 32140

Lot-Sample No.: J6G190000-109

Report No. : 32990

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: 6200109	Work Order: H9HTN1AA			Report DB ID: H9HTN1AB								
TH-228	0.00476	ND	0.0095	0.0095	0.019	pCi/sample	104%	0.25	7/29/06 01:47 p	1.0	1.0	ISOTH
					0.00522	1.0		1.		Sample	Sample	ALP175
TH-230	0.0215	=	0.016	0.017	0.00832	pCi/sample	104%	(2.6)	7/29/06 01:47 p	1.0	1.0	ISOTH
						1.0		(2.6)		Sample	Sample	ALP175
TH-232	-0.00154	ND	0.0031	0.0031	0.0184	pCi/sample	104%	-0.08	7/29/06 01:47 p	1.0	1.0	ISOTH
					0.00505	1.0		-1.		Sample	Sample	ALP175

Number of Results: 3

Comments:

STL Richland
rptSTLRchBlank
V4.15.0 A97

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

FORM II

BLANK RESULTS

Date: 15-Aug-06

Lab Name: STL Richland **SDG:** 32140

Lot-Sample No.: J6G190000-110 **Report No. :** 32990 **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: 6200110	Work Order: H9HTW1AA			Report DB ID: H9HTW1AB								
ALPHA	0.0145	ND	0.045	0.045	0.101	pCi/sample	100%	0.14	8/7/06 06:55 a	1.0	1.0	E900.0
					0.0402	20.0		0.65		Sample	Sample	GPC10A

Number of Results: 1

Comments:

STL Richland
rptSTLRchBlank
V4.15.0 A97

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

FORM II

BLANK RESULTS

Date: 15-Aug-06

Lab Name: STL Richland

SDG: 32140

Lot-Sample No.: J6G190000-111

Report No. : 32990

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: 6200111	Work Order: H9HT21AA			Report DB ID: H9HT21AB								
BETA	0.165	ND	0.22	0.22	0.437	pCi/sample	100%	0.38	8/3/06 10:09 a	1.0	1.0	E900.0
					0.209	5.0		(1.5)		Sample	Sample	GPC31D

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: 32140

Lot-Sample No.: J6G190000-115

Report No. : 32990

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: 6200115	Work Order: H9HT71AA			Report DB ID: H9HT71AB								
RA-226	-0.00438	ND	0.033	0.033	0.0733	pCi/sample	100%	-0.06	8/9/06 01:26 p	1.0	1.0	E903.1
					0.0295	1.0		-0.27		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:** 32140

Lot-Sample No.: J6G190000-116 **Report No. :** 32990 **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: 6200116	**Work Order:** H9HVE1AA			**Report DB ID:** H9HVE1AB								
RA-228	0.344	ND	0.22	0.23	0.462	pCi/sample	90%	0.74	8/11/06 06:09 a	1.0	1.0	E904.0
					0.209	3.1		(3.)		Sample	Sample	GPC5C

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: 32140

Lot-Sample No.: J6G190000-105

Report No. : 32990

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: 6200105	**Work Order:** H9HTL1AC			**Report DB ID:** H9HTL1CS									
U-234	0.850	=	0.18	0.23	0.0372	pCi/sample	94.22%	0.968	0.0056	88%	7/30/06 10:23 a	1.0	E908.0
						Rec Limits:				-0.1		Sample	ALP85
U-238	0.905	=	0.18	0.24	0.0423	pCi/sample	94.22%	1.01	0.0059	89%	7/30/06 10:23 a	1.0	E908.0
						Rec Limits:				-0.1		Sample	ALP85

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: 32140

Lot-Sample No.: J6G190000-109

Report No. : 32990

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: 6200109	**Work Order:** H9HTN1AC			**Report DB ID:** H9HTN1CS									
TH-230	1.92	=	0.16	0.37	0.0188	pCi/sample	98.55%	1.83	0.06	105%	7/29/06 01:47 p	1.0	ISOTH
						Rec Limits:		70.	130.	0.0		Sample	ALP176

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: 32140

Lot-Sample No.: J6G190000-110

Report No. : 32990

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: 6200110	Work Order: H9HTW1AC			Report DB ID: H9HTW1CS									
ALPHA	2.41	=	0.27	0.56	0.0897	pCi/sample	100.00%	2.38	0.075	101%	8/7/06 06:55 a	1.0	E900.0
						Rec Limits:				0.0		Sample	GPC10B

Number of Results: 1

Comments:

STL Richland
rptSTLRchLcs
V4.15.0 A97

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

FORM II

LCS RESULTS

Date: 15-Aug-06

Lab Name: STL Richland

SDG: 32140

Lot-Sample No.: J6G190000-111

Report No. : 32990

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: 6200111	**Work Order:** H9HT21AC			**Report DB ID:** H9HT21CS									
BETA	4.72	=	0.42	0.75	0.445	pCi/sample	100.00%	4.60	0.037	103%	8/3/06 10:09 a	1.0	E900.0
						Rec Limits:				0.0		Sample	GPC32A

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: 32140

Lot-Sample No.: J6G190000-115

Report No. : 32990

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: 6200115	Work Order: H9HT71AC			Report DB ID: H9HT71CS									
RA-226	1.22	=	0.18	0.31	0.127	pCi/sample	85.79%	1.39	0.021	88%	8/9/06 01:22 p	1.0	E903.1
							Rec Limits:	70.	130.	-0.1		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:** 32140

Lot-Sample No.: J6G190000-116 **Report No. :** 32990 **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: 6200116	**Work Order:** H9HVE1AC			**Report DB ID:** H9HVE1CS									
RA-228	4.75	=	0.52	0.76	0.567	pCi/sample	77.06%	5.05	0.021	94%	8/11/06 06:09 a	1.0	E904.0
							Rec Limits:	70.	130.	-0.1		Sample	GPC5D

Number of Results: 1

Comments:

STL Richland
rptSTLRchLcs
V4.15.0 A97

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

CHAIN OF CUSTODY

BROWN AND CALDWELL

CHAIN OF CUSTODY RECORD

COC No. [illegible]

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

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

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

PROJECT NAME: [illegible]

PROJECT NUMBER: [illegible]

LABORATORY NAME & ADDRESS: SEVERN TRENT LABS, WEST SACRAMENTO

SACRAMENTO LOT # G6G060239

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	PRESERVATIVE	MATRIX CODE	ANALYSES REQUESTED	FIELD FILTERED	QC - REQ	TAT µSV/hr	SAMPLING METHOD	DEPTH (FT.) BEGIN / END	PID READING (ppm)
01	[illegible]	[illegible]	9:40	[illegible]	1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9GDP			0.25		----	
02	-000517		9:55		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9GDW			0.24		----	
03	-000518		10:15		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9GD1			0.25		----	
04	-000519		10:35		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9GD4			0.11		----	
05	-000520		10:50		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9GD6			0.19		----	
06	-000521		11:05		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9GD8			0.33		----	
07	-000522		10:[illegible]		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9GEC			0.36		----	
08	-000523		9:45		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9GED			0.33		----	
09														----	
10														----	

	DATE	TIME		DATE	TIME
COLLECTED & RELEASED BY: [illegible]	7/5/06	[illegible]	COOLER I.D.:		
RECEIVED BY: [illegible]	7/6/06	10:15	RELINQUISHED BY: Steve Valmers	7/17/06	1000
S. Welch	7/18/06	10:00			
RECORD RETURNED BY:					
COURIER: [illegible]			SHIPPING NUMBER: [illegible]		

COMMENTS (see note on back)

RECEIVED IN GOOD CONDITION
JUL - 6 2006
INI. ML

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

JGG 180224
32140

COC No. Due 8.15 06

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

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

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

PROJECT NAME: Lexington Air Qlty

PROJECT NUMBER: 171243

LABORATORY NAME & ADDRESS: NORTHERN TRENT LABS, WEST SACRAMENTO

1/6 OF THE EXPOSED FILTER WAS UTILIZED FOR THE METALS ANALYSIS. SACRAMENTO LOT# 66060235

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-1691	7/6	9:30	MS	1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9GEF			15 DAY/hr		----	
02	P-1692		9:50		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9GEK					----	
03	P-1693		10:10		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9GEM					----	
04	P-1694		10:30		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9GEQ			3		----	
05	P-1695		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) H9GER			0.33		----	
06	P-1696		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) H9GEO			0.30		----	
07	P-1697		9:35		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H9GE5			0.25		----	
08														----	
09														----	
10														----	

RECEIVED IN GOOD CONDITION
W/ OR COC

COLLECTED & RELEASED BY:	DATE 7/6/06	TIME 16:37	COOLER I.D.:			COMMENTS (see note on back):
RECEIVED BY:	DATE 7/6/06	TIME 16:37	RELINQUISHED BY:	DATE / /	TIME :	JUL – 6 2006
S. Welch	7/8/06	10:00	Steve Volmers	7/17/06	1600	INI: ML
RECORD RETURNED BY:	DATE / /	TIME :				
COURIER:			SHIPPING NUMBER:			

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

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

STL RICHLAND

59

SEVERN TRENT STL

Sample Check-in List

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

Client: BNC SDG #: 32140 NA [ ] SAF #: _____ NA [ ]

Work Order Number: J6G180224 Chain of Custody # N/A

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

1. Custody Seals on shipping container intact? NA [ ] Yes [ ] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [ ] No [ ]
3. Chain of Custody record present? NA [ ] Yes [ ] No [ ]
4. Cooler temperature: _____ NA [ ] 5: Vermiculite/packing materials is NA [ ] Wet [ ] Dry [ ] Yes [ ] No [ ]
6. Number of samples in shipping container: 15
7. Sample holding times exceeded? NA [ ] Yes [ ] No [ ]
8. Samples have:
   _____ tape
   _____ custody seals
   _____ hazard labels
   _____ appropriate samples labels
9. Samples are:
   ✓ in good condition
   _____ broken
   _____ leaking
   _____ have air bubbles
   (Only for samples requiring head space)
10. Sample pH taken? FLT NA [ ] pH<2 [ ] pH>2 [ ] adjusted pH [ ]
11. Sample Location, Sample Collector Listed? * NA [ ] 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

7/31/2006 3:16:58 PM

Lot No., Due Date: J6G180224; 08/15/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6200109; RTHISO Thiso by ALP

SDG, Matrix: 32140; FILTER

1.0 COC

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

2.0 QC Batch

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

3.0 QC & Samples

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

4.0 Raw Data

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

5.0 Other

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

6.0 Comments on any No response:

First Level Review Pam Anderson **Date** 7-31-06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6200109

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 3:07:11 PM

Sample Preparation/Analysis

536403, Brown and Caldwell , Brown & Caldwell

9N Thlso 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: 6200109 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: None

Sep2 DT/Tm Tech: 7.28.06

Prep Tech: HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
171 **1 H9GDP-1-AA** J6G180224-1-SAMP 07/03/2006 09:40	0.833sa,g	508.83sa,g	50.10g,in	0.082g	THTF0756 07/21/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
172 **2 H9GDW-1-AA** J6G180224-2-SAMP 07/03/2006 09:55	0.833sa,g	503.49sa,g	50.39g,in	0.0834g	THTF0757 07/21/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
173 **3 H9GD1-1-AA** J6G180224-3-SAMP 07/03/2006 10:15	0.833sa,g	503.19sa,g	50.03g,in	0.0828g	THTF0758 07/21/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
174 **4 H9GD4-1-AA** J6G180224-4-SAMP 07/03/2006 10:35	0.833sa,g	500.35sa,g	50.37g,in	0.0839g	THTF0759 07/21/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
175 **5 H9GD6-1-AA** J6G180224-5-SAMP 07/03/2006 10:50	0.833sa,g	502.06sa,g	50.05g,in	0.083g	THTF0762 07/21/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
176 **6 H9GD8-1-AA** J6G180224-6-SAMP 07/03/2006 11:05	0.833sa,g	500.24sa,g	50.14g,in	0.0835g	THTF0763 07/21/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
177 **7 H9GEC-1-AA** J6G180224-7-SAMP 07/03/2006 10:00	0.833sa,g	500.72sa,g	50.50g,in	0.084g	THTF0760 07/21/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:

STL RICHLAND

7/26/2006 3:07:11 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: 6200109 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:
118 **8 H9GED-1-AA** J6G180224-8-SAMP 07/03/2006 09:45	0.833sa,g	505.97sa,g	50.70g,in	0.0835g	THTF0761 07/21/06,pd 10/04/04,r					
			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:
119 **9 H9GEF-1-AA** J6G180224-9-SAMP 07/03/2006 09:30	0.833sa,g	502.51sa,g	50.48g,in	0.0837g	THTF0764 07/21/06,pd 10/04/04,r					
			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:
120 **10 H9GEK-1-AA** J6G180224-10-SAMP 07/03/2006 09:50	0.833sa,g	502.21sa,g	50.64g,in	0.084g	THTF0765 07/21/06,pd 10/04/04,r					
			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:
121 **11 H9GEM-1-AA** J6G180224-11-SAMP 07/03/2006 10:10	0.833sa,g	501.85sa,g	50.86g,in	0.0844g	THTF0766 07/21/06,pd 10/04/04,r					
			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:
122 **12 H9GEQ-1-AA** J6G180224-12-SAMP 07/03/2006 10:30	0.833sa,g	511.83sa,g	50.45g,in	0.0821g	THTF0767 07/21/06,pd 10/04/04,r					
			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:
123 **13 H9GER-1-AA** J6G180224-13-SAMP 07/03/2006 10:45	0.833sa,g	502.70sa,g	50.55g,in	0.0838g	THTF0768 07/21/06,pd 10/04/04,r					
			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:
124 **14 H9GE0-1-AA** J6G180224-14-SAMP 07/03/2006 11:00	0.833sa,g	507.76sa,g	50.75g,in	0.0833g	THTF0769 07/21/06,pd 10/04/04,r					
			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:

STL RICHLAND

7/26/2006 3:07:12 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: 6200109 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:
174 **15H9GE5-1-AA** J6G180224-15-SAMP 07/03/2006 09:35	0.833sa,g	505.45sa,g	50.07g,in	0.0825g	THTF0770 07/21/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
175 **16H9HTN-1-AA-B** J6G190000-109-BLK 07/03/2006 09:40			1.00sa,in	1.00sa	THTF0771 07/21/06,pd 10/04/04,r					
		AmtRec:		#Containers: 1				Scr:	Alpha:	Beta:
176 **17H9HTN-1-AC-C** J6G190000-109-LCS 07/03/2006 09:40			1.00sa,in	1.00sa	THSO0086 07/21/06,pd 10/04/04,r					
		AmtRec:		#Containers: 1				Scr:	Alpha:	Beta:

Comments:

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

H9GDP1AA-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

H9HTN1AA-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

H9HTN1AC-LCS:
  Th-230      RDL:1          pCi/sam   LCL:70     UCL:130    RPD:20     Th-234     RDL:           pCi/sam   LCL:20     UCL:115    RPD:20

H9GDP1AA-SAMP Calc Info:
    Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
H9HTN1AA-BLK:
```

7/31/2006 3:12:49 PM

ICOC Fraction Transfer/Status Report

ByDate: 7/31/2005, 8/5/2006, Batch: '6200109', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6200109						
AC		**CalcC**	**HansenM**	7/20/2006 1:19:32 PM		
SC			wagarr	IsBatched	7/19/2006 8:00:26 AM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	7/20/2006 1:19:32 PM	RICH-RC-5016 REVISION 5
SC			HansenM	Prep2C	7/27/2006 7:12:54 AM	RICH-RC-5016 REVISION 5
SC			AndersonE	Sep1C	7/28/2006 8:23:02 AM	RICH-RC-5087 REV0
SC			FABREM	Sep2C	7/28/2006 2:27:35 PM	RICH-RC-5039 REV 6
SC			DAWKINSO	InCnt1	7/28/2006 3:50:40 PM	RICH-RD-0008 REVISION 4
SC			BlackCL	CalcC	7/31/2006 6:54:53 AM	RICH-RD-0008 REVISION 4
AC			**HansenM**	7/27/2006 7:12:54		
AC			**AndersonE**	7/28/2006 8:23:02		
AC			**FABREM**	7/28/2006 2:27:35 PM		
AC			**DAWKINSO**	7/28/2006 3:50:40 PM		
AC			**BlackCL**	7/31/2006 6:54:53		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 6

ICOCFractions v4.8.18

7/31/2006 3:12:48 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
32140	**9H9GD110**			**J6G1802243**	000518	FILTER	7/18/2006 10:00:00	7/3/2006 10:15:00 AM				
TH-228	9NS1	0		7/28/2006 8:02:46 PM	**6.7221E-02**	6.722E-02	6.749E-02	2.688E-01	PCI/SA	0.988	1.0E+0	3.282E-2
TH-230	9NS1	0		7/28/2006 8:02:46 PM	**2.6062E-01**	1.064E-01	1.09E-01	1.177E-01	PCI/SA	0.988	1.0E+0	3.282E-2
TH-232	9NS1	0		7/28/2006 8:02:46 PM	**4.3436E-02**	4.344E-02	4.361E-02	1.177E-01	PCI/SA	0.988	1.0E+0	3.282E-2
U-234	7YSR	0		7/30/2006 10:18:27	**1.6161E-01**	1.83E-01	1.835E-01	8.299E-01	PCI/SA	0.953	1.0E+0	3.211E-2
U-235	7YSR	0		7/30/2006 10:18:27	**-6.0657E-02**	3.502E-02	3.536E-02	6.379E-01	PCI/SA	0.953	1.0E+0	3.211E-2
U-238	7YSR	0		7/30/2006 10:18:27	**-1.2131E-01**	4.953E-02	5.048E-02	7.887E-01	PCI/SA	0.953	1.0E+0	3.211E-2
32140	**9H9GD410**			**J6G1802244**	000519	FILTER	7/18/2006 10:00:00	7/3/2006 10:35:00 AM				
TH-228	9NS1	0		7/28/2006 8:02:46 PM	**1.7886E-01**	8.943E-02	9.088E-02	1.212E-01	PCI/SA	1.016	1.0E+0	3.386E-2
TH-230	9NS1	0		7/28/2006 8:02:46 PM	**2.6005E-01**	1.062E-01	1.087E-01	1.175E-01	PCI/SA	1.016	1.0E+0	3.386E-2
TH-232	9NS1	0		7/28/2006 8:02:46 PM	**4.3341E-02**	4.334E-02	4.352E-02	1.175E-01	PCI/SA	1.016	1.0E+0	3.386E-2
U-234	7YSR	0		7/30/2006 10:18:44	**1.8213E-01**	1.822E-01	1.828E-01	7.898E-01	PCI/SA	0.939	1.0E+0	3.245E-2
U-235	7YSR	0		7/30/2006 10:18:44	**0.0E+00**	0.0E+00	1.239E-01	2.742E-01	PCI/SA	0.939	1.0E+0	3.245E-2
U-238	7YSR	0		7/30/2006 10:18:44	**1.8213E-01**	1.822E-01	1.828E-01	7.898E-01	PCI/SA	0.939	1.0E+0	3.245E-2
32140	**9H9GD610**			**J6G1802245**	000520	FILTER	7/18/2006 10:00:00	7/3/2006 10:50:00 AM				
TH-228	9NS1	0		7/28/2006 8:02:46 PM	**1.3357E-01**	7.867E-02	7.954E-02	2.289E-01	PCI/SA	1.103	1.0E+0	3.304E-2
TH-230	9NS1	0		7/28/2006 8:02:46 PM	**2.9592E-01**	1.046E-01	1.078E-01	1.002E-01	PCI/SA	1.103	1.0E+0	3.304E-2
TH-232	9NS1	0		7/28/2006 8:02:46 PM	**-1.8495E-02**	1.849E-02	1.857E-02	2.219E-01	PCI/SA	1.103	1.0E+0	3.304E-2
U-234	7YSR	0		7/30/2006 10:19:01	**3.6866E-02**	9.755E-02	9.759E-02	5.818E-01	PCI/SA	1.025	1.0E+0	3.232E-2
U-235	7YSR	0		7/30/2006 10:19:01	**5.5302E-02**	9.579E-02	9.589E-02	5.209E-01	PCI/SA	1.025	1.0E+0	3.232E-2
U-238	7YSR	0		7/30/2006 10:19:01	**1.8431E-02**	9.927E-02	9.928E-02	6.332E-01	PCI/SA	1.025	1.0E+0	3.232E-2
32140	**9H9GD810**			**J6G1802246**	000521	FILTER	7/18/2006 10:00:00	7/3/2006 11:05:00 AM				
TH-228	9NS1	0		7/28/2006 8:02:46 PM	**5.9232E-02**	7.647E-02	7.665E-02	3.319E-01	PCI/SA	0.968	1.0E+0	3.349E-2
TH-230	9NS1	0		7/28/2006 8:02:46 PM	**2.8706E-01**	1.099E-01	1.129E-01	2.296E-01	PCI/SA	0.968	1.0E+0	3.349E-2
TH-232	9NS1	0		7/28/2006 8:02:46 PM	**7.6551E-02**	7.161E-02	7.193E-02	2.817E-01	PCI/SA	0.968	1.0E+0	3.349E-2
U-234	7YSR	0		7/30/2006 10:19:17	**2.0406E-01**	1.443E-01	1.452E-01	2.765E-01	PCI/SA	0.939	1.0E+0	3.253E-2
U-235	7YSR	0		7/30/2006 10:19:17	**-2.0408E-02**	2.041E-02	2.047E-02	4.887E-01	PCI/SA	0.939	1.0E+0	3.253E-2
U-238	7YSR	0		7/30/2006 10:19:17	**-4.0816E-02**	2.886E-02	2.905E-02	5.766E-01	PCI/SA	0.939	1.0E+0	3.253E-2
32140	**9H9GDP10**			**J6G1802241**	000516	FILTER	7/18/2006 10:00:00	7/3/2006 9:40:00 AM				
TH-228	9NS1	0		7/28/2006 8:02:46 PM	**1.9522E-06**	8.274E-02	8.274E-02	4.198E-01	PCI/SA	1.0	1.0E+0	3.202E-2
TH-230	9NS1	0		7/28/2006 8:02:46 PM	**1.7012E-01**	8.662E-02	8.793E-02	2.267E-01	PCI/SA	1.0	1.0E+0	3.202E-2
TH-232	9NS1	0		7/28/2006 8:02:46 PM	**1.5122E-01**	7.561E-02	7.679E-02	1.024E-01	PCI/SA	1.0	1.0E+0	3.202E-2
U-234	7YSR	0		7/30/2006 10:17:46	**8.3983E-02**	1.455E-01	1.457E-01	7.913E-01	PCI/SA	0.713	1.0E+0	3.169E-2
U-235	7YSR	0		7/30/2006 10:17:46	**-5.6025E-02**	3.962E-02	3.989E-02	7.913E-01	PCI/SA	0.713	1.0E+0	3.169E-2
U-238	7YSR	0		7/30/2006 10:17:46	**1.6797E-01**	2.058E-01	2.063E-01	9.618E-01	PCI/SA	0.713	1.0E+0	3.169E-2
32140	**9H9GDW10**			**J6G1802242**	000517	FILTER	7/18/2006 10:00:00	7/3/2006 9:55:00 AM				
TH-228	9NS1	0		7/28/2006 8:02:46 PM	**1.5259E-01**	1.112E-01	1.12E-01	4.106E-01	PCI/SA	0.977	1.0E+0	3.337E-2
TH-230	9NS1	0		7/28/2006 8:02:46 PM	**4.252E-01**	1.294E-01	1.348E-01	2.218E-01	PCI/SA	0.977	1.0E+0	3.337E-2
TH-232	9NS1	0		7/28/2006 8:02:46 PM	**3.6975E-02**	5.846E-02	5.855E-02	2.721E-01	PCI/SA	0.977	1.0E+0	3.337E-2
U-234	7YSR	0		7/30/2006 10:18:08	**2.2371E-01**	1.292E-01	1.304E-01	2.021E-01	PCI/SA	1.021	1.0E+0	3.34E-2
U-235	7YSR	0		7/30/2006 10:18:08	**2.9823E-02**	7.892E-02	7.895E-02	4.707E-01	PCI/SA	1.021	1.0E+0	3.34E-2
U-238	7YSR	0		7/30/2006 10:18:08	**1.0439E-01**	1.086E-01	1.089E-01	4.707E-01	PCI/SA	1.021	1.0E+0	3.34E-2
32140	**9H9GE010**			**J6G18022414**	P-0696	FILTER	7/18/2006 10:00:00	7/3/2006 11:00:00 AM				
TH-228	9NS1	0		7/29/2006 1:47:52 PM	**1.1019E-01**	7.946E-02	8.006E-02	2.644E-01	PCI/SA	1.083	1.0E+0	3.326E-2
TH-230	9NS1	0		7/29/2006 1:47:52 PM	**6.4035E-01**	1.653E-01	1.75E-01	1.157E-01	PCI/SA	1.083	1.0E+0	3.326E-2
TH-232	9NS1	0		7/29/2006 1:47:52 PM	**0.0E+00**	0.0E+00	5.228E-02	1.157E-01	PCI/SA	1.083	1.0E+0	3.326E-2
U-234	7YSR	0		7/30/2006 10:22:03	**-3.623E-02**	1.479E-02	1.508E-02	4.475E-01	PCI/SA	0.972	1.0E+0	3.401E-2
U-235	7YSR	0		7/30/2006 10:22:03	**5.7318E-02**	7.615E-02	7.629E-02	3.763E-01	PCI/SA	0.972	1.0E+0	3.401E-2
U-238	7YSR	0		7/30/2006 10:22:03	**4.5242E-02**	7.663E-02	7.672E-02	4.263E-01	PCI/SA	0.972	1.0E+0	3.401E-2
32140	**9H9GE510**			**J6G18022415**	P-0697	FILTER	7/18/2006 10:00:00	7/3/2006 9:35:00 AM				
TH-228	9NS1	0		7/29/2006 1:47:52 PM	**1.8191E-01**	9.095E-02	9.242E-02	1.232E-01	PCI/SA	1.042	1.0E+0	3.252E-2
TH-230	9NS1	0		7/29/2006 1:47:52 PM	**1.3214E-01**	7.629E-02	7.721E-02	1.194E-01	PCI/SA	1.042	1.0E+0	3.252E-2

6200109, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 49 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H9HTN1AA=> , mat:FILTER | Air *wo:H9HTN1AA=> , mat:FILTER | Air *wo:H9HTN1AA=> , 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		7/29/2006 1:47:52 PM	**4.4045E-02**	4.405E-02	4.422E-02	1.194E-01	PCI/SA	1.042	1.0E+0	3.252E-2
U-234	7YSR	0		7/30/2006 10:22:25	**2.0441E-01**	1.576E-01	1.585E-01	5.077E-01	PCI/SA	0.941	1.0E+0	3.193E-2
U-235	7YSR	0		7/30/2006 10:22:25	**9.3313E-02**	1.118E-01	1.121E-01	5.077E-01	PCI/SA	0.941	1.0E+0	3.193E-2
U-238	7YSR	0		7/30/2006 10:22:25	**9.3313E-02**	1.118E-01	1.121E-01	5.077E-01	PCI/SA	0.941	1.0E+0	3.193E-2
32140	**9H9GEC10**			**J6G1802247**	000522	FILTER	7/18/2006 10:00:00	7/3/2006 10:00:00 AM				
TH-228	9NS1	0		7/28/2006 8:02:46 PM	**-7.0015E-02**	7.002E-02	7.045E-02	8.399E-01	PCI/SA	0.303	1.0E+0	3.401E-2
TH-230	9NS1	0		7/28/2006 8:02:46 PM	**1.6287E+00**	4.702E-01	5.04E-01	3.678E-01	PCI/SA	0.303	1.0E+0	3.401E-2
TH-232	9NS1	0		7/28/2006 8:02:46 PM	**1.3573E-01**	1.357E-01	1.366E-01	3.678E-01	PCI/SA	0.303	1.0E+0	3.401E-2
U-234	7YSR	0		7/30/2006 10:19:35	**-2.7717E-02**	2.772E-02	2.781E-02	6.638E-01	PCI/SA	0.714	1.0E+0	3.267E-2
U-235	7YSR	0		7/30/2006 10:19:35	**1.3859E-01**	1.386E-01	1.391E-01	3.756E-01	PCI/SA	0.714	1.0E+0	3.267E-2
U-238	7YSR	0		7/30/2006 10:19:35	**-2.7717E-02**	2.772E-02	2.781E-02	6.638E-01	PCI/SA	0.714	1.0E+0	3.267E-2
32140	**9H9GED10**			**J6G1802248**	000523	FILTER	7/18/2006 10:00:00	7/3/2006 9:45:00 AM				
TH-228	9NS1	0		7/28/2006 8:02:46 PM	**7.0729E-02**	7.073E-02	7.102E-02	2.828E-01	PCI/SA	0.754	1.0E+0	3.347E-2
TH-230	9NS1	0		7/28/2006 8:02:46 PM	**2.2852E-02**	5.11E-02	5.114E-02	2.741E-01	PCI/SA	0.754	1.0E+0	3.347E-2
TH-232	9NS1	0		7/28/2006 8:02:46 PM	**-4.5702E-02**	3.232E-02	3.258E-02	3.364E-01	PCI/SA	0.754	1.0E+0	3.347E-2
U-234	7YSR	0		7/30/2006 10:19:56	**1.0473E-01**	1.047E-01	1.051E-01	2.838E-01	PCI/SA	0.891	1.0E+0	3.177E-2
U-235	7YSR	0		7/30/2006 10:19:56	**-2.0954E-02**	2.095E-02	2.102E-02	5.017E-01	PCI/SA	0.891	1.0E+0	3.177E-2
U-238	7YSR	0		7/30/2006 10:19:56	**1.0473E-01**	1.047E-01	1.051E-01	2.838E-01	PCI/SA	0.891	1.0E+0	3.177E-2
32140	**9H9GEF10**			**J6G1802249**	P-0691	FILTER	7/18/2006 10:00:00	7/3/2006 9:30:00 AM				
TH-228	9NS1	0		7/28/2006 8:03:19 PM	**1.2894E-01**	7.444E-02	7.534E-02	1.165E-01	PCI/SA	0.786	1.0E+0	3.368E-2
TH-230	9NS1	0		7/28/2006 8:03:19 PM	**2.916E-01**	1.102E-01	1.133E-01	1.129E-01	PCI/SA	0.786	1.0E+0	3.368E-2
TH-232	9NS1	0		7/28/2006 8:03:19 PM	**-2.083E-02**	2.083E-02	2.091E-02	2.499E-01	PCI/SA	0.786	1.0E+0	3.368E-2
U-234	7YSR	0		7/30/2006 10:20:15	**-3.9615E-02**	2.801E-02	2.819E-02	5.594E-01	PCI/SA	0.995	1.0E+0	3.233E-2
U-235	7YSR	0		7/30/2006 10:20:15	**9.8984E-02**	9.898E-02	9.93E-02	2.682E-01	PCI/SA	0.995	1.0E+0	3.233E-2
U-238	7YSR	0		7/30/2006 10:20:15	**-3.9615E-02**	2.801E-02	2.819E-02	5.594E-01	PCI/SA	0.995	1.0E+0	3.233E-2
32140	**9H9GEK10**			**J6G18022410**	P-0692	FILTER	7/18/2006 10:00:00	7/3/2006 9:50:00 AM				
TH-228	9NS1	0		7/28/2006 8:03:37 PM	**1.5418E-01**	1.09E-01	1.099E-01	3.782E-01	PCI/SA	0.856	1.0E+0	3.399E-2
TH-230	9NS1	0		7/28/2006 8:03:37 PM	**1.2453E-01**	8.979E-02	9.053E-02	2.987E-01	PCI/SA	0.856	1.0E+0	3.399E-2
TH-232	9NS1	0		7/28/2006 8:03:37 PM	**2.4912E-02**	5.569E-02	5.573E-02	2.987E-01	PCI/SA	0.856	1.0E+0	3.399E-2
U-234	7YSR	0		7/30/2006 10:20:31	**1.7627E-01**	1.399E-01	1.406E-01	4.691E-01	PCI/SA	1.048	1.0E+0	3.227E-2
U-235	7YSR	0		7/30/2006 10:20:31	**0.0E+00**	0.0E+00	1.199E-01	2.654E-01	PCI/SA	1.048	1.0E+0	3.227E-2
U-238	7YSR	0		7/30/2006 10:20:31	**-1.9591E-02**	1.959E-02	1.965E-02	4.691E-01	PCI/SA	1.048	1.0E+0	3.227E-2
32140	**9H9GEM10**			**J6G18022411**	P-0693	FILTER	7/18/2006 10:00:00	7/3/2006 10:10:00 AM				
TH-228	9NS1	0		7/28/2006 8:03:50 PM	**8.9856E-06**	9.339E-02	9.339E-02	5.007E-01	PCI/SA	0.848	1.0E+0	3.442E-2
TH-230	9NS1	0		7/28/2006 8:03:50 PM	**1.5679E-01**	9.052E-02	9.169E-02	1.416E-01	PCI/SA	0.848	1.0E+0	3.442E-2
TH-232	9NS1	0		7/28/2006 8:03:50 PM	**0.0E+00**	0.0E+00	6.401E-02	1.416E-01	PCI/SA	0.848	1.0E+0	3.442E-2
U-234	7YSR	0		7/30/2006 10:20:48	**9.8511E-02**	9.851E-02	9.883E-02	2.67E-01	PCI/SA	0.894	1.0E+0	3.241E-2
U-235	7YSR	0		7/30/2006 10:20:48	**7.8805E-02**	1.005E-01	1.007E-01	4.718E-01	PCI/SA	0.894	1.0E+0	3.241E-2
U-238	7YSR	0		7/30/2006 10:20:48	**7.8805E-02**	1.005E-01	1.007E-01	4.718E-01	PCI/SA	0.894	1.0E+0	3.241E-2
32140	**9H9GEQ10**			**J6G18022412**	P-0694	FILTER	7/18/2006 10:00:00	7/3/2006 10:30:00 AM				
TH-228	9NS1	0		7/29/2006 1:47:52 PM	**-7.7975E-02**	6.165E-02	6.203E-02	4.197E-01	PCI/SA	1.015	1.0E+0	3.211E-2
TH-230	9NS1	0		7/29/2006 1:47:52 PM	**2.4546E-01**	1.017E-01	1.04E-01	2.265E-01	PCI/SA	1.015	1.0E+0	3.211E-2
TH-232	9NS1	0		7/29/2006 1:47:52 PM	**0.0E+00**	0.0E+00	4.625E-02	1.023E-01	PCI/SA	1.015	1.0E+0	3.211E-2
U-234	7YSR	0		7/30/2006 10:21:07	**0.0E+00**	0.0E+00	1.527E-01	3.378E-01	PCI/SA	0.806	1.0E+0	3.106E-2
U-235	7YSR	0		7/30/2006 10:21:07	**0.0E+00**	0.0E+00	1.527E-01	3.378E-01	PCI/SA	0.806	1.0E+0	3.106E-2
U-238	7YSR	0		7/30/2006 10:21:07	**9.9719E-02**	1.271E-01	1.274E-01	5.97E-01	PCI/SA	0.806	1.0E+0	3.106E-2
32140	**9H9GER10**			**J6G18022413**	P-0695	FILTER	7/18/2006 10:00:00	7/3/2006 10:45:00 AM				
TH-228	9NS1	0		7/29/2006 1:47:52 PM	**3.7118E-02**	8.705E-02	8.711E-02	3.995E-01	PCI/SA	1.024	1.0E+0	3.376E-2
TH-230	9NS1	0		7/29/2006 1:47:52 PM	**5.2128E-01**	1.404E-01	1.478E-01	2.156E-01	PCI/SA	1.024	1.0E+0	3.376E-2
TH-232	9NS1	0		7/29/2006 1:47:52 PM	**-3.5949E-02**	2.542E-02	2.562E-02	2.646E-01	PCI/SA	1.024	1.0E+0	3.376E-2
U-234	7YSR	0		7/30/2006 10:21:42	**-1.5489E-02**	1.095E-02	1.102E-02	4.424E-01	PCI/SA	0.997	1.0E+0	3.235E-2
U-235	7YSR	0		7/30/2006 10:21:42	**7.3569E-02**	9.773E-02	9.791E-02	4.829E-01	PCI/SA	0.997	1.0E+0	3.235E-2
U-238	7YSR	0		7/30/2006 10:21:42	**5.0335E-02**	9.864E-02	9.873E-02	5.742E-01	PCI/SA	0.997	1.0E+0	3.235E-2
32140	**H9HTN1AB**			**J6G190000109**	INTRA-LAB BLANK	FILTER	7/18/2006 10:00:00	7/3/2006 9:40:00 AM				

6200109, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 49 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H9HTN1AA=> , mat:FILTER | Air *wo:H9HTN1AA=> , mat:FILTER | Air *wo:H9HTN1AA=> , mat:FILTER | Air.

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Sample Date / Mda	Units	Expected	Yield	Volumes	
TH-228	9NS1	0	B	7/29/2006 1:47:52 PM	**4.7573E-03**	4.757E-03	4.775E-03	1.902E-02	PCI/SA		1.04	1.0E+0	1.0E+0
TH-230	9NS1	0	B	7/29/2006 1:47:52 PM	**2.1502E-02**	8.127E-03	8.333E-03	8.324E-03	PCI/SA		1.04	1.0E+0	1.0E+0
TH-232	9NS1	0	B	7/29/2006 1:47:52 PM	**-1.5358E-03**	1.536E-03	1.541E-03	1.842E-02	PCI/SA		1.04	1.0E+0	1.0E+0
32140	**H9HTN1CS**			**J6G190000109**	INTRA-LAB CHECK	FILTER	7/18/2006 10:00:00	7/3/2006 9:40:00 AM					
TH-230	9NS1	0	S	7/29/2006 1:47:52 PM	**1.9231E+00**	7.775E-02	1.829E-01	1.883E-02	PCI/SA	1.8326E+00	0.986	1.0E+0	1.0E+0

6200109, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 49 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H9HTN1AA=> , mat:FILTER | Air *wo:H9HTN1AA=> , mat:FILTER | Air *wo:H9HTN1AA=> , mat:FILTER | Air.

Batch Nbr: 6200109

Alpha Spec, ThIso by ALP , Results

7/31/2006 6:52:37 AM

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
ThIso by ALP			Richland Standard AlpIso Wo Blk Subt.											
Calc	S1	FILTER	H9GDP1AA	TH-228	1.95E-06	(8.27E-02)	U4	PCI/SA	R	1.57E-01	4.20E-01	CRDL met	100%	
Calc	S1	FILTER	H9GDP1AA	TH-230	1.70E-01	(8.79E-02)		PCI/SA	R	6.22E-02	2.27E-01		100%	
Calc	S1	FILTER	H9GDP1AA	TH-232	1.51E-01	(7.68E-02)		PCI/SA	R		1.02E-01		100%	
Calc	S1	FILTER	H9GDW1AA	TH-228	1.53E-01	(1.12E-01)	U4	PCI/SA	R	1.54E-01	4.11E-01		98%	
Calc	S1	FILTER	H9GDW1AA	TH-230	4.25E-01	(1.35E-01)		PCI/SA	R	6.08E-02	2.22E-01		98%	
Calc	S1	FILTER	H9GDW1AA	TH-232	3.70E-02	(5.86E-02)	U4	PCI/SA	R	8.60E-02	2.72E-01		98%	
Calc	S1	FILTER	H9GD11AA	TH-228	6.72E-02	(6.75E-02)	U4	PCI/SA	R	7.37E-02	2.69E-01		99%	
Calc	S1	FILTER	H9GD11AA	TH-230	2.61E-01	(1.09E-01)		PCI/SA	R		1.18E-01		99%	
Calc	S1	FILTER	H9GD11AA	TH-232	4.34E-02	(4.36E-02)	U4	PCI/SA	R		1.18E-01		99%	
Calc	S1	FILTER	H9GD41AA	TH-228	1.79E-01	(9.09E-02)		PCI/SA	R		1.21E-01		102%	
Calc	S1	FILTER	H9GD41AA	TH-230	2.60E-01	(1.09E-01)		PCI/SA	R		1.17E-01		102%	
Calc	S1	FILTER	H9GD41AA	TH-232	4.33E-02	(4.35E-02)	U4	PCI/SA	R		1.17E-01		102%	
Calc	S1	FILTER	H9GD61AA	TH-228	1.34E-01	(7.95E-02)		PCI/SA	R	6.28E-02	2.29E-01		110%	
Calc	S1	FILTER	H9GD61AA	TH-230	2.96E-01	(1.08E-01)		PCI/SA	R		1.00E-01		110%	
Calc	S1	FILTER	H9GD61AA	TH-232	-1.85E-02	(1.86E-02)	U4	PCI/SA	R	6.08E-02	2.22E-01		110%	
Calc	S1	FILTER	H9GD81AA	TH-228	5.92E-02	(7.66E-02)	U4	PCI/SA	R	1.13E-01	3.32E-01		97%	
Calc	S1	FILTER	H9GD81AA	TH-230	2.87E-01	(1.13E-01)		PCI/SA	R	6.30E-02	2.30E-01		97%	
Calc	S1	FILTER	H9GD81AA	TH-232	7.66E-02	(7.19E-02)	U4	PCI/SA	R	8.90E-02	2.82E-01		97%	
Calc	S1	FILTER	H9GEC1AA	TH-228	-7.00E-02	(7.04E-02)	U4	PCI/SA	R	2.30E-01	8.40E-01		30%	
Calc	S1	FILTER	H9GEC1AA	TH-230	1.63E+00	(5.04E-01)		PCI/SA	R		3.68E-01		30%	
Calc	S1	FILTER	H9GEC1AA	TH-232	1.36E-01	(1.37E-01)	U4	PCI/SA	R		3.68E-01		30%	
Calc	S1	FILTER	H9GED1AA	TH-228	7.07E-02	(7.10E-02)	U4	PCI/SA	R	7.76E-02	2.83E-01		75%	
Calc	S1	FILTER	H9GED1AA	TH-230	2.29E-02	(5.11E-02)	U4	PCI/SA	R	7.52E-02	2.74E-01		75%	
Calc	S1	FILTER	H9GED1AA	TH-232	-4.57E-02	(3.26E-02)	U4	PCI/SA	R	1.06E-01	3.36E-01		75%	
Calc	S1	FILTER	H9GEF1AA	TH-228	1.29E-01	(7.53E-02)		PCI/SA	R		1.16E-01		79%	
Calc	S1	FILTER	H9GEF1AA	TH-230	2.92E-01	(1.13E-01)		PCI/SA	R		1.13E-01		79%	
Calc	S1	FILTER	H9GEF1AA	TH-232	-2.08E-02	(2.09E-02)	U4	PCI/SA	R	6.85E-02	2.50E-01		79%	
Calc	S1	FILTER	H9GEK1AA	TH-228	1.54E-01	(1.10E-01)	U4	PCI/SA	R	1.20E-01	3.78E-01		86%	
Calc	S1	FILTER	H9GEK1AA	TH-230	1.25E-01	(9.05E-02)	U4	PCI/SA	R	8.19E-02	2.99E-01		86%	
Calc	S1	FILTER	H9GEK1AA	TH-232	2.49E-02	(5.57E-02)	U4	PCI/SA	R	8.19E-02	2.99E-01		86%	
Calc	S1	FILTER	H9GEM1AA	TH-228	8.99E-06	(9.34E-02)	U4	PCI/SA	R	1.77E-01	5.01E-01		85%	
Calc	S1	FILTER	H9GEM1AA	TH-230	1.57E-01	(9.17E-02)		PCI/SA	R		1.42E-01		85%	
Calc	S1	FILTER	H9GEM1AA	TH-232	0.00E+00	(6.40E-02)	U4	PCI/SA	R		1.42E-01		85%	
Calc	S1	FILTER	H9GEQ1AA	TH-228	-7.80E-02	(6.20E-02)	U4	PCI/SA	R	1.57E-01	4.20E-01		102%	
Calc	S1	FILTER	H9GEQ1AA	TH-230	2.45E-01	(1.04E-01)		PCI/SA	R	6.21E-02	2.27E-01		102%	
Calc	S1	FILTER	H9GEQ1AA	TH-232	0.00E+00	(4.62E-02)	U4	PCI/SA	R		1.02E-01		102%	
Calc	S1	FILTER	H9GER1AA	TH-228	3.71E-02	(8.71E-02)	U4	PCI/SA	R	1.50E-01	4.00E-01		102%	

() - (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	**H9GER1AA**	TH-230	**5.21E-01**	**(1.48E-01)**		PCI/SA	R	5.91E-02	2.16E-01		102%	
Calc	S1	FILTER	**H9GER1AA**	TH-232	**-3.59E-02**	**(2.56E-02)**	**U4**	PCI/SA	R	8.36E-02	2.65E-01		102%	
Calc	S1	FILTER	**H9GE01AA**	TH-228	**1.10E-01**	**(8.01E-02)**	**U4**	PCI/SA	R	7.25E-02	2.64E-01		108%	
Calc	S1	FILTER	**H9GE01AA**	TH-230	**6.40E-01**	**(1.75E-01)**		PCI/SA	R		1.16E-01		108%	
Calc	S1	FILTER	**H9GE01AA**	TH-232	**0.00E+00**	**(5.23E-02)**	**U4**	PCI/SA	R		1.16E-01		108%	
Calc	S1	FILTER	**H9GE51AA**	TH-228	**1.82E-01**	**(9.24E-02)**		PCI/SA	R		1.23E-01		104%	
Calc	S1	FILTER	**H9GE51AA**	TH-230	**1.32E-01**	**(7.72E-02)**		PCI/SA	R		1.19E-01		104%	
Calc	S1	FILTER	**H9GE51AA**	TH-232	**4.40E-02**	**(4.42E-02)**	**U4**	PCI/SA	R		1.19E-01		104%	
Calc	S1	FILTER	**H9HTN1AA**	TH-228	**4.76E-03**	**(4.77E-03)**	**U4**	PCI/SA	R	5.22E-03	1.90E-02	**B**	104%	
Calc	S1	FILTER	**H9HTN1AA**	TH-230	**2.15E-02**	**(8.33E-03)**		PCI/SA	R		8.32E-03	**B**	104%	
Calc	S1	FILTER	**H9HTN1AA**	TH-232	**-1.54E-03**	**(1.54E-03)**	**U4**	PCI/SA	R	5.05E-03	1.84E-02	**B**	104%	
Calc	S1	FILTER	**H9HTN1AC**	TH-230	**1.92E+00**	**(1.83E-01)**		PCI/SA	R	5.16E-03	1.88E-02	**S**	99%	105%

P Henderson
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:66
RADCALC v4.8.18
STL Richland

Batch Nbr: 6200109

Alpha Spec, ThIso by ALP , Calculated Results

7/31/2006 6:52:38 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	**H9GDP1AA**	**PCI/SA**		07/03/06 09:40	07/28/06 20:02			1	1.00 SA	
536403,000516					,J6G180224-1 v4.8.18		FILTER					THTF0756 Alq		0.082018 SA	

Sq	Cnt Date	Parameter	Sample 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	07/28/06 15:53	TH-228	3	6	ALP171	ED	N	N	2.9087E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0255E+00	
			499.4666666	998.95			Y		(8.726E-03)			6%			(0.000E+00)	12.192422		
1	07/28/06 15:53	TH-229	589	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)	12.192422		
2	07/28/06 15:53	TH-230	5	1	ALP171	ED	N	N	2.9087E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.726E-03)			6%			(0.000E+00)	12.192422		
3	07/28/06 15:53	TH-232	4	0	ALP171	ED	N	N	2.9087E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.726E-03)			6%			(0.000E+00)	12.192422		

Sq	Calc Date	Parameter	Avg	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	TH-228	R	**1.9522E-06**	**U4**	1.00212E-07	3.4661E-07	3.4661E-07	1.00 SA	100%		0.419831		
				(0.082738)		(4.2471E-03)	(0.01469)	(0.01469)	(0.028284)			0.157159		
	07/31/06	TH-229	R	**22.209758**		1.17625E+00	4.043964	4.043964	1.00 SA	100%				
				(1.707213)		(4.8621E-02)	(0.206545)	(0.206545)	(0.028284)					
	07/31/06	TH-230	R	**0.170118**		9.00963E-03	0.030975	0.030975	1.00 SA	100%		0.226748		
				(0.087929)		(4.5875E-03)	(0.015911)	(0.015911)	(0.028284)			0.062187		
	07/31/06	TH-232	R	**0.151215**		8.00854E-03	0.027533	0.027533	1.00 SA	100%		0.102448		
				(0.076793)		(4.0043E-03)	(0.013893)	(0.013893)	(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	**H9GDW1AA**	**PCI/SA**		07/03/06 09:55	07/28/06 20:02			1	1.00 SA	
536403,000517					,J6G180224-2 v4.8.18		FILTER					THTF0757 Alq		0.083368 SA	

Sq	Cnt Date	Parameter	Sample 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	07/28/06 15:53	TH-228	7	6	ALP172	ED	N	N	2.9949E-01		N	98%	N		1.0000E+00	4.5045E-01	1.0255E+00	
			499.4666666	998.95			Y		(8.985E-03)			6%			(0.000E+00)	11.995034		
1	07/28/06 15:53	TH-229	593	6	ALP172	ED	Y	N	2.9949E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.985E-03)						(0.000E+00)	11.995034		
2	07/28/06 15:53	TH-230	12	1	ALP172	ED	N	N	2.9949E-01		N	98%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.985E-03)			6%			(0.000E+00)	11.995034		
3	07/28/06 15:53	TH-232	2	2	ALP172	ED	N	N	2.9949E-01		N	98%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.985E-03)			6%			(0.000E+00)	11.995034		

() - (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: 6200109 — Alpha Spec, ThIso by ALP , Calculated Results — 7/31/2006 6:52:38 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	TH-228	R	**0.15259**	U4	8.00864E-03	0.027538	0.027538	1.00 SA	98%		0.410614		
				(0.11204)		(5.8372E-03)	(0.020158)	(0.020158)	(0.028284)			0.153709		
	07/31/06	TH-229	R	**21.311305**		1.18126E+00	3.944228	3.944228	1.00 SA	98%				
				(1.63804)		(4.8817E-02)	(0.20142)	(0.20142)	(0.028284)					
	07/31/06	TH-230	R	**0.425204**		2.30246E-02	0.078695	0.078695	1.00 SA	98%		0.221772		
				(0.134813)		(7.0075E-03)	(0.024538)	(0.024538)	(0.028284)			0.060822		
	07/31/06	TH-232	R	**0.036975**	U4	2.00217E-03	0.006843	0.006843	1.00 SA	98%		0.272129		
				(0.058553)		(3.1656E-03)	(0.01083)	(0.01083)	(0.028284)			0.086015		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GD11AA**	**PCI/SA**		07/03/06 10:15	07/28/06 20:02			1	1.00 SA	
536403,000518					,J6G180224-3 v4.8.18		FILTER					THTF0758 Alq		0.082822 SA	

Sq	Cnt Date	Parameter	Sample 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	07/28/06 15:53	TH-228	2	1	ALP173	ED	N	N	2.5374E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0255E+00	
			499.4666666	998.95			Y		(7.612E-03)			6%			(0.000E+00)	12.074148		
1	07/28/06 15:53	TH-229	506	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)	12.074148		
2	07/28/06 15:53	TH-230	6	0	ALP173	ED	N	N	2.5374E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.612E-03)			6%			(0.000E+00)	12.074148		
3	07/28/06 15:53	TH-232	1	0	ALP173	ED	N	N	2.5374E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.612E-03)			6%			(0.000E+00)	12.074148		

Sq	Calc Date	Parameter	Avg	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	TH-228	R	**0.067221**	U4	3.00322E-03	0.012052	0.012052	1.00 SA	99%		0.268793		
				(0.067494)		(3.0032E-03)	(0.012081)	(0.012081)	(0.028284)			0.073718		
	07/31/06	TH-229	R	**21.671771**		1.01108E+00	3.98466	3.98466	1.00 SA	99%				
				(1.70452)		(4.5059E-02)	(0.214065)	(0.214065)	(0.028284)					
	07/31/06	TH-230	R	**0.260618**		1.20128E-02	0.047918	0.047918	1.00 SA	99%		0.117713		
				(0.108975)		(4.9042E-03)	(0.019847)	(0.019847)	(0.028284)					
	07/31/06	TH-232	R	**0.043436**	U4	2.00214E-03	0.007986	0.007986	1.00 SA	99%		0.117713		
				(0.043614)		(2.0021E-03)	(0.008006)	(0.008006)	(0.028284)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
4	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H9GD41AA**	**PCI/SA**		07/03/06 10:35	07/28/06 20:02			1	1.00 SA	
536403,000519					,J6G180224-4 v4.8.18		FILTER					THTF0759 Alq		0.083858 SA	

Sq	Cnt Date	Parameter	Sample 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	07/28/06 15:53	TH-228	4	0	ALP174	ED	N	N	2.4814E-01		N	102%	N		1.0000E+00	4.5045E-01	1.0255E+00	
			499.4666666	998.95			Y		(7.444E-03)			6%			(0.000E+00)	11.924961		

() - (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: 6200109 Alpha Spec, ThIso by ALP , Calculated Results 7/31/2006 6:52:38 AM

1	07/28/06 15:53	TH-229	509	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)	11.924961	
2	07/28/06 15:53	TH-230	6	0	ALP174	ED	N	N	2.4814E-01	N	102%	N	1.0000E+00	4.5045E-01	1.0000E+00
			499.4666666	998.95			Y		(7.444E-03)		6%		(0.000E+00)	11.924961	
3	07/28/06 15:53	TH-232	1	0	ALP174	ED	N	N	2.4814E-01	N	102%	N	1.0000E+00	4.5045E-01	1.0000E+00
			499.4666666	998.95			Y		(7.444E-03)		6%		(0.000E+00)	11.924961	

Sq	Calc Date	Parameter	Avg	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	TH-228	R	**0.178859**		8.00854E-03	0.032469	0.032469	1.00 SA	102%		0.121177		
				(0.090879)		(4.0043E-03)	(0.016392)	(0.016392)	(0.028284)					
	07/31/06	TH-229	R	**21.995718**		1.01608E+00	4.094818	4.094818	1.00 SA	102%				
				(1.729034)		(4.5204E-02)	(0.21972)	(0.21972)	(0.028284)					
	07/31/06	TH-230	R	**0.260048**		1.20128E-02	0.048412	0.048412	1.00 SA	102%		0.117455		
				(0.108734)		(4.9042E-03)	(0.020051)	(0.020051)	(0.028284)					
	07/31/06	TH-232	R	**0.043341**	**U4**	2.00214E-03	0.008069	0.008069	1.00 SA	102%		0.117455		
				(0.043518)		(2.0021E-03)	(0.008088)	(0.008088)	(0.028284)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
5	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H9GD61AA**	**PCI/SA**		07/03/06 10:50	07/28/06 20:02			1	1.00 SA	
536403,000520					,J6G180224-5 v4.8.18		FILTER					THTF0762 Alq		0.083041 SA	

Sq	Cnt Date	Parameter	Sample 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	07/28/06 15:53	TH-228	4	1	ALP175	ED	N	N	2.9360E-01		N	110%	N		1.0000E+00	4.5045E-01	1.0255E+00	
			499.4666666	998.95			Y		(8.808E-03)			7%			(0.000E+00)	12.042219		
1	07/28/06 15:53	TH-229	655	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)	12.042219		
2	07/28/06 15:53	TH-230	8	0	ALP175	ED	N	N	2.9360E-01		N	110%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.808E-03)			7%			(0.000E+00)	12.042219		
3	07/28/06 15:53	TH-232	0	1	ALP175	ED	N	N	2.9360E-01		N	110%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.808E-03)			7%			(0.000E+00)	12.042219		

Sq	Calc Date	Parameter	Avg	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	TH-228	R	**0.133569**		7.00749E-03	0.024012	0.024012	1.00 SA	110%		0.228899		
				(0.079545)		(4.1275E-03)	(0.014233)	(0.014233)	(0.028284)			0.062777		
	07/31/06	TH-229	R	**24.191847**		1.30940E+00	4.459805	4.459805	1.00 SA	110%				
				(1.831653)		(5.1260E-02)	(0.219962)	(0.219962)	(0.028284)					
	07/31/06	TH-230	R	**0.295925**		1.60171E-02	0.054554	0.054554	1.00 SA	110%		0.100245		
				(0.107808)		(5.6629E-03)	(0.019626)	(0.019626)	(0.028284)					
	07/31/06	TH-232	R	**-0.018495**	**U4**	-1.00105E-03	-0.00341	-0.00341	1.00 SA	110%		0.22187		
				(0.018566)		(1.0011E-03)	(0.003417)	(0.003417)	(0.028284)			0.060849		

() - (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: 6200109 — Alpha Spec, ThIso by ALP , Calculated Results — 7/31/2006 6:52:38 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	**H9GD81AA**	**PCI/SA**		07/03/06 11:05	07/28/06 20:02			1	1.00 SA	
536403,000521					,J6G180224-6 v4.8.18		FILTER					THTF0763 Alq		0.083493 SA	

Sq	Cnt Date	Parameter	Sample 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	07/28/06 15:53	TH-228	3	3	ALP176	ED	N	N	2.9146E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0255E+00	
			499.4666666	998.95			Y		(8.744E-03)			6%			(0.000E+00)	11.977029		
1	07/28/06 15:53	TH-229	571	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)	11.977029		
2	07/28/06 15:53	TH-230	8	1	ALP176	ED	N	N	2.9146E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.744E-03)			6%			(0.000E+00)	11.977029		
3	07/28/06 15:53	TH-232	3	2	ALP176	ED	N	N	2.9146E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.744E-03)			6%			(0.000E+00)	11.977029		

Sq	Calc Date	Parameter	Avg	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	TH-228	R	**0.059232**	**U4**	3.00325E-03	0.010706	0.010706	1.00 SA	97%		0.33189		
				(0.076648)		(3.8771E-03)	(0.01384)	(0.01384)	(0.028284)			0.112507		
	07/31/06	TH-229	R	**21.124418**		1.14122E+00	3.915517	3.915517	1.00 SA	97%				
				(1.63069)		(4.7863E-02)	(0.201906)	(0.201906)	(0.028284)					
	07/31/06	TH-230	R	**0.287063**		1.50160E-02	0.053208	0.053208	1.00 SA	97%		0.229574		
				(0.112876)		(5.7507E-03)	(0.020698)	(0.020698)	(0.028284)			0.062962		
	07/31/06	TH-232	R	**0.076551**	**U4**	4.00430E-03	0.014189	0.014189	1.00 SA	97%		0.281702		
				(0.07193)		(3.7456E-03)	(0.013308)	(0.013308)	(0.028284)			0.089041		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GEC1AA**	**PCI/SA**		07/03/06 10:00	07/28/06 20:02			1	1.00 SA	
536403,000522					,J6G180224-7 v4.8.18		FILTER					THTF0760 Alq		0.084012 SA	

Sq	Cnt Date	Parameter	Sample 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	07/28/06 15:53	TH-228	0	1	ALP177	ED	N	N	2.6130E-01		N	30%	N		1.0000E+00	4.5045E-01	1.0255E+00	
			499.4666666	998.95			Y		(7.839E-03)			3%			(0.000E+00)	11.903058		
1	07/28/06 15:53	TH-229	160	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)	11.903058		
2	07/28/06 15:53	TH-230	12	0	ALP177	ED	N	N	2.6130E-01		N	30%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.839E-03)			3%			(0.000E+00)	11.903058		
3	07/28/06 15:53	TH-232	1	0	ALP177	ED	N	N	2.6130E-01		N	30%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.839E-03)			3%			(0.000E+00)	11.903058		

() - (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: 6200109 — Alpha Spec, Thlso by ALP , Calculated Results — 7/31/2006 6:52:38 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	TH-228	R	**-0.070015**	U4	-1.00105E-03	-0.012733	-0.012733	1.00 SA	30%		0.839919		
				(0.070449)		(1.0011E-03)	(0.012791)	(0.012791)	(0.028284)			0.230352		
	07/31/06	TH-229	R	**6.573204**		3.20342E-01	1.225948	1.225948	1.00 SA	30%				
				(0.671947)		(2.5325E-02)	(0.103663)	(0.103663)	(0.028284)					
	07/31/06	TH-230	R	**1.628735**		2.40256E-02	0.30377	0.30377	1.00 SA	30%		0.367823		
				(0.504046)		(6.9356E-03)	(0.092374)	(0.092374)	(0.028284)					
	07/31/06	TH-232	R	**0.135728**	U4	2.00214E-03	0.025314	0.025314	1.00 SA	30%		0.367823		
				(0.136569)		(2.0021E-03)	(0.02543)	(0.02543)	(0.028284)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
8	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H9GED1AA**	**PCI/SA**		07/03/06 09:45	07/28/06 20:02			1	1.00 SA	
536403,000523					,J6G180224-8 v4.8.18		FILTER					THTF0761 Alq		0.08347 SA	

Sq	Cnt Date	Parameter	Sample 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	07/28/06 15:53	TH-228	2	1	ALP178	ED	N	N	3.1338E-01		N	75%	N		1.0000E+00	4.5045E-01	1.0255E+00	
			499.4666666	998.95			Y		(9.401E-03)			5%			(0.000E+00)	11.980413		
1	07/28/06 15:53	TH-229	478 /	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)	11.980413		
2	07/28/06 15:53	TH-230	1	1	ALP178	ED	N	N	3.1338E-01		N	75%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(9.401E-03)			5%			(0.000E+00)	11.980413		
3	07/28/06 15:53	TH-232	0	2	ALP178	ED	N	N	3.1338E-01		N	75%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(9.401E-03)			5%			(0.000E+00)	11.980413		

Sq	Calc Date	Parameter	Avg	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	TH-228	R	**0.070729**	U4	3.00322E-03	0.01278	0.01278	1.00 SA	75%		0.282821		
				(0.071021)		(3.0032E-03)	(0.012812)	(0.012812)	(0.028284)			0.077565		
	07/31/06	TH-229	R	**16.463117**		9.56020E-01	3.050659	3.050659	1.00 SA	75%				
				(1.306463)		(4.3785E-02)	(0.167023)	(0.167023)	(0.028284)					
	07/31/06	TH-230	R	**0.022852**	U4	1.00108E-03	0.004234	0.004234	1.00 SA	75%		0.274124		
				(0.051139)		(2.2384E-03)	(0.009473)	(0.009473)	(0.028284)			0.07518		
	07/31/06	TH-232	R	**-0.045702**	U4	-2.00210E-03	-0.008469	-0.008469	1.00 SA	75%		0.336368		
				(0.032583)		(1.4157E-03)	(0.006018)	(0.006018)	(0.028284)			0.10632		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GEF1AA**	**PCI/SA**		07/03/06 09:30	07/28/06 20:03			1	1.00 SA	
536403,P-0691					,J6G180224-9 v4.8.18		FILTER					THTF0764 Alq		0.08368 SA	

Sq	Cnt Date	Parameter	Sample 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	07/28/06 15:53	TH-228	3	0	ALP114	ED	N	N	3.2873E-01		N	79%	N		1.0000E+00	4.5045E-01	1.0255E+00	
			500.05	1000.0166			Y		(9.862E-03)			5%			(0.000E+00)	11.950343		

() - (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: 6200109

Alpha Spec, ThIso by ALP , Calculated Results

7/31/2006 6:52:39 AM

1	07/28/06 15:53	TH-229	522	0	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)	11.950343	
2	07/28/06 15:53	TH-230	7	0	ALP114	ED	N	N	3.2873E-01	N	79%	N	1.0000E+00	4.5045E-01	1.0000E+00
			500.05	1000.0166			Y		(9.862E-03)		5%		(0.000E+00)	11.950343	
3	07/28/06 15:53	TH-232	0	1	ALP114	ED	N	N	3.2873E-01	N	79%	N	1.0000E+00	4.5045E-01	1.0000E+00
			500.05	1000.0166			Y		(9.862E-03)		5%		(0.000E+00)	11.950343	

Sq	Calc Date	Parameter	Avg	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	TH-228	R	**0.128938**		5.99940E-03	0.023356	0.023356	1.00 SA	79%		0.116474		
				(0.075342)		(3.4638E-03)	(0.013581)	(0.013581)	(0.028284)					
	07/31/06	TH-229	R	**17.093982**		1.04390E+00	3.17553	3.17553	1.00 SA	79%				
				(1.336801)		(4.5690E-02)	(0.168504)	(0.168504)	(0.028284)					
	07/31/06	TH-230	R	**0.2916**		1.39986E-02	0.05417	0.05417	1.00 SA	79%		0.112891		
				(0.113298)		(5.2910E-03)	(0.020816)	(0.020816)	(0.028284)					
	07/31/06	TH-232	R	**-0.02083**	U4	-9.99983E-04	-0.00387	-0.00387	1.00 SA	79%		0.249867		
				(0.020915)		(9.9998E-04)	(0.003879)	(0.003879)	(0.028284)			0.068529		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GEK1AA**	**PCI/SA**		07/03/06 09:50	07/28/06 20:03			1	1.00 SA	
536403,P-0692					,J6G180224-10 v4.8.18		FILTER					THTF0765 Alq		0.083995 SA	

Sq	Cnt Date	Parameter	Sample 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	07/28/06 15:53	TH-228	4	2	ALP119	ED	N	N	2.5157E-01		N	86%	N		1.0000E+00	4.5045E-01	1.0255E+00	
			500	1000.2666			Y		(7.547E-03)			6%			(0.000E+00)	11.905473		
1	07/28/06 15:53	TH-229	435	2	ALP119	ED	Y	N	2.5157E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500	1000.2666			Y		(7.547E-03)						(0.000E+00)	11.905473		
2	07/28/06 15:53	TH-230	3	1	ALP119	ED	N	N	2.5157E-01		N	86%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500	1000.2666			Y		(7.547E-03)			6%			(0.000E+00)	11.905473		
3	07/28/06 15:53	TH-232	1	1	ALP119	ED	N	N	2.5157E-01		N	86%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500	1000.2666			Y		(7.547E-03)			6%			(0.000E+00)	11.905473		

Sq	Calc Date	Parameter	Avg	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	TH-228	R	**0.154183**	U4	6.00053E-03	0.028035	0.028035	1.00 SA	86%		0.378198		
				(0.109934)		(4.2425E-03)	(0.019924)	(0.019924)	(0.028284)			0.119537		
	07/31/06	TH-229	R	**18.50335**		8.68001E-01	3.450302	3.450302	1.00 SA	86%				
				(1.493176)		(4.1737E-02)	(0.195547)	(0.195547)	(0.028284)					
	07/31/06	TH-230	R	**0.124531**	U4	5.00027E-03	0.023221	0.023221	1.00 SA	86%		0.298739		
				(0.090525)		(3.6055E-03)	(0.016827)	(0.016827)	(0.028284)			0.081926		
	07/31/06	TH-232	R	**0.024912**	U4	1.00027E-03	0.004645	0.004645	1.00 SA	86%		0.298739		
				(0.055733)		(2.2359E-03)	(0.010389)	(0.010389)	(0.028284)			0.081926		

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

RecCnt:11

RADCALC v4.8.18

STL Richland

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

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

Batch Nbr: 6200109 — Alpha Spec, Thlso by ALP , Calculated Results — 7/31/2006 6:52:39 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	**H9GEM1AA**	**PCI/SA**		07/03/06 10:10	07/28/06 20:03			1	1.00 SA	
536403,P-0693					,J6G180224-11 v4.8.18		FILTER					THTF0766 Alq		0.08442 SA	

Sq	Cnt Date	Parameter	Sample 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	07/28/06 15:53	TH-228	2	4	ALP120	ED	N	N	2.4073E-01		N	85%	N		1.0000E+00	4.5045E-01	1.0255E+00	
			500.0333333	1000.15			Y		(7.222E-03)			6%			(0.000E+00)	11.845477		
1	07/28/06 15:53	TH-229	414	1	ALP120	ED	Y	N	2.4073E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0333333	1000.15			Y		(7.222E-03)						(0.000E+00)	11.845477		
2	07/28/06 15:53	TH-230	3	0	ALP120	ED	N	N	2.4073E-01		N	85%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0333333	1000.15			Y		(7.222E-03)			6%			(0.000E+00)	11.845477		
3	07/28/06 15:53	TH-232	0	0	ALP120	ED	N	N	2.4073E-01		N	85%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0333333	1000.15			Y		(7.222E-03)			6%			(0.000E+00)	11.845477		

Sq	Calc Date	Parameter	Avg	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	TH-228	R	**8.9856E-06**	U4	3.33261E-07	1.6421E-06	1.6421E-06	1.00 SA	85%		0.500709		
				(0.093393)		(3.4638E-03)	(0.017068)	(0.017068)	(0.028284)			0.177396		
	07/31/06	TH-229	R	**18.329147**		8.26945E-01	3.435129	3.435129	1.00 SA	85%				
				(1.491633)		(4.0704E-02)	(0.198013)	(0.198013)	(0.028284)					
	07/31/06	TH-230	R	**0.156794**		5.99960E-03	0.029385	0.029385	1.00 SA	85%		0.141637		
				(0.091687)		(3.4639E-03)	(0.0171)	(0.0171)	(0.028284)					
	07/31/06	TH-232	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	85%		0.141637		
				(0.064011)		(0.0000E+00)	(0.011996)	(0.011996)	(0.028284)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
12	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H9GEQ1AA**	**PCI/SA**		07/03/06 10:30	07/29/06 13:47			1	1.00 SA	
536403,P-0694					,J6G180224-12 v4.8.18		FILTER					THTF0767 Alq		0.082107 SA	

Sq	Cnt Date	Parameter	Sample 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	1	6	ALP171	ED	N	N	2.9087E-01		N	102%	N		1.0000E+00	4.5045E-01	1.0263E+00	
			499.4666666	998.95			Y		(8.726E-03)			6%			(0.000E+00)	12.179223		
1	07/29/06 09:38	TH-229	597	4	ALP171	ED	Y	N	2.9087E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.726E-03)						(0.000E+00)	12.179223		
2	07/29/06 09:38	TH-230	7	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)	12.179223		
3	07/29/06 09:38	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)	12.179223		

() - (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: 6200109 — Alpha Spec, ThIso by ALP , Calculated Results — 7/31/2006 6:52:39 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	TH-228	R	**-0.077975**	U4	-4.00417E-03	-0.013849	-0.013849	1.00 SA	102%		0.41967		
				(0.062033)		(3.1656E-03)	(0.010989)	(0.010989)	(0.028284)			0.157099		
	07/31/06	TH-229	R	**22.468936**		1.19127E+00	4.095589	4.095589	1.00 SA	102%				
				(1.724283)		(4.8960E-02)	(0.208399)	(0.208399)	(0.028284)					
	07/31/06	TH-230	R	**0.245459**		1.30139E-02	0.044742	0.044742	1.00 SA	102%		0.226503		
				(0.103988)		(5.3909E-03)	(0.01878)	(0.01878)	(0.028284)			0.062119		
	07/31/06	TH-232	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	102%		0.102338		
				(0.04625)		(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
13	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H9GER1AA**	**PCI/SA**		07/03/06 10:45	07/29/06 13:47			1	1.00 SA	
536403,P-0695					,J6G180224-13 v4.8.18		FILTER					THTF0768 Alq		0.083764 SA	

Sq	Cnt Date	Parameter	Sample 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	4	6	ALP172	ED	N	N	2.9949E-01		N	102%	N		1.0000E+00	4.5045E-01	1.0262E+00	
			499.4666666	998.95			Y		(8.985E-03)			6%			(0.000E+00)	11.938306		
1	07/29/06 09:38	TH-229	622	7	ALP172	ED	Y	N	2.9949E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.985E-03)						(0.000E+00)	11.938306		
2	07/29/06 09:38	TH-230	15	1	ALP172	ED	N	N	2.9949E-01		N	102%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.985E-03)			6%			(0.000E+00)	11.938306		
3	07/29/06 09:38	TH-232	0	2	ALP172	ED	N	N	2.9949E-01		N	102%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.985E-03)			6%			(0.000E+00)	11.938306		

Sq	Calc Date	Parameter	Avg	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	TH-228	R	**0.037118**	U4	2.00224E-03	0.006726	0.006726	1.00 SA	102%		0.399519		
				(0.087107)		(4.6954E-03)	(0.015779)	(0.015779)	(0.028284)			0.149556		
	07/31/06	TH-229	R	**22.235094**		1.23832E+00	4.134754	4.134754	1.00 SA	102%				
				(1.697826)		(5.0003E-02)	(0.207997)	(0.207997)	(0.028284)					
	07/31/06	TH-230	R	**0.521276**		2.90310E-02	0.096934	0.096934	1.00 SA	102%		0.215629		
				(0.147763)		(7.8186E-03)	(0.026907)	(0.026907)	(0.028284)			0.059137		
	07/31/06	TH-232	R	**-0.035949**	U4	-2.00210E-03	-0.006685	-0.006685	1.00 SA	102%		0.264591		
				(0.025618)		(1.4157E-03)	(0.004748)	(0.004748)	(0.028284)			0.083633		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GE01AA**	**PCI/SA**		07/03/06 11:00	07/29/06 13:47			1	1.00 SA	
536403,P-0696					,J6G180224-14 v4.8.18		FILTER					THTF0769 Alq		0.083257 SA	

Sq	Cnt Date	Parameter	Sample 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	3	1	ALP173	ED	N	N	2.5374E-01		N	108%	N		1.0000E+00	4.5045E-01	1.0262E+00	
			499.4666666	998.95			Y		(7.612E-03)			7%			(0.000E+00)	12.010952		

() - (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: 6200109 — Alpha Spec, ThIso by ALP , Calculated Results — 7/31/2006 6:52:39 AM

1	07/29/06 09:38	TH-229	555	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)	12.010952	
2	07/29/06 09:38	TH-230	15	0	ALP173	ED	N	N	2.5374E-01	N	108%	N	1.0000E+00	4.5045E-01	1.0000E+00
			499.4666666	998.95			Y		(7.612E-03)		7%		(0.000E+00)	12.010952	
3	07/29/06 09:38	TH-232	0	0	ALP173	ED	N	N	2.5374E-01	N	108%	N	1.0000E+00	4.5045E-01	1.0000E+00
			499.4666666	998.95			Y		(7.612E-03)		7%		(0.000E+00)	12.010952	

Sq	Calc Date	Parameter	Avg	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	TH-228	R	**0.110186**	U4	5.00536E-03	0.019845	0.019845	1.00 SA	108%		0.264358		
				(0.080065)		(3.6094E-03)	(0.014375)	(0.014375)	(0.028284)			0.072502		
	07/31/06	TH-229	R	**23.650141**		1.10918E+00	4.371291	4.371291	1.00 SA	108%				
				(1.833449)		(4.7188E-02)	(0.227557)	(0.227557)	(0.028284)					
	07/31/06	TH-230	R	**0.640347**		3.00320E-02	0.118356	0.118356	1.00 SA	108%		0.115689		
				(0.174975)		(7.7542E-03)	(0.031618)	(0.031618)	(0.028284)					
	07/31/06	TH-232	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	108%		0.115689		
				(0.052284)		(0.0000E+00)	(0.009664)	(0.009664)	(0.028284)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
15	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H9GE51AA**	**PCI/SA**		07/03/06 09:35	07/29/06 13:47			1	1.00 SA	
536403,P-0697					,J6G180224-15 v4.8.18		FILTER					THTF0770 Alq		0.082517 SA	

Sq	Cnt Date	Parameter	Sample 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	4	0	ALP174	ED	N	N	2.4814E-01		N	104%	N		1.0000E+00	4.5045E-01	1.0263E+00	
			499.4666666	998.95			Y		(7.444E-03)			7%			(0.000E+00)	12.118688		
1	07/29/06 09:38	TH-229	522	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)	12.118688		
2	07/29/06 09:38	TH-230	3	0	ALP174	ED	N	N	2.4814E-01		N	104%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.444E-03)			7%			(0.000E+00)	12.118688		
3	07/29/06 09:38	TH-232	1	0	ALP174	ED	N	N	2.4814E-01		N	104%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.444E-03)			7%			(0.000E+00)	12.118688		

Sq	Calc Date	Parameter	Avg	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	TH-228	R	**0.181906**		8.00854E-03	0.032469	0.032469	1.00 SA	104%		0.123241		
				(0.092418)		(4.0043E-03)	(0.01639)	(0.01639)	(0.028284)					
	07/31/06	TH-229	R	**22.925641**		1.04211E+00	4.19971	4.19971	1.00 SA	104%				
				(1.794879)		(4.5776E-02)	(0.223397)	(0.223397)	(0.028284)					
	07/31/06	TH-230	R	**0.132136**		6.00641E-03	0.024206	0.024206	1.00 SA	104%		0.119363		
				(0.077212)		(3.4678E-03)	(0.014076)	(0.014076)	(0.028284)					
	07/31/06	TH-232	R	**0.044045**	U4	2.00214E-03	0.008069	0.008069	1.00 SA	104%		0.119363		
				(0.044224)		(2.0021E-03)	(0.008088)	(0.008088)	(0.028284)					

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

RecCnt:16 RADCALC v4.8.18 STL Richland

Batch Nbr: 6200109 — Alpha Spec, Thlso by ALP , Calculated Results — 7/31/2006 6:52:39 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	**H9HTN1AA**	**PCI/SA**	**B**	07/03/06 09:40	07/29/06 13:47			1	1.00 SA	
0,INTRA-LAB BLANK					,J6G190000-109		FILTER					THTF0771 Alq		1.00 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/29/06 09:38	TH-228	2	1	ALP175	ED	N	N	2.9360E-01		N	104%	N		1.0000E+00	4.5045E-01	1.0263E+00	
			499.4666666	998.95			Y		(8.808E-03)			6%			(0.000E+00)	1.00		
1	07/29/06 09:38	TH-229	616	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)	1.00		
2	07/29/06 09:38	TH-230	7	0	ALP175	ED	N	N	2.9360E-01		N	104%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.808E-03)			6%			(0.000E+00)	1.00		
3	07/29/06 09:38	TH-232	0	1	ALP175	ED	N	N	2.9360E-01		N	104%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.808E-03)			6%			(0.000E+00)	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	TH-228	R	**0.004757**	U4	3.00322E-03	0.010291	0.010291	1.00 SA	104%		0.019023		
				(0.004775)		(3.0032E-03)	(0.010314)	(0.010314)	(0.017321)			0.005217		
	07/31/06	TH-229	R	**1.889121**		1.23131E+00	4.193854	4.193854	1.00 SA	104%				
				(0.137919)		(4.9712E-02)	(0.210946)	(0.210946)	(0.017321)					
	07/31/06	TH-230	R	**0.021502**		1.40149E-02	0.047735	0.047735	1.00 SA	104%		0.008324		
				(0.008333)		(5.2972E-03)	(0.018325)	(0.018325)	(0.017321)					
	07/31/06	TH-232	R	**-0.001536**	U4	-1.00105E-03	-0.00341	-0.00341	1.00 SA	104%		0.018424		
				(0.001541)		(1.0011E-03)	(0.003417)	(0.003417)	(0.017321)			0.005053		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9HTN1AC**	**PCI/SA**	**S**	07/03/06 09:40	07/29/06 13:47		THSO0086	1	1.00 SA	
0,INTRA-LAB CHECK					,J6G190000-109		FILTER					THSO0086 Alq		1.00 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/29/06 09:38	TH-229	583	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)	1.00		
2	07/29/06 09:38	TH-230	613	1	ALP176	ED	N	N	2.9146E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.744E-03)			6%			(0.000E+00)	1.00		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/31/06	TH-229	R	**1.800876**		1.16524E+00	3.997949	3.997949	1.00 SA	99%				
				(0.132614)		(4.8363E-02)	(0.204742)	(0.204742)	(0.017321)					
	07/31/06	TH-230	R	**1.923103**		1.22631E+00	4.269292	4.269292	1.00 SA	99%	105%	0.018832		
				(0.18291)		(4.9581E-02)	(0.337416)	(0.337416)	(0.017321)			0.005165		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
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Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:17 RADCALC v4.8.18
STL Richland

7/29
0013

SEVERN TRENT **STL**

THORIUM ISOTOPIC COUNTING REQUEST

C.R. Technician: OW
Date Counted: 7/25/06

C.R. Analyst: CS
Date Analyzed: 7/31/06

Counting Time
Sample: 500 Minutes

Background: See Alpha Analysis Report
BRC 7/3/2006

SOP's
Operating: RICHRD008
Review: RICHRD0016
6200109

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)		
H9GDP1AA		10		0	See Alpha Analysis Report for ROI Information			171	
H9GDW1AA		10		0	See Alpha Analysis Report for ROI Information			172	
H9GD11AA		10		0	See Alpha Analysis Report for ROI Information			173	
H9GD41AA		10		0	See Alpha Analysis Report for ROI Information			174	
H9GD61AA		10		0	See Alpha Analysis Report for ROI Information			175	
H9GD81AA		10		0	See Alpha Analysis Report for ROI Information			176	
H9GEC1AA		10		0	See Alpha Analysis Report for ROI Information			177	
H9GED1AA		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: H9GDP1AA

Detector: ALP171 1
Report Date: 31-Jul-06 06:19 AM
Acquire Date: 28-JUL-2006 15:53:02.19
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	589	3	1.176	4845.3	325.7	224	280
TH-230	5	1	0.009	4687.7	116.3	190	210
TH-232	4	0	0.008	4013.0	116.2	74	94

End of Alpha Region Report
(Produced by ANAL Report)

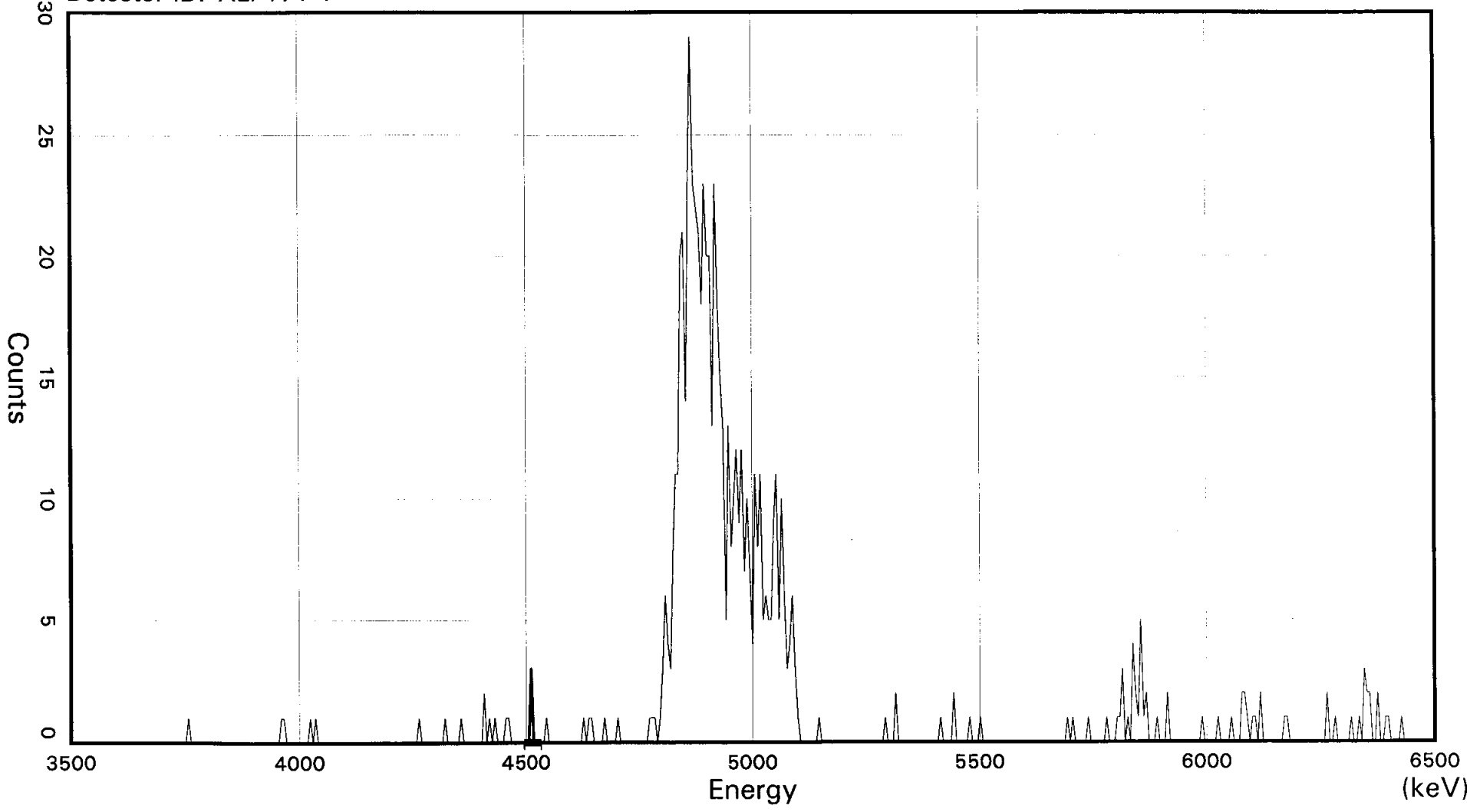
STL Richland WA.

TH BRC

Sample ID: H9GDP1AA

Detector ID: ALP171 1

Batch ID: 6200109



Acquisition Start: 28-JUL-2006 15:53:02.19

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: H9GDP1AA

TITLE : TH BRC

DETECTOR : ALP171 1
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9GDP1AA_280761553A.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 29-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 28-JUL-2006 15:53:02 CALIB DATE : 07-JUL-2006 02:08:58

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

OFFSET : 3495.60 keV CONSTANT FWHM : 8.83333 Channels
SLOPE : 5.80529 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 2.245020E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H9GDP1AA
Detector: ALP171 1
Report Date: 29-Jul-06 12:13 AM
Acquire Date: 28-JUL-2006 15:53:02.19

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

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

0 50 0 100 0 150 0 200 13 250 0 300 0 350 0 400 0 450 0 500

VMS Peak Search Report V1.9 Generated 29-JUL-2006 00:13:34

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GDP1AA_280761553A.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 28-JUL-2006 15:53:02
Sample ID         : H9GDP1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP171 1             Detector geometry:
Elapsed live time: 0 08:19:28.00         Elapsed real time: 0 08:19:28.00   0.0%
Start energy      :  3513.01 keV         End energy       :  6473.79 keV
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4509.30	4	0	23.22	174.50	172	7	1.33E-04	50.0	

VMS Nuclide Identification Report V3.0 Generated 29-JUL-2006 00:13:38

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GDP1AA_280761553A.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 28-JUL-2006 15:53:02
Sample ID         : H9GDP1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP171 1             Detector geometry:
Elapsed live time: 0 08:19:28.00         Elapsed real time: 0 08:19:28.00   0.0%
Energy tolerance :    80.00 keV          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    70.00
```

Summary of Nuclide Activity

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

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

```
  Error Report  (Date: 29-Jul-06  12:13 AM)

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

System Status Message:

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

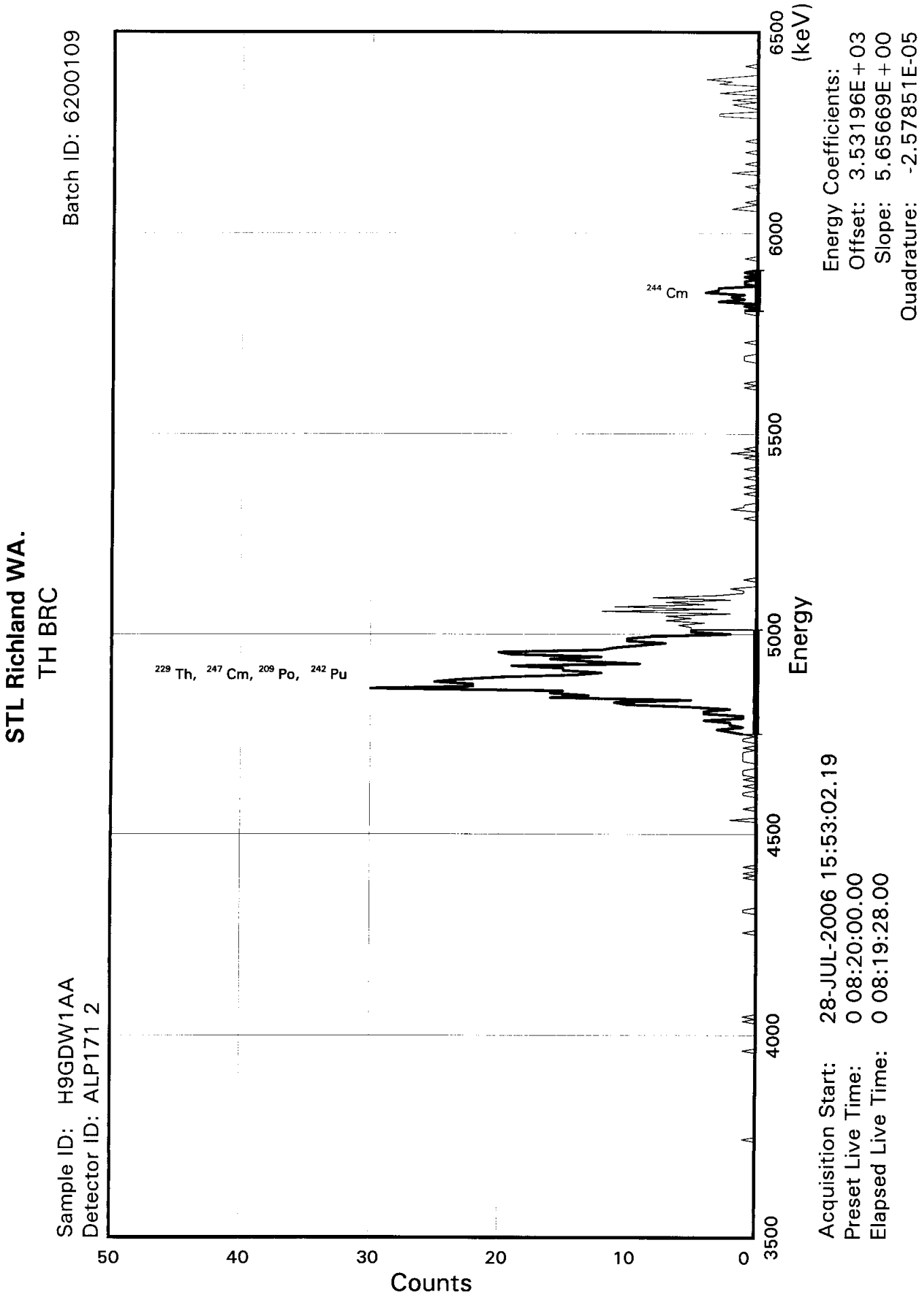
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H9GDW1AA

Detector: ALP171 2
Report Date: 31-Jul-06 06:19 AM
Acquire Date: 28-JUL-2006 15:53:02.19
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	7	6	0.008	5423.2	112.8	320	340
TH-229	593	6	1.181	4845.3	372.5	215	281
TH-230	12	1	0.023	4687.7	112.9	190	210
TH-232	2	2	0.002	4013.0	113.1	70	90

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6200109
Sample ID: H9GDW1AA
Detector ID: ALP171 2
229 Th, 247 Cm, 209 Po, 242 Pu
244 Cm
Counts
50
40
30
20
10
0
3500
4000
4500
5000
5500
6000
6500
Energy
(keV)
Acquisition Start: 28-JUL-2006 15:53:02.19
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: H9GDW1AA

TITLE : TH BRC

DETECTOR : ALP171 2
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9GDW1AA_280761553B.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 29-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 28-JUL-2006 15:53:02 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: H9GDW1AA

Detector: ALP171 2
Report Date: 29-Jul-06 12:13 AM
Acquire Date: 28-JUL-2006 15:53:02.19
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	5170.6	259.5	264	310	0.00	0.00	M
PO-209	526	4	0	1.049	4938.9	259.6	216	262	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5360.1	259.4	297	343	0.00	0.00	M
AC-227	5	3	9	0.006	6093.7	264.8	427	474	0.00	0.00	S
TH-227	5	3	9	0.006	6093.7	264.8	427	474	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5478.9	259.4	318	364	0.00	0.00	M
TH-229	526	4	0	1.049	4901.0	259.6	216	262	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4743.4	259.7	188	234	0.00	0.00	M I
TH-232	3	2	0	0.004	4068.7	260.0	69	115	0.00	0.00	S
U-232	-9999	-9999	0	-10.010	5375.9	259.4	300	346	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4830.3	259.7	203	249	0.00	0.00	M I
U-235	7	1	2	0.013	4453.5	259.8	137	183	0.00	0.00	S
PU-236	-9999	-9999	0	-10.010	5823.4	259.3	380	426	0.00	0.00	I
NP-237	-9999	-9999	0	-10.010	4843.7	259.7	206	252	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.010	5554.8	259.4	332	378	0.00	0.00	M
U-238	-9999	-9999	0	-10.010	4253.7	259.9	101	147	0.00	0.00	M
PU-239	-9999	-9999	0	-10.010	5212.3	259.5	271	317	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5541.3	265.0	329	376	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5262.5	259.5	280	326	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6168.4	259.1	441	487	0.00	0.00	M
PU-242	526	4	0	1.049	4956.2	259.6	216	262	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5331.0	259.5	292	338	0.00	0.00	M
CM-244	22	48	0	-0.004	5860.5	101.4	403	421	0.00	0.00	P
CM-246	-9999	-9999	0	-10.010	5442.2	259.4	312	358	0.00	0.00	M
CM-247	526	4	0	1.049	4926.1	259.6	216	262	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5134.3	259.5	257	303	0.00	0.00	M I

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GDW1AA
Detector: ALP171 2
Report Date: 29-Jul-06 12:13 AM
Acquire Date: 28-JUL-2006 15:53:02.19

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

VMS Peak Search Report V1.9 Generated 29-JUL-2006 00:13:41

Configuration : $DISK1:[ALP171.SAMPLE]H9GDW1AA_280761553B.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 3-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 15:53:02
Sample ID : H9GDW1AA 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	4901.02	526	0	118.79	242.29	216	46	1.76E-02	4.4	
2	0	5852.51	22	0	39.60	411.00	403	18	7.34E-04	21.3	

VMS Nuclide Identification Report V3.0 Generated 29-JUL-2006 00:13:44

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GDW1AA_280761553B.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 28-JUL-2006 15:53:02
Sample ID         : H9GDW1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP171 1             Detector geometry:
Elapsed live time: 0 08:19:28.00         Elapsed real time: 0 08:19:28.00   0.0%
Energy tolerance :    80.00 keV          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    70.00
```

Summary of Nuclide Activity

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

Nuclide Type : NP

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

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-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]H9GDW1AA_280761553B.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4901.02	216	262	526	503	1.00		
5852.50	403	421	22	23	-0.21		

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

End of Report

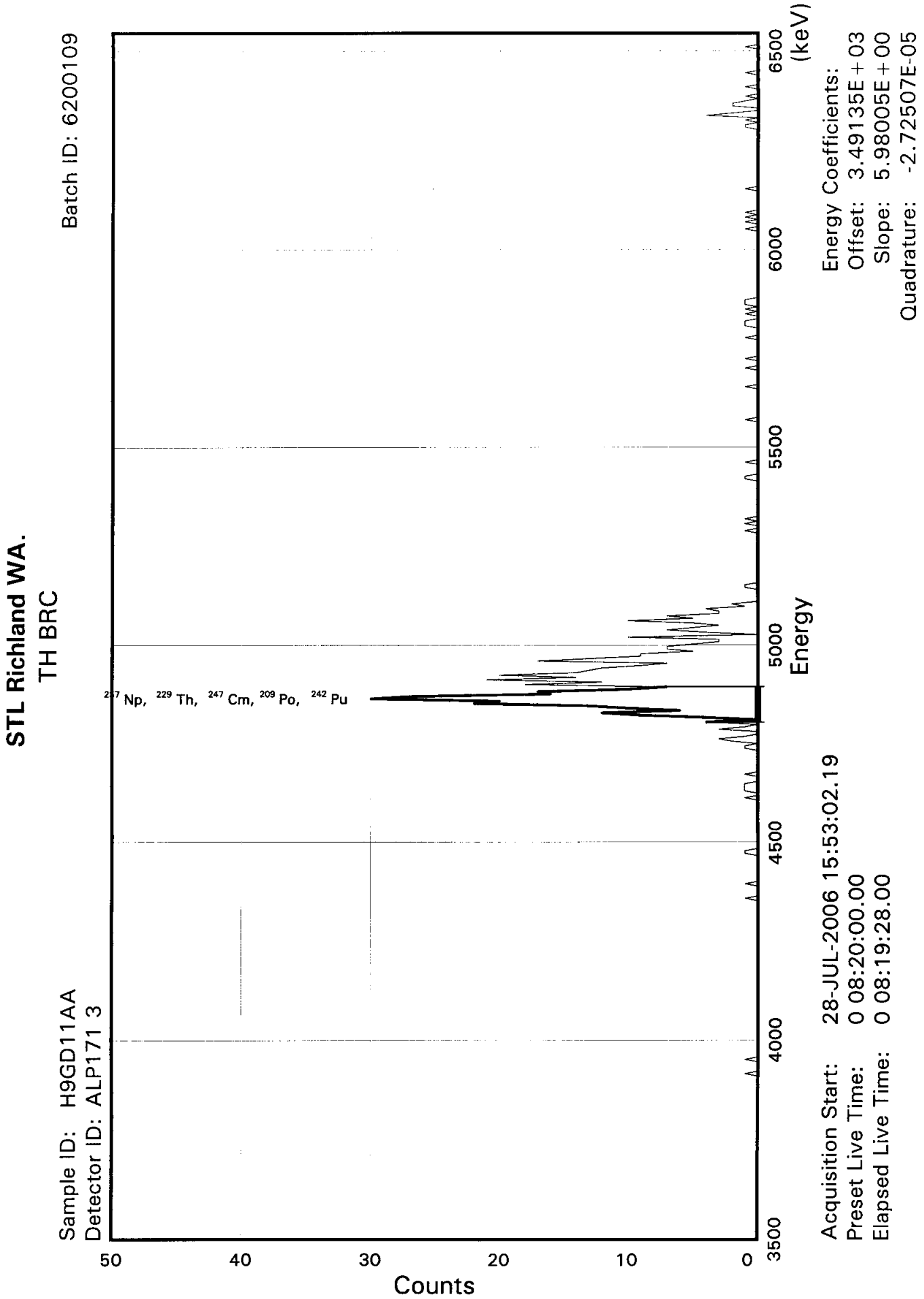
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H9GD11AA

Detector: ALP171 3
Report Date: 31-Jul-06 06:20 AM
Acquire Date: 28-JUL-2006 15:53:02.19
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	2	1	0.003	5423.2	119.3	309	329
TH-229	506	2	1.011	4845.3	387.9	208	273
TH-230	6	0	0.012	4687.7	119.4	185	205
TH-232	1	0	0.002	4013.0	119.5	72	92

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6200109
Sample ID: H9GD11AA
Detector ID: ALP171 3
237 Np, 229 Th, 247 Cm, 209 Po, 242 Pu
Counts
50
40
30
20
10
0
Energy
3500
4000
4500
5000
5500
6000
6500
(keV)
Acquisition Start: 28-JUL-2006 15:53:02.19
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: H9GD11AA

TITLE : TH BRC

DETECTOR : ALP171 3
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9GD11AA_280761553C.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 29-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 28-JUL-2006 15:53:02 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: H9GD11AA

Detector: ALP171 3
Report Date: 29-Jul-06 08:10 AM
Acquire Date: 28-JUL-2006 15:53:02.19
Tracer Nuclide: TH-229
High Counts Limit: 36
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Flags Key

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

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
PO-208	-9999	-9999	0	-10.010	5135.1	89.5	265	280	0.00	0.00	M
PO-209	211	1	0	0.421	4903.4	89.5	220	235	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5324.6	89.5	297	312	0.00	0.00	M
AC-227	3	2	1	0.003	6058.2	89.4	420	435	0.00	0.00	S
TH-227	3	2	1	0.003	6058.2	89.4	420	435	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5443.4	89.4	317	332	0.00	0.00	M
TH-229	211	1	0	0.421	4865.5	89.5	220	235	0.00	0.00	P
TH-230	3	0	1	0.005	4707.9	89.5	194	209	0.00	0.00	S
TH-232	0	1	0	-0.001	4033.2	89.6	81	96	0.00	0.00	
U-232	-9999	-9999	0	-10.010	5340.4	89.4	300	315	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4794.8	89.5	208	223	0.00	0.00	S I
U-235	2	1	0	0.003	4418.0	89.6	145	160	0.00	0.00	
PU-236	2	15	4	-0.011	5787.8	89.4	375	390	0.00	0.00	S
NP-237	211	1	0	0.421	4808.2	89.5	220	235	0.00	0.00	P
PU-238	-9999	-9999	0	-10.010	5519.2	89.4	330	345	0.00	0.00	M
U-238	0	1	0	-0.001	4218.2	89.6	112	127	0.00	0.00	
PU-239	-9999	-9999	0	-10.010	5176.8	89.5	272	287	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5505.8	89.4	327	342	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5227.0	89.5	281	296	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6132.9	89.3	433	448	0.00	0.00	M
PU-242	211	1	0	0.421	4920.7	89.5	220	235	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5295.5	89.5	292	307	0.00	0.00	M
CM-244	4	39	4	-0.031	5825.0	89.4	381	396	0.00	0.00	S
CM-246	-9999	-9999	0	-10.010	5406.7	89.4	311	326	0.00	0.00	M
CM-247	211	1	0	0.421	4890.6	89.5	220	235	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5098.8	89.5	259	274	0.00	0.00	M

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GD11AA
Detector: ALP171 3
Report Date: 29-Jul 06 08:10 AM
Acquire Date: 28-JUL-2006 15:53:02.19

Flags Key

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

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

VMS Peak Search Report V1.9 Generated 29-JUL-2006 08:10:38

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GD11AA_280761553C.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 28-JUL-2006 15:53:02
Sample ID         : H9GD11AA             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	4865.49	211	0	41.86	230.03	220	15	7.04E-03	6.9	

VMS Nuclide Identification Report V3.0 Generated 29-JUL-2006 08:10:41

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GD11AA_280761553C.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 28-JUL-2006 15:53:02
Sample ID         : H9GD11AA             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	
NP-237	2.14E+06Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-247	1.56E+07Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			

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

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

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

Configuration: $DISK1:[ALP171.SAMPLE]H9GD11AA_280761553C.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4865.48	220	235	211	207	0.28		

End of Report

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

Sample Identity: H9GD41AA

Detector: ALP171 4
Report Date: 31-Jul-06 06:20 AM
Acquire Date: 28-JUL-2006 15:53:02.19
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	0	0.008	5423.2	111.2	307	327
TH-229	509	3	1.016	4845.3	349.8	206	269
TH-230	6	0	0.012	4687.7	110.9	175	195
TH-232	1	0	0.002	4013.0	110.6	53	73

End of Alpha Region Report
(Produced by ANAL Report)

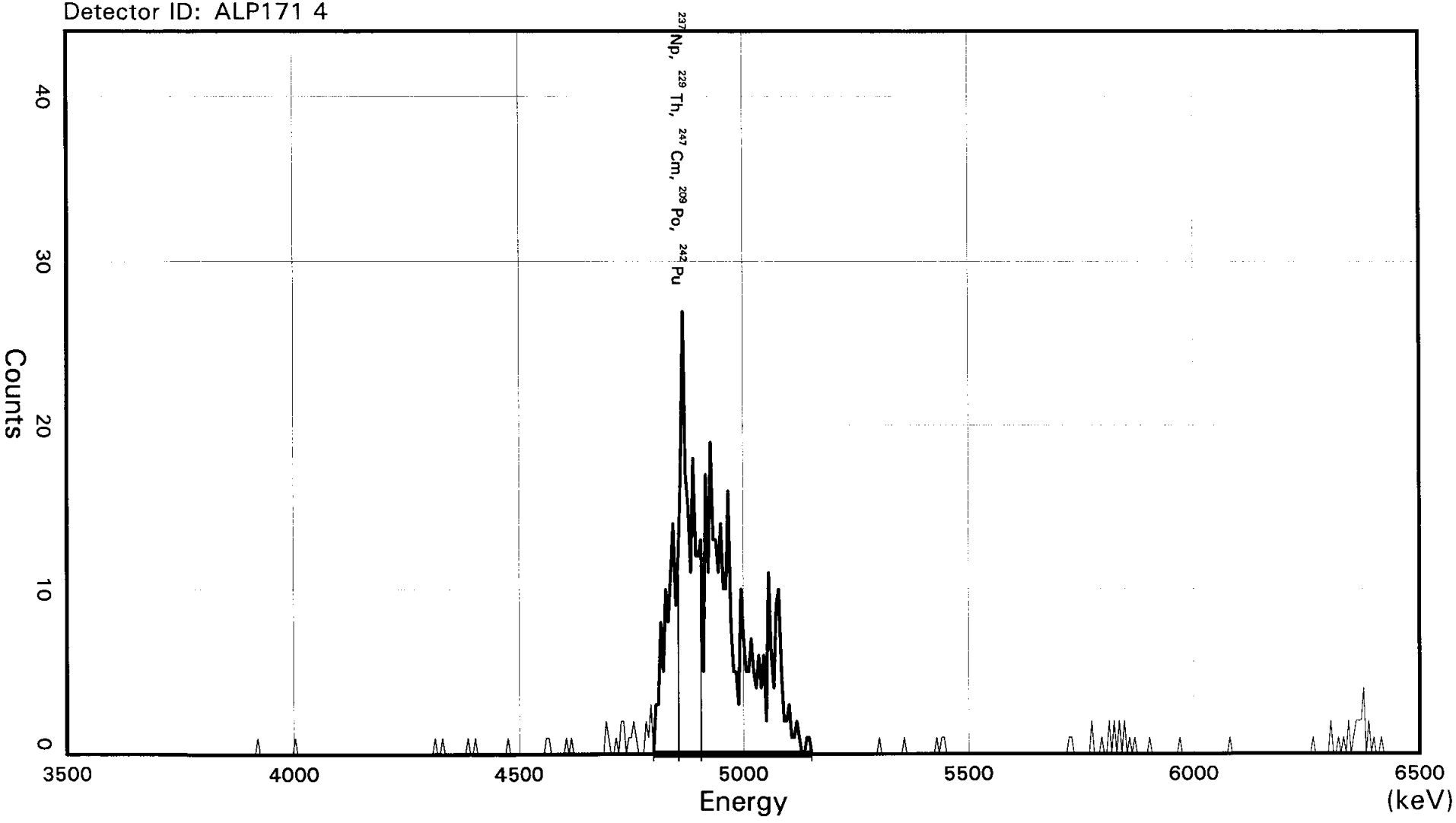
STL Richland WA.

TH BRC

Sample ID: H9GD41AA

Detector ID: ALP171 4

Batch ID: 6200109



Acquisition Start: 28-JUL-2006 15:53:02.19

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: H9GD41AA

TITLE : TH BRC

DETECTOR : ALP171 4
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9GD41AA_280761553D.CN
F;1
ACQUIRE DATE of BACKGROUND: 08-JUL-2006 07:53:15

REPORT DATE : 29-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 28-JUL-2006 15:53:02 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: H9GD41AA

Detector: ALP171 4
Report Date: 29-Jul-06 12:13 AM
Acquire Date: 28-JUL-2006 15:53:02.19
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	5127.5	105.6	259	278	0.00	0.00	M
PO-209	307	0	0	0.615	4895.8	105.5	210	229	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5316.9	105.6	293	312	0.00	0.00	M
AC-227	1	1	1	0.000	6050.6	105.9	424	443	0.00	0.00	S
TH-227	1	1	1	0.000	6050.6	105.9	424	443	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5435.8	105.7	314	333	0.00	0.00	M
TH-229	307	0	0	0.615	4857.9	105.5	210	229	0.00	0.00	P
TH-230	7	1	6	0.014	4700.3	105.4	182	201	0.00	0.00	S
TH-232	1	0	0	0.002	4025.6	105.1	60	79	0.00	0.00	
U-232	-9999	-9999	0	-10.010	5332.7	105.7	295	314	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4787.2	105.4	197	216	0.00	0.00	S I
U-235	2	0	0	0.004	4410.4	105.3	129	148	0.00	0.00	
PU-236	6	19	7	-0.008	5780.2	105.8	376	395	0.00	0.00	S
NP-237	307	0	0	0.615	4800.6	105.5	210	229	0.00	0.00	P
PU-238	-9999	-9999	0	-10.010	5511.6	105.7	328	347	0.00	0.00	M
U-238	0	2	0	-0.002	4210.6	105.2	93	112	0.00	0.00	
PU-239	-9999	-9999	0	-10.010	5169.2	105.6	266	285	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5498.2	105.7	325	344	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5219.4	105.6	275	294	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6125.3	106.0	438	457	0.00	0.00	M
PU-242	307	0	0	0.615	4913.1	105.5	210	229	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5287.9	105.6	287	306	0.00	0.00	M
CM-244	10	31	7	-0.012	5817.4	105.8	383	402	0.00	0.00	S
CM-246	-9999	-9999	0	-10.010	5399.1	105.7	307	326	0.00	0.00	M
CM-247	307	0	0	0.615	4883.0	105.5	210	229	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5091.2	105.6	252	271	0.00	0.00	M

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GD41AA
Detector: ALP171 4
Report Date: 29 Jul-06 12:13 AM
Acquire Date: 28-JUL-2006 15:53:02.19

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

VMS Peak Search Report V1.9 Generated 29-JUL-2006 00:13:50

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GD41AA_280761553D.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 28-JUL-2006 15:53:02
Sample ID         : H9GD41AA             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	4857.86	307	0	60.78	220.26	210	19	1.02E-02	5.7	
2	0	4956.43	200	0	215.48	238.02	220	53	6.67E-03	7.1	

VMS Nuclide Identification Report V3.0 Generated 29-JUL-2006 00:13:52

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GD41AA_280761553D.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 28-JUL-2006 15:53:02
Sample ID         : H9GD41AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP171 1             Detector geometry:
Elapsed live time: 0 08:19:28.00         Elapsed real time: 0 08:19:28.00   0.0%
Energy tolerance :    80.00 keV          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    70.00
```

Summary of Nuclide Activity

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

Nuclide Type : NP

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

Nuclide Type : AP

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

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

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

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

Configuration: $DISK1:[ALP171.SAMPLE]H9GD41AA_280761553D.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4857.86	210	229	307	225	4.68		
4956.43	220	273	200	434	-16.55	154	0.09

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

End of Report

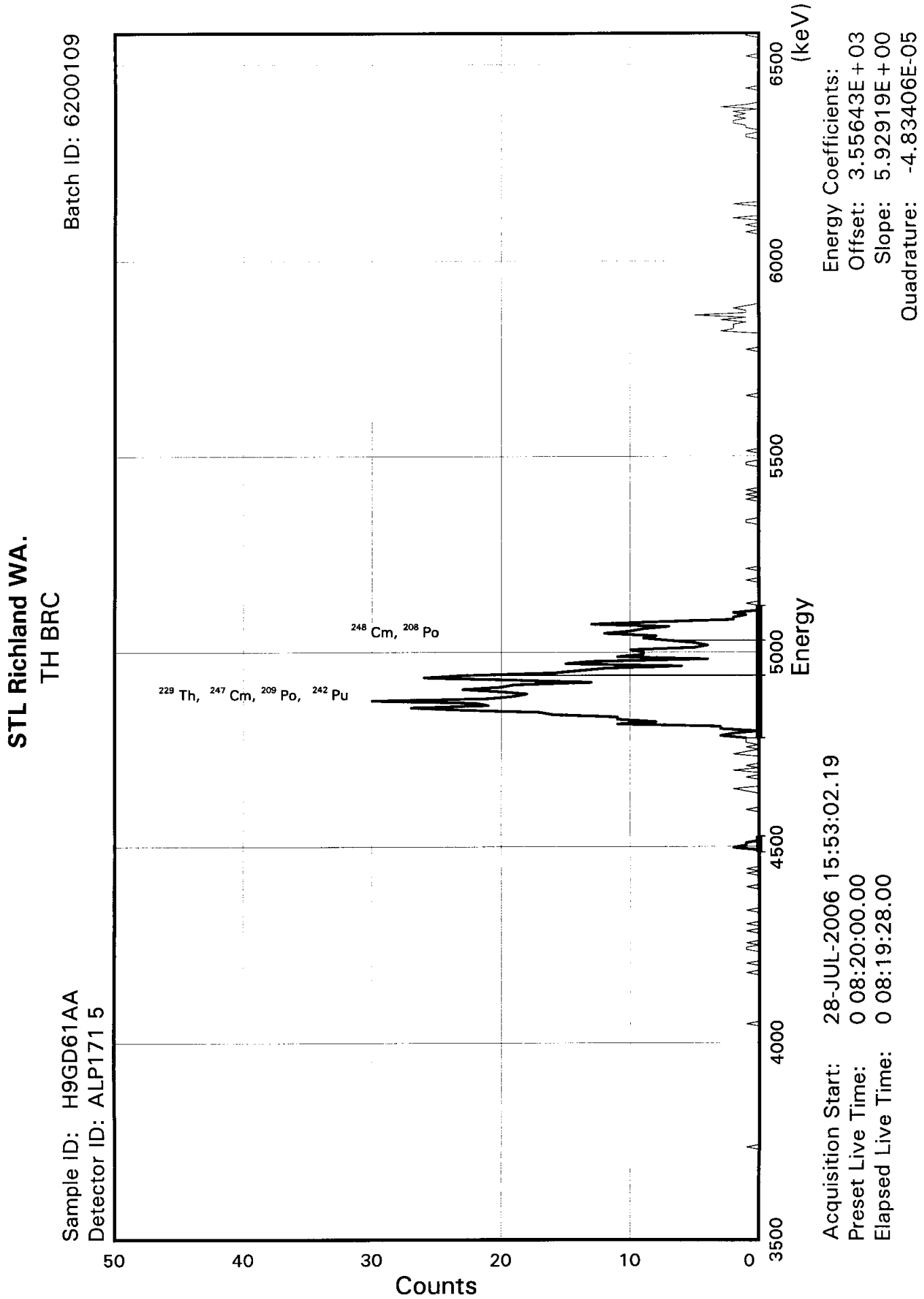
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H9GD61AA

Detector: ALP171 5
Report Date: 31-Jul-06 06:20 AM
Acquire Date: 28-JUL-2006 15:53:02.19
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	655	2	1.309	4845.3	360.3	206	267
TH-230	8	0	0.016	4687.7	118.2	176	196
TH-232	0	1	-0.001	4013.0	118.4	62	82

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6200109
Sample ID: H9GD61AA
Detector ID: ALP171 5
248 Cm, 208 Po
229 Th, 247 Cm, 209 Po, 242 Pu
Counts
50
40
30
20
10
0
Energy
3500
4000
4500
5000
5500
6000
6500
(keV)
Acquisition Start: 28-JUL-2006 15:53:02.19
Preset Live Time: 0 08:20:00.00
Elapsed Live Time: 0 08:19:28.00
Energy Coefficients:
Offset: 3.55643E+03
Slope: 5.92919E+00
Quadrature: -4.83406E-05

SAMPLE IDENTITY: H9GD61AA

TITLE : TH BRC

DETECTOR : ALP171 5
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9GD61AA_280761553E.CN
F;1
ACQUIRE DATE of BACKGROUND: 08-JUL-2006 07:53:15

REPORT DATE : 29-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 28-JUL-2006 15:53:02 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: H9GD61AA

Detector: ALP171 5
Report Date: 29-Jul-06 12:13 AM
Acquire Date: 28-JUL-2006 15:53:02.19
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	106	1	0	0.211	5162.7	177.2	234	264	0.00	0.00	P
PO-209	547	2	0	1.093	4931.0	248.1	207	249	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5352.2	247.8	285	327	0.00	0.00	M
AC-227	-9999	-9999	0	-10.010	6085.8	247.3	409	451	0.00	0.00	M
TH-227	-9999	-9999	0	-10.010	6085.8	247.3	409	451	0.00	0.00	M
TH-228	-9999	-9999	0	-10.010	5471.0	247.7	305	347	0.00	0.00	M
TH-229	547	2	0	1.093	4893.1	248.1	207	249	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4735.5	248.2	180	222	0.00	0.00	M I
TH-232	2	2	1	0.001	4060.8	248.7	66	108	0.00	0.00	S
U-232	-9999	-9999	0	-10.010	5368.0	247.8	287	329	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4822.4	248.1	195	237	0.00	0.00	M I
U-235	8	2	1	0.013	4445.6	248.4	131	173	0.00	0.00	S
PU-236	13	36	25	-0.011	5815.5	247.5	363	405	0.00	0.00	S
NP-237	-9999	-9999	0	-10.010	4835.8	248.1	197	239	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.010	5546.9	247.6	318	360	0.00	0.00	M
U-238	-9999	-9999	0	-10.010	4245.8	242.6	98	139	0.00	0.00	M
PU-239	-9999	-9999	0	-10.010	5204.4	247.9	260	302	0.00	0.00	M I
AM-241	-9999	-9999	0	-10.010	5533.4	253.6	315	358	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5254.6	247.9	268	310	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6160.5	247.2	422	464	0.00	0.00	M
PU-242	547	2	0	1.093	4948.3	248.1	207	249	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5323.1	247.8	280	322	0.00	0.00	M
CM-244	-9999	-9999	0	-10.010	5852.6	247.4	370	412	0.00	0.00	M
CM-246	-9999	-9999	0	-10.010	5434.3	247.7	299	341	0.00	0.00	M
CM-247	547	2	0	1.093	4918.2	248.1	207	249	0.00	0.00	P
CM-248	106	1	0	0.211	5126.4	177.2	234	264	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GD61AA
Detector: ALP171 5
Report Date: 29-Jul-06 12:13 AM
Acquire Date: 28-JUL-2006 15:53:02.19

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

VMS Peak Search Report V1.9 Generated 29-JUL-2006 00:13:55

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GD61AA_280761553E.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 28-JUL-2006 15:53:02
Sample ID         : H9GD61AA             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	4500.90	4	0	23.72	159.50	157	7	1.33E-04	50.0	
2	0	4893.13	547	0	112.65	225.86	207	42	1.83E-02	4.3	
3	0	5052.15	106	0	59.29	252.79	234	30	3.54E-03	9.7	

VMS Nuclide Identification Report V3.0 Generated 29-JUL-2006 00:13:57

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GD61AA_280761553E.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 28-JUL-2006 15:53:02
Sample ID         : H9GD61AA             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	
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]H9GD61AA_280761553E.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4500.90	157	164	4	4	0.00		
4893.12	207	249	547	570	-0.98		
5052.15	234	264	106	246	-13.60	163	0.00

End of Report

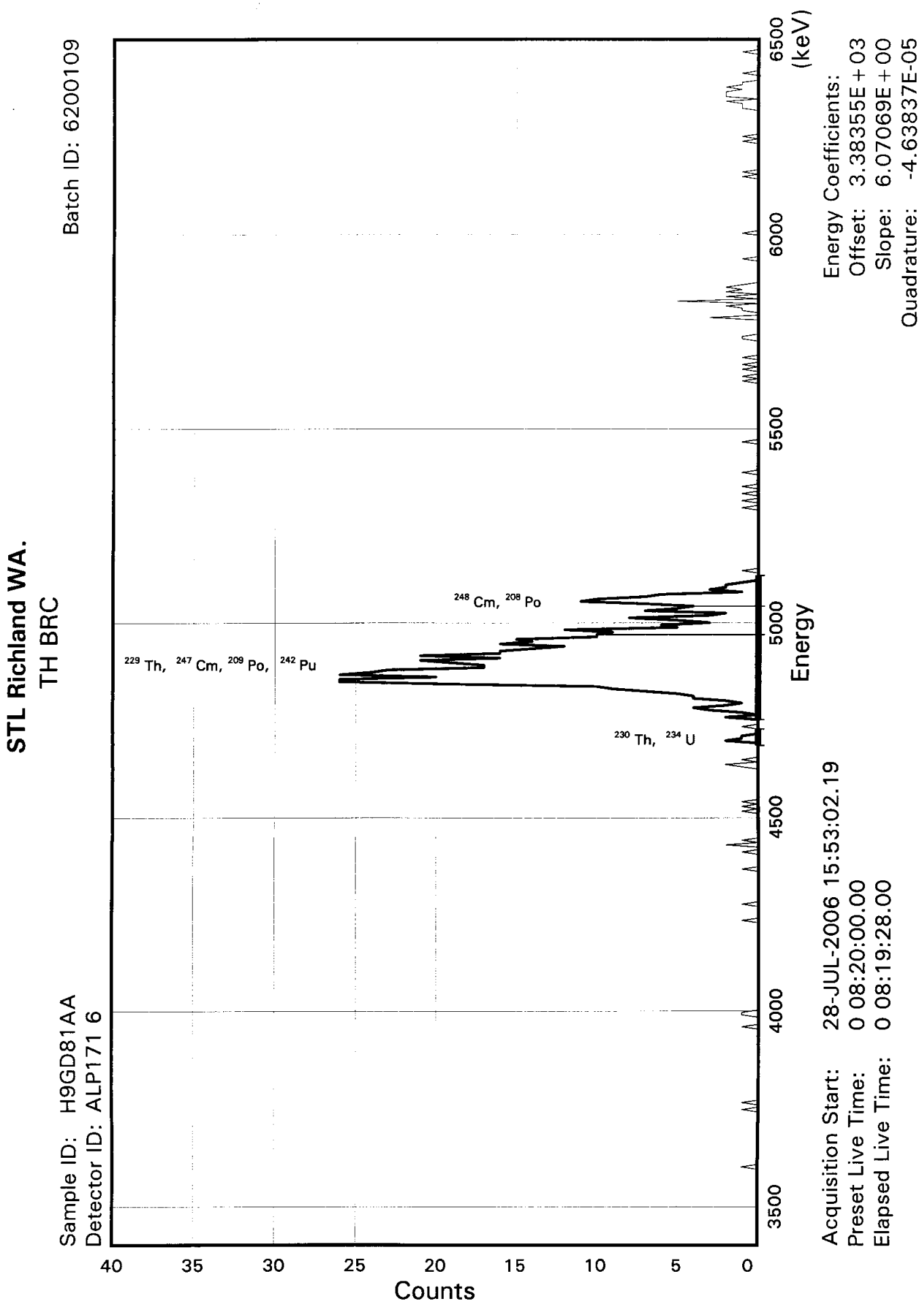
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H9GD81AA

Detector: ALP171 6
Report Date: 31-Jul-06 06:20 AM
Acquire Date: 28-JUL-2006 15:53:02.19
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	3	0.003	5423.2	120.8	322	342
TH-229	571	2	1.141	4845.3	374.9	226	288
TH-230	8	1	0.015	4687.7	121.0	200	220
TH-232	3	2	0.004	4013.0	121.2	89	109

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6200109
Sample ID: H9GD81AA
Detector ID: ALP171 6
248 Cm, 208 Po
229 Th, 247 Cm, 209 Po, 242 Pu
230 Th, 234 U
Energy
(keV)
3500
4000
4500
5000
5500
6000
6500
Counts
40
35
30
25
20
15
10
5
0
Acquisition Start: 28-JUL-2006 15:53:02.19
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: H9GD81AA

TITLE : TH BRC

DETECTOR : ALP171 6
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9GD81AA_280761553F.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 29-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 28-JUL-2006 15:53:02 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: H9GD81AA

Detector: ALP171 6
Report Date: 29-Jul-06 12:14 AM
Acquire Date: 28-JUL-2006 15:53:02.19
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	68	0	0	0.136	5163.0	151.1	262	287	0.00	0.00	P
PO-209	501	2	0	1.001	4931.3	290.3	226	274	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5352.5	289.9	302	350	0.00	0.00	M
AC-227	-9999	-9999	0	-10.010	6086.1	295.4	423	472	0.00	0.00	M
TH-227	-9999	-9999	0	-10.010	6086.1	295.4	423	472	0.00	0.00	M
TH-228	-9999	-9999	0	-10.010	5471.3	289.9	322	370	0.00	0.00	M
TH-229	501	2	0	1.001	4893.4	290.3	226	274	0.00	0.00	P
TH-230	4	0	0	0.008	4735.8	42.4	215	222	0.00	0.00	P
TH-232	3	3	0	0.003	4061.1	284.8	89	136	0.00	0.00	S
U-232	-9999	-9999	0	-10.010	5368.2	289.9	305	353	0.00	0.00	M
U-234	4	0	0	0.008	4822.7	42.4	215	222	0.00	0.00	P
U-235	8	1	1	0.015	4445.9	290.6	152	200	0.00	0.00	S
PU-236	-9999	-9999	0	-10.010	5815.7	289.6	379	427	0.00	0.00	M
NP-237	-9999	-9999	0	-10.010	4836.1	290.3	217	265	0.00	0.00	I
PU-238	-9999	-9999	0	-10.010	5547.1	289.8	334	382	0.00	0.00	M
U-238	-9999	-9999	0	-10.010	4246.1	290.8	119	167	0.00	0.00	M
PU-239	-9999	-9999	0	-10.010	5204.7	296.1	277	326	0.00	0.00	M I
AM-241	-9999	-9999	0	-10.010	5533.7	289.8	332	380	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5254.9	290.0	286	334	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6160.8	289.3	436	484	0.00	0.00	M
PU-242	501	2	0	1.001	4948.6	290.3	226	274	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5323.4	290.0	297	345	0.00	0.00	M
CM-244	-9999	-9999	0	-10.010	5852.9	289.6	385	433	0.00	0.00	M
CM-246	-9999	-9999	0	-10.010	5434.6	289.9	316	364	0.00	0.00	M
CM-247	501	2	0	1.001	4918.5	290.3	226	274	0.00	0.00	P
CM-248	68	0	0	0.136	5126.7	151.1	262	287	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GD81AA
Detector: ALP171 6
Report Date: 29-Jul-06 12:14 AM
Acquire Date: 28-JUL-2006 15:53:02.19

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

VMS Peak Search Report V1.9 Generated 29-JUL-2006 00:14:00

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GD81AA_280761553F.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 28-JUL-2006 15:53:02
Sample ID         : H9GD81AA             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	4701.73	4	0	24.28	217.50	215	7	1.33E-04	50.0	
2	0	4893.37	501	0	127.48	249.18	226	48	1.67E-02	4.5	
3	0	5054.45	68	0	36.42	275.82	262	25	2.27E-03	12.1	

VMS Nuclide Identification Report V3.0 Generated 29-JUL-2006 00:14:02

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GD81AA_280761553F.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 28-JUL-2006 15:53:02
Sample ID         : H9GD81AA             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	
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-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]H9GD81AA_280761553F.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4701.73	215	222	4	4	0.00		
4893.37	226	274	501	521	-0.89		
5054.45	262	287	68	129	-7.40	79	-0.08

End of Report

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

Sample Identity: H9GEC1AA

Detector: ALP171 7
Report Date: 31-Jul-06 06:21 AM
Acquire Date: 28-JUL-2006 15:53:02.19
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	0	1	-0.001	5423.2	112.5	311	331
TH-229	160	0	0.320	4845.3	349.0	206	268
TH-230	12	0	0.024	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)

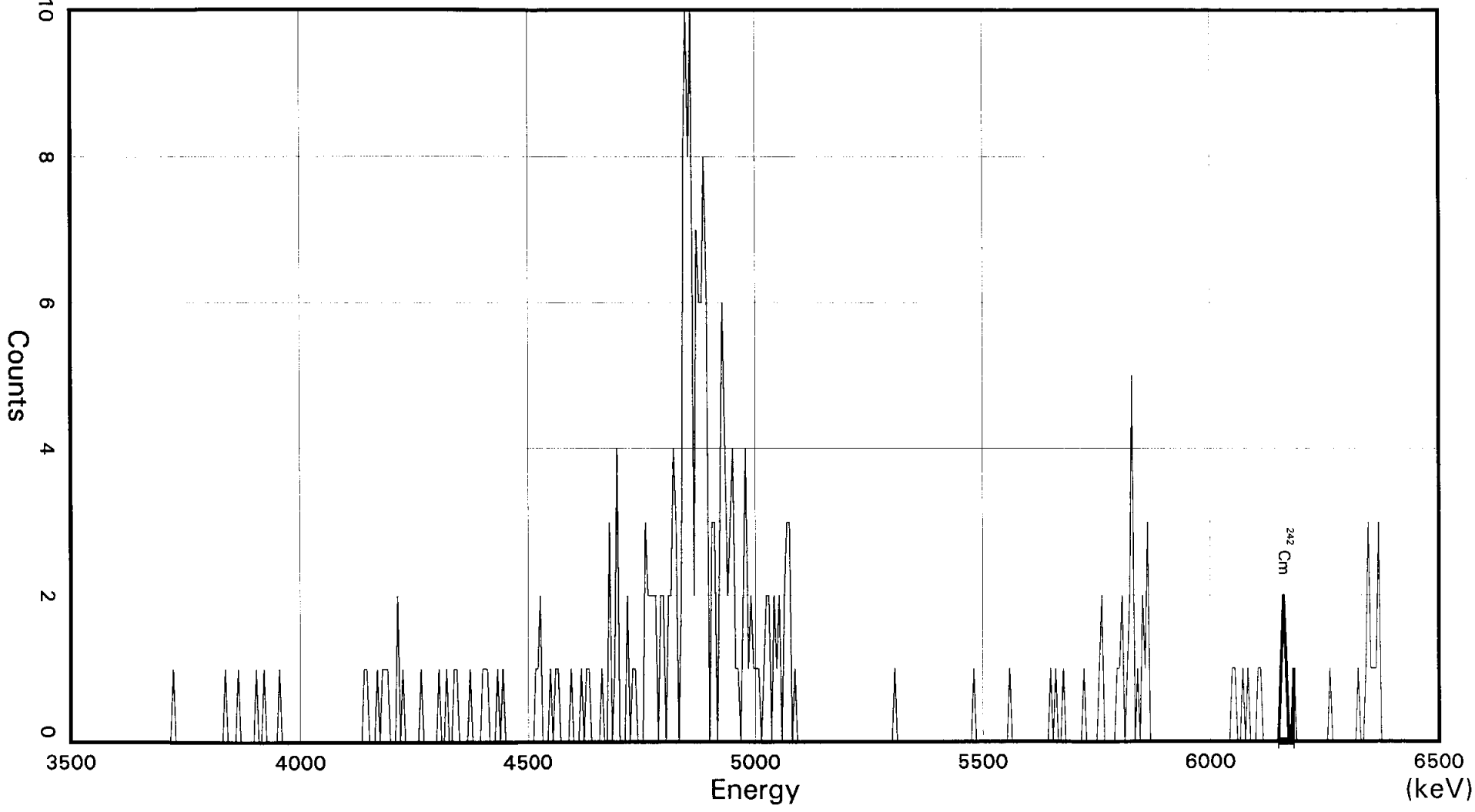
STL Richland WA.

TH BRC

Sample ID: H9GEC1AA

Detector ID: ALP171 7

Batch ID: 6200109



Acquisition Start: 28-JUL-2006 15:53:02.19

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: H9GEC1AA

TITLE : TH BRC

DETECTOR : ALP171 7
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9GEC1AA_280761553G.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 29-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 28-JUL-2006 15:53:02 CALIB DATE : 07-JUL-2006 02:10:41

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

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

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

Sample Identity: H9GEC1AA
Detector: ALP171 7
Report Date: 29-Jul-06 12:14 AM
Acquire Date: 28-JUL-2006 15:53:02.19

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

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

VMS Peak Search Report V1.9 Generated 29-JUL-2006 00:14:04

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GEC1AA_280761553G.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 28-JUL-2006 15:53:02
Sample ID         : H9GEC1AA             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	6163.41	4	0	22.55	457.50	455	6	1.33E-04	50.0	

VMS Nuclide Identification Report V3.0 Generated 29-JUL-2006 00:14:06

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GEC1AA_280761553G.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 28-JUL-2006 15:53:02
Sample ID         : H9GEC1AA             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 : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
CM-242	162.80D	1.11	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: 29-Jul-06  12:14 AM)

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

System Status Message:

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

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

Sample Identity: H9GED1AA

Detector: ALP171 8
Report Date: 31-Jul-06 06:21 AM
Acquire Date: 28-JUL-2006 15:53:02.19
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	2	1	0.003	5423.2	117.6	307	327
TH-229	478	1	0.956	4845.3	341.4	209	267
TH-230	1	1	0.001	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)

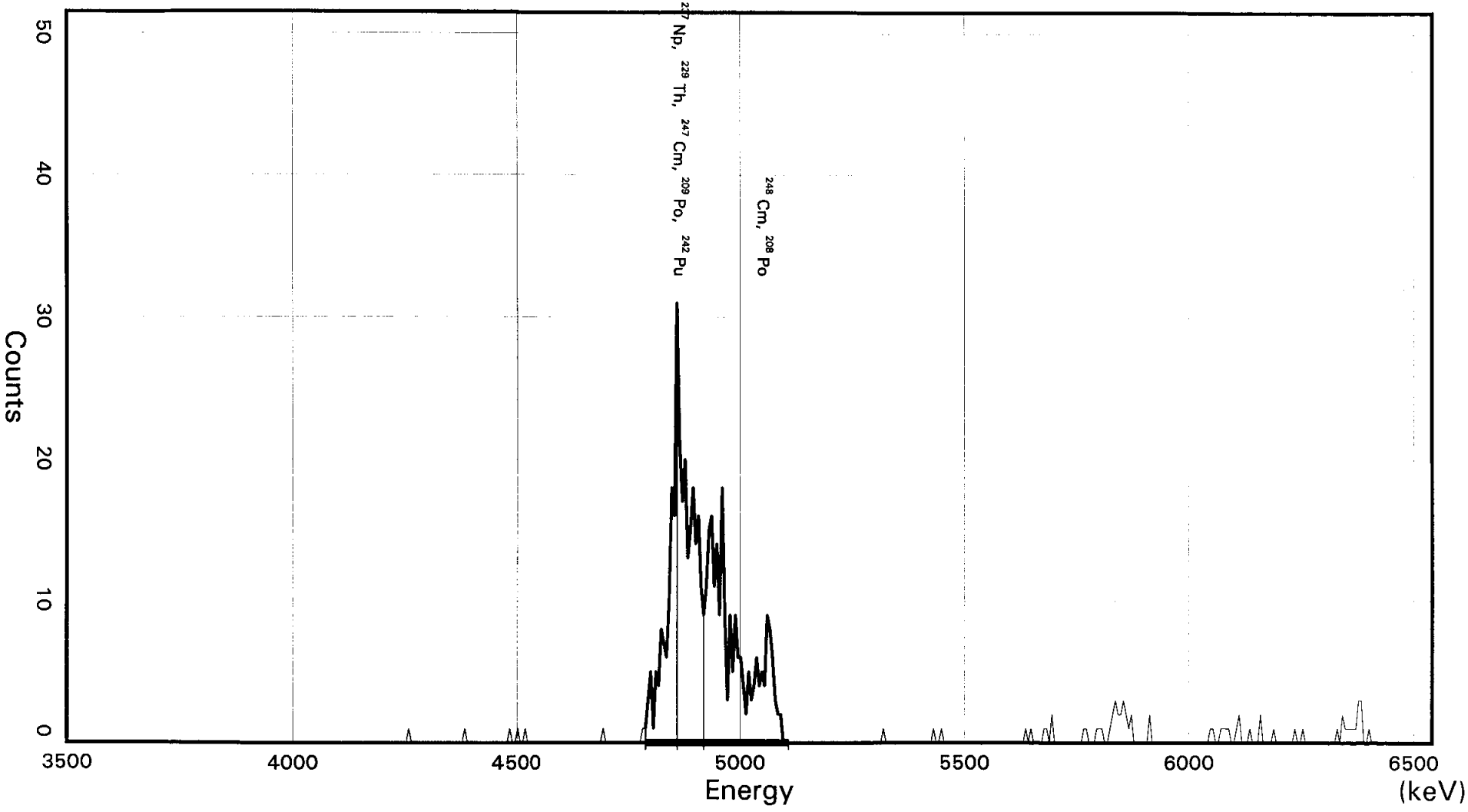
STL Richland WA.

TH BRC

Sample ID: H9GED1AA

Detector ID: ALP171 8

Batch ID: 6200109



Acquisition Start: 28-JUL-2006 15:53:02.19

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 IDENTITY: H9GED1AA

TITLE : TH BRC

DETECTOR : ALP171 8
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9GED1AA_280761553H.CN
F;1
ACQUIRE DATE of BACKGROUND: 09-JUL-2006 10:13:03

REPORT DATE : 29-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 28-JUL-2006 15:53:02 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: H9GED1AA

Detector: ALP171 8
Report Date: 29-Jul-06 12:14 AM
Acquire Date: 28-JUL-2006 15:53:02.19
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	143	0	0	0.286	5135.9	247.2	226	268	0.00	0.00	P
PO-209	338	1	0	0.676	4904.2	129.5	214	236	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5325.4	129.4	292	314	0.00	0.00	M
AC-227	5	4	8	0.006	6059.0	129.3	417	439	0.00	0.00	S
TH-227	5	4	8	0.006	6059.0	129.3	417	439	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5444.2	129.4	312	334	0.00	0.00	M
TH-229	338	1	0	0.676	4866.3	129.5	214	236	0.00	0.00	P
TH-230	1	1	0	0.001	4708.7	129.5	187	209	0.00	0.00	S
TH-232	0	2	0	-0.002	4034.0	129.7	73	95	0.00	0.00	
U-232	-9999	-9999	0	-10.010	5341.2	129.4	295	317	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4795.6	129.5	202	224	0.00	0.00	S I
U-235	1	1	0	0.001	4418.8	129.6	138	160	0.00	0.00	
PU-236	7	22	13	-0.009	5788.6	129.3	371	393	0.00	0.00	S
NP-237	338	1	0	0.676	4809.0	129.5	214	236	0.00	0.00	P
PU-238	-9999	-9999	0	-10.010	5520.0	129.4	325	347	0.00	0.00	M
U-238	1	2	0	0.000	4219.0	129.6	104	126	0.00	0.00	
PU-239	-9999	-9999	0	-10.010	5177.6	129.5	267	289	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5506.6	129.4	323	345	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5227.8	129.4	275	297	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6133.7	135.1	429	452	0.00	0.00	M
PU-242	338	1	0	0.676	4921.5	129.5	214	236	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5296.3	129.4	287	309	0.00	0.00	M
CM-244	17	40	13	-0.007	5825.8	129.3	377	399	0.00	0.00	S
CM-246	-9999	-9999	0	-10.010	5407.5	129.4	306	328	0.00	0.00	M
CM-247	338	1	0	0.676	4891.4	129.5	214	236	0.00	0.00	P
CM-248	143	0	0	0.286	5099.6	247.2	226	268	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GED1AA
Detector: ALP171 8
Report Date: 29-Jul-06 12:14 AM
Acquire Date: 28-JUL-2006 15:53:02.19

Flags Key

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

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

VMS Peak Search Report V1.9 Generated 29-JUL-2006 00:14:08

Configuration	: $DISK1:[ALP171.SAMPLE]H9GED1AA_280761553H.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: TH BRC		
Sample date	: 3-JUL-2006 12:00:00	Acquisition date	: 28-JUL-2006 15:53:02
Sample ID	: H9GED1AA	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP171 1	Detector geometry	:
Elapsed live time	: 0 08:19:28.00	Elapsed real time	: 0 08:19:28.00 0.0%
Start energy	: 3545.57 keV	End energy	: 6541.16 keV
Sensitivity	: 3.00	Sum Sensitivity	: 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4866.29	338	0	47.19	227.12	214	22	1.13E-02	5.4	
2	0	5052.47	143	0	58.99	258.75	226	42	4.77E-03	8.4	

VMS Nuclide Identification Report V3.0 Generated 29-JUL-2006 00:14:10

Configuration	: $DISK1:[ALP171.SAMPLE]H9GED1AA_280761553H.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: TH BRC		
Sample date	: 3-JUL-2006 12:00:00	Acquisition date	: 28-JUL-2006 15:53:02
Sample ID	: H9GED1AA	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	
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]H9GED1AA_280761553H.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4866.28	214	236	338	269	3.75		
5052.46	226	268	143	393	-20.91	185	0.18

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

End of Report

SEVERN TRENT **STL**

THORIUM ISOTOPIC COUNTING REQUEST

7/29
0013

C.R. Technician: OD
Date Counted: 7/28/06
C.R. Analyst: CO
Date Analyzed: 7/31/06

Counting Time
Sample: 500 Minutes

Background: See Alpha Analysis Report
BRC 7/3/06

SOP's
Operating: RICHRD008
Review: RICHRD0016
6/20/09

WorkOrder #	Th-229 (4845 KeV) Tracer from Th-234 Beta Count (7)				TOTAL COUNTS			Det #	Comment
	ID	Activity	ROI Cts	BKG	Th-228 (5423 KeV) (6)	Th-230 (4688 KeV) (8)	Th-232 (4010 KeV) (9)		
H9GEF1AA		10		0	See Alpha Analysis Report for ROI Information			114	
H9GEK1AA		10		0	See Alpha Analysis Report for ROI Information			119	
H9GEM1AA		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: H9GEF1AA

Detector: ALP114 1
Report Date: 31-Jul-06 06:22 AM
Acquire Date: 28-JUL-2006 15:53:17.34
Tracer Nuclide: TH-229
Sample Live Time: 500 minutes
Bkgrnd Live Time: 1000 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	3	0	0.006	5423.2	151.1	312	332
TH-229	522	0	1.044	4845.3	265.8	221	256
TH-230	7	0	0.014	4687.7	60.8	215	223
TH-232	0	1	-0.001	4013.0	152.9	126	146

End of Alpha Region Report
(Produced by ANAL Report)

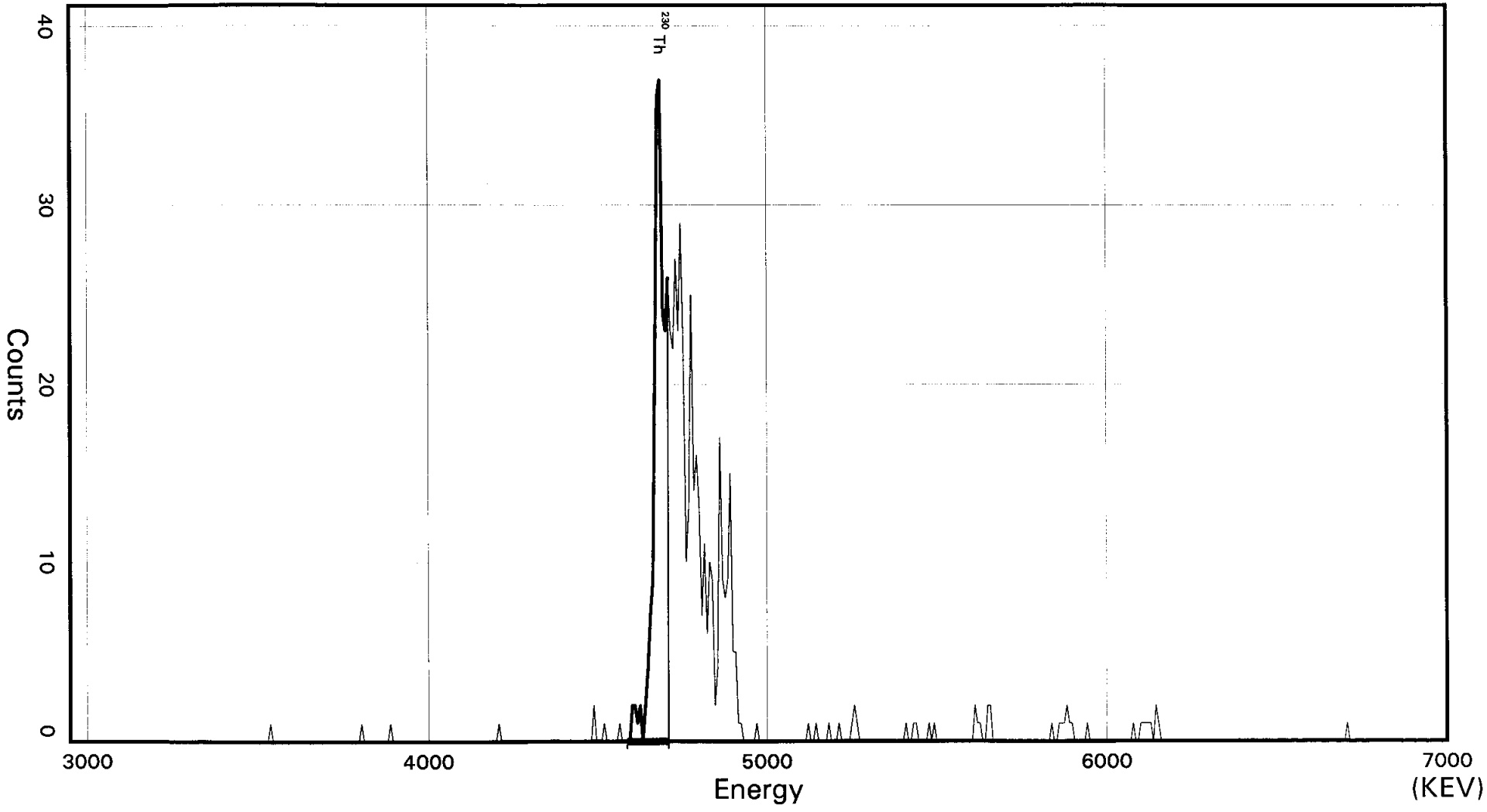
STL Richland WA.

TH BRC

Sample ID: H9GEF1AA

Detector ID: ALP114 1

Batch ID: 6200109



Acquisition Start: 28-JUL-2006 15:53:17.34

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: H9GEF1AA

TITLE : TH BRC

DETECTOR : ALP114 1
CONFIGURATION NAME : RDND06$DKA100:[ALP114.SAMPLE]H9GEF1AA_280761
553.CNF;1
ACQUIRE DATE of BACKGROUND: 21-JUL-2006 09:20:15

REPORT DATE : 29-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 28-JUL-2006 15:53:17 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: H9GEF1AA
Detector: ALP114 1
Report Date: 29-Jul-06 12:13 AM
Acquire Date: 28-JUL-2006 15:53:17.34

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

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

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

VMS Peak Search Report V1.9 Generated 29-JUL-2006 00:13:21

Configuration	: RDND06$DKA100:[ALP114.SAMPLE]H9GEF1AA_280761553.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: TH BRC		
Sample date	: 3-JUL-2006 12:00:00	Acquisition date	: 28-JUL-2006 15:53:17
Sample ID	: H9GEF1AA	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	4691.18	197	0	46.26	230.41	217	16	6.57E-03	7.1	

VMS Nuclide Identification Report V3.1 Generated 29-JUL-2006 00:13:22

```
Configuration     : RDND06$DKA100:[ALP114.SAMPLE]H9GEF1AA_280761553.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : TH BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 28-JUL-2006 15:53:17
Sample ID         : H9GEF1AA             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	
		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: 29-Jul-06  12:13 AM)

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

System Status Message:

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

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

Sample Identity: H9GEK1AA

Detector: ALP119 1
Report Date: 31-Jul-06 06:22 AM
Acquire Date: 28-JUL-2006 15:53:36.93
Tracer Nuclide: TH-229
Sample Live Time: 500 minutes
Bkgrnd Live Time: 1000 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	4	2	0.006	5423.2	149.7	329	349
TH-229	435	2	0.868	4845.3	365.2	252	301
TH-230	3	1	0.005	4687.7	148.7	231	251
TH-232	1	1	0.001	4013.0	147.7	140	160

End of Alpha Region Report
(Produced by ANAL Report)

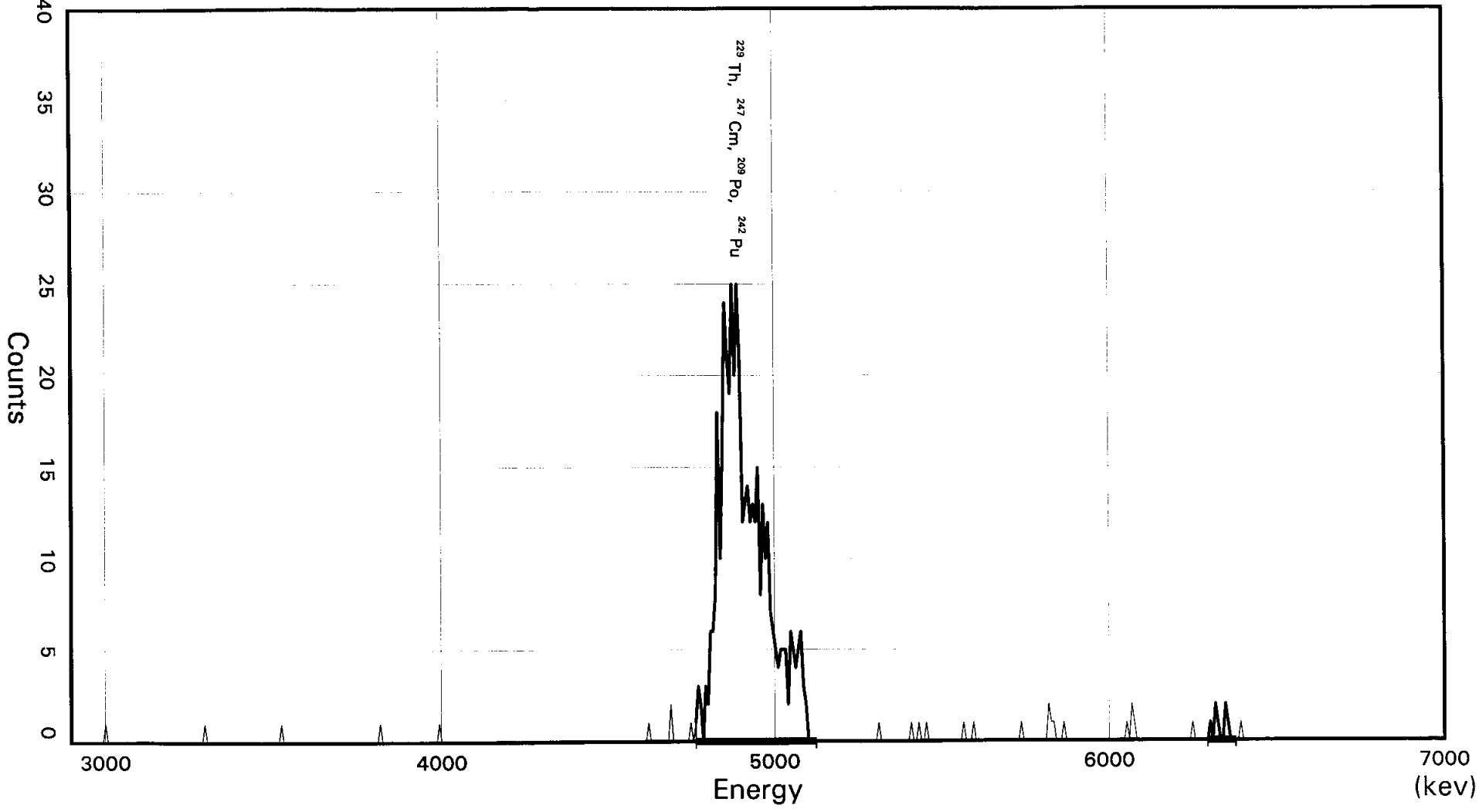
STL Richland WA.

TH BRC

Sample ID: H9GEK1AA

Detector ID: ALP119 1

Batch ID: 6200109



Acquisition Start: 28-JUL-2006 15:53:36.93

Preset Live Time: 0 08:20:00.00

Elapsed Live Time: 0 08:20:00.00

Energy Coefficients:

Offset: 2.87730E+03

Slope: 7.30551E+00

Quadrature: 2.66299E-04

SAMPLE IDENTIITY: H9GEK1AA

TITLE : TH BRC

DETECTOR : ALP119 1
CONFIGURATION NAME : RDND06$DKA100:[ALP119.SAMPLE]H9GEK1AA_280761
553.CNF;1
ACQUIRE DATE of BACKGROUND: 21-JUL-2006 09:20:24

REPORT DATE : 29-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 28-JUL-2006 15:53:36 CALIB DATE : 21-JUL-2006 01:15:00

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

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: H9GEK1AA

Detector: ALP119 1
Report Date: 29-Jul-06 12:13 AM
Acquire Date: 28-JUL-2006 15:53:36.93
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	-10.002	5163.1	358.7	292	340	0.00	0.00	M I
PO-209	430	2	0	0.858	4931.4	357.8	256	304	0.00	0.00	P
PO-210	-9999	-9999	0	-10.002	5352.5	351.9	318	365	0.00	0.00	M
AC-227	-9999	-9999	0	-10.002	6086.2	361.9	415	463	0.00	0.00	M
TH-227	-9999	-9999	0	-10.002	6086.2	361.9	415	463	0.00	0.00	M
TH-228	-9999	-9999	0	-10.002	5471.4	359.8	333	381	0.00	0.00	M
TH-229	430	2	0	0.858	4893.5	357.8	256	304	0.00	0.00	P
TH-230	-9999	-9999	0	-10.002	4735.9	357.3	235	283	0.00	0.00	M I
TH-232	1	0	0	0.002	4061.2	355.0	144	192	0.00	0.00	S
U-232	-9999	-9999	0	-10.002	5368.3	352.0	320	367	0.00	0.00	M
U-234	-9999	-9999	0	-10.002	4822.8	365.0	246	295	0.00	0.00	M I
U-235	-9999	-9999	0	-10.002	4446.0	356.3	196	244	0.00	0.00	M
PU-236	-9999	-9999	0	-10.002	5815.8	361.0	379	427	0.00	0.00	M
NP-237	-9999	-9999	0	-10.002	4836.2	357.6	248	296	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.002	5547.2	352.6	344	391	0.00	0.00	M
U-238	-9999	-9999	0	-10.002	4246.2	355.6	169	217	0.00	0.00	M
PU-239	-9999	-9999	0	-10.002	5204.8	358.9	298	346	0.00	0.00	M I
AM-241	-9999	-9999	0	-10.002	5533.8	352.5	342	389	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.002	5255.0	359.0	304	352	0.00	0.00	M
CM-242	-9999	-9999	0	-10.002	6160.9	362.1	425	473	0.00	0.00	M
PU-242	430	2	0	0.858	4948.7	357.8	256	304	0.00	0.00	P
AM-243	-9999	-9999	0	-10.002	5323.5	351.8	314	361	0.00	0.00	M
CM-244	-9999	-9999	0	-10.002	5853.0	361.1	384	432	0.00	0.00	M
CM-246	-9999	-9999	0	-10.002	5434.7	352.2	329	376	0.00	0.00	M
CM-247	430	2	0	0.858	4918.6	357.8	256	304	0.00	0.00	P
CM-248	-9999	-9999	0	-10.002	5126.8	358.6	287	335	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: H9GEK1AA
Detector: ALP119 1
Report Date: 29-Jul-06 12:13 AM
Acquire Date: 28-JUL-2006 15:53:36.93

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

VMS Peak Search Report V1.9 Generated 29-JUL-2006 00:13:38

Configuration	: RDND06$DKA100:[ALP119.SAMPLE]H9GEK1AA_280761553.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: TH BRC		
Sample date	: 3-JUL-2006 12:00:00	Acquisition date	: 28-JUL-2006 15:53:36
Sample ID	: H9GEK1AA	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP119	Detector geometry	:
Elapsed live time	: 0 08:20:00.00	Elapsed real time	: 0 08:20:00.00 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	4893.46	430	0	138.80	273.26	256	48	1.43E-02	4.8	
2	0	6328.17	8	0	58.44	464.50	460	11	2.67E-04	35.4	

VMS Nuclide Identification Report V3.1 Generated 29-JUL-2006 00:13:39

```
Configuration     : RDND06$DKA100:[ALP119.SAMPLE]H9GEK1AA_280761553.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : TH BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 28-JUL-2006 15:53:36
Sample ID         : H9GEK1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP119               Detector geometry:
Elapsed live time: 0 08:20:00.00         Elapsed real time: 0 08:20:00.00   0.0%
Energy tolerance :   100.00 kev          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :     0.00
```

Summary of Nuclide Activity

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

Nuclide Type : NP

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

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
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]H9GEK1AA_280761553.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4893.46	256	304	430	434	-0.19		
6328.17	460	471	8	7	0.35		

End of Report

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

Sample Identity: H9GEM1AA

Detector: ALP120 1
Report Date: 31-Jul-06 06:22 AM
Acquire Date: 28-JUL-2006 15:53:48.64
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	414	1	0.827	4845.3	369.4	253	303
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)

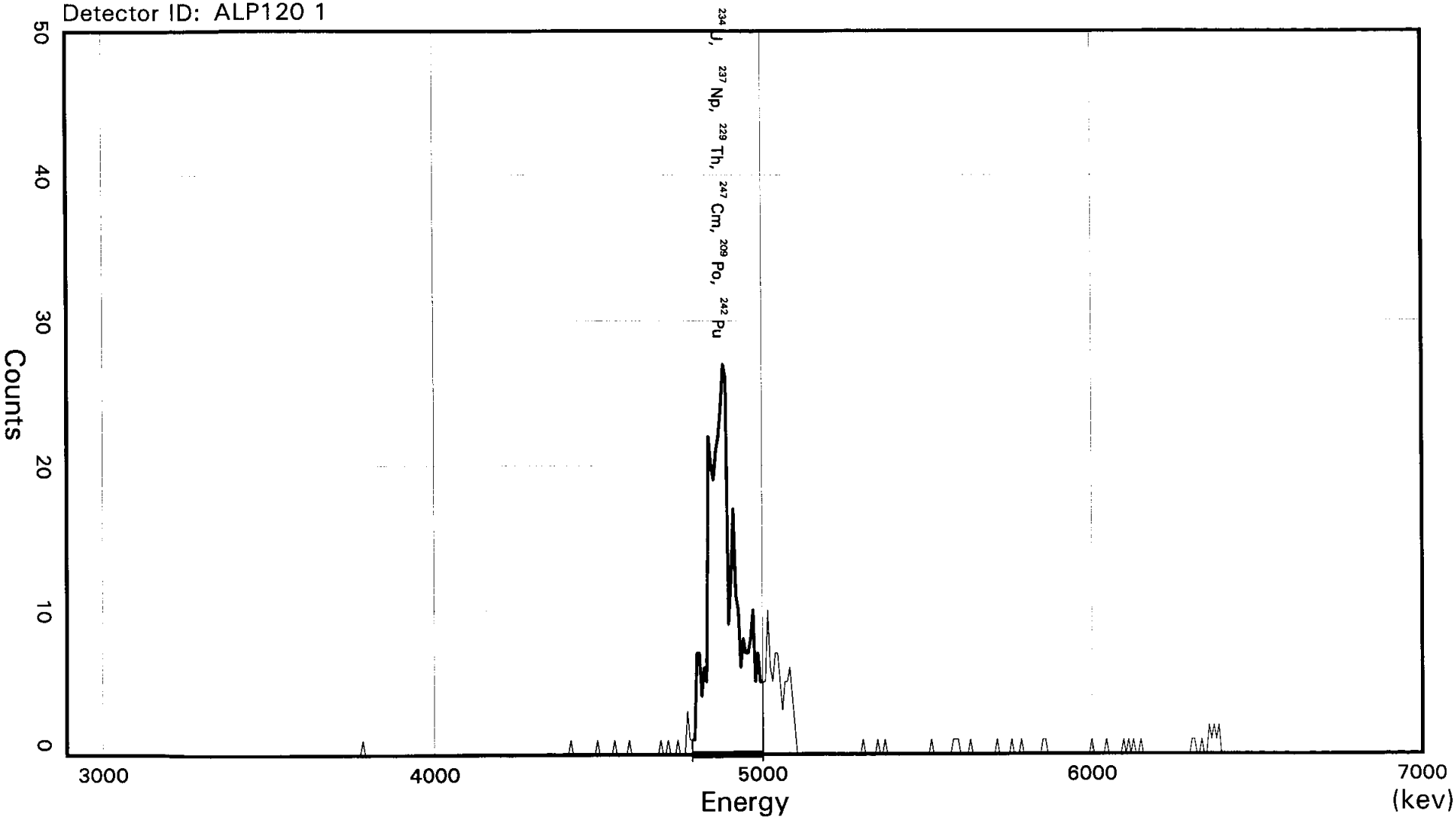
STL Richland WA.

TH BRC

Sample ID: H9GEM1AA

Detector ID: ALP120 1

Batch ID: 6200109



Acquisition Start: 28-JUL-2006 15:53:48.64

Preset Live Time: 0 08:20:00.00

Elapsed Live Time: 0 08:20:02.00

Energy Coefficients:

Offset: 2.87004E+03

Slope: 7.35695E+00

Quadrature: 5.42554E-05

SAMPLE IDENTIITY: H9GEM1AA

TITLE : TH BRC

DETECTOR : ALP120 1
CONFIGURATION NAME : RDND06$DKA100:[ALP120.SAMPLE]H9GEM1AA_280761
553.CNF;1
ACQUIRE DATE of BACKGROUND: 23-JUL-2006 06:44:58

REPORT DATE : 29-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 28-JUL-2006 15:53:48 CALIB DATE : 22-JUL-2006 23:05:18

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

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: H9GEM1AA

Detector: ALP120 1
Report Date: 29-Jul-06 12:13 AM
Acquire Date: 28-JUL-2006 15:53:48.64
Tracer Nuclide: TH-229
High Counts Limit: 36
Sample Live Time: 500 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

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

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
PO-208	-9999	-9999	0	-9.999	5141.1	214.3	296	325	0.00	0.00	M
PO-209	342	0	0	0.684	4909.4	214.2	260	289	0.00	0.00	P
PO-210	-9999	-9999	0	-9.999	5330.5	214.4	322	351	0.00	0.00	M
AC-227	4	5	4	0.004	6064.2	214.7	421	450	0.00	0.00	S
TH-227	4	5	4	0.004	6064.2	214.7	421	450	0.00	0.00	S
TH-228	-9999	-9999	0	-9.999	5449.4	214.5	338	367	0.00	0.00	M
TH-229	342	0	0	0.684	4871.5	214.2	260	289	0.00	0.00	P
TH-230	-9999	-9999	0	-9.999	4713.9	214.1	239	268	0.00	0.00	I
TH-232	0	0	0	0.000	4039.2	213.9	147	176	0.00	0.00	S
U-232	-9999	-9999	0	-9.999	5346.3	214.4	324	353	0.00	0.00	M
U-234	342	0	0	0.684	4800.8	214.2	260	289	0.00	0.00	P
U-235	3	0	0	0.006	4424.0	214.0	199	228	0.00	0.00	S
PU-236	3	18	4	-0.011	5793.8	214.6	385	414	0.00	0.00	S
NP-237	342	0	0	0.684	4814.2	214.2	260	289	0.00	0.00	P
PU-238	-9999	-9999	0	-9.999	5525.2	214.5	348	377	0.00	0.00	M
U-238	-9999	-9999	0	-9.999	4224.2	213.9	172	201	0.00	0.00	M
PU-239	-9999	-9999	0	-9.999	5182.7	214.3	302	331	0.00	0.00	M
AM-241	-9999	-9999	0	-9.999	5511.8	214.5	347	376	0.00	0.00	M
AM-242M	-9999	-9999	0	-9.999	5233.0	214.4	309	338	0.00	0.00	M
CM-242	-9999	-9999	0	-9.999	6138.9	214.8	431	460	0.00	0.00	M
PU-242	342	0	0	0.684	4926.7	214.2	260	289	0.00	0.00	P
AM-243	-9999	-9999	0	-9.999	5301.5	214.4	318	347	0.00	0.00	M
CM-244	2	15	4	-0.010	5831.0	214.6	390	419	0.00	0.00	S
CM-246	-9999	-9999	0	-9.999	5412.7	214.4	333	362	0.00	0.00	M
CM-247	342	0	0	0.684	4896.6	214.2	260	289	0.00	0.00	P
CM-248	-9999	-9999	0	-9.999	5104.8	214.3	292	321	0.00	0.00	M

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GEM1AA
Detector: ALP120 1
Report Date: 29-Jul-06 12:13 AM
Acquire Date: 28-JUL-2006 15:53:48.64

Flags Key

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

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

VMS Peak Search Report V1.9 Generated 29-JUL-2006 00:13:53

```
Configuration     : RDND06$DKA100:[ALP120.SAMPLE]H9GEM1AA_280761553.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 28-JUL-2006 15:53:48
Sample ID         : H9GEM1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP120               Detector geometry:
Elapsed live time: 0 08:20:02.00         Elapsed real time: 0 08:20:02.00   0.0%
Start energy      :  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	4871.45	342	0	73.57	271.50	260	29	1.14E-02	5.4	

VMS Nuclide Identification Report V3.1 Generated 29-JUL-2006 00:13:55

Configuration	: RDND06$DKA100:[ALP120.SAMPLE]H9GEM1AA_280761553.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.4		
Sample title	: TH BRC		
Sample date	: 3-JUL-2006 12:00:00	Acquisition date	: 28-JUL-2006 15:53:48
Sample ID	: H9GEM1AA	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP120	Detector geometry	:
Elapsed live time	: 0 08:20:02.00	Elapsed real time	: 0 08:20:02.00 0.0%
Energy tolerance	: 100.00 kev	Half life ratio	: 1.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Spline	Efficiencies at	: Peak Energy
Abundance limit	: 0.00		

Summary of Nuclide Activity

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

Nuclide Type : NP

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

Nuclide Type : AP

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

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

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

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

Configuration: RDND06$DKA100:[ALP120.SAMPLE]H9GEM1AA_280761553.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4871.45	260	289	342	339	0.16		

End of Report

SEVERN TRENT **STL**

THORIUM ISOTOPIC COUNTING REQUEST

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

Counting Time
Sample: 500 Minutes
Background: See Alpha Analysis Report
BRC 7/3/06

SOP's
Operating: RICHRD008
Review: RICHRD0016
6200109

1758
7/29/06 R

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)		
H9GE01AA		10		0	See Alpha Analysis Report for ROI Information			171	
H9GER1AA		10		0	See Alpha Analysis Report for ROI Information			172	
H9GE01AA		10		0	See Alpha Analysis Report for ROI Information			173	
H9GE51AA		10		0	See Alpha Analysis Report for ROI Information			174	
H9HTN1AA		10		0	See Alpha Analysis Report for ROI Information			175	
H9HTN1AC		10		0	See Alpha Analysis Report for ROI Information			176	
		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

STL RICHLAND

176

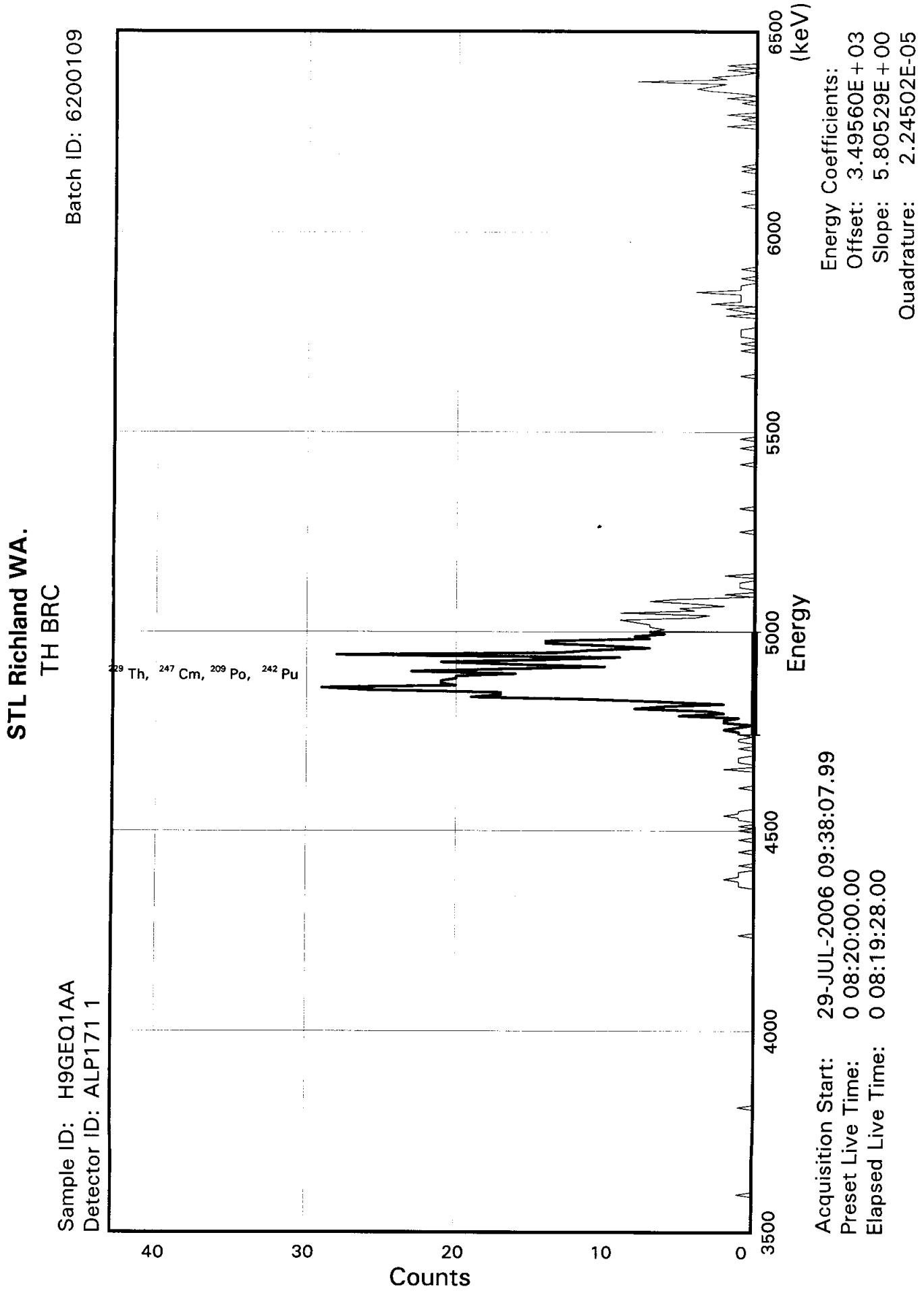
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H9GEQ1AA

Detector: ALP171 1
Report Date: 31-Jul-06 06:13 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	1	6	-0.004	5423.2	116.4	317	337
TH-229	597	4	1.191	4845.3	372.3	217	281
TH-230	7	1	0.013	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: 6200109
Sample ID: H9GEQ1AA
Detector ID: ALP171 1
229 Th, 247 Cm, 209 Po, 242 Pu
Counts
40
30
20
10
0
3500
4000
4500
5000
5500
6000
6500
Energy
(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: 3.49560E+03
Slope: 5.80529E+00
Quadrature: 2.24502E-05

SAMPLE IDENTIITY: H9GEQ1AA

TITLE : TH BRC

DETECTOR : ALP171 1
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9GEQ1AA_290760938A.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 29-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 29-JUL-2006 09:38:07 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: H9GEQ1AA

Detector: ALP171 1
Report Date: 29-Jul-06 05:58 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	-9999	-9999	0	-10.010	5163.5	256.0	261	305	0.00	0.00	M
PO-209	513	4	0	1.023	4931.8	255.9	215	259	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5352.9	256.1	294	338	0.00	0.00	M
AC-227	-9999	-9999	0	-10.010	6086.6	256.3	420	464	0.00	0.00	M
TH-227	-9999	-9999	0	-10.010	6086.6	256.3	420	464	0.00	0.00	M
TH-228	-9999	-9999	0	-10.010	5471.8	256.1	314	358	0.00	0.00	M
TH-229	513	4	0	1.023	4893.9	255.9	215	259	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4736.3	255.8	188	232	0.00	0.00	M I
TH-232	0	1	0	-0.001	4061.6	255.6	72	116	0.00	0.00	S
U-232	-9999	-9999	0	-10.010	5368.7	256.1	297	341	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4823.2	255.9	203	247	0.00	0.00	M I
U-235	19	2	0	0.036	4446.4	255.7	138	182	0.00	0.00	S
PU-236	14	45	27	-0.018	5816.2	250.4	374	417	0.00	0.00	S
NP-237	-9999	-9999	0	-10.010	4836.6	255.9	205	249	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.010	5547.6	256.1	327	371	0.00	0.00	M
U-238	-9999	-9999	0	-10.010	4246.6	255.7	104	148	0.00	0.00	M
PU-239	-9999	-9999	0	-10.010	5205.1	256.0	269	313	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5534.2	256.1	325	369	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5255.4	256.0	277	321	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6161.3	256.3	433	477	0.00	0.00	M
PU-242	513	4	0	1.023	4949.1	255.9	215	259	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5323.9	256.0	289	333	0.00	0.00	M
CM-244	-9999	-9999	0	-10.010	5853.4	256.2	380	424	0.00	0.00	M
CM-246	-9999	-9999	0	-10.010	5435.1	256.1	308	352	0.00	0.00	M
CM-247	513	4	0	1.023	4919.0	255.9	215	259	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5127.2	256.0	255	299	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: H9GEQ1AA
Detector: ALP171 1
Report Date: 29-Jul-06 05:58 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	1	+	151	0	+	201	11	@	251	0	@	301	0	@	351	1	@	401
		2	0		52	0	+	102	2	+	152	0	+	202	7	@	252	1	@	302	0	@	352	1	@	402
0		3	0		53	0	+	103	1	+	153	1	@	203	10	@	253	0	@	303	0	@	353	1	@	403
0		4	1		54	0	@	104	1	+	154	1	@	204	14	@	254	0	@	304	0	@	354	1	@	404
0		5	0		55	0	@	105	1	+	155	1	-	205	14	-	255	0	@	305	0	@	355	4	@	405
0		6	0		56	0	@	106	0	+	156	0	@	206	7	@	256	0	@	306	0	@	356	1	@	406
0		7	0		57	0	@	107	0	+	157	0	@	207	8	@	257	0	@	307	0	@	357	1	@	407
0		8	0		58	0	@	108	1	+	158	0	@	208	6	@	258	0	-	308	0	@	358	1	@	408
0		9	0		59	0	@	109	0	+	159	1	@	209	7	-	259	0	@	309	0	@	359	0	@	409
0		10	0		60	0	@	110	0	+	160	0	@	210	6	-	260	0	@	310	0	@	360	0	@	410
0		11	0		61	0	@	111	0	+	161	0	@	211	7	@	261	0	@	311	0	@	361	1	@	411
0		12	0		62	0	@	112	0	+	162	1	@	212	7	@	262	1	@	312	0	@	362	0	@	412
0		13	0		63	0	@	113	0	+	163	1	@	213	8	@	263	0	@	313	0	@	363	0	@	413
0		14	0		64	0	@	114	1	+	164	0	@	214	9	@	264	0	@	314	0	@	364	0	@	414
0		15	0		65	0	@	115	0	+	165	1	@	215	4	@	265	0	@	315	0	@	365	1	@	415
0		16	0		66	0	@	116	0	+	166	1	@	216	3	@	266	0	@	316	0	@	366	0	@	416
1		17	0		67	0	-	117	0	+	167	2	@	217	9	@	267	0	@	317	0	@	367	0	@	417
0		18	0		68	0	-	118	0	+	168	1	@	218	4	@	268	0	@	318	0	@	368	0	-	418
0		19	0		69	0	-	119	1	+	169	0	@	219	5	@	269	0	@	319	1	@	369	0	-	419
0		20	0		70	0	-	120	0	+	170	2	@	220	2	@	270	0	@	320	0	+	370	0	@	420
0		21	0		71	0	-	121	0	+	171	2	@	221	4	@	271	0	@	321	0	+	371	0	@	421
0		22	0	+	72	0	-	122	0	+	172	1	@	222	7	@	272	0	@	322	0		372	0	@	422
0		23	0	+	73	0	-	123	1	+	173	5	@	223	5	@	273	0	@	323	0		373	0	@	423
0		24	0	+	74	0	-	124	0	+	174	2	@	224	0	@	274	0	@	324	0	+	374	0	@	424
0		25	0	+	75	0	-	125	1	+	175	3	@	225	2	@	275	0	@	325	0	+	375	0	@	425
0		26	0	+	76	0	-	126	0	+	176	8	@	226	0	@	276	0	@	326	0	+	376	0	@	426
0		27	0	+	77	0	-	127	0	+	177	6	@	227	0	@	277	0	@	327	0	+	377	0	@	427
0		28	0	+	78	1	-	128	1	+	178	2	@	228	1	@	278	0	@	328	0	+	378	0	@	428
0		29	0	+	79	0	-	129	1	+	179	6	@	229	1	@	279	0	@	329	0	+	379	0	@	429
0		30	0	+	80	0	-	130	2	+	180	11	@	230	1	@	280	0	@	330	1	@	380	0	@	430
0		31	0	+	81	0	-	131	1	+	181	19	@	231	0	@	281	1	@	331	0	@	381	0	@	431
0		32	0	+	82	0	-	132	1	+	182	17	@	232	0	@	282	0	@	332	0	@	382	0	@	432
0		33	0	+	83	0	-	133	0		183	17	@	233	2	@	283	0	@	333	1	@	383	0	-	433
0		34	0	+	84	0	-	134	0		184	26	@	234	0	@	284	0	@	334	0	@	384	0	@	434
0		35	0	+	85	0	-	135	0		185	29	@	235	0	@	285	0	@	335	0	@	385	0	@	435
0		36	0	+	86	0	-	136	0		186	20	@	236	0	@	286	0	@	336	1	@	386	0	@	436
0		37	0	+	87	0	-	137	0		187	21	@	237	0	@	287	0	@	337	1	@	387	0	@	437
0		38	0	+	88	0	@	138	0	+	188	21	@	238	0	@	288	1	@	338	1	@	388	0	@	438
0		39	0	+	89	0	@	139	0	+	189	20	@	239	0	@	289	0	@	339	1	@	389	0	@	439
0		40	0	+	90	0	@	140	0	+	190	20	@	240	0	@	290	0	@	340	0	@	390	0	@	440
0		41	0	+	91	0	@	141	0	+	191	16	@	241	0	@	291	0	@	341	0	@	391	0	@	441
0		42	0	+	92	0	@	142	1	+	192	23	@	242	0	@	292	1	@	342	0	@	392	1	@	442
0		43	0	+	93	0	@	143	0	+	193	17	@	243	0	@	293	0	@	343	0	@	393	0	@	443
0		44	0	+	94	0	@	144	0	+	194	10	@	244	0	@	294	0	@	344	0	@	394	0	@	444
0		45	0	+	95	0	@	145	0	+	195	16	@	245	0	@	295	0	@	345	2	@	395	0	@	445
0		46	0	+	96	0	@	146	0	+	196	21	@	246	0	@	296	0	@	346	0	@	396	0	@	446
0		47	0	+	97	0	@	147	0	+	197	14	@	247	0	@	297	0	@	347	1	@	397	0	@	447
0		48	0	+	98	0	@	148	0	+	198	9	@	248	0	@	298	0	@	348	2	@	398	1	@	448
0		49	0	+	99	1	+	149	0	+	199	28	@	249	0	@	299	0	@	349	0	@	399	0	@	449
0		50	0	+	100	1	+	150	2	+	200	13	@	250	0	@	300	0	@	350	3	@	400	0	@	450

Cnt	F	Chn	Cnt	F	Chn
0		501			
2		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 29-JUL-2006 17:58:40

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GEQ1AA_290760938A.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 29-JUL-2006 09:38:07
Sample ID         : H9GEQ1AA             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	4893.85	513	0127.72		240.63	215	44	1.71E-02	4.4	

VMS Nuclide Identification Report V3.0 Generated 29-JUL-2006 17:58:44

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GEQ1AA_290760938A.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 29-JUL-2006 09:38:07
Sample ID         : H9GEQ1AA             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]H9GEQ1AA_290760938A.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4893.85	215	259	513	514	-0.04		

End of Report

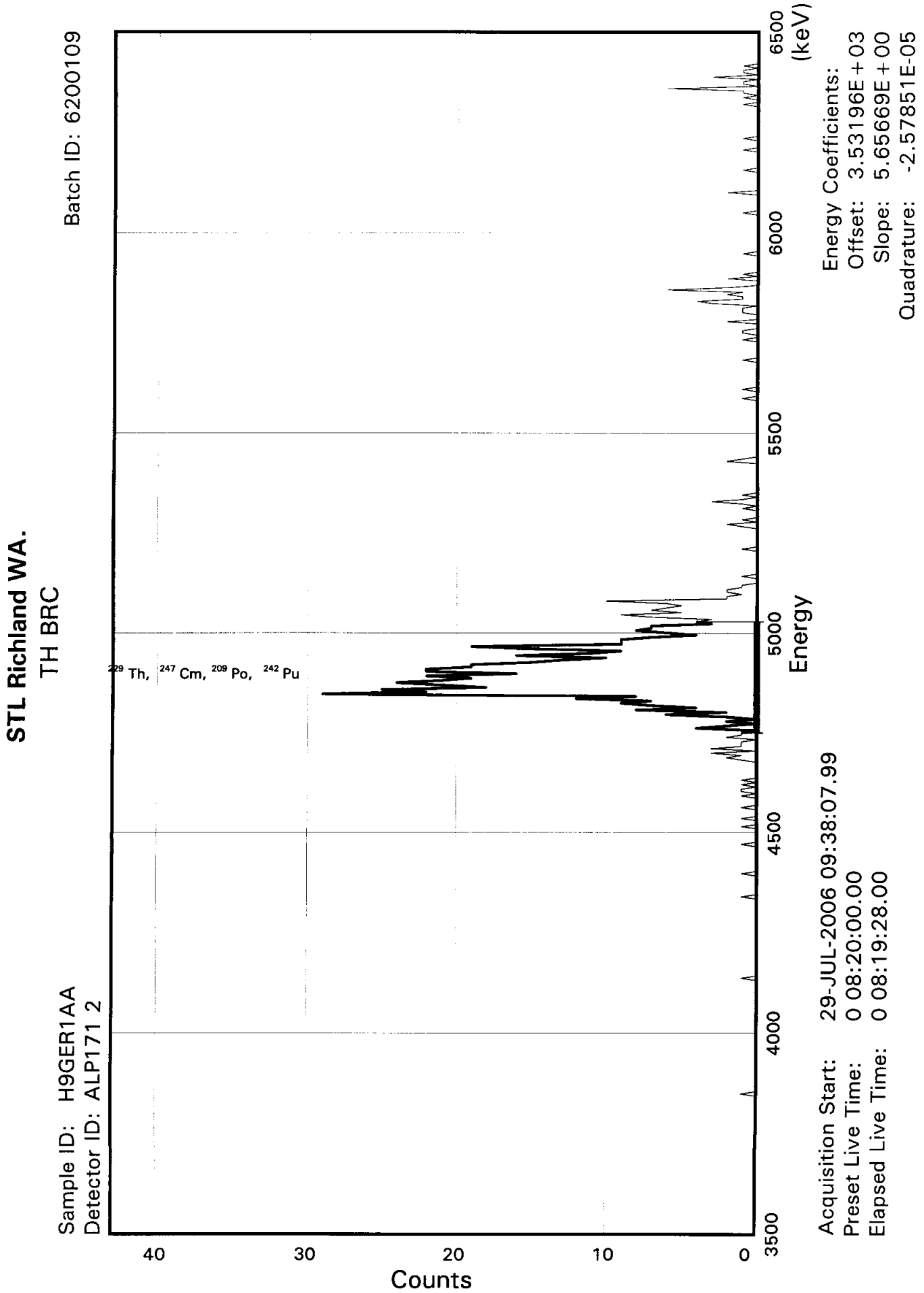
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H9GER1AA

Detector: ALP171 2
Report Date: 31-Jul-06 06:13 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	4	6	0.002	5423.2	112.8	320	340
TH-229	622	7	1.238	4845.3	378.1	217	284
TH-230	15	1	0.029	4687.7	112.9	190	210
TH-232	0	2	-0.002	4013.0	113.1	70	90

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6200109
Sample ID: H9GER1AA
Detector ID: ALP171 2
229 Th, 247 Cm, 209 Po, 242 Pu
Counts
40
30
20
10
0
3500
4000
4500
5000
5500
6000
6500
Energy
(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: 3.53196E+03
Slope: 5.65669E+00
Quadrature: -2.57851E-05

SAMPLE IDENTIITY: H9GER1AA

TITLE : TH BRC

DETECTOR : ALP171 2
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9GER1AA_290760938B.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 29-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 29-JUL-2006 09:38:07 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: H9GER1AA

Detector: ALP171 2
Report Date: 29-Jul-06 05:58 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	-9999	-9999	0	-10.010	5168.9	276.4	264	313	0.00	0.00	M
PO-209	560	5	0	1.116	4937.2	276.6	216	265	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5358.4	276.4	297	346	0.00	0.00	M
AC-227	-9999	-9999	0	-10.010	6092.0	281.7	427	477	0.00	0.00	M
TH-227	-9999	-9999	0	-10.010	6092.0	281.7	427	477	0.00	0.00	M
TH-228	-9999	-9999	0	-10.010	5477.2	276.3	318	367	0.00	0.00	M
TH-229	560	5	0	1.116	4899.3	276.6	216	265	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4741.7	276.6	188	237	0.00	0.00	M I
TH-232	1	2	1	-0.001	4067.0	276.9	69	118	0.00	0.00	S
U-232	-9999	-9999	0	-10.010	5374.2	276.4	300	349	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4828.6	276.6	203	252	0.00	0.00	M I
U-235	6	1	1	0.010	4451.8	276.8	137	186	0.00	0.00	S
PU-236	-9999	-9999	0	-10.010	5821.7	276.2	380	429	0.00	0.00	M
NP-237	-9999	-9999	0	-10.010	4842.0	276.6	206	255	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.010	5553.0	276.3	332	381	0.00	0.00	M
U-238	-9999	-9999	0	-10.010	4252.0	276.9	101	150	0.00	0.00	M
PU-239	-9999	-9999	0	-10.010	5210.6	276.4	271	320	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5539.6	281.9	329	379	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5260.8	276.4	280	329	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6166.7	276.0	441	490	0.00	0.00	M
PU-242	560	5	0	1.116	4954.5	276.6	216	265	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5329.3	276.4	292	341	0.00	0.00	M
CM-244	-9999	-9999	0	-10.010	5858.8	276.1	386	435	0.00	0.00	M
CM-246	-9999	-9999	0	-10.010	5440.5	276.3	312	361	0.00	0.00	M
CM-247	560	5	0	1.116	4924.4	276.6	216	265	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5132.6	276.5	257	306	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: H9GER1AA
Detector: ALP171 2
Report Date: 29-Jul-06 05:58 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	11	@	251	0	@	301	0	@	351	0	@	401	0	@	451	6		501
		2	0		52	0	@	102	0	+	152	0	+	202	9	@	252	0	@	302	0	@	352	1	@	402	0	@	452	0		502
0		3	0		53	0	@	103	1	+	153	0	@	203	15	@	253	0	@	303	0	@	353	1	@	403	0	@	453	1		503
0		4	0		54	0	@	104	0	+	154	1	@	204	19	@	254	0	@	304	0	@	354	1	@	404	0	@	454	1		504
0		5	0		55	0	@	105	0	+	155	2	@	205	9	@	255	0	@	305	0	@	355	0	@	405	2	@	455	0		505
0		6	1		56	0	@	106	0	+	156	1	-	206	9	@	256	0	@	306	0	@	356	3	@	406	0	@	456	3		506
0		7	0		57	1	@	107	0	+	157	3	@	207	9	-	257	1	@	307	0	@	357	4	@	407	0	@	457	0		507
0		8	0		58	0	@	108	0	+	158	0	@	208	7	@	258	2	@	308	0	@	358	1	@	408	0	@	458	1		508
0		9	0		59	0	@	109	0	+	159	3	@	209	4	@	259	0	@	309	0	@	359	1	@	409	0	@	459	1		509
0		10	0		60	0	@	110	0	+	160	1	@	210	6	@	260	1	@	310	0	@	360	2	@	410	0	@	460	0		510
0		11	0		61	0	@	111	0	+	161	1	@	211	8	@	261	0	@	311	0	@	361	1	@	411	0	@	461	1		511
0		12	0		62	0	@	112	0	+	162	1	@	212	7	@	262	0	-	312	0	@	362	6	@	412	0	@	462	0		512
0		13	0		63	0	@	113	0	+	163	0	@	213	7	@	263	0	@	313	0	@	363	2	@	413	0	@	463			
0		14	0		64	0	@	114	0	+	164	2	@	214	3	@	264	0	@	314	1	@	364	0	@	414	0	@	464			
0		15	0		65	0	@	115	0	+	165	1	@	215	4	@	265	1	@	315	0	@	365	0	@	415	1	@	465			
0		16	0		66	0	@	116	1	+	166	1	@	216	3	@	266	0	@	316	0	@	366	0	@	416	0	@	466			
0		17	0		67	0	@	117	0	+	167	0	@	217	7	@	267	1	@	317	0	@	367	2	@	417	0	@	467			
0		18	0		68	0	@	118	0	+	168	4	@	218	9	@	268	3	@	318	1	@	368	0	@	418	0	@	468			
0		19	0	+	69	0	-	119	0	+	169	2	@	219	5	@	269	1	@	319	0	@	369	1	@	419	0	@	469			
0		20	0	+	70	0	-	120	0	+	170	0	@	220	7	@	270	0	@	320	0	@	370	0	@	420	0	@	470			
0		21	0	+	71	0	-	121	0	+	171	2	@	221	6	@	271	1	@	321	0	@	371	0	@	421	0	@	471			
0		22	0	+	72	0	-	122	0	+	172	0	@	222	5	@	272	0	@	322	0	@	372	0	@	422	0	@	472			
0		23	0	+	73	0	-	123	0	+	173	2	@	223	6	@	273	0	@	323	0	@	373	0	@	423	0	@	473			
0		24	0	+	74	0	-	124	1	+	174	6	@	224	10	@	274	0	@	324	0	@	374	0	@	424	1	@	474			
0		25	0	+	75	0	-	125	0	+	175	2	@	225	2	@	275	0	@	325	0	@	375	0	@	425	0	@	475			
0		26	0	+	76	0	-	126	0	+	176	8	@	226	2	@	276	0	@	326	0	@	376	0	@	426	0	@	476			
0		27	0	+	77	0	-	127	0	+	177	4	@	227	1	@	277	0	@	327	0	@	377	0	@	427	0	@	477			
0		28	0	+	78	0	-	128	1	+	178	7	@	228	2	@	278	0	@	328	0	@	378	1	@	428	0	-	478			
0		29	0	+	79	0	-	129	0	+	179	9	@	229	2	@	279	0	@	329	0	@	379	0	@	429	1	-	479			
0		30	0	+	80	0	-	130	0	+	180	7	@	230	1	@	280	0	@	330	0	@	380	0	@	430	0	-	480			
0		31	0	+	81	0	-	131	0	+	181	12	@	231	1	@	281	0	@	331	1	@	381	0	@	431	0	-	481			
0		32	0	+	82	0	-	132	0	+	182	8	@	232	0	@	282	0	@	332	0	+	382	0	@	432	0	-	482			
0		33	0	+	83	0	-	133	1	+	183	29	@	233	0	@	283	0	@	333	0	+	383	0	@	433	0	-	483			
0		34	0	+	84	0	-	134	0	+	184	22	@	234	0	@	284	0	@	334	0	+	384	0	@	434	0	-	484			
0		35	0	+	85	0	-	135	0	+	185	25	@	235	1	@	285	0	@	335	0	+	385	0	@	435	0	-	485			
0		36	0	+	86	0	-	136	0	+	186	18	@	236	0	@	286	2	@	336	0	@	386	0	@	436	0	-	486			
0		37	0	+	87	0	@	137	0		187	21	@	237	0	@	287	1	@	337	0	@	387	0	@	437	0	-	487			
0		38	0	+	88	0	@	138	1	+	188	24	@	238	0	@	288	0	@	338	0	@	388	0	@	438	0	-	488			
0		39	0	+	89	0	@	139	0	+	189	21	@	239	0	@	289	0	@	339	0	@	389	0	@	439	0	-	489			
0		40	0	+	90	0	@	140	1	+	190	19	@	240	0	@	290	0	@	340	1	@	390	0	@	440	0	-	490			
0		41	0	+	91	0	@	141	1	+	191	22	@	241	0	@	291	0	@	341	0	@	391	0	-	441	0		491			
0		42	0	+	92	0	@	142	0	+	192	16	@	242	0	@	292	0	@	342	0	@	392	0	@	442	0		492			
0		43	0	+	93	1	@	143	1	+	193	22	@	243	0	@	293	0	@	343	1	@	393	0	@	443	0		493			
0		44	0	+	94	0	@	144	0	+	194	22	@	244	0	@	294	0	@	344	1	@	394	0	@	444	1		494			
0		45	0	+	95	0	@	145	1	+	195	19	@	245	0	@	295	0	@	345	0	@	395	0	@	445	0		495			
0		46	0	+	96	0	@	146	0	+	196	19	@	246	0	@	296	0	@	346	0	@	396	1	@	446	0		496			
0		47	0	+	97	0	@	147	0	+	197	15	@	247	1	@	297	0	@	347	0	@	397	0	@	447	1		497			
0		48	0	+	98	0	@	148	0	+	198	13	@	248	0	@	298	0	@	348	2	@	398	0	@	448	0		498			
0		49	0	+	99	0	@	149	0	+	199	10	@	249	0	@	299	0	@	349	0	@	399	0	@	449	1		499			
0		50	0	+	100	0	@	150	0	+	200	16	@	250	0	@	300	0	@	350	0	@	400	0	@	450	1		500			

VMS Peak Search Report V1.9 Generated 29-JUL-2006 17:58:48

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GER1AA_290760938B.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 29-JUL-2006 09:38:07
Sample ID         : H9GER1AA             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	4899.31	560	0141.42		241.99	216	49	1.87E-02	4.2	

VMS Nuclide Identification Report V3.0 Generated 29-JUL-2006 17:58:51

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GER1AA_290760938B.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 29-JUL-2006 09:38:07
Sample ID         : H9GER1AA             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]H9GER1AA_290760938B.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4899.30	216	265	560	554	0.25		

End of Report

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

Sample Identity: H9GE01AA

Detector: ALP171 3
Report Date: 31-Jul-06 06:13 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	3	1	0.005	5423.2	119.3	309	329
TH-229	555	2	1.109	4845.3	364.0	212	273
TH-230	15	0	0.030	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)

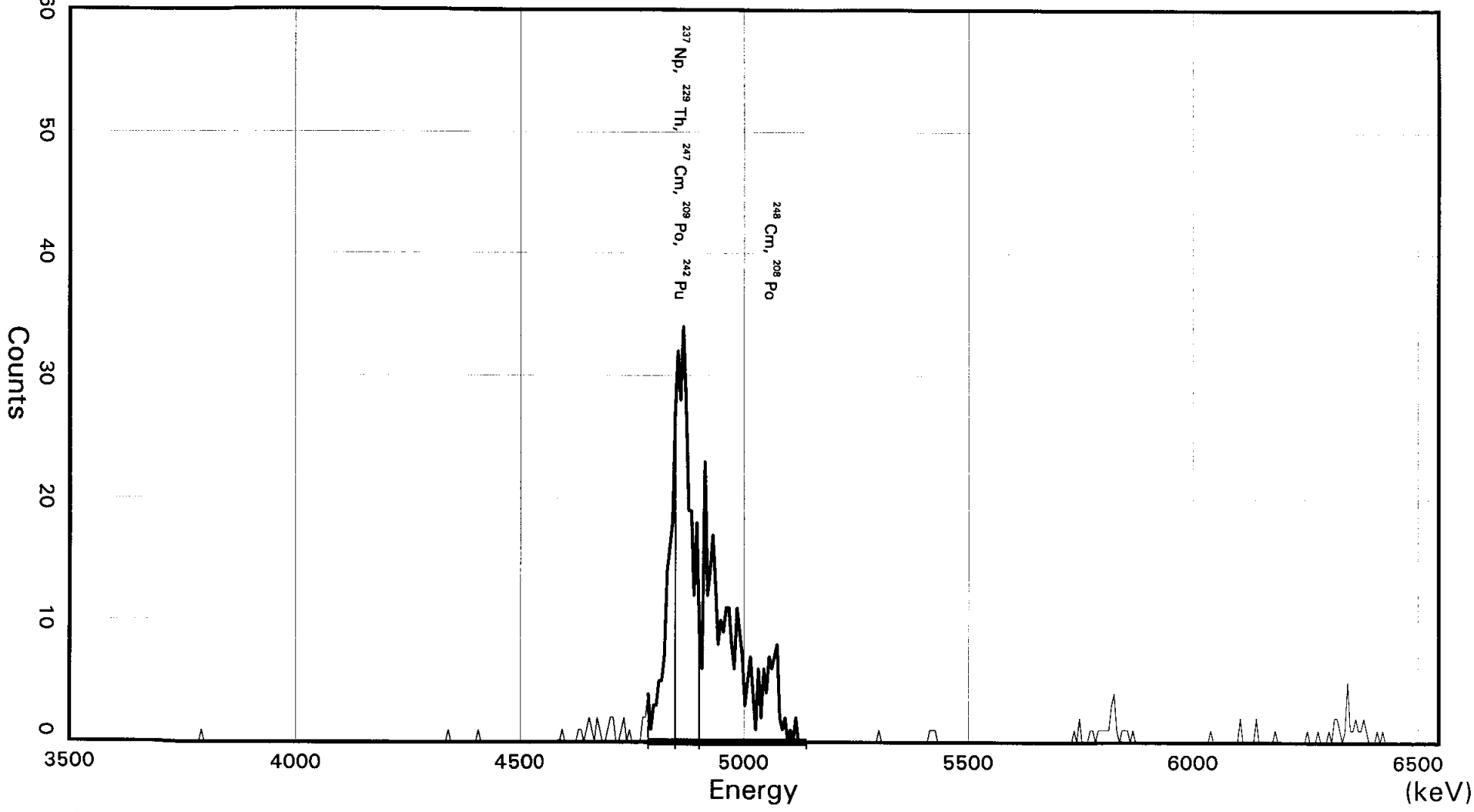
STL Richland WA.

TH BRC

Sample ID: H9GE01AA

Detector ID: ALP171 3

Batch ID: 6200109



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: 3.49135E+03

Slope: 5.98005E+00

Quadrature: -2.72507E-05

SAMPLE IDENTIITY: H9GE01AA

TITLE : TH BRC

DETECTOR : ALP171 3
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9GE01AA_290760938C.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 29-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 29-JUL-2006 09:38:07 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: H9GE01AA

Detector: ALP171 3
Report Date: 29-Jul-06 05:58 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	93	2	0	0.184	5128.6	292.4	227	276	0.00	0.00	P
PO-209	458	1	0	0.916	4896.9	113.4	217	236	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5318.1	113.3	294	313	0.00	0.00	M
AC-227	1	1	0	0.001	6051.7	113.2	417	436	0.00	0.00	S
TH-227	1	1	0	0.001	6051.7	113.2	417	436	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5436.9	113.3	314	333	0.00	0.00	M
TH-229	458	1	0	0.916	4859.0	113.4	217	236	0.00	0.00	P
TH-230	16	0	4	0.032	4701.4	113.4	191	210	0.00	0.00	S
TH-232	0	1	0	-0.001	4026.7	113.5	78	97	0.00	0.00	
U-232	-9999	-9999	0	-10.010	5333.9	113.3	297	316	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4788.3	113.4	205	224	0.00	0.00	S I
U-235	2	1	0	0.003	4411.5	113.5	142	161	0.00	0.00	
PU-236	9	18	16	0.001	5781.4	113.2	372	391	0.00	0.00	S
NP-237	458	1	0	0.916	4801.7	113.4	217	236	0.00	0.00	P
PU-238	-9999	-9999	0	-10.010	5512.8	113.3	327	346	0.00	0.00	M
U-238	0	1	0	-0.001	4211.7	113.5	109	128	0.00	0.00	
PU-239	-9999	-9999	0	-10.010	5170.3	113.3	269	288	0.00	0.00	S I
AM-241	-9999	-9999	0	-10.010	5499.3	113.3	324	343	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5220.5	113.3	278	297	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6126.5	113.2	430	449	0.00	0.00	M
PU-242	458	1	0	0.916	4914.2	113.4	217	236	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5289.0	113.3	289	308	0.00	0.00	M
CM-244	12	41	16	-0.017	5818.6	113.2	378	397	0.00	0.00	S
CM-246	-9999	-9999	0	-10.010	5400.2	113.3	308	327	0.00	0.00	M
CM-247	458	1	0	0.916	4884.1	113.4	217	236	0.00	0.00	P
CM-248	93	2	0	0.184	5092.3	292.4	227	276	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GE01AA
Detector: ALP171 3
Report Date: 29-Jul-06 05:58 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	9	@	251	0	@	301	0		351	0		401	1		451	0		501
		2	0		52	0		102	0	+	152	1	+	202	7	@	252	0	@	302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	1	+	153	2	+	203	3	@	253	1	@	303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0	+	154	2	+	204	5	@	254	0	@	304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0	+	155	0	@	205	7	@	255	0	@	305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0	+	156	0	@	206	4	@	256	0	@	306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0	+	157	1	@	207	1	@	257	0	@	307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0	+	158	2	@	208	6	@	258	0	-	308	0		358	0		408	0		458	0		508
0		9	0		59	0	+	109	0	+	159	0	@	209	2	@	259	0	@	309	0		359	0		409	0		459	0		509
0		10	0		60	0	+	110	0	+	160	1	@	210	6	@	260	0	@	310	0		360	0		410	0		460	0		510
0		11	0		61	0	+	111	0	+	161	0	-	211	4	@	261	0	@	311	0		361	0		411	0		461	0		511
0		12	0		62	0	+	112	0		162	0	-	212	7	@	262	0	@	312	0		362	0		412	0		462	0		512
0		13	0		63	0	+	113	0		163	0	-	213	6	@	263	0	@	313	0		363	0		413	1		463			
0		14	0		64	0	+	114	0		164	0	-	214	7	@	264	0	@	314	0		364	0		414	0		464			
0		15	0		65	0	+	115	0		165	2	-	215	8	@	265	0	@	315	0		365	0		415	0		465			
0		16	0		66	0	+	116	0		166	2	-	216	2	@	266	0	@	316	0		366	0		416	0		466			
0		17	0		67	0	+	117	0		167	4	-	217	1	@	267	0	@	317	0		367	0	@	417	1		467			
0		18	0		68	0	+	118	0		168	1	@	218	2	@	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	3	@	220	1	@	270	0	@	320	0		370	0	@	420	0		470			
0		21	0		71	0	+	121	0		171	5	@	221	0	@	271	0	@	321	0		371	0	@	421	1		471			
0		22	0		72	0	+	122	0		172	5	@	222	2	@	272	1	@	322	0	+	372	0	@	422	0		472			
0		23	0		73	0	+	123	0		173	7	@	223	0	@	273	1	@	323	0	+	373	0	@	423	2		473			
0		24	0		74	0	+	124	0		174	14	@	224	0	@	274	1	@	324	0	+	374	0	@	424	2		474			
0		25	0		75	0	+	125	0		175	16	@	225	0	@	275	0	@	325	0	+	375	0	@	425	1		475			
0		26	0		76	0	+	126	0		176	18	@	226	0	+	276	0	@	326	1	+	376	0	@	426	0		476			
0		27	0		77	0	+	127	0		177	27	-	227	0	+	277	0	@	327	0	+	377	1	@	427	1		477			
0		28	0	+	78	0	+	128	0		178	32	@	228	0	@	278	0	@	328	2	@	378	0	@	428	5		478			
0		29	0	+	79	0		129	0		179	28	@	229	0	@	279	0	@	329	0	@	379	0	@	429	1		479			
0		30	0	+	80	0		130	0		180	34	@	230	0	@	280	0	@	330	0	@	380	0	-	430	1		480			
0		31	0	+	81	0		131	0		181	28	@	231	0	@	281	0	@	331	0	@	381	0	@	431	2		481			
0		32	0	+	82	0		132	0		182	19	@	232	0	@	282	0	@	332	1	@	382	0	@	432	1		482			
0		33	0	+	83	0		133	0		183	19	@	233	0	@	283	0	@	333	1	@	383	0	@	433	1		483			
0		34	0	+	84	0		134	0		184	12	@	234	0	@	284	0	@	334	0	@	384	0	@	434	2		484			
0		35	0	+	85	0		135	1		185	18	@	235	0	@	285	0	@	335	1	@	385	0	@	435	1		485			
0		36	0	+	86	0		136	0		186	9	@	236	0	@	286	0	@	336	1	@	386	0	@	436	0		486			
0		37	0	+	87	0		137	0		187	6	@	237	0	@	287	0	@	337	1	@	387	0	-	437	0		487			
0		38	0	+	88	0		138	0		188	23	@	238	0	@	288	0	@	338	1	@	388	2	-	438	0		488			
0		39	0	+	89	0		139	0		189	12	@	239	0	@	289	0	@	339	1	@	389	0	-	439	1		489			
0		40	0	+	90	0		140	0		190	14	@	240	0	@	290	0	@	340	3	@	390	0	-	440	0		490			
0		41	0	+	91	0		141	1	+	191	17	@	241	0	@	291	0	@	341	4	@	391	0	-	441	1		491			
0		42	0	+	92	1	+	142	1	+	192	13	@	242	0	@	292	0	@	342	1	-	392	0	-	442	0		492			
0		43	0	+	93	0	+	143	0	+	193	8	@	243	0	@	293	0	@	343	0	-	393	0	-	443	0		493			
0		44	0	+	94	0	+	144	1	+	194	10	@	244	0	@	294	0	+	344	1	-	394	2	-	444	0		494			
0		45	0	+	95	0	+	145	2	+	195	9	@	245	0	@	295	0	+	345	1	-	395	0	-	445	0		495			
0		46	0	+	96	0	+	146	1	+	196	11	@	246	0	@	296	0	+	346	1	-	396	0	-	446	0		496			
0		47	0	+	97	0	+	147	0	+	197	11	@	247	0	@	297	0		347	0	-	397	0	-	447	0		497			
0		48	0		98	0	+	148	2	+	198	8	@	248	0	@	298	0		348	1		398	0	-	448	0		498			
0		49	0		99	0	+	149	1	+	199	6	@	249	0	@	299	0		349	0		399	0	-	449	0		499			
1		50	0		100	0	+	150	0	+	200	11	@	250	0	@	300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 29-JUL-2006 17:58:55

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GE01AA_290760938C.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 29-JUL-2006 09:38:07
Sample ID         : H9GE01AA             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	4859.03	458	0	53.82	228.95	217	19	1.53E-02	4.7	
2	0	5059.86	93	0	47.84	262.60	227	49	3.10E-03	10.4	

VMS Nuclide Identification Report V3.0 Generated 29-JUL-2006 17:58:57

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GE01AA_290760938C.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 29-JUL-2006 09:38:07
Sample ID         : H9GE01AA             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	
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]H9GE01AA_290760938C.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4859.03	217	236	458	302	7.29		
5059.85	227	276	93	475	-39.61	226	0.00

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

End of Report

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

Sample Identity: H9GE51AA

Detector: ALP171 4
Report Date: 31-Jul-06 06:14 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	4	0	0.008	5423.2	111.2	307	327
TH-229	522	3	1.042	4845.3	349.8	203	266
TH-230	3	0	0.006	4687.7	110.9	175	195
TH-232	1	0	0.002	4013.0	110.6	53	73

End of Alpha Region Report
(Produced by ANAL Report)

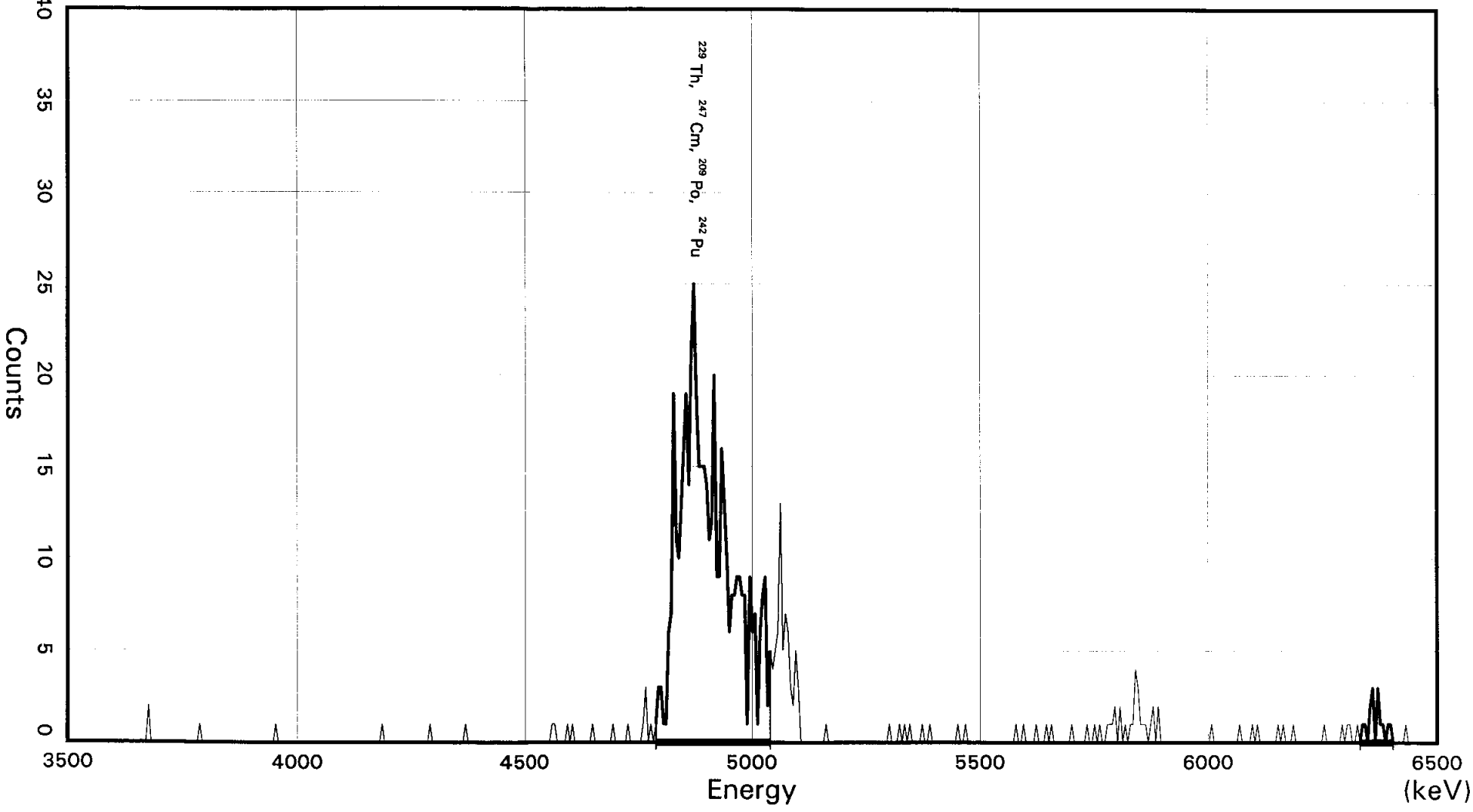
STL Richland WA.

TH BRC

Sample ID: H9GE51AA

Detector ID: ALP171 4

Batch ID: 6200109



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: 3.63808E+03

Slope: 5.52501E+00

Quadrature: 5.83550E-05

SAMPLE IDENTIITY: H9GE51AA

TITLE : TH BRC

DETECTOR : ALP171 4
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9GE51AA_290760938D.CN
F;1
ACQUIRE DATE of BACKGROUND: 08-JUL-2006 07:53:15

REPORT DATE : 29-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 29-JUL-2006 09:38:07 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: H9GE51AA

Detector: ALP171 4
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	-9999	-9999	0	-10.010	5150.0	250.1	257	302	0.00	0.00	M
PO-209	472	2	0	0.943	4918.3	249.8	208	253	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5339.5	250.3	291	336	0.00	0.00	M
AC-227	-9999	-9999	0	-10.010	6073.2	251.0	422	467	0.00	0.00	M
TH-227	-9999	-9999	0	-10.010	6073.2	251.0	422	467	0.00	0.00	M
TH-228	-9999	-9999	0	-10.010	5458.3	250.4	312	357	0.00	0.00	M
TH-229	472	2	0	0.943	4880.4	249.8	208	253	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4722.8	249.7	180	225	0.00	0.00	M I
TH-232	1	1	1	0.001	4048.1	249.0	58	103	0.00	0.00	S
U-232	-9999	-9999	0	-10.010	5355.3	250.3	293	338	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4809.7	249.8	195	240	0.00	0.00	M I
U-235	3	3	1	0.002	4432.9	249.4	127	172	0.00	0.00	S
PU-236	15	34	27	-0.005	5802.8	250.7	374	419	0.00	0.00	S
NP-237	-9999	-9999	0	-10.010	4823.1	249.8	198	243	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.010	5534.2	250.5	326	371	0.00	0.00	M
U-238	-9999	-9999	0	-10.010	4233.1	249.2	91	136	0.00	0.00	M
PU-239	-9999	-9999	0	-10.010	5191.7	250.1	264	309	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5520.7	250.4	323	368	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5241.9	250.2	273	318	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6147.9	251.0	436	481	0.00	0.00	M
PU-242	472	2	0	0.943	4935.6	249.8	208	253	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5310.4	250.2	285	330	0.00	0.00	M
CM-244	-9999	-9999	0	-10.010	5840.0	245.2	381	425	0.00	0.00	M
CM-246	-9999	-9999	0	-10.010	5421.6	250.3	305	350	0.00	0.00	M
CM-247	472	2	0	0.943	4905.5	249.8	208	253	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5113.7	250.1	250	295	0.00	0.00	M I

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GE51AA
Detector: ALP171 4
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	1	@	401	0	@	451	0		501
		2	0		52	0	@	102	0	+	152	0	@	202	2	@	252	0	@	302	0	@	352	0	@	402	0	@	452	0		502
0		3	0		53	0	@	103	0	+	153	1	@	203	5	-	253	0	@	303	1	@	353	1	@	403	1	@	453	1		503
0		4	0		54	0	-	104	0	+	154	3	@	204	4	-	254	1	@	304	0	@	354	2	@	404	0	@	454	0		504
0		5	0		55	0	-	105	0	+	155	0	@	205	5	-	255	0	-	305	0	@	355	0	@	405	1	@	455	0		505
0		6	0		56	0	-	106	0	+	156	1	@	206	6	-	256	1	@	306	0	@	356	2	@	406	0	@	456	0		506
2		7	1		57	0	-	107	0	+	157	0	@	207	13	@	257	0	@	307	0	@	357	0	@	407	0	@	457	0		507
0		8	0	+	58	0	-	108	0	+	158	1	@	208	5	@	258	1	@	308	1	@	358	0	@	408	0	@	458	0		508
0		9	0	+	59	0	-	109	0	+	159	3	@	209	7	@	259	0	@	309	0	@	359	0	@	409	1	@	459	0		509
0		10	0	+	60	0	-	110	0	+	160	3	@	210	6	@	260	0	@	310	0	@	360	0	@	410	0	@	460	0		510
0		11	0	+	61	0	-	111	0	+	161	1	@	211	3	@	261	0	@	311	0	@	361	0	@	411	0	@	461	0		511
0		12	0	+	62	0	-	112	0	+	162	1	@	212	2	@	262	0	@	312	1	@	362	0	@	412	0	@	462	0		512
0		13	0	+	63	0	-	113	0	+	163	6	@	213	5	@	263	1	@	313	0	@	363	0	@	413	0	@	463			
0		14	0	+	64	0	-	114	0	+	164	7	@	214	3	@	264	0	@	314	1	@	364	0	@	414	0	@	464			
0		15	0	+	65	0	-	115	0	+	165	19	@	215	0	@	265	0	@	315	0	@	365	0	@	415	0	@	465			
0		16	0	+	66	0	-	116	0	+	166	11	@	216	0	@	266	1	@	316	0	@	366	0	@	416	0	@	466			
0		17	0	+	67	0	-	117	1	+	167	10	@	217	0	@	267	0	@	317	0	@	367	0	@	417	0	@	467			
0		18	0	+	68	1	-	118	1	+	168	13	@	218	0	@	268	0	@	318	0	@	368	0	@	418	0	-	468			
0		19	0	+	69	0	-	119	0	+	169	16	@	219	0	@	269	0	@	319	0	+	369	0	@	419	0	-	469			
0		20	0	+	70	0	-	120	0	+	170	19	@	220	0	@	270	0	@	320	0	+	370	0	-	420	0	-	470			
0		21	0	+	71	0	-	121	0	+	171	14	@	221	0	@	271	0	@	321	0	+	371	0	-	421	1	-	471			
0		22	0	+	72	0	-	122	0	+	172	21	@	222	0	@	272	0	@	322	1		372	0	@	422	0	-	472			
0		23	0	+	73	0	-	123	1		173	25	@	223	0	@	273	0	@	323	0		373	0	@	423	0	-	473			
0		24	0	+	74	0	-	124	0		174	19	@	224	0	@	274	0	@	324	0	+	374	0	@	424	0	-	474			
0		25	0	+	75	0	-	125	1		175	15	@	225	1	@	275	0	@	325	0	+	375	0	@	425	0	-	475			
0		26	0	+	76	0	-	126	0		176	15	@	226	0	@	276	0	@	326	0	+	376	0	@	426	0	-	476			
1		27	0	+	77	0	@	127	0		177	15	@	227	0	@	277	1	@	327	0	+	377	1	@	427	0	-	477			
0		28	0	+	78	0	@	128	0		178	14	@	228	0	@	278	0	@	328	1	+	378	0	@	428	1	-	478			
0		29	0	+	79	0	@	129	0		179	11	@	229	0	@	279	0	@	329	0	+	379	0	@	429	0	-	479			
0		30	0	+	80	0	@	130	0	+	180	12	@	230	0	@	280	1	@	330	0	+	380	0	@	430	1	-	480			
0		31	0	+	81	0	@	131	0	+	181	20	@	231	0	@	281	0	@	331	1	@	381	0	@	431	1	-	481			
0		32	0	+	82	1	@	132	0	+	182	9	@	232	0	@	282	0	@	332	0	@	382	0	@	432	0		482			
0		33	0	+	83	0	@	133	1	+	183	9	@	233	0	@	283	0	@	333	1	@	383	0	@	433	0		483			
0		34	0	+	84	0	@	134	0	+	184	16	@	234	0	@	284	0	@	334	0	@	384	0	@	434	1		484			
0		35	0	+	85	0	@	135	0	+	185	13	@	235	0	@	285	0	@	335	0	@	385	0	@	435	0		485			
0		36	0	+	86	0	@	136	0	+	186	10	@	236	0	@	286	0	@	336	1	@	386	0	-	436	1		486			
0		37	0	+	87	0	+	137	0	+	187	6	@	237	0	@	287	0	@	337	1	@	387	0	@	437	1		487			
0		38	0	+	88	0	+	138	0	+	188	8	@	238	0	@	288	0	@	338	1	@	388	1	@	438	0		488			
0		39	0	+	89	0	+	139	0	+	189	8	@	239	0	@	289	0	@	339	2	@	389	0	@	439	2		489			
0		40	0	+	90	0	+	140	0	+	190	9	@	240	0	@	290	0	@	340	0	@	390	0	@	440	3		490			
0		41	0	@	91	0	+	141	1	+	191	9	@	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	0	@	392	0	@	442	3		492			
0		43	0	@	93	0	+	143	0	+	193	8	@	243	0	@	293	0	@	343	1	@	393	1	@	443	1		493			
0		44	0	@	94	0	+	144	0	+	194	1	@	244	0	@	294	0	@	344	0	@	394	0	@	444	1		494			
0		45	0	@	95	0	+	145	0	@	195	9	@	245	0	@	295	0	@	345	1	@	395	1	@	445	0		495			
0		46	0	@	96	0	+	146	0	@	196	6	@	246	0	@	296	0	@	346	1	@	396	0	@	446	1		496			
0		47	0	@	97	0	+	147	1	@	197	7	@	247	0	@	297	0	@	347	4	@	397	0	@	447	1		497			
0		48	0	@	98	0	+	148	0	-	198	1	@	248	0	@	298	0	@	348	3	@	398	0	@	448	0		498			
0		49	1	@	99	0	+	149	0	@	199	6	@	249	0	@	299	0	@	349	1	@	399	0	@	449	0		499			
0		50	0	@	100	0	+	150	0	@	200	8	-	250	1	@	300	1	@	350	1	@	400	0	@	450	0		500			

VMS Peak Search Report V1.9 Generated 29-JUL-2006 17:58:59

Configuration : $DISK1:[ALP171.SAMPLE]H9GE51AA_290760938D.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 3-JUL-2006 12:00:00 Acquisition date : 29-JUL-2006 09:38:07
Sample ID : H9GE51AA 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	4880.44	472	0	110.50	224.33	208	45	1.58E-02	4.6	
2	0	6356.82	14	0	38.68	489.55	485	13	4.67E-04	26.7	

VMS Nuclide Identification Report V3.0 Generated 29-JUL-2006 17:59:01

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9GE51AA_290760938D.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 29-JUL-2006 09:38:07
Sample ID         : H9GE51AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP171 1             Detector geometry:
Elapsed live time: 0 08:19:28.00         Elapsed real time: 0 08:19:28.00   0.0%
Energy tolerance :    80.00 keV          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    70.00
```

Summary of Nuclide Activity

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

Nuclide Type : NP

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

Nuclide Type : AP

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

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

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

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

Configuration: $DISK1:[ALP171.SAMPLE]H9GE51AA_290760938D.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4880.44	208	253	472	458	0.64		
6356.81	485	498	14	14	0.00		

End of Report

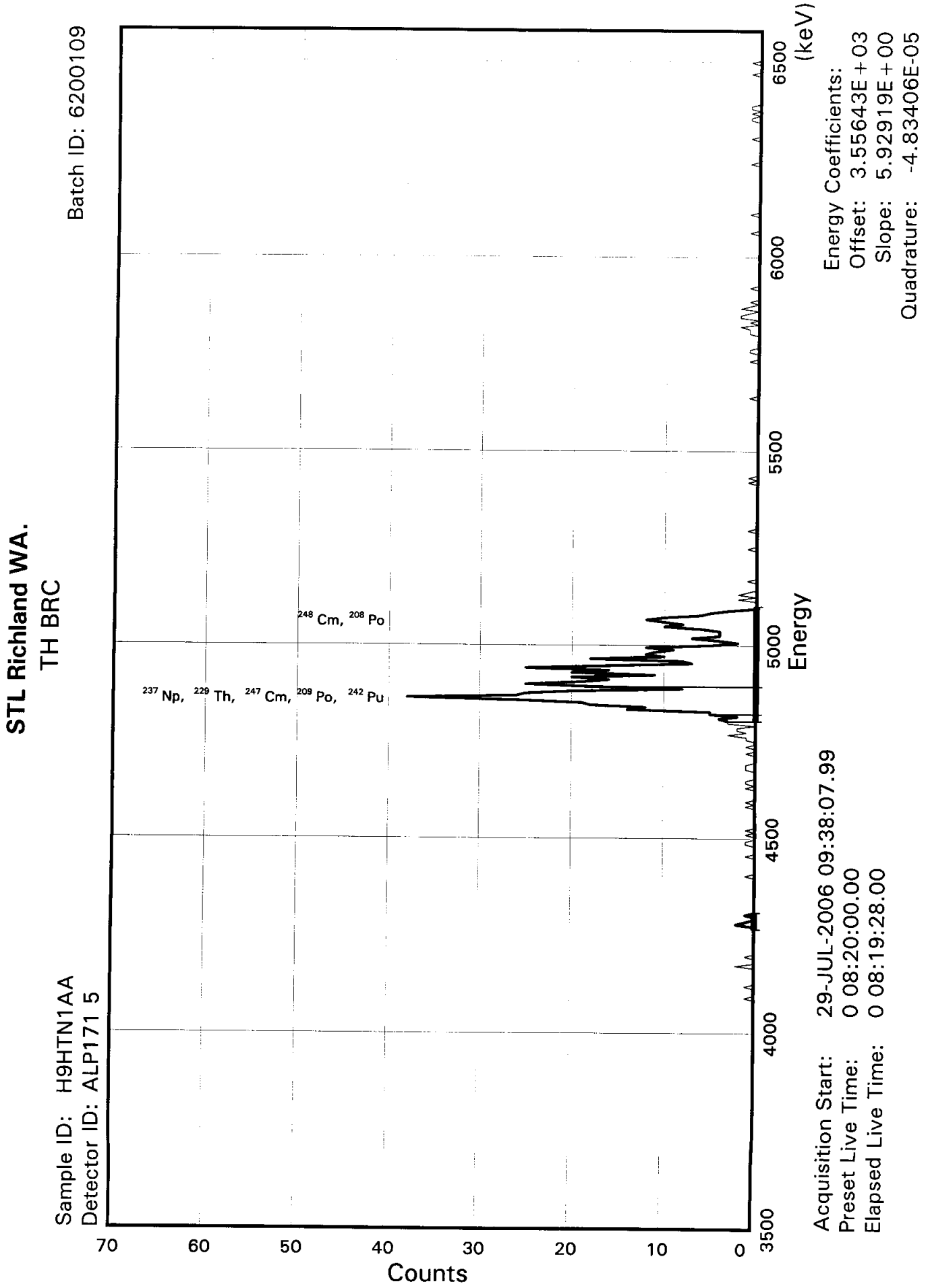
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H9HTN1AA

Detector: ALP171 5
Report Date: 31-Jul-06 06:14 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	118.0	301	321
TH-229	616	2	1.231	4845.3	389.8	203	269
TH-230	7	0	0.014	4687.7	118.2	176	196
TH-232	0	1	-0.001	4013.0	118.4	62	82

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6200109
Sample ID: H9HTN1AA
Detector ID: ALP171 5
^{248}Cm, ^{208}Po
^{237}Np, ^{229}Th, ^{247}Cm, ^{209}Po, ^{242}Pu
Counts
70
60
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: 3.55643E+03
Slope: 5.92919E+00
Quadrature: -4.83406E-05

SAMPLE IDENTIITY: H9HTN1AA

TITLE : TH BRC

DETECTOR : ALP171 5
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9HTN1AA_290760938E.CN
F;1
ACQUIRE DATE of BACKGROUND: 08-JUL-2006 07:53:15

REPORT DATE : 29-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 29-JUL-2006 09:38:07 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: H9HTN1AA

Detector: ALP171 5
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	223	2	0	0.444	5131.4	295.3	211	261	0.00	0.00	P
PO-209	373	0	0	0.747	4899.7	70.9	214	226	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5320.9	70.8	292	304	0.00	0.00	M
AC-227	1	2	0	0.000	6054.5	70.7	416	428	0.00	0.00	
TH-227	1	2	0	0.000	6054.5	70.7	416	428	0.00	0.00	
TH-228	-9999	-9999	0	-10.010	5439.7	70.8	312	324	0.00	0.00	M
TH-229	373	0	0	0.747	4861.8	70.9	214	226	0.00	0.00	P
TH-230	4	0	0	0.008	4704.2	70.9	187	199	0.00	0.00	
TH-232	0	1	0	-0.001	4029.5	71.1	73	85	0.00	0.00	
U-232	-9999	-9999	0	-10.010	5336.7	70.8	294	306	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4791.1	70.9	202	214	0.00	0.00	I
U-235	1	0	0	0.002	4414.3	71.0	138	150	0.00	0.00	
PU-236	4	6	3	0.002	5784.2	70.7	370	382	0.00	0.00	S
NP-237	373	0	0	0.747	4804.5	70.9	214	226	0.00	0.00	P
PU-238	0	1	0	-0.001	5515.6	70.8	325	337	0.00	0.00	S
U-238	1	0	0	0.002	4214.5	71.0	105	117	0.00	0.00	
PU-239	2	0	0	0.004	5173.1	70.8	267	279	0.00	0.00	S
AM-241	-9999	-9999	0	-10.010	5502.1	70.8	322	334	0.00	0.00	M
AM-242M	1	1	0	0.001	5223.3	70.8	275	287	0.00	0.00	S
CM-242	1	5	0	-0.003	6129.3	70.6	429	441	0.00	0.00	
PU-242	373	0	0	0.747	4917.0	70.9	214	226	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5291.8	70.8	287	299	0.00	0.00	M
CM-244	10	38	3	-0.019	5821.4	70.7	377	389	0.00	0.00	S
CM-246	1	1	2	0.002	5403.0	70.8	306	318	0.00	0.00	S
CM-247	373	0	0	0.747	4886.9	70.9	214	226	0.00	0.00	P
CM-248	223	2	0	0.444	5095.1	295.3	211	261	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9HTN1AA
Detector: ALP171 5
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	6	@	251	0	@	301	0		351	0		401	0		451	0		501
		2	0		52	0		102	1		152	0	+	202	10	@	252	0	@	302	1		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	1	+	203	8	@	253	0	@	303	0		353	0		403	0		453	0		503
0		4	0		54	2		104	0		154	1	+	204	10	@	254	0	@	304	0		354	0		404	1		454	0		504
0		5	0		55	0	+	105	0		155	3	+	205	12	@	255	0	-	305	0		355	0		405	0		455	0		505
0		6	0		56	0	+	106	0		156	1	+	206	10	@	256	0	@	306	0		356	0		406	0		456	0		506
0		7	0		57	0	+	107	1		157	2	+	207	6	@	257	0	+	307	0		357	0		407	0		457	0		507
0		8	0		58	1	+	108	1		158	2	+	208	5	@	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	3	+	210	0	@	260	0	+	310	0		360	0		410	0		460	0		510
0		11	0		61	0	+	111	1		161	3	+	211	0		261	0	+	311	0		361	0		411	0		461	0		511
0		12	0		62	0	+	112	0		162	4	@	212	0		262	0	@	312	0		362	0		412	0		462	0		512
0		13	0		63	0	+	113	1		163	2	@	213	0		263	0	@	313	0		363	0		413	0		463			
0		14	0		64	0	+	114	0		164	5	@	214	2		264	0	@	314	0		364	0		414	0		464			
0		15	0		65	0	+	115	0		165	5	@	215	0		265	1	@	315	0		365	0		415	1		465			
0		16	0		66	0	+	116	0		166	14	@	216	2		266	0	@	316	0		366	0	@	416	0		466			
0		17	0		67	0	+	117	0		167	12	@	217	1	+	267	1	@	317	0		367	0	@	417	0		467			
0		18	0		68	0		118	0		168	18	@	218	0	+	268	0	@	318	1		368	0	@	418	0		468			
0		19	0		69	0		119	0		169	19	@	219	0	+	269	0	+	319	0		369	0	@	419	0		469			
0		20	0		70	0		120	0		170	26	@	220	0	+	270	0	+	320	0	+	370	0	@	420	0		470			
0		21	0		71	0		121	0		171	38	@	221	0	+	271	0	+	321	0	+	371	0	@	421	0		471			
0		22	0		72	2		122	0		172	26	@	222	1	+	272	0	@	322	1	+	372	0	@	422	0		472			
0		23	0	+	73	1		123	0		173	25	@	223	0	+	273	0	@	323	1	+	373	0	@	423	1		473			
0		24	0	+	74	0		124	1		174	20	@	224	0	+	274	0	@	324	0	+	374	1	@	424	1		474			
0		25	0	+	75	0		125	0		175	8	@	225	0	@	275	0	@	325	0	+	375	0	@	425	0		475			
0		26	0	+	76	1		126	1		176	18	@	226	0	@	276	0	@	326	0	+	376	0	@	426	1		476			
0		27	0	+	77	0		127	0		177	25	@	227	0	@	277	0	@	327	0	@	377	0	@	427	0		477			
0		28	0	+	78	0		128	0		178	19	@	228	0	@	278	0	@	328	0	@	378	0	@	428	1		478			
0		29	0	+	79	0		129	0		179	16	@	229	0	@	279	0	@	329	0	@	379	0	+	429	1		479			
0		30	0	+	80	0		130	0		180	20	@	230	0	-	280	0	@	330	1	@	380	0	+	430	0		480			
0		31	0	+	81	0		131	0		181	11	@	231	0	-	281	0	@	331	1	@	381	0	+	431	0		481			
0		32	0	+	82	0		132	1		182	20	@	232	0	-	282	0	@	332	1	@	382	1	+	432	0		482			
0		33	0	+	83	0		133	0		183	16	@	233	0	-	283	0	@	333	2	-	383	0	+	433	0		483			
0		34	0	+	84	0		134	1		184	25	@	234	0	-	284	0	@	334	0	-	384	0	+	434	0		484			
0		35	0	+	85	0		135	1		185	16	@	235	0	-	285	0	+	335	1	-	385	0	+	435	0		485			
0		36	0		86	0		136	0		186	7	@	236	1	-	286	0	+	336	0	-	386	0	+	436	0		486			
0		37	0		87	0		137	0	+	187	8	@	237	0	@	287	0	+	337	2	-	387	0	+	437	0		487			
0		38	0		88	0	+	138	0	+	188	18	@	238	0	+	288	0		338	2	-	388	0	+	438	0		488			
0		39	0		89	0	+	139	0	+	189	10	@	239	0	+	289	0		339	1	-	389	0	+	439	0		489			
0		40	1		90	0	+	140	1	+	190	12	@	240	0	+	290	0		340	0		390	0	+	440	0		490			
0		41	0		91	0	+	141	1	+	191	11	@	241	0	+	291	0		341	2		391	0	+	441	0		491			
0		42	0		92	0	+	142	1	+	192	9	@	242	0	@	292	0		342	1		392	0		442	0		492			
0		43	0		93	1	+	143	0	+	193	12	@	243	0	@	293	0		343	0		393	0		443	1		493			
0		44	0		94	0	+	144	0	+	194	5	@	244	1	@	294	0		344	1		394	0		444	0		494			
0		45	1		95	0	+	145	0	+	195	2	@	245	0	@	295	0		345	0		395	0		445	0		495			
0		46	0		96	0	+	146	0	+	196	4	@	246	0	@	296	0		346	0		396	0		446	0		496			
0		47	0		97	0	+	147	1	+	197	7	@	247	0	@	297	0		347	0		397	0		447	0		497			
0		48	0		98	0	+	148	0	+	198	4	@	248	0	@	298	0		348	0		398	0		448	1		498			
0		49	0		99	0	+	149	0	+	199	4	@	249	0	@	299	0		349	0		399	0		449	0		499			
0		50	0		100	0	+	150	1		200	4	@	250	0	@	300	0		350	1		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 29-JUL-2006 17:59:04

Configuration : $DISK1:[ALP171.SAMPLE]H9HTN1AA_290760938E.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 3-JUL-2006 12:00:00 Acquisition date : 29-JUL-2006 09:38:07
Sample ID : H9HTN1AA 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	4282.03	4	0	23.72	122.50	120	7	1.33E-04	50.0	
2	0	4861.83	373	0	35.58	220.56	214	12	1.24E-02	5.2	
3	0	5059.99	223	0	41.50	254.11	211	50	7.44E-03	6.7	

VMS Nuclide Identification Report V3.0 Generated 29-JUL-2006 17:59:06

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9HTN1AA_290760938E.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 29-JUL-2006 09:38:07
Sample ID         : H9HTN1AA             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]H9HTN1AA_290760938E.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4282.02	120	127	4	4	0.00		
4861.83	214	226	373	234	7.20		
5059.98	211	261	223	598	-25.11	243	0.29

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

End of Report

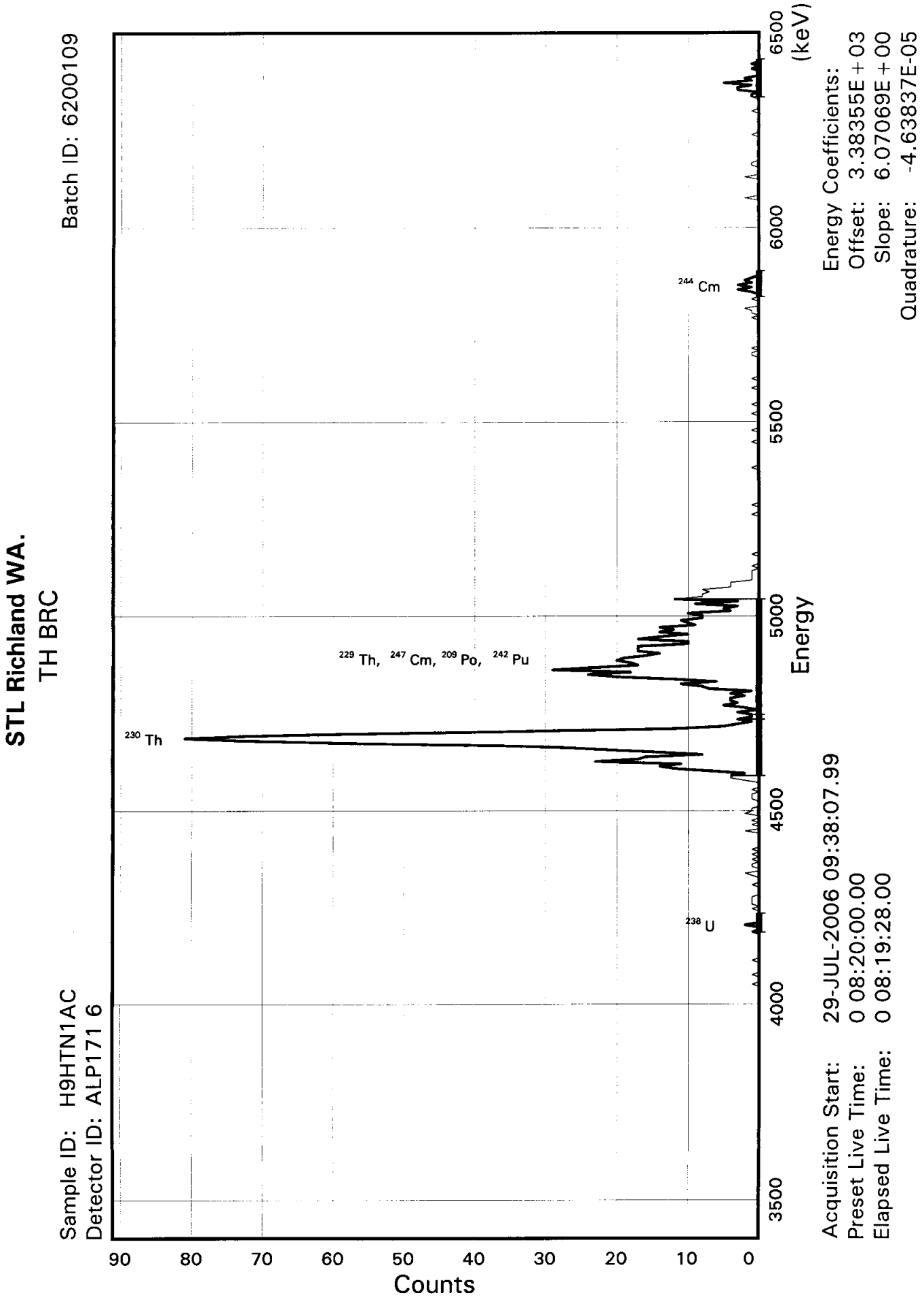
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H9HTN1AC

Detector: ALP171 6
Report Date: 31-Jul-06 06:14 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	3	0.001	5423.2	120.8	322	342
TH-229	583	2	1.165	4845.3	380.9	226	289
TH-230	613	1	1.226	4687.7	169.4	194	222
TH-232	0	2	-0.002	4013.0	121.2	89	109

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6200109
Sample ID: H9HTN1AC
Detector ID: ALP171 6
230 Th
229 Th, 247 Cm, 209 Po, 242 Pu
238 U
244 Cm
Counts
Energy
(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: 3.38355E+03
Slope: 6.07069E+00
Quadrature: -4.63837E-05

SAMPLE IDENTIITY: H9HTN1AC

TITLE : TH BRC

DETECTOR : ALP171 6
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H9HTN1AC_290760938F.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 29-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 29-JUL-2006 09:38:07 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: H9HTN1AC

Detector: ALP171 6
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	-9999	-9999	0	-10.010	5159.4	308.2	268	319	0.00	0.00	M I
PO-209	525	2	0	1.049	4927.7	308.4	223	274	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5348.9	308.1	299	350	0.00	0.00	M
AC-227	-9999	-9999	0	-10.010	6082.5	313.5	420	472	0.00	0.00	M
TH-227	-9999	-9999	0	-10.010	6082.5	313.5	420	472	0.00	0.00	M
TH-228	-9999	-9999	0	-10.010	5467.7	308.0	319	370	0.00	0.00	M
TH-229	525	2	0	1.049	4889.8	308.4	223	274	0.00	0.00	P
TH-230	610	1	0	1.220	4732.2	157.3	199	225	0.00	0.00	P
TH-232	-9999	-9999	0	-10.010	4057.5	303.0	86	136	0.00	0.00	I
U-232	-9999	-9999	0	-10.010	5364.7	308.1	302	353	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4819.1	308.5	211	262	0.00	0.00	S I
U-235	-9999	-9999	0	-10.010	4442.3	308.8	149	200	0.00	0.00	I
PU-236	-9999	-9999	0	-10.010	5812.2	307.7	376	427	0.00	0.00	M I
NP-237	-9999	-9999	0	-10.010	4832.5	308.5	214	265	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.010	5543.6	307.9	331	382	0.00	0.00	M
U-238	4	0	0	0.008	4242.5	48.5	132	140	0.00	0.00	P
PU-239	-9999	-9999	0	-10.010	5201.1	314.2	274	326	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5530.1	307.9	329	380	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5251.3	308.1	283	334	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6157.2	307.4	433	484	0.00	0.00	M
PU-242	525	2	0	1.049	4945.0	308.4	223	274	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5319.8	308.1	294	345	0.00	0.00	M
CM-244	13	62	0	-0.036	5849.3	66.4	403	414	0.00	0.00	P
CM-246	-9999	-9999	0	-10.010	5431.0	308.0	313	364	0.00	0.00	M
CM-247	525	2	0	1.049	4914.9	308.4	223	274	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5123.1	308.2	262	313	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: H9HTN1AC
Detector: ALP171 6
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	7	+	201	14	@	251	0	@	301	0	@	351	0	+	401
		2	0		52	0	+	102	1	+	152	12	+	202	17	@	252	0	@	302	0	@	352	1	+	402
0		3	0		53	0	+	103	0	+	153	14	+	203	17	@	253	0	@	303	1	@	353	0	@	403
0		4	0		54	0	+	104	0	+	154	11	+	204	17	@	254	0	@	304	0	@	354	0	@	404
0		5	0		55	0	+	105	0	+	155	23	+	205	10	@	255	0	@	305	0	@	355	1	@	405
0		6	0		56	0	+	106	1	+	156	17	+	206	10	@	256	0	@	306	0	@	356	3	@	406
0		7	0		57	0	+	107	2	+	157	16	+	207	17	@	257	0	@	307	1	@	357	1	@	407
0		8	0		58	0	+	108	0	+	158	8	+	208	14	@	258	0	@	308	0	@	358	3	@	408
0		9	0		59	0	+	109	0	+	159	14	+	209	10	@	259	0	@	309	0	@	359	1	@	409
0		10	0		60	1	+	110	1	+	160	21	+	210	14	@	260	1	@	310	0	@	360	2	@	410
0		11	0		61	0	+	111	1	+	161	27	@	211	12	@	261	0	@	311	0	@	361	1	@	411
0		12	0		62	0	+	112	0	+	162	37	@	212	14	-	262	0	@	312	0	@	362	0	@	412
0		13	0		63	0	+	113	1	+	163	59	@	213	9	@	263	0	@	313	0	@	363	0	@	413
0		14	0		64	1	+	114	0	+	164	73	-	214	10	@	264	1	@	314	1	@	364	0	+	414
0		15	0		65	0	+	115	1	+	165	81	@	215	11	@	265	0	@	315	0	@	365	0	+	415
0		16	0		66	0	+	116	0	+	166	72	@	216	8	@	266	0	@	316	0	@	366	0	+	416
0		17	0		67	0	+	117	1	+	167	56	@	217	8	@	267	0	@	317	0	@	367	0	+	417
0		18	0		68	0	+	118	0	+	168	32	@	218	10	@	268	0	@	318	1	@	368	0	+	418
0		19	0		69	0	+	119	0	+	169	12	@	219	4	@	269	0	@	319	0	@	369	0	+	419
0		20	0		70	1	+	120	0	+	170	5	@	220	5	@	270	0	@	320	0	@	370	0	@	420
0		21	0		71	0	+	121	0	+	171	3	@	221	3	@	271	0	@	321	0	@	371	0	@	421
0		22	0		72	0	+	122	0	+	172	1	@	222	9	@	272	0	@	322	0	@	372	0	@	422
0		23	0		73	0	+	123	0	+	173	3	@	223	3	@	273	0	@	323	0	@	373	0	@	423
0		24	0		74	0	+	124	0	+	174	1	@	224	12	@	274	0	@	324	0	@	374	0	@	424
0		25	0		75	0	+	125	2	+	175	1	@	225	8	@	275	0	@	325	0	@	375	0	@	425
0		26	0		76	0	+	126	0	+	176	3	@	226	8	@	276	0	@	326	0	@	376	0	@	426
0		27	0		77	0	+	127	0	+	177	0	@	227	7	@	277	0	@	327	0	@	377	0	@	427
0		28	0		78	0	+	128	1	+	178	2	@	228	8	@	278	0	@	328	1	@	378	0	@	428
0		29	0		79	0	+	129	0	+	179	5	@	229	4	@	279	0	@	329	1	@	379	0	@	429
0		30	0		80	0	+	130	1	+	180	3	@	230	4	@	280	1	@	330	0	@	380	0	@	430
0		31	0		81	0	+	131	0	+	181	4	@	231	4	@	281	0	@	331	1	@	381	0	@	431
0		32	0		82	1	@	132	0	+	182	4	@	232	1	@	282	0	@	332	0	@	382	0	@	432
0		33	0		83	0	@	133	2	+	183	2	@	233	1	@	283	0	@	333	0	+	383	0	-	433
0		34	0		84	0	@	134	1	+	184	4	@	234	1	@	284	0	@	334	0	+	384	0	@	434
0		35	0		85	2	@	135	1	+	185	1	@	235	1	@	285	0	@	335	0	+	385	0	@	435
0		36	0	+	86	0	@	136	0	+	186	7	@	236	1	@	286	0	@	336	0	+	386	0	@	436
0		37	0	+	87	0	-	137	0	+	187	8	@	237	0	@	287	0	@	337	0	+	387	0	@	437
0		38	0	+	88	0	-	138	0	+	188	11	@	238	1	@	288	0	@	338	0	+	388	0	@	438
0		39	0	+	89	0	-	139	1	+	189	6	@	239	0	@	289	0	@	339	0	+	389	0	@	439
0		40	0	+	90	0		140	1	+	190	12	@	240	0	@	290	0	@	340	0	+	390	0	@	440
0		41	0	+	91	0		141	1	+	191	20	@	241	0	@	291	1	@	341	0	+	391	0	@	441
0		42	0	+	92	1		142	0	+	192	24	@	242	0	@	292	0	@	342	0	+	392	0	@	442
0		43	0	+	93	0		143	1	+	193	18	@	243	1	@	293	0	@	343	0	+	393	0	@	443
0		44	0	+	94	1		144	0	+	194	29	@	244	0	@	294	0	@	344	1	+	394	0	@	444
0		45	0	+	95	1		145	0	+	195	23	@	245	0	@	295	0	@	345	0	+	395	2	@	445
0		46	0	+	96	1		146	0	+	196	17	@	246	0	@	296	1	@	346	1	+	396	0	@	446
0		47	0	+	97	1		147	2	+	197	18	@	247	0	@	297	0	@	347	1	+	397	0	@	447
0		48	0	+	98	0		148	4	+	198	20	@	248	0	@	298	0	@	348	2	+	398	0	@	448
0		49	0	+	99	0	+	149	4	@	199	19	@	249	0	@	299	0	@	349	0	+	399	0	@	449
0		50	0	+	100	0	+	150	2	@	200	16	@	250	0	@	300	0	@	350	0	+	400	0	@	450

VMS Peak Search Report V1.9 Generated 29-JUL-2006 17:59:08

Configuration : $DISK1:[ALP171.SAMPLE]H9HTN1AC_290760938F.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 3-JUL-2006 12:00:00 Acquisition date : 29-JUL-2006 09:38:07
Sample ID : H9HTN1AC 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	4199.22	4	0	24.28	134.50	132	8	1.33E-04	50.0	
2	0	4684.47	610	0	36.42	214.65	199	26	2.04E-02	4.0	
3	0	4889.83	525	0	121.41	248.59	223	51	1.75E-02	4.4	
4	0	5849.15	13	0	42.49	407.42	403	11	4.34E-04	27.7	
5	0	6365.13	19	0	42.49	493.00	488	16	6.34E-04	22.9	

VMS Nuclide Identification Report V3.0 Generated 29-JUL-2006 17:59:11

```
Configuration     : $DISK1:[ALP171.SAMPLE]H9HTN1AC_290760938F.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 29-JUL-2006 09:38:07
Sample ID         : H9HTN1AC             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-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-238	4.47E+09Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-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]H9HTN1AC_290760938F.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4199.21	132	140	4	3	0.50		
4684.46	199	225	610	612	-0.08		
4889.82	223	274	525	539	-0.61	5	-0.33
5849.15	403	414	13	12	0.28		
6365.12	488	504	19	19	0.00		

End of Report

URANIUM ISOTOPIC

SAMPLE AND QC DATA

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

7/31/2006 3:15:17 PM

Lot No., Due Date: J6G180224; 08/15/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6200105; RUSIO Also by ALP

SDG, Matrix: 32140; FILTER

1.0 COC

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

2.0 QC Batch

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

3.0 QC & Samples

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

4.0 Raw Data

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

5.0 Other

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

6.0 Comments on any No response:

First Level Review Pam Anderson **Date** 7-31-06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6200105

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 3:07:07 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: 6200105 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: None

Sep2 DT/Tm Tech: 7-29-06 -m.f

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 **H9GDP-1-AG** J6G180224-1-SAMP 07/03/2006 09:40	0.833sa,g	508.83sa,g	37.68g,in	0.0617g	UITC16049 07/14/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
2 **H9GDW-1-AG** J6G180224-2-SAMP 07/03/2006 09:55	0.833sa,g	503.49sa,g	50.41g,in	0.0834g	UITC16050 07/14/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
3 **H9GD1-1-AG** J6G180224-3-SAMP 07/03/2006 10:15	0.833sa,g	503.19sa,g	37.52g,in	0.0621g	UITC16051 07/14/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
4 **H9GD4-1-AG** J6G180224-4-SAMP 07/03/2006 10:35	0.833sa,g	500.35sa,g	37.51g,in	0.0624g	UITC16052 07/14/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
5 **H9GD6-1-AG** J6G180224-5-SAMP 07/03/2006 10:50	0.833sa,g	502.06sa,g	37.56g,in	0.0623g	UITC16053 07/14/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
6 **H9GD8-1-AG** J6G180224-6-SAMP 07/03/2006 11:05	0.833sa,g	500.24sa,g	37.55g,in	0.0625g	UITC16054 07/14/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
7 **H9GEC-1-AG** J6G180224-7-SAMP 07/03/2006 10:00	0.833sa,g	500.72sa,g	37.67g,in	0.0627g	UITC16055 07/14/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:

STL RICHLAND

7/26/2006 3:07:09 PM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell , Brown & Caldwell

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

Pipet #: _____

AnalyDueDate: 08/14/2006

Sep1 DT/Tm Tech:

Batch: 6200105 FILTER pCi/sampl PM, Quote: SA , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 H9GED-1-AG J6G180224-8-SAMP 07/03/2006 09:45	0.833sa,g	505.97sa,g	37.52g,in	0.0618g	UITC16056 07/14/06,pd 01/20/04,r					
			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:
9 H9GEF-1-AG J6G180224-9-SAMP 07/03/2006 09:30	0.833sa,g	502.51sa,g	37.60g,in	0.0623g	UITC16057 07/14/06,pd 01/20/04,r					
			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:
10 H9GEK-1-AG J6G180224-10-SAMP 07/03/2006 09:50	0.833sa,g	502.21sa,g	37.54g,in	0.0623g	UITC16058 07/14/06,pd 01/20/04,r					
			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:
11 H9GEM-1-AG J6G180224-11-SAMP 07/03/2006 10:10	0.833sa,g	501.85sa,g	37.60g,in	0.0624g	UITC16059 07/14/06,pd 01/20/04,r					
			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:
12 H9GEQ-1-AG J6G180224-12-SAMP 07/03/2006 10:30	0.833sa,g	511.83sa,g	37.52g,in	0.0611g	UITC16060 07/14/06,pd 01/20/04,r					
			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:
13 H9GER-1-AG J6G180224-13-SAMP 07/03/2006 10:45	0.833sa,g	502.70sa,g	37.63g,in	0.0624g	UITC16061 07/14/06,pd 01/20/04,r					
			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:
14 H9GE0-1-AG J6G180224-14-SAMP 07/03/2006 11:00	0.833sa,g	507.76sa,g	51.21g,in	0.084g	UITC16062 07/14/06,pd 01/20/04,r					
			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:

STL RICHLAND

7/26/2006 3:07:09 PM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell , Brown & Caldwell

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

Pipet #: _____

AnalyDueDate: 08/14/2006

Sep1 DT/Tm Tech:

Batch: 6200105 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:
83 15H9GE5-1-AG J6G180224-15-SAMP 07/03/2006 09:35	0.833sa,g	505.45sa,g	37.58g,in	0.0619g	UITC16063 07/14/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
84 16H9HTL-1-AA-B J6G190000-105-BLK 07/03/2006 09:40			1.00sa,in	1.00sa	UITC16064 07/14/06,pd 01/20/04,r					
		AmtRec:		#Containers: 1				Scr:	Alpha:	Beta:
85 17H9HTL-1-AC-C J6G190000-105-LCS 07/03/2006 09:40			1.00sa,in	1.00sa	UISF0464 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

H9GDP1AG-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:

H9HTL1AA-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:

H9HTL1AC-LCS:

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

H9GDP1AG-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H9HTL1AA-BLK:

7/31/2006 3:09:11 PM

ICOC Fraction Transfer/Status Report

ByDate: 7/31/2005, 8/5/2006, Batch: '6200105', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6200105						
AC		**CalcC**	**HansenM**	7/20/2006 1:19:18 PM		
SC			wagarr	IsBatched	7/19/2006 8:00:26 AM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	7/20/2006 1:19:18 PM	RICH-RC-5016 REVISION 5
SC			HansenM	Prep2C	7/27/2006 7:12:32 AM	RICH-RC-5016 REVISION 5
SC			AndersonE	Sep1C	7/28/2006 1:38:56 PM	RICH-RC-5067 REV6
SC			FABREM	Sep2C	7/29/2006 1:02:07 PM	RICH-RC-5039 REV 6
SC			StringerR	InCnt1	7/29/2006 1:08:13 PM	RICH-RD-0008 REVISION 4
SC			BlackCL	CalcC	7/31/2006 6:55:09 AM	RICH-RD-0008 REVISION 4
AC			**HansenM**	7/27/2006 7:12:32		
AC			**AndersonE**	7/28/2006 1:38:56 PM		
AC			**FABREM**	7/29/2006 1:02:07 PM		
AC			**StringerR**	7/29/2006 1:08:13 PM		
AC			**BlackCL**	7/31/2006 6:55:09		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 6

ICOCFractions v4.8.18

7/31/2006 3:09:10 PM

Rpt DB Transfer log (Batch Results)

SEVERN TRENT STL

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Sample Date / Mda	Units	Expected	Yield	Volumes
32140	**9H9GD110**			**J6G1802243**	000518	FILTER	7/18/2006 10:00:00	7/3/2006 10:15:00 AM				
U-234	7YSR	0		7/30/2006 10:18:27	**1.6161E-01**	1.83E-01	1.835E-01	8.299E-01	PCI/SA	0.953	1.0E+0	3.211E-2
U-235	7YSR	0		7/30/2006 10:18:27	**-6.0657E-02**	3.502E-02	3.536E-02	6.379E-01	PCI/SA	0.953	1.0E+0	3.211E-2
U-238	7YSR	0		7/30/2006 10:18:27	**-1.2131E-01**	4.953E-02	5.048E-02	7.887E-01	PCI/SA	0.953	1.0E+0	3.211E-2
32140	**9H9GD410**			**J6G1802244**	000519	FILTER	7/18/2006 10:00:00	7/3/2006 10:35:00 AM				
U-234	7YSR	0		7/30/2006 10:18:44	**1.8213E-01**	1.822E-01	1.828E-01	7.898E-01	PCI/SA	0.939	1.0E+0	3.245E-2
U-235	7YSR	0		7/30/2006 10:18:44	**0.0E+00**	0.0E+00	1.239E-01	2.742E-01	PCI/SA	0.939	1.0E+0	3.245E-2
U-238	7YSR	0		7/30/2006 10:18:44	**1.8213E-01**	1.822E-01	1.828E-01	7.898E-01	PCI/SA	0.939	1.0E+0	3.245E-2
32140	**9H9GD610**			**J6G1802245**	000520	FILTER	7/18/2006 10:00:00	7/3/2006 10:50:00 AM				
U-234	7YSR	0		7/30/2006 10:19:01	**3.6866E-02**	9.755E-02	9.759E-02	5.818E-01	PCI/SA	1.025	1.0E+0	3.232E-2
U-235	7YSR	0		7/30/2006 10:19:01	**5.5302E-02**	9.579E-02	9.589E-02	5.209E-01	PCI/SA	1.025	1.0E+0	3.232E-2
U-238	7YSR	0		7/30/2006 10:19:01	**1.8431E-02**	9.927E-02	9.928E-02	6.332E-01	PCI/SA	1.025	1.0E+0	3.232E-2
32140	**9H9GD810**			**J6G1802246**	000521	FILTER	7/18/2006 10:00:00	7/3/2006 11:05:00 AM				
U-234	7YSR	0		7/30/2006 10:19:17	**2.0406E-01**	1.443E-01	1.452E-01	2.765E-01	PCI/SA	0.939	1.0E+0	3.253E-2
U-235	7YSR	0		7/30/2006 10:19:17	**-2.0408E-02**	2.041E-02	2.047E-02	4.887E-01	PCI/SA	0.939	1.0E+0	3.253E-2
U-238	7YSR	0		7/30/2006 10:19:17	**-4.0816E-02**	2.886E-02	2.905E-02	5.766E-01	PCI/SA	0.939	1.0E+0	3.253E-2
32140	**9H9GDP10**			**J6G1802241**	000516	FILTER	7/18/2006 10:00:00	7/3/2006 9:40:00 AM				
U-234	7YSR	0		7/30/2006 10:17:46	**8.3983E-02**	1.455E-01	1.457E-01	7.913E-01	PCI/SA	0.713	1.0E+0	3.169E-2
U-235	7YSR	0		7/30/2006 10:17:46	**-5.6025E-02**	3.962E-02	3.989E-02	7.913E-01	PCI/SA	0.713	1.0E+0	3.169E-2
U-238	7YSR	0		7/30/2006 10:17:46	**1.6797E-01**	2.058E-01	2.063E-01	9.618E-01	PCI/SA	0.713	1.0E+0	3.169E-2
32140	**9H9GDW10**			**J6G1802242**	000517	FILTER	7/18/2006 10:00:00	7/3/2006 9:55:00 AM				
U-234	7YSR	0		7/30/2006 10:18:08	**2.2371E-01**	1.292E-01	1.304E-01	2.021E-01	PCI/SA	1.021	1.0E+0	3.34E-2
U-235	7YSR	0		7/30/2006 10:18:08	**2.9823E-02**	7.892E-02	7.895E-02	4.707E-01	PCI/SA	1.021	1.0E+0	3.34E-2
U-238	7YSR	0		7/30/2006 10:18:08	**1.0439E-01**	1.086E-01	1.089E-01	4.707E-01	PCI/SA	1.021	1.0E+0	3.34E-2
32140	**9H9GE010**			**J6G18022414**	P-0696	FILTER	7/18/2006 10:00:00	7/3/2006 11:00:00 AM				
U-234	7YSR	0		7/30/2006 10:22:03	**-3.623E-02**	1.479E-02	1.508E-02	4.475E-01	PCI/SA	0.972	1.0E+0	3.401E-2
U-235	7YSR	0		7/30/2006 10:22:03	**5.7318E-02**	7.615E-02	7.629E-02	3.763E-01	PCI/SA	0.972	1.0E+0	3.401E-2
U-238	7YSR	0		7/30/2006 10:22:03	**4.5242E-02**	7.663E-02	7.672E-02	4.263E-01	PCI/SA	0.972	1.0E+0	3.401E-2
32140	**9H9GE510**			**J6G18022415**	P-0697	FILTER	7/18/2006 10:00:00	7/3/2006 9:35:00 AM				
U-234	7YSR	0		7/30/2006 10:22:25	**2.0441E-01**	1.576E-01	1.585E-01	5.077E-01	PCI/SA	0.941	1.0E+0	3.193E-2
U-235	7YSR	0		7/30/2006 10:22:25	**9.3313E-02**	1.118E-01	1.121E-01	5.077E-01	PCI/SA	0.941	1.0E+0	3.193E-2
U-238	7YSR	0		7/30/2006 10:22:25	**9.3313E-02**	1.118E-01	1.121E-01	5.077E-01	PCI/SA	0.941	1.0E+0	3.193E-2
32140	**9H9GEC10**			**J6G1802247**	000522	FILTER	7/18/2006 10:00:00	7/3/2006 10:00:00 AM				
U-234	7YSR	0		7/30/2006 10:19:35	**-2.7717E-02**	2.772E-02	2.781E-02	6.638E-01	PCI/SA	0.714	1.0E+0	3.267E-2
U-235	7YSR	0		7/30/2006 10:19:35	**1.3859E-01**	1.386E-01	1.391E-01	3.756E-01	PCI/SA	0.714	1.0E+0	3.267E-2
U-238	7YSR	0		7/30/2006 10:19:35	**-2.7717E-02**	2.772E-02	2.781E-02	6.638E-01	PCI/SA	0.714	1.0E+0	3.267E-2
32140	**9H9GED10**			**J6G1802248**	000523	FILTER	7/18/2006 10:00:00	7/3/2006 9:45:00 AM				
U-234	7YSR	0		7/30/2006 10:19:56	**1.0473E-01**	1.047E-01	1.051E-01	2.838E-01	PCI/SA	0.891	1.0E+0	3.177E-2
U-235	7YSR	0		7/30/2006 10:19:56	**-2.0954E-02**	2.095E-02	2.102E-02	5.017E-01	PCI/SA	0.891	1.0E+0	3.177E-2
U-238	7YSR	0		7/30/2006 10:19:56	**1.0473E-01**	1.047E-01	1.051E-01	2.838E-01	PCI/SA	0.891	1.0E+0	3.177E-2
32140	**9H9GEF10**			**J6G1802249**	P-0691	FILTER	7/18/2006 10:00:00	7/3/2006 9:30:00 AM				
U-234	7YSR	0		7/30/2006 10:20:15	**-3.9615E-02**	2.801E-02	2.819E-02	5.594E-01	PCI/SA	0.995	1.0E+0	3.233E-2
U-235	7YSR	0		7/30/2006 10:20:15	**9.8984E-02**	9.898E-02	9.93E-02	2.682E-01	PCI/SA	0.995	1.0E+0	3.233E-2
U-238	7YSR	0		7/30/2006 10:20:15	**-3.9615E-02**	2.801E-02	2.819E-02	5.594E-01	PCI/SA	0.995	1.0E+0	3.233E-2
32140	**9H9GEK10**			**J6G18022410**	P-0692	FILTER	7/18/2006 10:00:00	7/3/2006 9:50:00 AM				
U-234	7YSR	0		7/30/2006 10:20:31	**1.7627E-01**	1.399E-01	1.406E-01	4.691E-01	PCI/SA	1.048	1.0E+0	3.227E-2
U-235	7YSR	0		7/30/2006 10:20:31	**0.0E+00**	0.0E+00	1.199E-01	2.654E-01	PCI/SA	1.048	1.0E+0	3.227E-2
U-238	7YSR	0		7/30/2006 10:20:31	**-1.9591E-02**	1.959E-02	1.965E-02	4.691E-01	PCI/SA	1.048	1.0E+0	3.227E-2
32140	**9H9GEM10**			**J6G18022411**	P-0693	FILTER	7/18/2006 10:00:00	7/3/2006 10:10:00 AM				
U-234	7YSR	0		7/30/2006 10:20:48	**9.8511E-02**	9.851E-02	9.883E-02	2.67E-01	PCI/SA	0.894	1.0E+0	3.241E-2
U-235	7YSR	0		7/30/2006 10:20:48	**7.8805E-02**	1.005E-01	1.007E-01	4.718E-01	PCI/SA	0.894	1.0E+0	3.241E-2
U-238	7YSR	0		7/30/2006 10:20:48	**7.8805E-02**	1.005E-01	1.007E-01	4.718E-01	PCI/SA	0.894	1.0E+0	3.241E-2

6200105, **Samples Inserted | Updated | NotUpdated => 17 | 0 | 0,
**Results Inserted | ReTestInserted | Updated | NotInserted => 50 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H9HTL1AA=> , mat:FILTER | Air *wo:H9HTL1AA=> , mat:FILTER | Air *wo:H9HTL1AC=> , mat:FILTER | Air *wo:H9HTL1AC=> , 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	
32140	**9H9GEQ10**			**J6G18022412**	P-0694				FILTER	7/18/2006 10:00:00	7/3/2006 10:30:00 AM			
U-234	7YSR	0		7/30/2006 10:21:07	**0.0E+00**	0.0E+00	1.527E-01	3.378E-01	PCI/SA		0.806	1.0E+0	3.106E-2	
U-235	7YSR	0		7/30/2006 10:21:07	**0.0E+00**	0.0E+00	1.527E-01	3.378E-01	PCI/SA		0.806	1.0E+0	3.106E-2	
U-238	7YSR	0		7/30/2006 10:21:07	**9.9719E-02**	1.271E-01	1.274E-01	5.97E-01	PCI/SA		0.806	1.0E+0	3.106E-2	
32140	**9H9GER10**			**J6G18022413**	P-0695				FILTER	7/18/2006 10:00:00	7/3/2006 10:45:00 AM			
U-234	7YSR	0		7/30/2006 10:21:42	**-1.5489E-02**	1.095E-02	1.102E-02	4.424E-01	PCI/SA		0.997	1.0E+0	3.235E-2	
U-235	7YSR	0		7/30/2006 10:21:42	**7.3569E-02**	9.773E-02	9.791E-02	4.829E-01	PCI/SA		0.997	1.0E+0	3.235E-2	
U-238	7YSR	0		7/30/2006 10:21:42	**5.0335E-02**	9.864E-02	9.873E-02	5.742E-01	PCI/SA		0.997	1.0E+0	3.235E-2	
32140	**H9HTL1AB**			**J6G190000105**	INTRA-LAB BLANK				FILTER	7/18/2006 10:00:00	7/3/2006 9:40:00 AM			
U-234	7YSR	0	B	7/30/2006 10:22:44	**-2.6178E-03**	1.171E-03	1.188E-03	3.697E-02	PCI/SA		0.988	1.0E+0	1.0E+0	
U-235	7YSR	0	B	7/30/2006 10:22:44	**-5.2356E-04**	5.236E-04	5.251E-04	2.634E-02	PCI/SA		0.988	1.0E+0	1.0E+0	
U-238	7YSR	0	B	7/30/2006 10:22:44	**-1.0471E-03**	7.404E-04	7.449E-04	2.99E-02	PCI/SA		0.988	1.0E+0	1.0E+0	
32140	**H9HTL1CS**			**J6G190000105**	INTRA-LAB CHECK				FILTER	7/18/2006 10:00:00	7/3/2006 9:40:00 AM			
U-234	7YSR	0	S	7/30/2006 10:23:02	**8.501E-01**	8.871E-02	1.126E-01	3.723E-02	PCI/SA	9.6804E-01	0.942	1.0E+0	1.0E+0	
U-238	7YSR	0	S	7/30/2006 10:23:02	**9.0485E-01**	9.156E-02	1.176E-01	4.227E-02	PCI/SA	1.0138E+00	0.942	1.0E+0	1.0E+0	

6200105, **Samples Inserted | Updated | NotUpdated => 17 | 0 | 0,
**Results Inserted | ReTestInserted | Updated | NotInserted => 50 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H9HTL1AA=> , mat:FILTER | Air *wo:H9HTL1AA=> , mat:FILTER | Air *wo:H9HTL1AC=> , mat:FILTER | Air *wo:H9HTL1AC=> , mat:FILTER | Air.

Batch Nbr: 6200105

Alpha Spec, UIso by ALP , Results

7/31/2006 6:47:22 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	H9GDP1AG	U-234	8.40E-02	(1.46E-01)	U4	PCI/SA	R	2.06E-01	7.91E-01		71%	
Calc	SR	FILTER	H9GDP1AG	U-235	-5.60E-02	(3.99E-02)	U4	PCI/SA	R	2.06E-01	7.91E-01		71%	
Calc	SR	FILTER	H9GDP1AG	U-238	1.68E-01	(2.06E-01)	U4	PCI/SA	R	2.91E-01	9.62E-01		71%	
Calc	SR	FILTER	H9GDW1AG	U-234	2.24E-01	(1.30E-01)		PCI/SA	R		2.02E-01		102%	
Calc	SR	FILTER	H9GDW1AG	U-235	2.98E-02	(7.90E-02)	U4	PCI/SA	R	1.34E-01	4.71E-01		102%	
Calc	SR	FILTER	H9GDW1AG	U-238	1.04E-01	(1.09E-01)	U4	PCI/SA	R	1.34E-01	4.71E-01		102%	
Calc	SR	FILTER	H9GD11AG	U-234	1.62E-01	(1.83E-01)	U4	PCI/SA	R	2.78E-01	8.30E-01		95%	
Calc	SR	FILTER	H9GD11AG	U-235	-6.07E-02	(3.54E-02)	U4	PCI/SA	R	1.82E-01	6.38E-01		95%	
Calc	SR	FILTER	H9GD11AG	U-238	-1.21E-01	(5.05E-02)	U4	PCI/SA	R	2.58E-01	7.89E-01		95%	
Calc	SR	FILTER	H9GD41AG	U-234	1.82E-01	(1.83E-01)	U4	PCI/SA	R	2.58E-01	7.90E-01		94%	
Calc	SR	FILTER	H9GD41AG	U-235	0.00E+00	(1.24E-01)	U4	PCI/SA	R		2.74E-01		94%	
Calc	SR	FILTER	H9GD41AG	U-238	1.82E-01	(1.83E-01)	U4	PCI/SA	R	2.58E-01	7.90E-01		94%	
Calc	SR	FILTER	H9GD61AG	U-234	3.69E-02	(9.76E-02)	U4	PCI/SA	R	1.66E-01	5.82E-01		103%	
Calc	SR	FILTER	H9GD61AG	U-235	5.53E-02	(9.59E-02)	U4	PCI/SA	R	1.36E-01	5.21E-01		103%	
Calc	SR	FILTER	H9GD61AG	U-238	1.84E-02	(9.93E-02)	U4	PCI/SA	R	1.92E-01	6.33E-01		103%	
Calc	SR	FILTER	H9GD81AG	U-234	2.04E-01	(1.45E-01)	U4	PCI/SA	R		2.77E-01		94%	
Calc	SR	FILTER	H9GD81AG	U-235	-2.04E-02	(2.05E-02)	U4	PCI/SA	R	1.06E-01	4.89E-01		94%	
Calc	SR	FILTER	H9GD81AG	U-238	-4.08E-02	(2.90E-02)	U4	PCI/SA	R	1.50E-01	5.77E-01		94%	
Calc	SR	FILTER	H9GEC1AG	U-234	-2.77E-02	(2.78E-02)	U4	PCI/SA	R	1.44E-01	6.64E-01		71%	
Calc	SR	FILTER	H9GEC1AG	U-235	1.39E-01	(1.39E-01)	U4	PCI/SA	R		3.76E-01		71%	
Calc	SR	FILTER	H9GEC1AG	U-238	-2.77E-02	(2.78E-02)	U4	PCI/SA	R	1.44E-01	6.64E-01		71%	
Calc	SR	FILTER	H9GED1AG	U-234	1.05E-01	(1.05E-01)	U4	PCI/SA	R		2.84E-01		89%	
Calc	SR	FILTER	H9GED1AG	U-235	-2.10E-02	(2.10E-02)	U4	PCI/SA	R	1.09E-01	5.02E-01		89%	
Calc	SR	FILTER	H9GED1AG	U-238	1.05E-01	(1.05E-01)	U4	PCI/SA	R		2.84E-01		89%	
Calc	SR	FILTER	H9GEF1AG	U-234	-3.96E-02	(2.82E-02)	U4	PCI/SA	R	1.46E-01	5.59E-01		99%	
Calc	SR	FILTER	H9GEF1AG	U-235	9.90E-02	(9.93E-02)	U4	PCI/SA	R		2.68E-01		99%	
Calc	SR	FILTER	H9GEF1AG	U-238	-3.96E-02	(2.82E-02)	U4	PCI/SA	R	1.46E-01	5.59E-01		99%	
Calc	SR	FILTER	H9GEK1AG	U-234	1.76E-01	(1.41E-01)	U4	PCI/SA	R	1.02E-01	4.69E-01		105%	
Calc	SR	FILTER	H9GEK1AG	U-235	0.00E+00	(1.20E-01)	U4	PCI/SA	R		2.65E-01		105%	
Calc	SR	FILTER	H9GEK1AG	U-238	-1.96E-02	(1.97E-02)	U4	PCI/SA	R	1.02E-01	4.69E-01		105%	
Calc	SR	FILTER	H9GEM1AG	U-234	9.85E-02	(9.88E-02)	U4	PCI/SA	R		2.67E-01		89%	
Calc	SR	FILTER	H9GEM1AG	U-235	7.88E-02	(1.01E-01)	U4	PCI/SA	R	1.03E-01	4.72E-01		89%	
Calc	SR	FILTER	H9GEM1AG	U-238	7.88E-02	(1.01E-01)	U4	PCI/SA	R	1.03E-01	4.72E-01		89%	
Calc	SR	FILTER	H9GEQ1AG	U-234	0.00E+00	(1.53E-01)	U4	PCI/SA	R		3.38E-01		81%	
Calc	SR	FILTER	H9GEQ1AG	U-235	0.00E+00	(1.53E-01)	U4	PCI/SA	R		3.38E-01		81%	
Calc	SR	FILTER	H9GEQ1AG	U-238	9.97E-02	(1.27E-01)	U4	PCI/SA	R	1.30E-01	5.97E-01		81%	
Calc	SR	FILTER	H9GER1AG	U-234	-1.55E-02	(1.10E-02)	U4	PCI/SA	R	9.01E-02	4.42E-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

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Calc	SR	FILTER	H9GER1AG	U-235	7.36E-02	(9.79E-02)	U4	PCI/SA	R	1.10E-01	4.83E-01		100%	
Calc	SR	FILTER	H9GER1AG	U-238	5.03E-02	(9.87E-02)	U4	PCI/SA	R	1.56E-01	5.74E-01		100%	
Calc	SR	FILTER	H9GE01AG	U-234	-3.62E-02	(1.51E-02)	U4	PCI/SA	R	1.22E-01	4.48E-01		97%	
Calc	SR	FILTER	H9GE01AG	U-235	5.73E-02	(7.63E-02)	U4	PCI/SA	R	8.60E-02	3.76E-01		97%	
Calc	SR	FILTER	H9GE01AG	U-238	4.52E-02	(7.67E-02)	U4	PCI/SA	R	1.11E-01	4.26E-01		97%	
Calc	SR	FILTER	H9GE51AG	U-234	2.04E-01	(1.58E-01)	U4	PCI/SA	R	1.03E-01	5.08E-01		94%	
Calc	SR	FILTER	H9GE51AG	U-235	9.33E-02	(1.12E-01)	U4	PCI/SA	R	1.03E-01	5.08E-01		94%	
Calc	SR	FILTER	H9GE51AG	U-238	9.33E-02	(1.12E-01)	U4	PCI/SA	R	1.03E-01	5.08E-01		94%	
Calc	SR	FILTER	H9HTL1AA	U-234	-2.62E-03	(1.19E-03)	U4	PCI/SA	R	9.63E-03	3.70E-02	B	99%	
Calc	SR	FILTER	H9HTL1AA	U-235	-5.24E-04	(5.25E-04)	U4	PCI/SA	R	4.31E-03	2.63E-02	B	99%	
Calc	SR	FILTER	H9HTL1AA	U-238	-1.05E-03	(7.45E-04)	U4	PCI/SA	R	6.09E-03	2.99E-02	B	99%	
Calc	SR	FILTER	H9HTL1AC	U-234	8.50E-01	(1.13E-01)		PCI/SA	R	6.09E-03	3.72E-02	S	94%	88%
Calc	SR	FILTER	H9HTL1AC	U-235	2.63E-02	(1.62E-02)	U4	PCI/SA	R	8.61E-03	4.23E-02	S	94%	59%
Calc	SR	FILTER	H9HTL1AC	U-238	9.05E-01	(1.18E-01)		PCI/SA	R	8.61E-03	4.23E-02	S	94%	89%

P Henderson
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

Batch Nbr: 6200105

Alpha Spec, UIso by ALP , Calculated Results

7/31/2006 6:47:23 AM

Detailed Report

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
1	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H9GDP1AG**	**PCI/SA**		07/03/06 09:40	07/30/06 10:17			1	1.00 SA	
536403,000516					,J6G180224-1 v4.8.18		FILTER					UITC16049 Alq		0.061686 SA	

Sq	Cnt Date	Parameter	Sample 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 08:37	U-232	526	3	ALP1	ED	Y	N	3.6576E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.1166			Y		(1.097E-02)						(0.000E+00)	16.211262		
1	07/30/06 08:37	U-234	1	2	ALP1	ED	N	N	3.6576E-01		N	71%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.1166			Y		(1.097E-02)			4%			(0.000E+00)	16.211262		
2	07/30/06 08:37	U-235	0	2	ALP1	ED	N	N	3.6576E-01		N	71%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.1166			Y		(1.097E-02)			4%			(0.000E+00)	16.211262		
3	07/30/06 08:37	U-238	2	4	ALP1	ED	N	N	3.6576E-01		N	71%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.1166			Y		(1.097E-02)			4%			(0.000E+00)	16.211262		

Sq	Calc Date	Parameter	Avg	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	**52.420928**		2.62569E+00	7.178626	7.178626	1.00 SA	71%				
				(4.096192)		(1.1463E-01)	(0.380259)	(0.380259)	(0.028284)					
	07/31/06	U-234	R	**0.083983**	**U4**	2.99773E-03	0.011501	0.011501	1.00 SA	71%		0.791254		
				(0.145675)		(5.1937E-03)	(0.019938)	(0.019938)	(0.028284)			0.206038		
	07/31/06	U-235	R	**-0.056025**	**U4**	-1.99977E-03	-0.007672	-0.007672	1.00 SA	71%		0.791254		
				(0.039892)		(1.4140E-03)	(0.005445)	(0.005445)	(0.028284)			0.206038		
	07/31/06	U-238	R	**0.167967**	**U4**	5.99547E-03	0.023002	0.023002	1.00 SA	71%		0.96184		
				(0.206255)		(7.3450E-03)	(0.028214)	(0.028214)	(0.028284)			0.291382		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GDW1AG**	**PCI/SA**		07/03/06 09:55	07/30/06 10:18			1	1.00 SA	
536403,000517					,J6G180224-2 v4.8.18		FILTER					UITC16050 Alq		0.083401 SA	

Sq	Cnt Date	Parameter	Sample 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 08:38	U-232	752	15	ALP2	ED	Y	N	3.6206E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.1333			Y		(1.086E-02)						(0.000E+00)	11.990275		
1	07/30/06 08:38	U-234	3	0	ALP2	ED	N	N	3.6206E-01		N	102%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.1333			Y		(1.086E-02)			5%			(0.000E+00)	11.990275		
2	07/30/06 08:38	U-235	1	3	ALP2	ED	N	N	3.6206E-01		N	102%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.1333			Y		(1.086E-02)			5%			(0.000E+00)	11.990275		
3	07/30/06 08:38	U-238	2	3	ALP2	ED	N	N	3.6206E-01		N	102%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.1333			Y		(1.086E-02)			5%			(0.000E+00)	11.990275		

() - (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: 6200105

Alpha Spec, UIso by ALP , Calculated Results

7/31/2006 6:47:23 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	**55.852482**		3.74406E+00	10.3411	10.3411	1.00 SA	102%				
				(4.157741)		(1.3713E-01)	(0.489598)	(0.489598)	(0.028284)					
	07/31/06	U-234	R	**0.223708**		1.49963E-02	0.04142	0.04142	1.00 SA	102%		0.202083		
				(0.1304)		(8.6581E-03)	(0.024026)	(0.024026)	(0.028284)					
	07/31/06	U-235	R	**0.029823**	U4	1.99915E-03	0.005522	0.005522	1.00 SA	102%		0.470689		
				(0.078954)		(5.2902E-03)	(0.014615)	(0.014615)	(0.028284)			0.134382		
	07/31/06	U-238	R	**0.104392**	U4	6.99790E-03	0.019328	0.019328	1.00 SA	102%		0.470689		
				(0.108898)		(7.2783E-03)	(0.020132)	(0.020132)	(0.028284)			0.134382		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GD11AG**	**PCI/SA**		07/03/06 10:15	07/30/06 10:18			1	1.00 SA	
536403,000518					,J6G180224-3 v4.8.18		FILTER					UITC16051 Alq		0.062112 SA	

Sq	Cnt Date	Parameter	Sample 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 08:38	U-232	725	8	ALP3	ED	Y	N	3.7651E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.0333			Y		(1.130E-02)						(0.000E+00)	16.099937		
1	07/30/06 08:38	U-234	3	7	ALP3	ED	N	N	3.7651E-01		N	95%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.0333			Y		(1.130E-02)			5%			(0.000E+00)	16.099937		
2	07/30/06 08:38	U-235	0	3	ALP3	ED	N	N	3.7651E-01		N	95%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.0333			Y		(1.130E-02)			5%			(0.000E+00)	16.099937		
3	07/30/06 08:38	U-238	0	6	ALP3	ED	N	N	3.7651E-01		N	95%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.0333			Y		(1.130E-02)			5%			(0.000E+00)	16.099937		

Sq	Calc Date	Parameter	Avg	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	**69.635356**		3.61519E+00	9.601941	9.601941	1.00 SA	95%				
				(5.204531)		(1.3459E-01)	(0.459093)	(0.459093)	(0.028284)					
	07/31/06	U-234	R	**0.16161**	U4	7.99274E-03	0.022284	0.022284	1.00 SA	95%		0.829928		
				(0.183475)		(9.0512E-03)	(0.025267)	(0.025267)	(0.028284)			0.27821		
	07/31/06	U-235	R	**-0.060657**	U4	-2.99990E-03	-0.008364	-0.008364	1.00 SA	95%		0.637885		
				(0.035359)		(1.7320E-03)	(0.004852)	(0.004852)	(0.028284)			0.182131		
	07/31/06	U-238	R	**-0.121314**	U4	-5.99980E-03	-0.016728	-0.016728	1.00 SA	95%		0.788677		
				(0.050481)		(2.4494E-03)	(0.006894)	(0.006894)	(0.028284)			0.257572		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GD41AG**	**PCI/SA**		07/03/06 10:35	07/30/06 10:18			1	1.00 SA	
536403,000519					,J6G180224-4 v4.8.18		FILTER					UITC16052 Alq		0.062448 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/30/06 08:38	U-232	717	4	ALP4	ED	Y	N	3.7951E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.3			Y		(1.139E-02)						(0.000E+00)	16.013337		

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

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

RecCnt:4

RADCALC v4.8.18

STL Richland

Batch Nbr: 6200105

Alpha Spec, UIso by ALP , Calculated Results

7/31/2006 6:47:23 AM

1	07/30/06 08:38	U-234	3	6	ALP4	ED	N	N	3.7951E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00
			200.1	1000.3			Y		(1.139E-02)			4%			(0.000E+00)	16.013337	
2	07/30/06 08:38	U-235	0	0	ALP4	ED	N	N	3.7951E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00
			200.1	1000.3			Y		(1.139E-02)			4%			(0.000E+00)	16.013337	
3	07/30/06 08:38	U-238	3	6	ALP4	ED	N	N	3.7951E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00
			200.1	1000.3			Y		(1.139E-02)			4%			(0.000E+00)	16.013337	

Sq	Calc Date	Parameter	Avg	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	**68.029328**		3.57921E+00	9.431217	9.431217	1.00 SA	94%				
				(5.089999)		(1.3383E-01)	(0.452121)	(0.452121)	(0.028284)					
	07/31/06	U-234	R	**0.182133**	U4	8.99430E-03	0.02525	0.02525	1.00 SA	94%		0.789788		
				(0.182751)		(8.9956E-03)	(0.025294)	(0.025294)	(0.028284)			0.257923		
	07/31/06	U-235	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	94%		0.274248		
				(0.123943)		(0.0000E+00)	(0.017183)	(0.017183)	(0.028284)					
	07/31/06	U-238	R	**0.182133**	U4	8.99430E-03	0.02525	0.02525	1.00 SA	94%		0.789788		
				(0.182751)		(8.9956E-03)	(0.025294)	(0.025294)	(0.028284)			0.257923		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GD61AG**	**PCI/SA**		07/03/06 10:50	07/30/06 10:19			1	1.00 SA	
536403,000520					,J6G180224-5 v4.8.18		FILTER					UITC16053 Alq		0.062318 SA	

Sq	Cnt Date	Parameter	Sample 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 08:38	U-232	810	10	ALP5	ED	Y	N	3.9200E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.2			Y		(1.176E-02)						(0.000E+00)	16.046674		
1	07/30/06 08:38	U-234	1	3	ALP5	ED	N	N	3.9200E-01		N	103%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.2			Y		(1.176E-02)			5%			(0.000E+00)	16.046674		
2	07/30/06 08:38	U-235	1	2	ALP5	ED	N	N	3.9200E-01		N	103%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.2			Y		(1.176E-02)			5%			(0.000E+00)	16.046674		
3	07/30/06 08:38	U-238	1	4	ALP5	ED	N	N	3.9200E-01		N	103%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.2			Y		(1.176E-02)			5%			(0.000E+00)	16.046674		

Sq	Calc Date	Parameter	Avg	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	**74.475742**		4.03899E+00	10.303463	10.303463	1.00 SA	103%				
				(5.493716)		(1.4230E-01)	(0.476784)	(0.476784)	(0.028284)					
	07/31/06	U-234	R	**0.036866**	U4	1.99935E-03	0.0051	0.0051	1.00 SA	103%		0.581793		
				(0.097591)		(5.2902E-03)	(0.013498)	(0.013498)	(0.028284)			0.166101		
	07/31/06	U-235	R	**0.055302**	U4	2.99915E-03	0.007651	0.007651	1.00 SA	103%		0.520869		
				(0.09589)		(5.1949E-03)	(0.013259)	(0.013259)	(0.028284)			0.13562		
	07/31/06	U-238	R	**0.018431**	U4	9.99550E-04	0.00255	0.00255	1.00 SA	103%		0.633154		
				(0.099285)		(5.3839E-03)	(0.013735)	(0.013735)	(0.028284)			0.191796		

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

RecCnt:6 RADCALC v4.8.18

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

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

STL Richland

Batch Nbr: 6200105 — Alpha Spec, UIso by ALP , Calculated Results — 7/31/2006 6:47:23 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	**H9GD81AG**	**PCI/SA**		07/03/06 11:05	07/30/06 10:19			1	1.00 SA	
536403,000521					,J6G180224-6 v4.8.18		FILTER					UITC16054 Alq		0.062528 SA	

Sq	Cnt Date	Parameter	Sample 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 08:39	U-232	711	5	ALP6	ED	Y	N	3.7594E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.1666			Y		(1.128E-02)						(0.000E+00)	15.992762		
1	07/30/06 08:39	U-234	2	0	ALP6	ED	N	N	3.7594E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.1666			Y		(1.128E-02)			5%			(0.000E+00)	15.992762		
2	07/30/06 08:39	U-235	0	1	ALP6	ED	N	N	3.7594E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.1666			Y		(1.128E-02)			5%			(0.000E+00)	15.992762		
3	07/30/06 08:39	U-238	0	2	ALP6	ED	N	N	3.7594E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.1666			Y		(1.128E-02)			5%			(0.000E+00)	15.992762		

Sq	Calc Date	Parameter	Avg	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	**68.009791**		3.54911E+00	9.440639	9.440639	1.00 SA	94%				
				(5.094306)		(1.3331E-01)	(0.453822)	(0.453822)	(0.028284)					
	07/31/06	U-234	R	**0.204062**	**U4**	9.99750E-03	0.028326	0.028326	1.00 SA	94%		0.276503		
				(0.14523)		(7.0693E-03)	(0.020094)	(0.020094)	(0.028284)					
	07/31/06	U-235	R	**-0.020408**	**U4**	-9.99833E-04	-0.002833	-0.002833	1.00 SA	94%		0.488689		
				(0.020474)		(9.9983E-04)	(0.002837)	(0.002837)	(0.028284)			0.106156		
	07/31/06	U-238	R	**-0.040816**	**U4**	-1.99967E-03	-0.005666	-0.005666	1.00 SA	94%		0.57658		
				(0.029048)		(1.4140E-03)	(0.004019)	(0.004019)	(0.028284)			0.150127		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GEC1AG**	**PCI/SA**		07/03/06 10:00	07/30/06 10:19			1	1.00 SA	
536403,000522					,J6G180224-7 v4.8.18		FILTER					UITC16055 Alq		0.062668 SA	

Sq	Cnt Date	Parameter	Sample 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 08:39	U-232	525-	1	ALP7	ED	Y	N	3.6324E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.1166			Y		(1.090E-02)						(0.000E+00)	15.957113		
1	07/30/06 08:39	U-234	0	1	ALP7	ED	N	N	3.6324E-01		N	71%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.1166			Y		(1.090E-02)			4%			(0.000E+00)	15.957113		
2	07/30/06 08:39	U-235	1	0	ALP7	ED	N	N	3.6324E-01		N	71%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.1166			Y		(1.090E-02)			4%			(0.000E+00)	15.957113		
3	07/30/06 08:39	U-238	0	1	ALP7	ED	N	N	3.6324E-01		N	71%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.1166			Y		(1.090E-02)			4%			(0.000E+00)	15.957113		

() - (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: 6200105

Alpha Spec, UIso by ALP , Calculated Results

7/31/2006 6:47:23 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	**51.92001**		2.62378E+00	7.22327	7.22327	1.00 SA	71%				
				(4.057196)		(1.1456E-01)	(0.382653)	(0.382653)	(0.028284)					
	07/31/06	U-234	R	**-0.027717**	**U4**	-9.99883E-04	-0.003856	-0.003856	1.00 SA	71%		0.663768		
				(0.027814)		(9.9988E-04)	(0.003863)	(0.003863)	(0.028284)			0.144183		
	07/31/06	U-235	R	**0.138588**	**U4**	4.99958E-03	0.019281	0.019281	1.00 SA	71%		0.375573		
				(0.139073)		(4.9996E-03)	(0.019316)	(0.019316)	(0.028284)					
	07/31/06	U-238	R	**-0.027717**	**U4**	-9.99883E-04	-0.003856	-0.003856	1.00 SA	71%		0.663768		
				(0.027814)		(9.9988E-04)	(0.003863)	(0.003863)	(0.028284)			0.144183		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GED1AG**	**PCI/SA**		07/03/06 09:45	07/30/06 10:19			1	1.00 SA	
536403,000523					,J6G180224-8 v4.8.18		FILTER					UITC16056 Alq		0.061771 SA	

Sq	Cnt Date	Parameter	Sample 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 08:39	U-232	702	5	ALP8	ED	Y	N	3.9047E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	1000.2166			Y		(1.171E-02)						(0.000E+00)	16.188885		
1	07/30/06 08:39	U-234	1	0	ALP8	ED	N	N	3.9047E-01		N	89%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	1000.2166			Y		(1.171E-02)			4%			(0.000E+00)	16.188885		
2	07/30/06 08:39	U-235	0	1	ALP8	ED	N	N	3.9047E-01		N	89%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	1000.2166			Y		(1.171E-02)			4%			(0.000E+00)	16.188885		
3	07/30/06 08:39	U-238	1	0	ALP8	ED	N	N	3.9047E-01		N	89%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	1000.2166			Y		(1.171E-02)			4%			(0.000E+00)	16.188885		

Sq	Calc Date	Parameter	Avg	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	**65.419563**		3.50295E+00	8.971067	8.971067	1.00 SA	89%				
				(4.908202)		(1.3242E-01)	(0.432939)	(0.432939)	(0.028284)					
	07/31/06	U-234	R	**0.10473**	**U4**	4.99709E-03	0.014362	0.014362	1.00 SA	89%		0.283819		
				(0.105072)		(4.9971E-03)	(0.014385)	(0.014385)	(0.028284)					
	07/31/06	U-235	R	**-0.020954**	**U4**	-9.99783E-04	-0.002873	-0.002873	1.00 SA	89%		0.50165		
				(0.021022)		(9.9978E-04)	(0.002878)	(0.002878)	(0.028284)			0.10898		
	07/31/06	U-238	R	**0.10473**	**U4**	4.99709E-03	0.014362	0.014362	1.00 SA	89%		0.283819		
				(0.105072)		(4.9971E-03)	(0.014385)	(0.014385)	(0.028284)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
9	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H9GEF1AG**	**PCI/SA**		07/03/06 09:30	07/30/06 10:20			1	1.00 SA	
536403,P-0691					,J6G180224-9 v4.8.18		FILTER					UITC16057 Alq		0.062329 SA	

Sq	Cnt Date	Parameter	Sample 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 08:40	U-232	736	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)	16.043971		

() - (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: 6200105 Alpha Spec, UIso by ALP , Calculated Results 7/31/2006 6:47:23 AM

1	07/30/06 08:40	U-234	0	2	ALP9	ED	N	N	3.6670E-01	N	99%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.1166666	1000.0333			Y		(1.100E-02)		5%		(0.000E+00)	16.043971	
2	07/30/06 08:40	U-235	1	0	ALP9	ED	N	N	3.6670E-01	N	99%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.1166666	1000.0333			Y		(1.100E-02)		5%		(0.000E+00)	16.043971	
3	07/30/06 08:40	U-238	0	2	ALP9	ED	N	N	3.6670E-01	N	99%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.1166666	1000.0333			Y		(1.100E-02)		5%		(0.000E+00)	16.043971	

Sq	Calc Date	Parameter	Avg	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	**72.404502**		3.67385E+00	10.018602	10.018602	1.00 SA	99%				
				(5.399819)		(1.3558E-01)	(0.476485)	(0.476485)	(0.028284)					
	07/31/06	U-234	R	**-0.039615**	**U4**	-1.99993E-03	-0.005482	-0.005482	1.00 SA	99%		0.55943		
				(0.028193)		(1.4142E-03)	(0.003888)	(0.003888)	(0.028284)			0.145678		
	07/31/06	U-235	R	**0.098984**	**U4**	4.99709E-03	0.013696	0.013696	1.00 SA	99%		0.268246		
				(0.099303)		(4.9971E-03)	(0.013718)	(0.013718)	(0.028284)					
	07/31/06	U-238	R	**-0.039615**	**U4**	-1.99993E-03	-0.005482	-0.005482	1.00 SA	99%		0.55943		
				(0.028193)		(1.4142E-03)	(0.003888)	(0.003888)	(0.028284)			0.145678		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GEK1AG**	**PCI/SA**		07/03/06 09:50	07/30/06 10:20			1	1.00 SA	
536403,P-0692					,J6G180224-10 v4.8.18		FILTER					UITC16058 Alq		0.062266 SA	

Sq	Cnt Date	Parameter	Sample 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 08:40	U-232	781	3	ALP10	ED	Y	N	3.6914E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	1000.3166			Y		(1.107E-02)						(0.000E+00)	16.06002		
1	07/30/06 08:40	U-234	2	1	ALP10	ED	N	N	3.6914E-01		N	105%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	1000.3166			Y		(1.107E-02)			5%			(0.000E+00)	16.06002		
2	07/30/06 08:40	U-235	0	0	ALP10	ED	N	N	3.6914E-01		N	105%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	1000.3166			Y		(1.107E-02)			5%			(0.000E+00)	16.06002		
3	07/30/06 08:40	U-238	0	1	ALP10	ED	N	N	3.6914E-01		N	105%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	1000.3166			Y		(1.107E-02)			5%			(0.000E+00)	16.06002		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/31/06	U-232	R	**76.425026**		3.89972E+00	10.564353	10.564353	1.00 SA	105%				
				(5.658847)		(1.3966E-01)	(0.493546)	(0.493546)	(0.028284)					
	07/31/06	U-234	R	**0.17627**	**U4**	8.99449E-03	0.024366	0.024366	1.00 SA	105%		0.46907		
				(0.140581)		(7.1373E-03)	(0.019382)	(0.019382)	(0.028284)			0.1019		
	07/31/06	U-235	R	**0.00E00**	**U4**	0.00000E+00	0.00E00	0.00E00	1.00 SA	105%		0.265392		
				(0.11994)		(0.0000E+00)	(0.016579)	(0.016579)	(0.028284)					
	07/31/06	U-238	R	**-0.019591**	**U4**	-9.99683E-04	-0.002708	-0.002708	1.00 SA	105%		0.46907		
				(0.019654)		(9.9968E-04)	(0.002712)	(0.002712)	(0.028284)			0.1019		

() - (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: 6200105 Alpha Spec, UIso by ALP , Calculated Results 7/31/2006 6:47:24 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
11	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H9GEM1AG**	**PCI/SA**		07/03/06 10:10	07/30/06 10:20			1	1.00 SA	
536403,P-0693					,J6G180224-11 v4.8.18		FILTER					UITC16059 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 08:40	U-232	743	9	ALP11	ED	Y	N	4.0933E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.2833			Y		(1.228E-02)						(0.000E+00)	16.022899		
1	07/30/06 08:40	U-234	1	0	ALP11	ED	N	N	4.0933E-01		N	89%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.2833			Y		(1.228E-02)			4%			(0.000E+00)	16.022899		
2	07/30/06 08:40	U-235	1	1	ALP11	ED	N	N	4.0933E-01		N	89%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.2833			Y		(1.228E-02)			4%			(0.000E+00)	16.022899		
3	07/30/06 08:40	U-238	1	1	ALP11	ED	N	N	4.0933E-01		N	89%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.2833			Y		(1.228E-02)			4%			(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	**65.31294**		3.70415E+00	9.049229	9.049229	1.00 SA	89%				
				(4.867062)		(1.3626E-01)	(0.429538)	(0.429538)	(0.028284)					
	07/31/06	U-234	R	**0.098511**	**U4**	4.99750E-03	0.013649	0.013649	1.00 SA	89%		0.266966		
				(0.098829)		(4.9975E-03)	(0.01367)	(0.01367)	(0.028284)					
	07/31/06	U-235	R	**0.078805**	**U4**	3.99778E-03	0.010919	0.010919	1.00 SA	89%		0.471847		
				(0.100662)		(5.0965E-03)	(0.013933)	(0.013933)	(0.028284)			0.102501		
	07/31/06	U-238	R	**0.078805**	**U4**	3.99778E-03	0.010919	0.010919	1.00 SA	89%		0.471847		
				(0.100662)		(5.0965E-03)	(0.013933)	(0.013933)	(0.028284)			0.102501		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GEQ1AG**	**PCI/SA**		07/03/06 10:30	07/30/06 10:21			1	1.00 SA	
536403,P-0694					,J6G180224-12 v4.8.18		FILTER					UITC16060 Alq		0.061064 SA	

Sq	Cnt Date	Parameter	Sample 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 08:41	U-232	596	5	ALP12	ED	Y	N	3.6724E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	1000.2333			Y		(1.102E-02)						(0.000E+00)	16.37638		
1	07/30/06 08:41	U-234	0	0	ALP12	ED	N	N	3.6724E-01		N	81%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	1000.2333			Y		(1.102E-02)			4%			(0.000E+00)	16.37638		
2	07/30/06 08:41	U-235	0	0	ALP12	ED	N	N	3.6724E-01		N	81%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	1000.2333			Y		(1.102E-02)			4%			(0.000E+00)	16.37638		
3	07/30/06 08:41	U-238	1	1	ALP12	ED	N	N	3.6724E-01		N	81%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0333333	1000.2333			Y		(1.102E-02)			4%			(0.000E+00)	16.37638		

() - (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: 6200105

Alpha Spec, UIso by ALP , Calculated Results

7/31/2006 6:47:24 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/31/06	U-232	R	**59.748469**		2.97450E+00	8.099576	8.099576	1.00 SA	81%				
				(4.583164)		(1.2207E-01)	(0.411731)	(0.411731)	(0.028284)					
	07/31/06	U-234	R	**0.00E00**	**U4**	0.00000E+00	0.00E00	0.00E00	1.00 SA	81%		0.337794		
				(0.152661)		(0.0000E+00)	(0.020695)	(0.020695)	(0.028284)					
	07/31/06	U-235	R	**0.00E00**	**U4**	0.00000E+00	0.00E00	0.00E00	1.00 SA	81%		0.337794		
				(0.152661)		(0.0000E+00)	(0.020695)	(0.020695)	(0.028284)					
	07/31/06	U-238	R	**0.099719**	**U4**	3.99940E-03	0.013518	0.013518	1.00 SA	81%		0.596994		
				(0.12738)		(5.0982E-03)	(0.01725)	(0.01725)	(0.028284)			0.129677		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GER1AG**	**PCI/SA**		07/03/06 10:45	07/30/06 10:21			1	1.00 SA	
536403,P-0695					,J6G180224-13 v4.8.18		FILTER					UITC16061 Alq		0.062355 SA	

Sq	Cnt Date	Parameter	Sample 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 08:41	U-232	753	34	ALP69	ED	Y	N	3.7411E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	2500.1			Y		(1.122E-02)						(0.000E+00)	16.037241		
1	07/30/06 08:41	U-234	0	2	ALP69	ED	N	N	3.7411E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	2500.1			Y		(1.122E-02)			5%			(0.000E+00)	16.037241		
2	07/30/06 08:41	U-235	1	3	ALP69	ED	N	N	3.7411E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	2500.1			Y		(1.122E-02)			5%			(0.000E+00)	16.037241		
3	07/30/06 08:41	U-238	1	6	ALP69	ED	N	N	3.7411E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	2500.1			Y		(1.122E-02)			5%			(0.000E+00)	16.037241		

Sq	Calc Date	Parameter	Avg	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	**72.432309**		3.75109E+00	10.026655	10.026655	1.00 SA	100%				
				(5.390275)		(1.3721E-01)	(0.474342)	(0.474342)	(0.028284)					
	07/31/06	U-234	R	**-0.015489**	**U4**	-7.99968E-04	-0.002144	-0.002144	1.00 SA	100%		0.442392		
				(0.011023)		(5.6566E-04)	(0.001521)	(0.001521)	(0.028284)			0.090082		
	07/31/06	U-235	R	**0.073569**	**U4**	3.79963E-03	0.010184	0.010184	1.00 SA	100%		0.482859		
				(0.097906)		(5.0474E-03)	(0.01354)	(0.01354)	(0.028284)			0.110327		
	07/31/06	U-238	R	**0.050335**	**U4**	2.59968E-03	0.006968	0.006968	1.00 SA	100%		0.574203		
				(0.098727)		(5.0947E-03)	(0.013661)	(0.013661)	(0.028284)			0.156027		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GE01AG**	**PCI/SA**		07/03/06 11:00	07/30/06 10:22			1	1.00 SA	
536403,P-0696					,J6G180224-14 v4.8.18		FILTER					UITC16062 Alq		0.084012 SA	

Sq	Cnt Date	Parameter	Sample 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 08:41	U-232	718	30	ALP71	ED	Y	N	3.6536E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1333333	2500.1666			Y		(1.096E-02)						(0.000E+00)	11.903062		

() - (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: 6200105 Alpha Spec, UIso by ALP , Calculated Results 7/31/2006 6:47:24 AM

1	07/30/06 08:41	U-234	0	6	ALP71	ED	N	N	3.6536E-01	N	97%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.1333333	2500.1666			Y		(1.096E-02)		5%		(0.000E+00)	11.903062	
2	07/30/06 08:41	U-235	1	3	ALP71	ED	N	N	3.6536E-01	N	97%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.1333333	2500.1666			Y		(1.096E-02)		5%		(0.000E+00)	11.903062	
3	07/30/06 08:41	U-238	1	5	ALP71	ED	N	N	3.6536E-01	N	97%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.1333333	2500.1666			Y		(1.096E-02)		5%		(0.000E+00)	11.903062	

Sq	Calc Date	Parameter	Avg	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	**52.472303**		3.57561E+00	9.786442	9.786442	1.00 SA	97%				
				(3.927543)		(1.3391E-01)	(0.469596)	(0.469596)	(0.028284)					
	07/31/06	U-234	R	**-0.03623**	U4	-2.39984E-03	-0.006757	-0.006757	1.00 SA	97%		0.447514		
				(0.015076)		(9.7973E-04)	(0.002785)	(0.002785)	(0.028284)			0.121617		
	07/31/06	U-235	R	**0.057318**	U4	3.79675E-03	0.01069	0.01069	1.00 SA	97%		0.376314		
				(0.076295)		(5.0445E-03)	(0.014216)	(0.014216)	(0.028284)			0.085996		
	07/31/06	U-238	R	**0.045242**	U4	2.99680E-03	0.008438	0.008438	1.00 SA	97%		0.426333		
				(0.076719)		(5.0761E-03)	(0.0143)	(0.0143)	(0.028284)			0.111021		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GE51AG**	**PCI/SA**		07/03/06 09:35	07/30/06 10:22			1	1.00 SA	
536403,P-0697					,J6G180224-15 v4.8.18		FILTER					UITC16063 Alq		0.061933 SA	

Sq	Cnt Date	Parameter	Sample 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 08:42	U-232	660	24	ALP83	ED	Y	N	3.4771E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	2500.1333			Y		(1.043E-02)						(0.000E+00)	16.146427		
1	07/30/06 08:42	U-234	2	2	ALP83	ED	N	N	3.4771E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	2500.1333			Y		(1.043E-02)			5%			(0.000E+00)	16.146427		
2	07/30/06 08:42	U-235	1	2	ALP83	ED	N	N	3.4771E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	2500.1333			Y		(1.043E-02)			5%			(0.000E+00)	16.146427		
3	07/30/06 08:42	U-238	1	2	ALP83	ED	N	N	3.4771E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	2500.1333			Y		(1.043E-02)			5%			(0.000E+00)	16.146427		

Sq	Calc Date	Parameter	Avg	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	**68.798539**		3.28903E+00	9.459239	9.459239	1.00 SA	94%				
				(5.205265)		(1.2841E-01)	(0.465752)	(0.465752)	(0.028284)					
	07/31/06	U-234	R	**0.204408**	U4	9.19588E-03	0.028104	0.028104	1.00 SA	94%		0.507742		
				(0.15849)		(7.0907E-03)	(0.021731)	(0.021731)	(0.028284)			0.103399		
	07/31/06	U-235	R	**0.093313**	U4	4.19796E-03	0.01283	0.01283	1.00 SA	94%		0.507742		
				(0.112062)		(5.0298E-03)	(0.01539)	(0.01539)	(0.028284)			0.103399		
	07/31/06	U-238	R	**0.093313**	U4	4.19796E-03	0.01283	0.01283	1.00 SA	94%		0.507742		
				(0.112062)		(5.0298E-03)	(0.01539)	(0.01539)	(0.028284)			0.103399		

() - (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: 6200105 — Alpha Spec, UIso by ALP , Calculated Results — 7/31/2006 6:47:24 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
16	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H9HTL1AA**	**PCI/SA**	**B**	07/03/06 09:40	07/30/06 10:22			1	1.00 SA	
0,INTRA-LAB BLANK					,J6G190000-105		FILTER					UITC16064 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 08:42	U-232	693	15	ALP84	ED	Y	N	3.4843E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	2500.0833			Y		(1.045E-02)						(0.000E+00)	1.00		
1	07/30/06 08:42	U-234	0	5	ALP84	ED	N	N	3.4843E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	2500.0833			Y		(1.045E-02)			5%			(0.000E+00)	1.00		
2	07/30/06 08:42	U-235	0	1	ALP84	ED	N	N	3.4843E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	2500.0833			Y		(1.045E-02)			5%			(0.000E+00)	1.00		
3	07/30/06 08:42	U-238	0	2	ALP84	ED	N	N	3.4843E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	2500.0833			Y		(1.045E-02)			5%			(0.000E+00)	1.00		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/31/06	U-232	R	**4.470273**		3.45785E+00	9.924017	9.924017	1.00 SA	99%				
				(0.320747)		(1.3159E-01)	(0.480902)	(0.480902)	(0.017321)					
	07/31/06	U-234	R	**-0.002618**	**U4**	-1.99993E-03	-0.005812	-0.005812	1.00 SA	99%		0.036974		
				(0.001188)		(8.9440E-04)	(0.00262)	(0.00262)	(0.017321)			0.009628		
	07/31/06	U-235	R	**-0.000524**	**U4**	-3.99987E-04	-0.001162	-0.001162	1.00 SA	99%		0.026336		
				(0.000525)		(3.9999E-04)	(0.001164)	(0.001164)	(0.017321)			0.004306		
	07/31/06	U-238	R	**-0.001047**	**U4**	-7.99973E-04	-0.002325	-0.002325	1.00 SA	99%		0.029901		
				(0.000745)		(5.6567E-04)	(0.001649)	(0.001649)	(0.017321)			0.006089		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9HTL1AC**	**PCI/SA**	**S**	07/03/06 09:40	07/30/06 10:23		UISF0464	1	1.00 SA	
0,INTRA-LAB CHECK					,J6G190000-105		FILTER					UISF0464 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 08:42	U-232	496	61	ALP85	ED	Y	N	2.5840E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	2500.05			Y		(7.752E-03)						(0.000E+00)	1.00		
1	07/30/06 08:42	U-234	92	1	ALP85	ED	N	N	2.5840E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	2500.05			Y		(7.752E-03)			5%			(0.000E+00)	1.00		
2	07/30/06 08:42	U-235	3	2	ALP85	ED	N	N	2.5840E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	2500.05			Y		(7.752E-03)			5%			(0.000E+00)	1.00		
3	07/30/06 08:42	U-238	98	2	ALP85	ED	N	N	2.5840E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	2500.05			Y		(7.752E-03)			5%			(0.000E+00)	1.00		

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

RecCnt:17 RADCALC v4.8.18 STL Richland

Batch Nbr: 6200105

Alpha Spec, UIso by ALP , Calculated Results

7/31/2006 6:47:24 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/31/06	U-232	R	**4.279264**		2.45477E+00	9.499976	9.499976	1.00 SA	94%				
				(0.324718)		(1.1136E-01)	(0.516682)	(0.516682)	(0.017321)					
	07/31/06	U-234	R	**0.850105**		4.59447E-01	1.887234	1.887234	1.00 SA	94%	88%	0.037228		
				(0.11261)		(4.7944E-02)	(0.229183)	(0.229183)	(0.017321)			0.006086		
	07/31/06	U-235	R	**0.026265**	**U4**	1.41950E-02	0.058308	0.058308	1.00 SA	94%	59%	0.042267		
				(0.016195)		(8.6758E-03)	(0.035821)	(0.035821)	(0.017321)			0.008607		
	07/31/06	U-238	R	**0.904854**		4.89037E-01	2.008779	2.008779	1.00 SA	94%	89%	0.042267		
				(0.11762)		(4.9484E-02)	(0.238503)	(0.238503)	(0.017321)			0.008607		

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

RecCnt:17

RADCALC v4.8.18

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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

SEVERN TRENT STL

URANIUM ISOTOPIC COUNTING REQUEST

1202
7/30/06

C.R. Technician RS

Date Counted 7/30/06

Counting Time
Sample 200 Minutes
Background See Alpha Regions Report
7/3/06 U BRC Q200105

SOP's
Operating: RICHRD008
Review: RICHRD0016

WorkOrder #	U-232 (5320 KeV) Tracer	TOTAL COUNTS U-238 (4196 KeV)	U-235 (4396 KeV)	U-234 (4776 KeV)	Det #	Comments/Edits
H9GDP1AG	See Counting Room Printout for ROI information				1	
H9GDW1AG	See Counting Room Printout for ROI information				2	
H9GD11AG	See Counting Room Printout for ROI information				3	
H9GD41AG	See Counting Room Printout for ROI information				4	
H9GD61AG	See Counting Room Printout for ROI information				5	
H9GD81AG	See Counting Room Printout for ROI information				6	
H9GEC1AG	See Counting Room Printout for ROI information				7	
H9GED1AG	See Counting Room Printout for ROI information				8	
	See Counting Room Printout for ROI information					

Comments:

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

Approved by: S

Date: 7/31/06

STL RICHLAND

247

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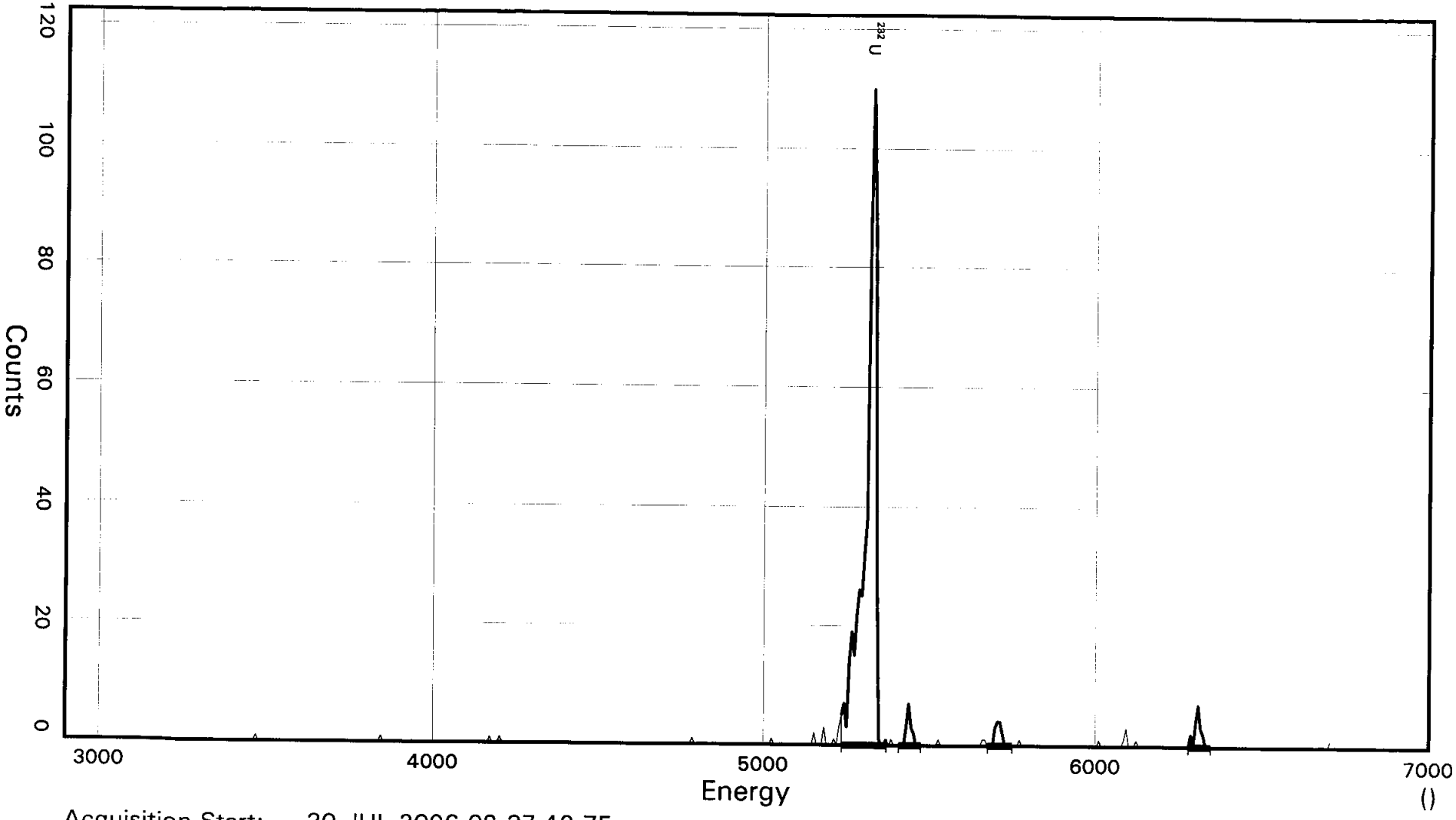
U BRC

Sample ID: H9GDP1AG
Detector ID: ALP1 1

Batch ID: 6200105



Acquisition Start: 30-JUL-2006 08:37:42.75
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:06.00

Energy Coefficients:
Offset: 2.87647E+03
Slope: 7.49971E+00
Quadrature: -4.75056E-05

SAMPLE IDENTIITY: H9GDP1AG

TITLE : U BRC

DETECTOR : ALP1 1
CONFIGURATION NAME : $DISK1:[ALP1.SAMPLE]H9GDP1AG_300760837.CNF;1

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

REPORT DATE : 30-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 08:37:42 CALIB DATE : 06-JUL-2006 01:18:50

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

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: H9GDP1AG

Detector: ALP1 1
Report Date: 30-Jul-06 11:58 AM
Acquire Date: 30-JUL-2006 08:37:42.75
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	526	3	0	2.626	5320.6	134.4	315	333	0.00	0.00	P
U-234	1	2	0	0.003	4775.0	134.6	242	260	0.00	0.00	
U-235	0	2	0	-0.002	4398.2	134.7	192	210	0.00	0.00	
U-238	2	4	0	0.006	4198.4	134.7	165	183	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GDP1AG
Detector: ALP1 1
Report Date: 30-Jul-06 11:58 AM
Acquire Date: 30-JUL-2006 08:37:42.75

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
		1	0		51	0		101	0		151	0	+	201	0	+	251	0		301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0	+	202	0	+	252	0		302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0	+	203	0	+	253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	0	+	254	2		304	1		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	1	+	255	0		305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	0		306	0		356	0		406	2		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	3		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	7		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	0		311	0		361	0		411	2		461	0		511
0		12	0		62	0		112	0		162	0		212	0		262	1		312	0		362	0		412	0		462	1		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	3		314	0		364	0		414	0		464			
0		15	0		65	0		115	0	+	165	0		215	0		265	5	+	315	0		365	0		415	0		465			
0		16	0		66	0		116	0	+	166	0		216	0		266	7	+	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	14	+	318	0		368	0		418	0		468			
0		19	0		69	0		119	0	+	169	0		219	0		269	19	+	319	0		369	1		419	0		469			
0		20	0		70	0		120	0	+	170	0		220	0		270	15	+	320	0		370	0		420	0		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	22	+	321	0		371	0		421	0		471			
0		22	0		72	0		122	0	+	172	0		222	0		272	26	+	322	1		372	0		422	0		472			
0		23	0		73	0		123	1	+	173	0		223	0		273	25	+	323	1		373	0		423	0		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	32	+	324	0		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	38	+	325	0		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	0		276	87	+	326	0		376	0		426	0		476			
0		27	0		77	0		127	1	+	177	0		227	0		277	110	+	327	3		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	87	+	328	4		378	0		428	0		478			
0		29	1		79	1		129	0	+	179	0		229	0		279	27	+	329	4		379	1		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	1	+	330	2		380	3		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	0	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	0	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	1		333	0		383	0		433	0		483			
0		34	0		84	0		134	0		184	0		234	0		284	0		334	0		384	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	1		287	0		337	1		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	0		288	0		338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	0		289	0		339	0		389	0		439	0		489			
0		40	0		90	0		140	0		190	0		240	0		290	0		340	0		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	0		291	3		341	0		391	0		441	0		491			
0		42	0		92	0		142	0	+	192	0	+	242	0		292	7		342	0		392	0		442	0		492			
0		43	0		93	0		143	0	+	193	0	+	243	0		293	3		343	0		393	0		443	0		493			
0		44	0		94	0		144	0	+	194	0	+	244	0		294	2		344	0		394	0		444	0		494			
0		45	0		95	0		145	0	+	195	0	+	245	0		295	0		345	0		395	0		445	0		495			
0		46	0		96	0		146	0	+	196	0	+	246	0		296	0		346	0		396	0		446	0		496			
0		47	0		97	0		147	0	+	197	0	+	247	0		297	0		347	0		397	0		447	0		497			
0		48	0		98	0		148	0	+	198	0	+	248	0		298	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 11:58:06

Configuration : $DISK1:[ALP1.SAMPLE]H9GDP1AG_300760837.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 3-JUL-2006 12:00:00 Acquisition date : 30-JUL-2006 08:37:42
Sample ID : H9GDP1AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP1 Detector geometry:
Elapsed live time: 0 03:20:06.00 Elapsed real time: 0 03:20:06.00 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	5320.57	526	0	45.00	326.57	315	18	4.38E-02	4.4	
2	0	5436.81	17	0	37.50	342.13	338	9	1.42E-03	24.3	
3	0	5708.31	13	0	30.00	378.50	374	10	1.08E-03	27.7	
4	0	6308.39	19	0	37.50	458.94	455	9	1.58E-03	22.9	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 11:58:08

Configuration	: $DISK1:[ALP1.SAMPLE]H9GDP1AG_300760837.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 3-JUL-2006 12:00:00	Acquisition date	: 30-JUL-2006 08:37:42
Sample ID	: H9GDP1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP1	Detector geometry	:
Elapsed live time	: 0 03:20:06.00	Elapsed real time	: 0 03:20:06.00 0.0%
Energy tolerance	: 40.00	Half life ratio	: 1.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Spline	Efficiencies at	: Peak Energy
Abundance limit	: 60.00		

Summary of Nuclide Activity

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

Nuclide Type : AP

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

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

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

Configuration: $DISK1:[ALP1.SAMPLE]H9GDP1AG_300760837.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5320.56	315	333	526	519	0.31		
5436.81	338	347	17	15	0.49		
5708.30	374	384	13	13	0.00		
6308.39	455	464	19	18	0.23		

End of Report

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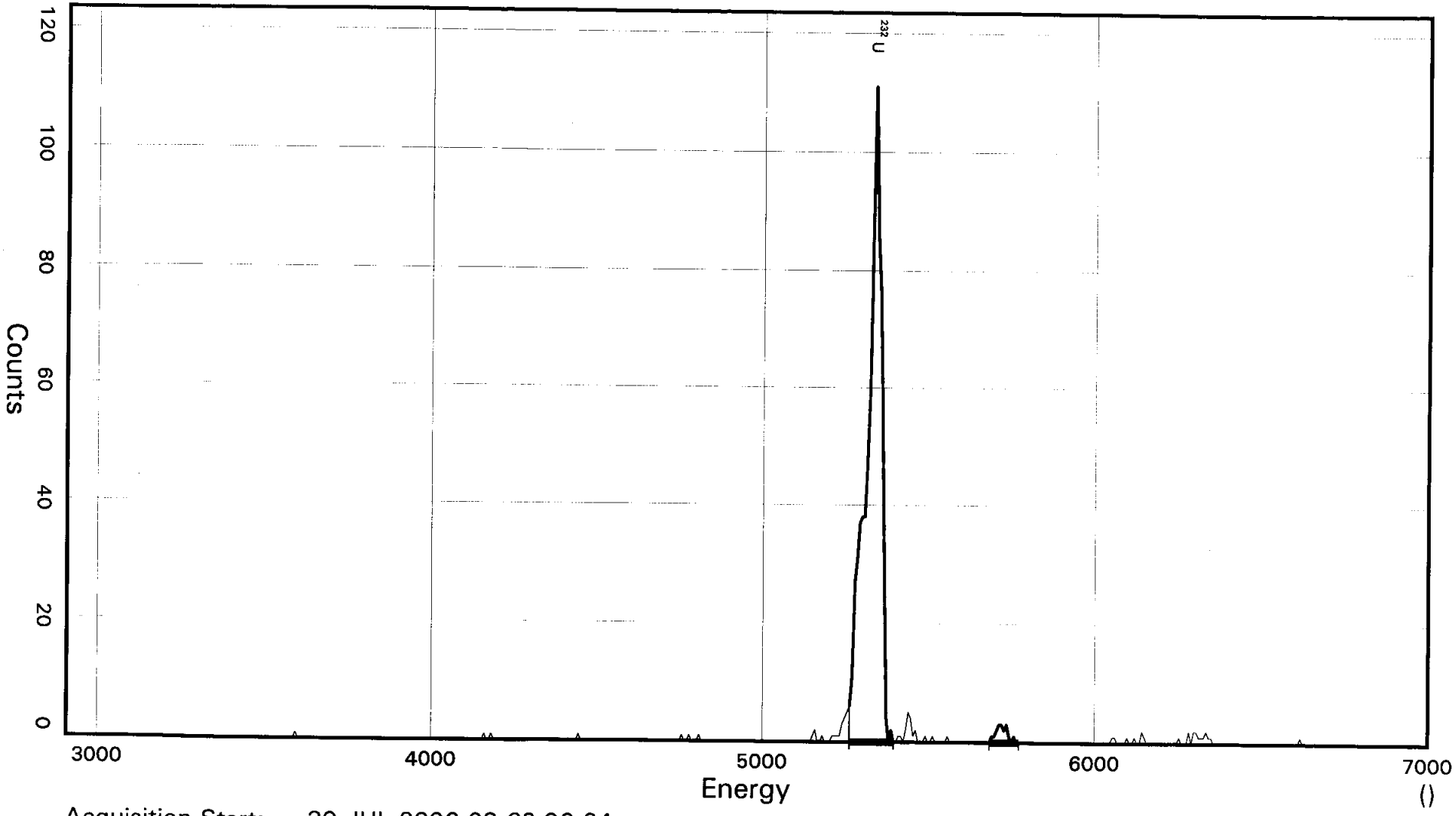
U BRC

Sample ID: H9GDW1AG
Detector ID: ALP2 1

Batch ID: 6200105



Acquisition Start: 30-JUL-2006 08:38:06.24
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:03.00

Energy Coefficients:
Offset: 2.88585E+03
Slope: 7.35469E+00
Quadrature: 6.81728E-05

SAMPLE IDENTIITY: H9GDW1AG

TITLE : U BRC

DETECTOR : ALP2 1
CONFIGURATION NAME : $DISK1:[ALP2.SAMPLE]H9GDW1AG_300760838.CNF;1

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

REPORT DATE : 30-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 08:38:06 CALIB DATE : 08-JUL-2006 03:11:43

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

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

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

Sample Identity: H9GDW1AG

Detector: ALP2 1
Report Date: 30-Jul-06 12:28 PM
Acquire Date: 30-JUL-2006 08:38:06.24
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	15	0	3.744	5335.3	133.2	322	340	0.00	0.00	P
U-234	3	0	0	0.015	4789.7	133.0	248	266	0.00	0.00	
U-235	1	3	0	0.002	4412.9	132.9	197	215	0.00	0.00	
U-238	2	3	0	0.007	4213.1	132.8	170	188	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GDW1AG
Detector: ALP2 1
Report Date: 30-Jul-06 12:28 PM
Acquire Date: 30-JUL-2006 08:38:06.24

Flags Key

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

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

VMS Peak Search Report V1.9 Generated 30-JUL-2006 12:28:19

```
Configuration     : $DISK1:[ALP2.SAMPLE]H9GDW1AG_300760838.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 30-JUL-2006 08:38:06
Sample ID         : H9GDW1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP2                 Detector geometry:
Elapsed live time: 0 03:20:03.00         Elapsed real time: 0 03:49:55.00    13%
Start energy      :  2907.92             End energy       :  6669.33
Sensitivity       :     4.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5335.31	752	0	51.48	332.03	322	18	6.27E-02	3.6	
2	0	5720.11	17	0	36.77	384.00	379	12	1.42E-03	24.3	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 12:28:21

```
Configuration     : $DISK1:[ALP2.SAMPLE]H9GDW1AG_300760838.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : U BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 30-JUL-2006 08:38:06
Sample ID         : H9GDW1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP2                 Detector geometry:
Elapsed live time: 0 03:20:03.00         Elapsed real time: 0 03:49:55.00    13%
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:[ALP2.SAMPLE]H9GDW1AG_300760838.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5335.31	322	340	752	747	0.18		
5720.10	379	391	17	17	0.00		

End of Report

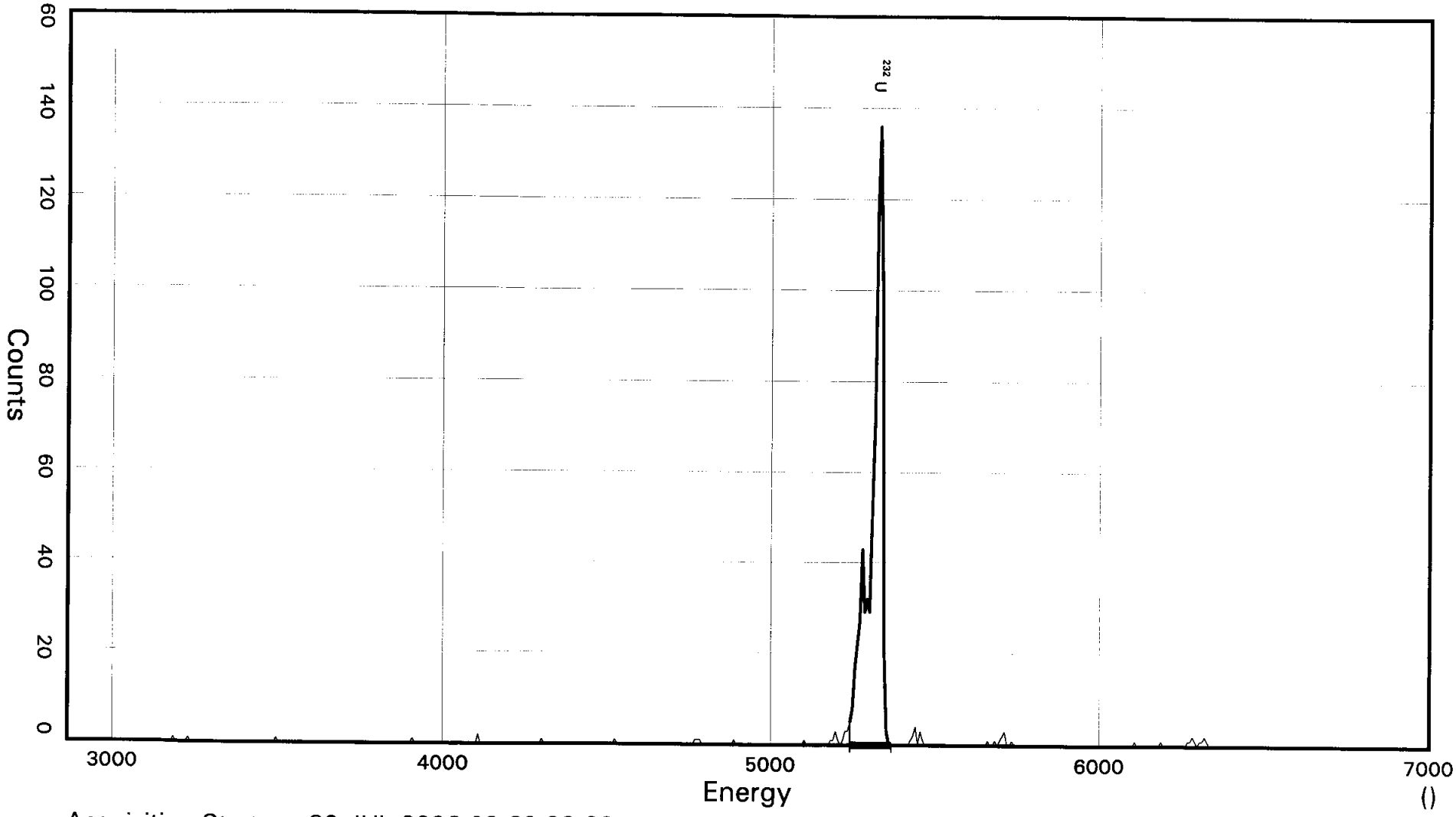
STL Richland WA.

U BRC

Sample ID: H9GD11AG

Detector ID: ALP3 1

Batch ID: 6200105



Acquisition Start: 30-JUL-2006 08:38:23.89

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:06.00

Energy Coefficients:

Offset: 2.84210E+03

Slope: 7.41508E+00

Quadrature: -9.63550E-05

SAMPLE IDENTIITY: H9GD11AG

TITLE : U BRC

DETECTOR : ALP3 1
CONFIGURATION NAME : $DISK1:[ALP3.SAMPLE]H9GD11AG_300760838.CNF;1

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

REPORT DATE : 30-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 08:38:23 CALIB DATE : 06-JUL-2006 01:19:25

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

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: H9GD11AG

Detector: ALP3 1
Report Date: 30-Jul-06 11:58 AM
Acquire Date: 30-JUL-2006 08:38:23.89
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	725	8	0	3.615	5326.0	125.0	325	342	0.00	0.00	P
U-234	3	7	0	0.008	4780.4	125.2	251	268	0.00	0.00	
U-235	0	3	0	-0.003	4403.6	125.4	200	217	0.00	0.00	
U-238	0	6	0	-0.006	4203.8	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: H9GD11AG
Detector: ALP3 1
Report Date: 30-Jul-06 11:58 AM
Acquire Date: 30-JUL-2006 08:38:23.89

Flags Key

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

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0	+	201	0	+	251	0		301	2		351	0		401	0		451	0		501
		2	1		52	0		102	0		152	0	+	202	0	+	252	0		302	4		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0	+	203	0	+	253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	0	+	254	0		304	3		354	0		404	1		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0	+	255	0		305	1		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	1		306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0	+	207	0	+	257	0		307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0	+	208	0	+	258	0		308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	0	+	209	0	+	259	0		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	0	+	210	0	+	260	0		310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	0		161	0	+	211	1	+	261	0		311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0	+	212	1	+	262	0		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0	+	213	1	+	263	0		313	0		363	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	1		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	1		317	0		367	0		417	2		467			
0		18	0		68	0		118	0		168	0		218	0	+	268	1		318	0		368	0		418	1		468			
0		19	0		69	0		119	0		169	0		219	0		269	3		319	0		369	0		419	0		469			
0		20	0		70	0		120	0		170	0		220	0		270	1		320	0		370	0		420	1		470			
0		21	0		71	0		121	2		171	0		221	0		271	0		321	0		371	0		421	1		471			
0		22	0		72	0		122	0		172	0		222	0		272	1		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	1		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	3		324	0		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	5	+	325	0		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	0		276	8	+	326	0		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	1		277	17	+	327	0		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	1		228	0		278	22	+	328	0		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	27	+	329	0		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	43	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	29	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	32	+	332	1		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	29	+	333	0		383	0		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	52	+	334	0		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	71	+	335	1		385	0		435	0		485			
0		36	0		86	0		136	0	+	186	0		236	0		286	117	+	336	0		386	0		436	0		486			
0		37	0		87	0		137	0	+	187	0		237	0		287	136	+	337	1		387	0		437	0		487			
0		38	1		88	0		138	0	+	188	0		238	0		288	100	+	338	2		388	0		438	0		488			
0		39	0		89	0		139	0	+	189	0		239	0		289	20	+	339	3		389	0		439	0		489			
0		40	0		90	0		140	0	+	190	0		240	0		290	3	+	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	1		392	0		442	0		492			
0		43	0		93	0		143	0		193	0		243	0		293	0		343	0		393	1		443	0		493			
0		44	0		94	1		144	0		194	0		244	0		294	0		344	0		394	0		444	0		494			
0		45	0		95	0		145	0		195	0		245	0		295	0		345	0		395	0		445	0		495			
1		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	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	1		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 30-JUL-2006 11:58:46

```
Configuration     : $DISK1:[ALP3.SAMPLE]H9GD11AG_300760838.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 30-JUL-2006 08:38:23
Sample ID         : H9GD11AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP3                 Detector geometry:
Elapsed live time: 0 03:20:06.00         Elapsed real time: 0 03:20:07.00   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	5325.97	725	0	44.49	336.45	325	17	6.04E-02	3.7	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 11:58:48

```
Configuration     : $DISK1:[ALP3.SAMPLE]H9GD11AG_300760838.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : U BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 30-JUL-2006 08:38:23
Sample ID         : H9GD11AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP3                 Detector geometry:
Elapsed live time: 0 03:20:06.00         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                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]H9GD11AG_300760838.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5325.96	325	342	725	711	0.52		

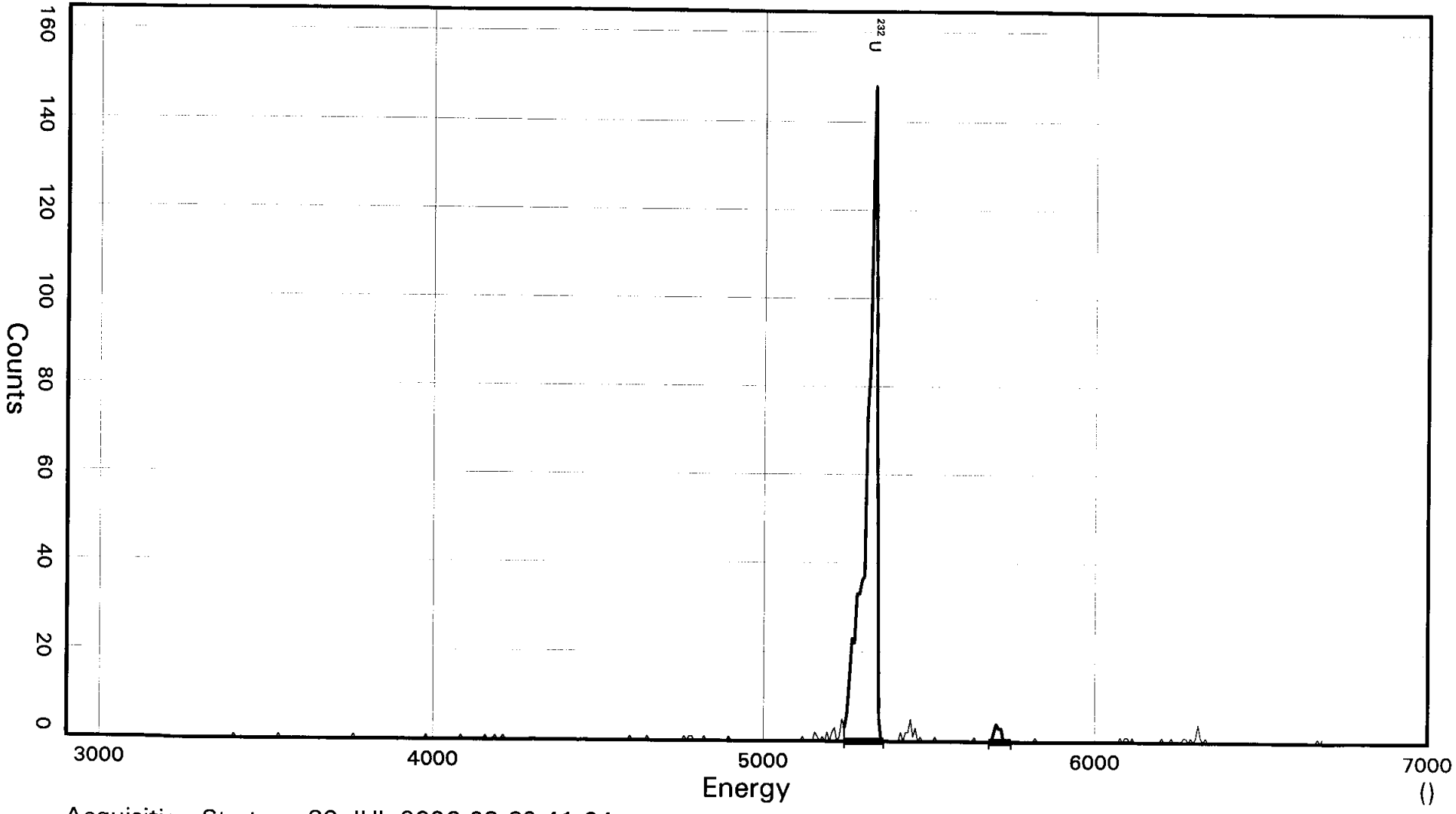
End of Report

STL Richland WA.

U BRC

Sample ID: H9GD41AG
Detector ID: ALP4 1

Batch ID: 6200105



Acquisition Start: 30-JUL-2006 08:38:41.04
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:06.00

Energy Coefficients:
Offset: 2.87930E+03
Slope: 7.56500E+00
Quadrature: -2.63100E-04

SAMPLE IDENTIITY: H9GD41AG

TITLE : U BRC

DETECTOR : ALP4 1
CONFIGURATION NAME : $DISK1:[ALP4.SAMPLE]H9GD41AG_300760838.CNF;1

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

REPORT DATE : 30-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 08:38:41 CALIB DATE : 06-JUL-2006 01:19:39

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

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: H9GD41AG

Detector: ALP4 1
Report Date: 30-Jul-06 11:59 AM
Acquire Date: 30-JUL-2006 08:38:41.04
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	717	4	0	3.579	5325.4	118.3	316	332	0.00	0.00	P
U-234	3	6	0	0.009	4779.8	118.9	242	258	0.00	0.00	
U-235	0	0	0	0.000	4403.0	119.4	192	208	0.00	0.00	
U-238	3	6	0	0.009	4203.2	119.6	165	181	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GD41AG
Detector: ALP4 1
Report Date: 30-Jul-06 11:59 AM
Acquire Date: 30-JUL-2006 08:38:41.04

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

VMS Peak Search Report V1.9 Generated 30-JUL-2006 11:59:01

```
Configuration     : $DISK1:[ALP4.SAMPLE]H9GD41AG_300760838.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 30-JUL-2006 08:38:41
Sample ID         : H9GD41AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP4                 Detector geometry:
Elapsed live time: 0 03:20:06.00         Elapsed real time: 0 03:20:06.00   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	5325.35	717	0	37.82	327.06	316	16	5.97E-02	3.7	
2	0	5704.95	12	0	30.26	378.50	375	9	1.00E-03	28.9	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 11:59:03

```
Configuration     : $DISK1:[ALP4.SAMPLE]H9GD41AG_300760838.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : U BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 30-JUL-2006 08:38:41
Sample ID         : H9GD41AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP4                 Detector geometry:
Elapsed live time: 0 03:20:06.00         Elapsed real time: 0 03:20:06.00   0.0%
Energy tolerance :    40.00              Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    60.00
```

Summary of Nuclide Activity

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

Nuclide Type : AP

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

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

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

Configuration: $DISK1:[ALP4.SAMPLE]H9GD41AG_300760838.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5325.35	316	332	717	707	0.37		
5704.95	375	384	12	12	0.00		

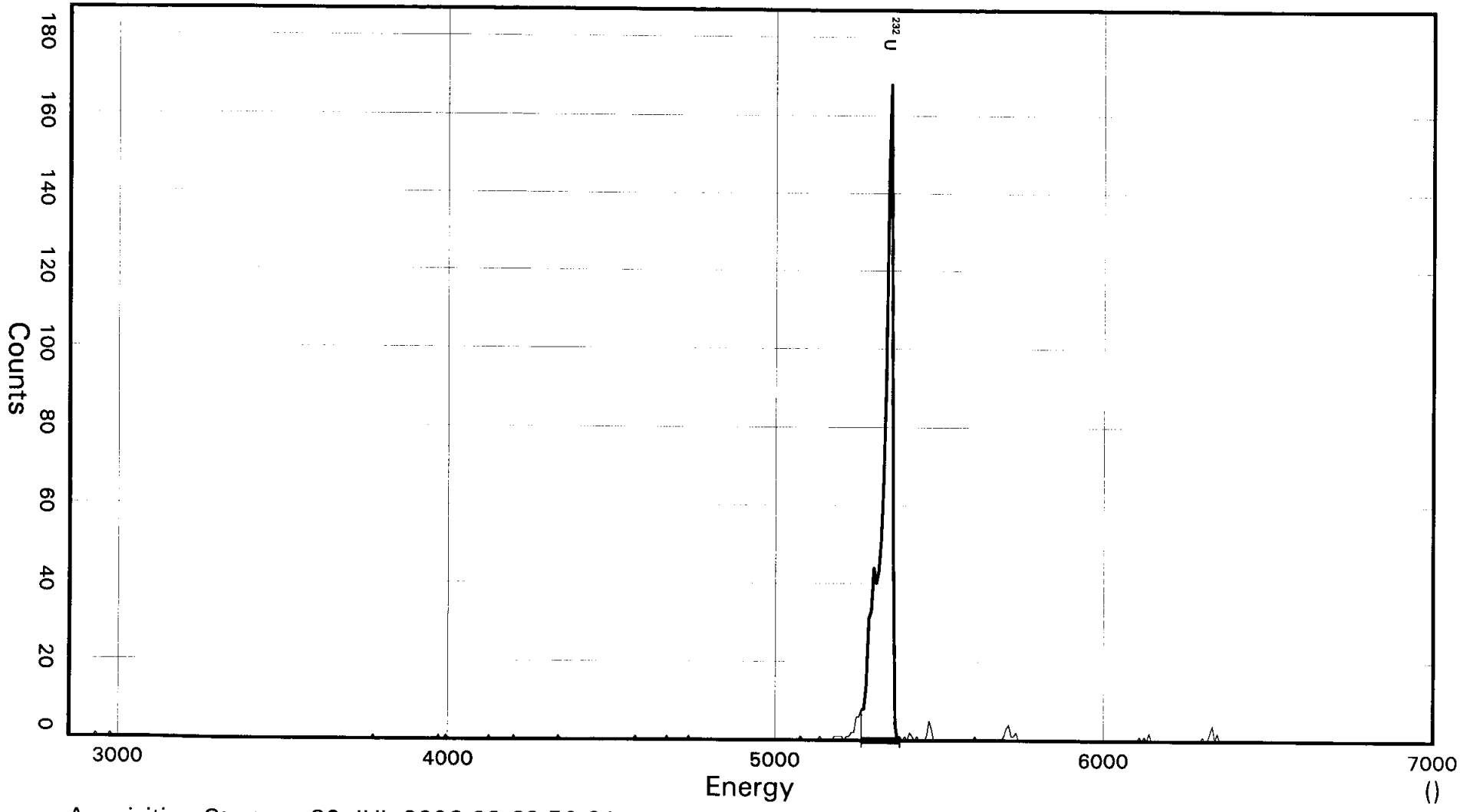
End of Report

STL Richland WA.

U BRC

Sample ID: H9GD61AG
Detector ID: ALP5 1

Batch ID: 6200105



Acquisition Start: 30-JUL-2006 08:38:59.81
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:03.00

Energy Coefficients:
Offset: 2.82947E+03
Slope: 7.36520E+00
Quadrature: 1.24622E-05

SAMPLE IDENTIITY: H9GD61AG

TITLE : U BRC

DETECTOR : ALP5 1
CONFIGURATION NAME : $DISK1:[ALP5.SAMPLE]H9GD61AG_300760838.CNF;1

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

REPORT DATE : 30-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 08:38:59 CALIB DATE : 06-JUL-2006 01:19:33

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

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: H9GD61AG

Detector: ALP5 1
Report Date: 30-Jul-06 11:59 AM
Acquire Date: 30-JUL-2006 08:38:59.81
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	810	10	0	4.039	5342.8	118.0	330	346	0.00	0.00	P
U-234	1	3	0	0.002	4797.2	117.9	256	272	0.00	0.00	
U-235	1	2	0	0.003	4420.4	117.9	205	221	0.00	0.00	
U-238	1	4	0	0.001	4220.6	117.9	178	194	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GD61AG
Detector: ALP5 1
Report Date: 30-Jul-06 11:59 AM
Acquire Date: 30-JUL-2006 08:38:59.81

Flags Key

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

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0		201	0		251	0		301	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	1		155	1	+	205	0		255	1		305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	0		306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0	+	207	0	+	257	0		307	1		357	0		407	0		457	0		507
0		8	0		58	0		108	1		158	0	+	208	0	+	258	0		308	5		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	0	+	209	1	+	259	0		309	3		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			
1		14	0		64	0		114	0		164	0	+	214	0	+	264	0		314	0		364	0		414	0		464			
0		15	0		65	0		115	0		165	0	+	215	0	+	265	0		315	0		365	0		415	0		465			
0		16	0		66	0		116	0		166	0	+	216	0	+	266	0		316	0		366	0		416	0		466			
0		17	0		67	0		117	0		167	0	+	217	0	+	267	0		317	0		367	0		417	0		467			
0		18	0		68	0		118	0		168	0	+	218	0	+	268	0		318	0		368	0		418	0		468			
0		19	0		69	0		119	0		169	0	+	219	0	+	269	1		319	0		369	0		419	0		469			
1		20	0		70	0		120	0		170	0	+	220	0	+	270	1		320	0		370	0		420	0		470			
0		21	0		71	0		121	0		171	0	+	221	0	+	271	1		321	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	0		323	0		373	0		423	0		473			
0		24	0		74	0		124	0		174	0		224	0		274	1		324	0		374	0		424	2		474			
0		25	0		75	0		125	0		175	0		225	0		275	1		325	0		375	0		425	4		475			
0		26	0		76	0		126	1		176	0		226	0		276	2		326	0		376	0		426	0		476			
0		27	0		77	0		127	0		177	0		227	0		277	2		327	1		377	0		427	2		477			
0		28	0		78	1		128	0	+	178	0		228	0		278	6		328	0		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	6		329	0		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	8	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	8	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	14	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	31	+	333	0		383	0		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	33	+	334	0		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	44	+	335	0		385	0		435	0		485			
0		36	0		86	0		136	1	+	186	0		236	0		286	40	+	336	0		386	0		436	0		486			
0		37	0		87	0		137	0	+	187	1		237	0		287	43	+	337	0		387	0		437	0		487			
0		38	0		88	0		138	0	+	188	0		238	0		288	51	+	338	0		388	0		438	0		488			
0		39	0		89	0		139	0	+	189	0		239	0		289	67	+	339	1		389	0		439	0		489			
0		40	0		90	0		140	0	+	190	0		240	0		290	91	+	340	3		390	0		440	0		490			
0		41	0		91	0		141	0	+	191	0		241	0		291	145	+	341	4		391	0		441	0		491			
0		42	0		92	0		142	0	+	192	0		242	0		292	168	+	342	1		392	0		442	0		492			
0		43	0		93	0		143	0	+	193	0		243	0		293	50	+	343	1		393	0		443	0		493			
0		44	0		94	0		144	0	+	194	0		244	0		294	4	+	344	2		394	0		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	1		346	0		396	0		446	0		496			
0		47	0		97	0		147	0		197	0		247	0		297	0		347	0		397	1		447	0		497			
0		48	0		98	0		148	0		198	0		248	0		298	1		348	0		398	0		448	0		498			
0		49	0		99	0		149	0		199	0		249	0		299	0		349	0		399	2		449	0		499			
0		50	0		100	0		150	0		200	1		250	0		300	2		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 30-JUL-2006 11:59:20

```
Configuration     : $DISK1:[ALP5.SAMPLE]H9GD61AG_300760838.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 30-JUL-2006 08:38:59
Sample ID         : H9GD61AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP5                 Detector geometry:
Elapsed live time: 0 03:20:03.00         Elapsed real time: 0 03:20:03.00   0.0%
Start energy      :  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	5342.77	810	0	36.83	341.04	330	16	6.75E-02	3.5	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 11:59:21

```
Configuration     : $DISK1:[ALP5.SAMPLE]H9GD61AG_300760838.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : U BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 30-JUL-2006 08:38:59
Sample ID         : H9GD61AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP5                 Detector geometry:
Elapsed live time: 0 03:20:03.00         Elapsed real time: 0 03:20:03.00   0.0%
Energy tolerance :    40.00              Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    60.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                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:[ALP5.SAMPLE]H9GD61AG_300760838.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5342.76	330	346	810	798	0.42		

End of Report

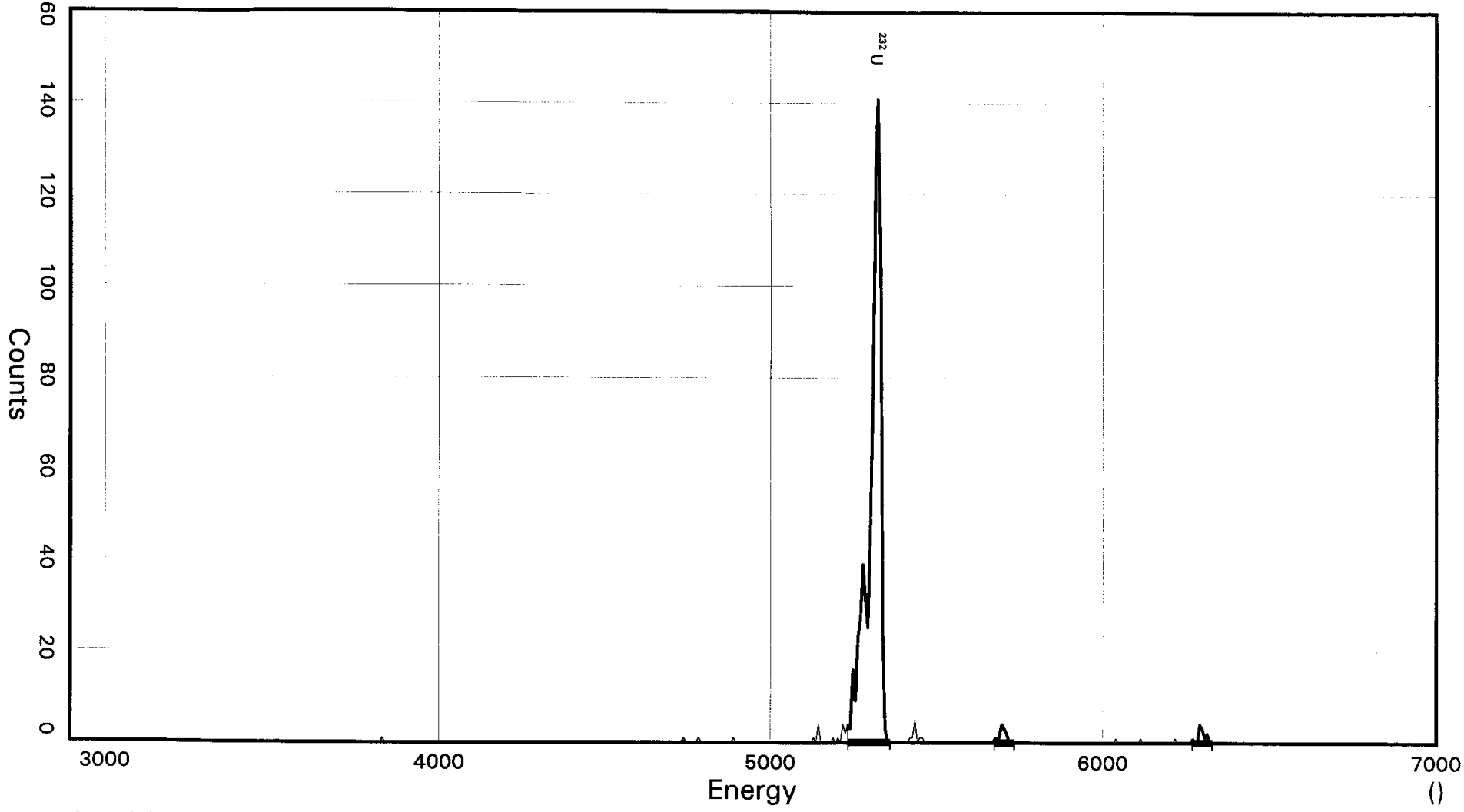
STL Richland WA.

U BRC

Sample ID: H9GD81AG

Detector ID: ALP6 1

Batch ID: 6200105



Acquisition Start: 30-JUL-2006 08:39:15.87

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:03.00

Energy Coefficients:

Offset: 2.87271E+03

Slope: 7.47367E+00

Quadrature: -1.34779E-05

SAMPLE IDENTIITY: H9GD81AG

TITLE : U BRC

DETECTOR : ALP6 1
CONFIGURATION NAME : $DISK1:[ALP6.SAMPLE]H9GD81AG_300760839.CNF;1

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

REPORT DATE : 30-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 08:39:15 CALIB DATE : 06-JUL-2006 01:19:16

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

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: H9GD81AG

Detector: ALP6 1
Report Date: 30-Jul-06 11:59 AM
Acquire Date: 30-JUL-2006 08:39:15.87
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	711	5	0	3.549	5319.1	126.9	316	333	0.00	0.00	P
U-234	2	0	0	0.010	4773.6	126.9	243	260	0.00	0.00	
U-235	0	1	0	-0.001	4396.8	127.0	192	209	0.00	0.00	
U-238	0	2	0	-0.002	4197.0	127.0	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: H9GD81AG
Detector: ALP6 1
Report Date: 30-Jul-06 11:59 AM
Acquire Date: 30-JUL-2006 08:39:15.87

Flags Key

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

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0	+	201	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	4		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	0	+	208	0	+	258	0		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	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	2		461	0		511
0		12	0		62	0		112	0		162	0		212	0		262	1		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0		213	0		263	0		313	0		363	0		413	0		463			
0		14	0		64	0		114	0		164	0		214	0		264	4		314	0		364	0		414	0		464			
0		15	0		65	0		115	0		165	0		215	0		265	2		315	0		365	0		415	0		465			
0		16	0		66	0		116	0	+	166	0		216	0		266	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	16	+	318	0		368	0		418	0		468			
0		19	0		69	0		119	0	+	169	0		219	0		269	9	+	319	0		369	0		419	0		469			
0		20	0		70	0		120	0	+	170	0		220	1		270	23	+	320	0		370	0		420	0		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	27	+	321	0		371	0		421	0		471			
0		22	0		72	0		122	0	+	172	0		222	0		272	39	+	322	0		372	0		422	0		472			
0		23	0		73	0		123	0	+	173	0		223	0		273	31	+	323	0		373	0		423	0		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	25	+	324	0		374	1		424	0		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	48	+	325	1		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	0		276	77	+	326	1		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	122	+	327	1		377	0		427	0		477			
0		28	0		78	1		128	0	+	178	0		228	0		278	141	+	328	4		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	108	+	329	3		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	24	+	330	2		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	3	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	0	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	0		333	0		383	0		433	0		483			
0		34	0		84	0		134	0		184	0		234	0		284	0		334	0		384	1		434	0		484			
0		35	0		85	0		135	0		185	0		235	0		285	0		335	0		385	0		435	0		485			
0		36	0		86	0		136	0		186	0		236	0		286	0		336	0		386	0		436	0		486			
0		37	0		87	0		137	0		187	0		237	0		287	0		337	0		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	0		288	0		338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	0		289	0		339	0		389	0		439	0		489			
0		40	0		90	0		140	0		190	0		240	0		290	0		340	0		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	0		291	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	5		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	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	1	+	250	0		300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 30-JUL-2006 11:59:37

Configuration : $DISK1:[ALP6.SAMPLE]H9GD81AG_300760839.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 3-JUL-2006 12:00:00 Acquisition date : 30-JUL-2006 08:39:15
Sample ID : H9GD81AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP6 Detector geometry:
Elapsed live time: 0 03:20:03.00 Elapsed real time: 0 03:20:03.00 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	5319.14	711	0	29.89	327.53	316	17	5.92E-02	3.8	
2	0	5699.56	12	0	29.89	378.50	375	8	1.00E-03	28.9	
3	0	6296.97	11	0	29.89	458.56	455	8	9.16E-04	30.2	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 11:59:39

Configuration	: $DISK1:[ALP6.SAMPLE]H9GD81AG_300760839.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 3-JUL-2006 12:00:00	Acquisition date	: 30-JUL-2006 08:39:15
Sample ID	: H9GD81AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP6	Detector geometry	:
Elapsed live time	: 0 03:20:03.00	Elapsed real time	: 0 03:20:03.00 0.0%
Energy tolerance	: 40.00	Half life ratio	: 1.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Spline	Efficiencies at	: Peak Energy
Abundance limit	: 60.00		

Summary of Nuclide Activity

Total number of lines in spectrum	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:[ALP6.SAMPLE]H9GD81AG_300760839.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5319.13	316	333	711	700	0.41		
5699.56	375	383	12	12	0.00		
6296.96	455	463	11	11	0.00		

End of Report

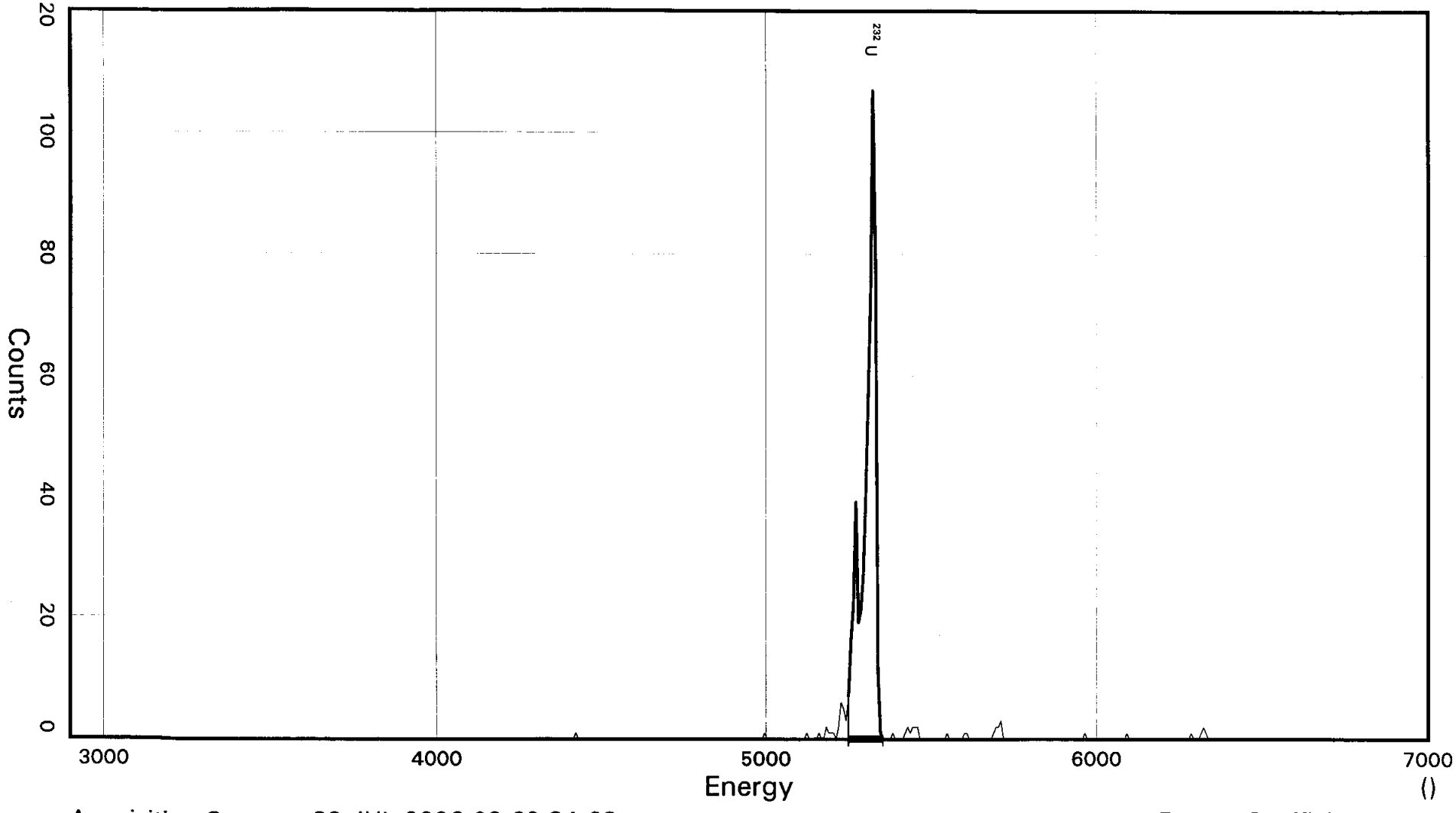
STL Richland WA.

U BRC

Sample ID: H9GEC1AG

Detector ID: ALP7 1

Batch ID: 6200105



Acquisition Start: 30-JUL-2006 08:39:34.63

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:01.00

Energy Coefficients:

Offset: 2.87750E+03

Slope: 7.33452E+00

Quadrature: 1.65007E-04

SAMPLE IDENTIITY: H9GEC1AG

TITLE : U BRC

DETECTOR : ALP7 1
CONFIGURATION NAME : $DISK1:[ALP7.SAMPLE]H9GEC1AG_300760839.CNF;1

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

REPORT DATE : 30-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 08:39:34 CALIB DATE : 06-JUL-2006 01:19:10

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

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: H9GEC1AG

Detector: ALP7 1
Report Date: 30-Jul-06 11:59 AM
Acquire Date: 30-JUL-2006 08:39:34.63
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

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

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	525	1	0	2.624	5319.7	104.2	321	335	0.00	0.00	P
U-234	0	1	0	-0.001	4774.2	103.9	248	262	0.00	0.00	
U-235	1	0	0	0.005	4397.4	103.6	197	211	0.00	0.00	
U-238	0	1	0	-0.001	4197.6	103.5	170	184	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GEC1AG
Detector: ALP7 1
Report Date: 30-Jul-06 11:59 AM
Acquire Date: 30-JUL-2006 08:39:34.63

Flags Key

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

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0	+	201	0	+	251	0		301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0	+	202	0	+	252	0		302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0	+	203	0	+	253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	0	+	254	1		304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0	+	255	0		305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	0		306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0	+	207	0	+	257	0		307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0	+	208	0	+	258	0		308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	0	+	209	0	+	259	1		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	1	+	210	0	+	260	0		310	0		360	0		410	1		460	0		510
0		11	0		61	0		111	0		161	0	+	211	0	+	261	0		311	1		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0		212	0	+	262	2		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	1		314	0		364	0		414	1		464			
0		15	0		65	0		115	0		165	0		215	0		265	1		315	0		365	0		415	2		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	2		317	0		367	1		417	0		467			
0		18	0		68	0		118	0		168	0		218	0		268	6		318	1		368	0		418	0		468			
0		19	0		69	0		119	0		169	0		219	0		269	5		319	1		369	0		419	0		469			
0		20	0		70	0		120	0	+	170	0		220	0		270	3		320	0		370	0		420	0		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	7	+	321	0		371	0		421	0		471			
0		22	0		72	0		122	0	+	172	0		222	0		272	16	+	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	39	+	324	0		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	19	+	325	0		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	0		276	21	+	326	0		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	27	+	327	0		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	40	+	328	0		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	56	+	329	0		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	74	+	330	1		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	107	+	331	2		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	79	+	332	2		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	11	+	333	3		383	0		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	1	+	334	0		384	1		434	0		484			
0		35	0		85	0		135	0		185	0		235	0		285	0		335	0		385	0		435	0		485			
0		36	0		86	0		136	0		186	0		236	0		286	0		336	0		386	0		436	0		486			
0		37	0		87	0		137	0		187	0		237	1		287	0		337	0		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	0		288	0		338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	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	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	2		345	0		395	0		445	0		495			
0		46	0		96	0		146	0		196	0		246	0		296	1		346	0		396	0		446	0		496			
0		47	0		97	0		147	0	+	197	0		247	0		297	2		347	0		397	0		447	0		497			
0		48	0		98	0		148	0	+	198	0	+	248	0		298	2		348	0		398	0		448	0		498			
0		49	0		99	0		149	0	+	199	0	+	249	0		299	2		349	0		399	0		449	0		499			
0		50	0		100	0		150	0	+	200	0	+	250	0		300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 30-JUL-2006 11:59:51

```
Configuration     : $DISK1:[ALP7.SAMPLE]H9GEC1AG_300760839.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 30-JUL-2006 08:39:34
Sample ID         : H9GEC1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP7                 Detector geometry:
Elapsed live time: 0 03:20:01.00         Elapsed real time: 0 03:20:01.00   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	5319.74	525	0	29.34	330.52	321	14	4.37E-02	4.4	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 11:59:53

Configuration	: $DISK1:[ALP7.SAMPLE]H9GEC1AG_300760839.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 3-JUL-2006 12:00:00	Acquisition date	: 30-JUL-2006 08:39:34
Sample ID	: H9GEC1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP7	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:[ALP7.SAMPLE]H9GEC1AG_300760839.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5319.73	321	335	525	519	0.26		

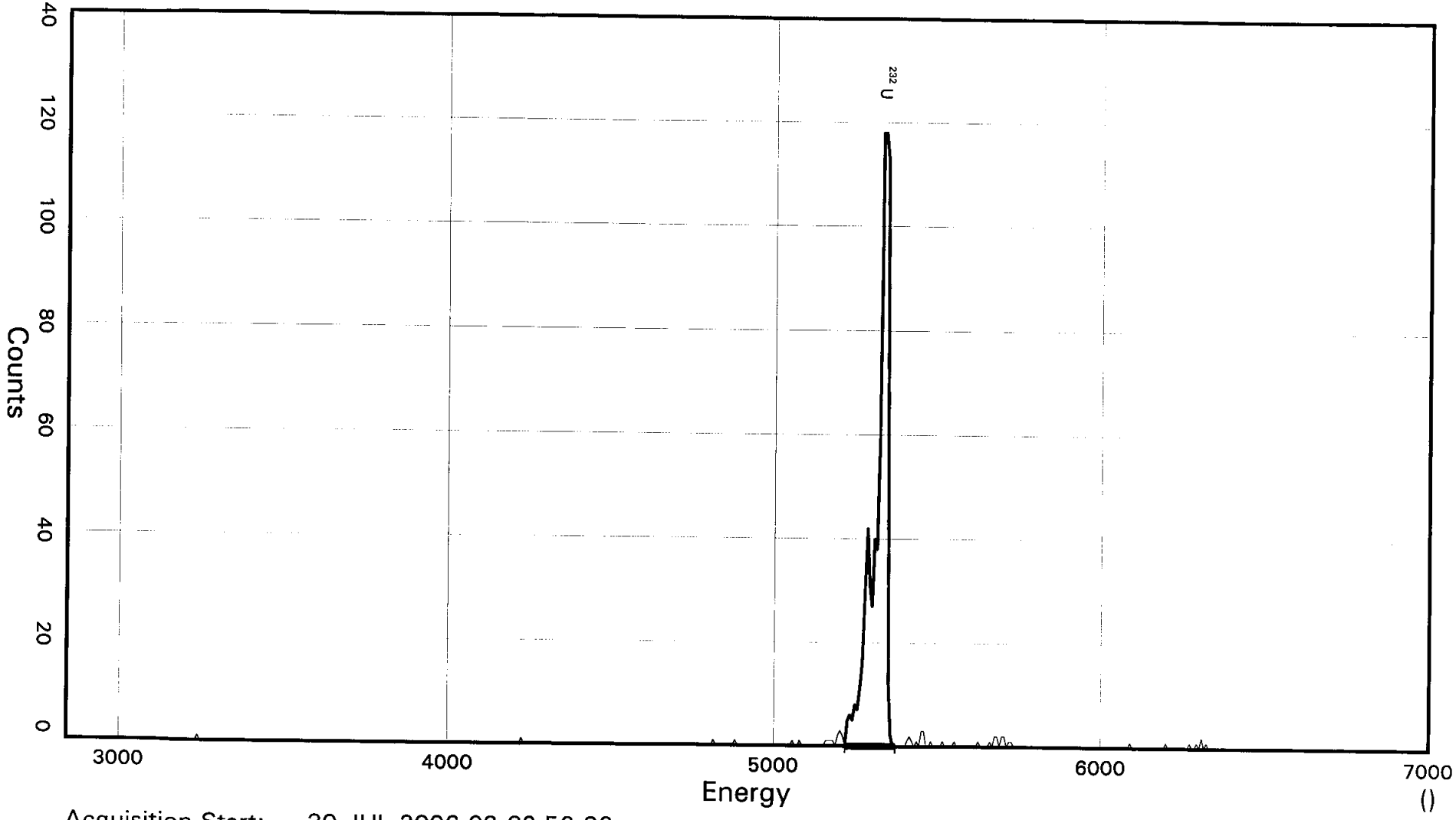
End of Report

STL Richland WA.

U BRC

Sample ID: H9GED1AG
Detector ID: ALP8 1

Batch ID: 6200105



Acquisition Start: 30-JUL-2006 08:39:52.82
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:07.00

Energy Coefficients:
Offset: 2.81875E+03
Slope: 7.34392E+00
Quadrature: -9.54142E-05

SAMPLE IDENTIITY: H9GED1AG

TITLE : U BRC

DETECTOR : ALP8 1
CONFIGURATION NAME : $DISK1:[ALP8.SAMPLE]H9GED1AG_300760839.CNF;1

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

REPORT DATE : 30-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 08:39:52 CALIB DATE : 06-JUL-2006 01:19:45

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

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: H9GED1AG

Detector: ALP8 1
Report Date: 30-Jul-06 12:00 PM
Acquire Date: 30-JUL-2006 08:39:52.82
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

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

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	702	5	0	3.503	5330.0	152.9	328	349	0.00	0.00	P
U-234	1	0	0	0.005	4784.5	153.2	253	274	0.00	0.00	
U-235	0	1	0	-0.001	4407.7	146.1	202	222	0.00	0.00	
U-238	1	0	0	0.005	4207.9	153.5	174	195	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GED1AG
Detector: ALP8 1
Report Date: 30-Jul-06 12:00 PM
Acquire Date: 30-JUL-2006 08:39:52.82

Flags Key

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

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

```
Configuration     : $DISK1:[ALP8.SAMPLE]H9GED1AG_300760839.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 30-JUL-2006 08:39:52
Sample ID         : H9GED1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP8                 Detector geometry:
Elapsed live time: 0 03:20:07.00         Elapsed real time: 0 03:20:07.00   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	5330.04	702	0	44.06	343.49	328	21	5.85E-02	3.8	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 12:00:17

Configuration	: $DISK1:[ALP8.SAMPLE]H9GED1AG_300760839.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 3-JUL-2006 12:00:00	Acquisition date	: 30-JUL-2006 08:39:52
Sample ID	: H9GED1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP8	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	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]H9GED1AG_300760839.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5330.03	328	349	702	688	0.53		

End of Report

SEVERN TRENT STL

URANIUM ISOTOPIC COUNTING REQUEST

1202
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

7/3/06 U BRC 6200105

WorkOrder #	U-232 (5320 KeV) Tracer	TOTAL COUNTS U-238 (4196 KeV)	U-235 (4396 KeV)	U-234 (4776 KeV)	Det #	Comments/Edits
H9GEFIAG	See Counting Room Printout for ROI information				9	
H9GEKIAG	See Counting Room Printout for ROI information				10	
H9GEMIAG	See Counting Room Printout for ROI information				11	
H9GEQIAG	See Counting Room Printout for ROI information				12	
H9GERIAG	See Counting Room Printout for ROI information				69	
H9GEOIAG	See Counting Room Printout for ROI information				71	
H9GE5IAG	See Counting Room Printout for ROI information				83	
H9HTLIAA	See Counting Room Printout for ROI information				84	
H9HTLIAC	See Counting Room Printout for ROI information				85	

Comments:

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

Approved by: S

Date: 7/31/06

STL RICHLAND

304

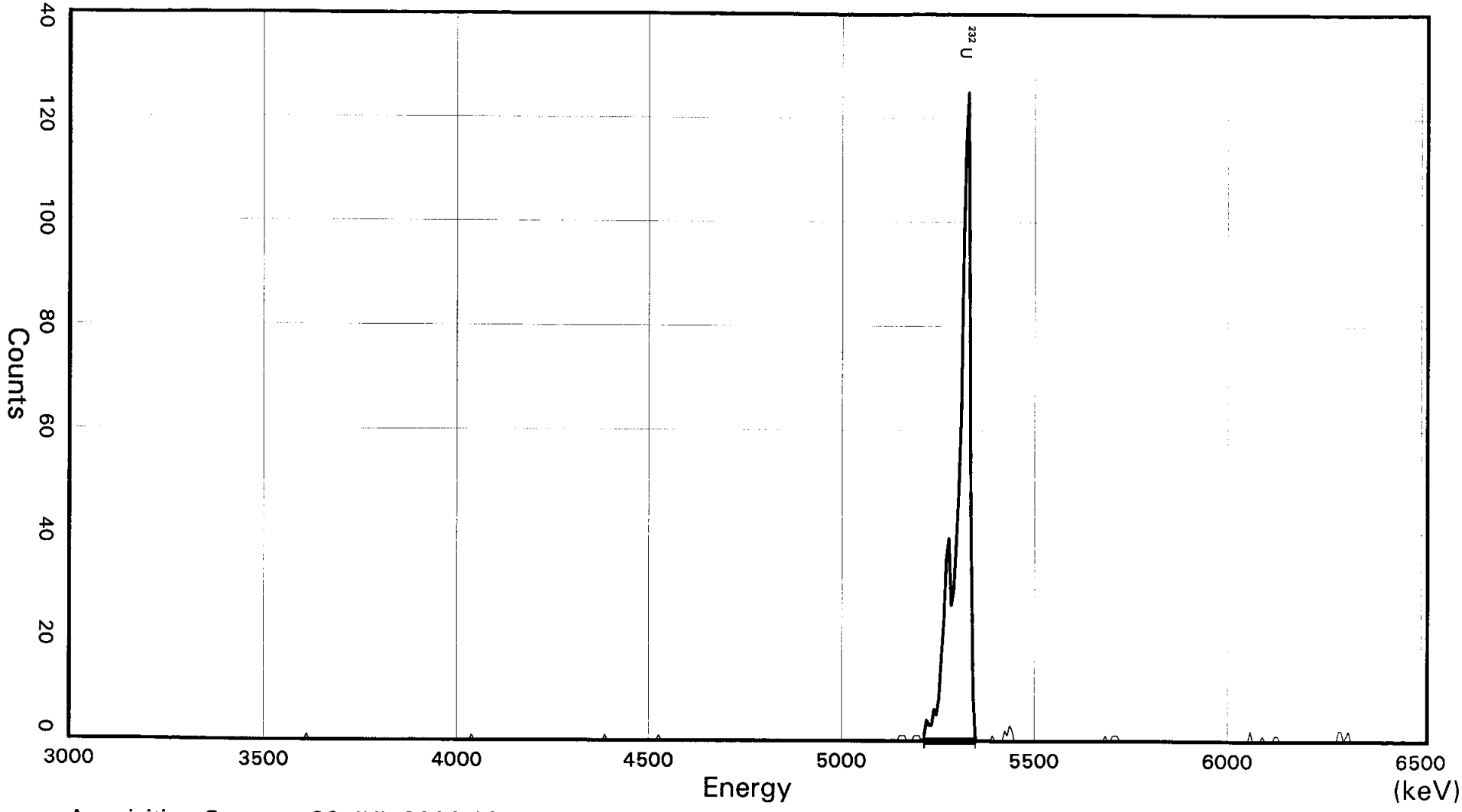
STL Richland WA.

U BRC

Sample ID: H9GEF1AG

Detector ID: ALP9 1

Batch ID: 6200105



Acquisition Start: 30-JUL-2006 08:40:11.77

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: H9GEF1AG

TITLE : U BRC

DETECTOR : ALP9 1
CONFIGURATION NAME : $DISK1:[ALP9.SAMPLE]H9GEF1AG_300760840.CNF;1

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

REPORT DATE : 30-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 08:40:11 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: H9GEF1AG

Detector: ALP9 1
Report Date: 30-Jul-06 12:00 PM
Acquire Date: 30-JUL-2006 08:40:11.77
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	736	4	0	3.674	5319.4	133.5	307	328	0.00	0.00	P
U-234	0	2	0	-0.002	4773.8	133.5	221	242	0.00	0.00	
U-235	1	0	0	0.005	4397.0	133.5	162	183	0.00	0.00	
U-238	0	2	0	-0.002	4197.2	133.5	130	151	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GEF1AG
Detector: ALP9 1
Report Date: 30-Jul-06 12:00 PM
Acquire Date: 30-JUL-2006 08:40:11.77

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

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0	+	151	0		201	0		251	0		301	0		351	0		401	1		451	0		501
		2	0		52	0		102	0		152	0		202	0		252	0		302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0		203	0		253	1		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0		204	0		254	1		304	0		354	0		404	0		454	0		504
0		5	1		55	0		105	0		155	0		205	0		255	1		305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0		206	0		256	0		306	0		356	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	4	+	308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	0		209	0		259	3	+	309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	0		210	0		260	3	+	310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	0		161	0		211	0		261	6	+	311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0	+	162	0		212	0		262	5	+	312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0	+	163	0		213	0		263	8	+	313	0		363	0		413	0		463			
0		14	0		64	0		114	0	+	164	0		214	0		264	16	+	314	0		364	0		414	0		464			
0		15	0		65	0		115	0	+	165	0		215	0		265	23	+	315	0		365	0		415	0		465			
0		16	0		66	0		116	0	+	166	0		216	0		266	35	+	316	0		366	0		416	0		466			
0		17	0		67	0		117	0	+	167	0		217	0		267	39	+	317	0		367	0		417	0		467			
0		18	0		68	0		118	0	+	168	0		218	0		268	26	+	318	0		368	0		418	0		468			
0		19	0		69	0		119	0	+	169	0		219	0		269	29	+	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	0		470			
0		21	0		71	0		121	0	+	171	0	+	221	0		271	48	+	321	0		371	0		421	0		471			
0		22	0		72	1		122	0	+	172	0	+	222	0		272	63	+	322	0		372	0		422	0		472			
0		23	0		73	0		123	0	+	173	0	+	223	0		273	96	+	323	0		373	0		423	0		473			
0		24	0		74	0		124	0	+	174	0	+	224	0		274	115	+	324	0		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	0	+	225	0		275	125	+	325	0		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0	+	226	0		276	40	+	326	0		376	0		426	2		476			
0		27	0		77	0		127	1	+	177	0	+	227	0		277	9	+	327	0		377	0		427	2		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	1		479			
0		30	0		80	0	+	130	0	+	180	0	+	230	0		280	0		330	0		380	0		430	2		480			
0		31	0		81	0	+	131	0	+	181	0	+	231	0		281	0		331	1		381	0		431	0		481			
0		32	0		82	0	+	132	0	+	182	0	+	232	0		282	0		332	0		382	0		432	0		482			
0		33	0		83	0	+	133	0	+	183	0	+	233	0		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	1		335	1		385	0		435	0		485			
0		36	0		86	0	+	136	0		186	0	+	236	0		286	0		336	1		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	2		340	0		390	2		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	3		342	0		392	0		442	0		492			
0		43	0		93	0	+	143	0		193	0		243	0		293	2		343	0		393	0		443	0		493			
0		44	0		94	0	+	144	0		194	0		244	0		294	0		344	0		394	0		444	0		494			
0		45	0		95	0	+	145	0		195	0		245	0		295	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	1		298	0		348	0		398	0		448	0		498			
0		49	0		99	0	+	149	1		199	0		249	1		299	0		349	0		399	0		449	0		499			
0		50	0		100	0	+	150	0		200	0		250	0		300	0		350	0		400	1		450	0		500			

VMS Peak Search Report V1.9 Generated 30-JUL-2006 12:00:35

```
Configuration     : $DISK1:[ALP9.SAMPLE]H9GEF1AG_300760840.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 30-JUL-2006 08:40:11
Sample ID         : H9GEF1AG             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	5319.40	736	0	25.44′	323.69	307	21	6.13E-02	3.7	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 12:00:36

Configuration	: $DISK1:[ALP9.SAMPLE]H9GEF1AG_300760840.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 3-JUL-2006 12:00:00	Acquisition date	: 30-JUL-2006 08:40:11
Sample ID	: H9GEF1AG	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]H9GEF1AG_300760840.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5319.40	307	328	736	732	0.15		

End of Report

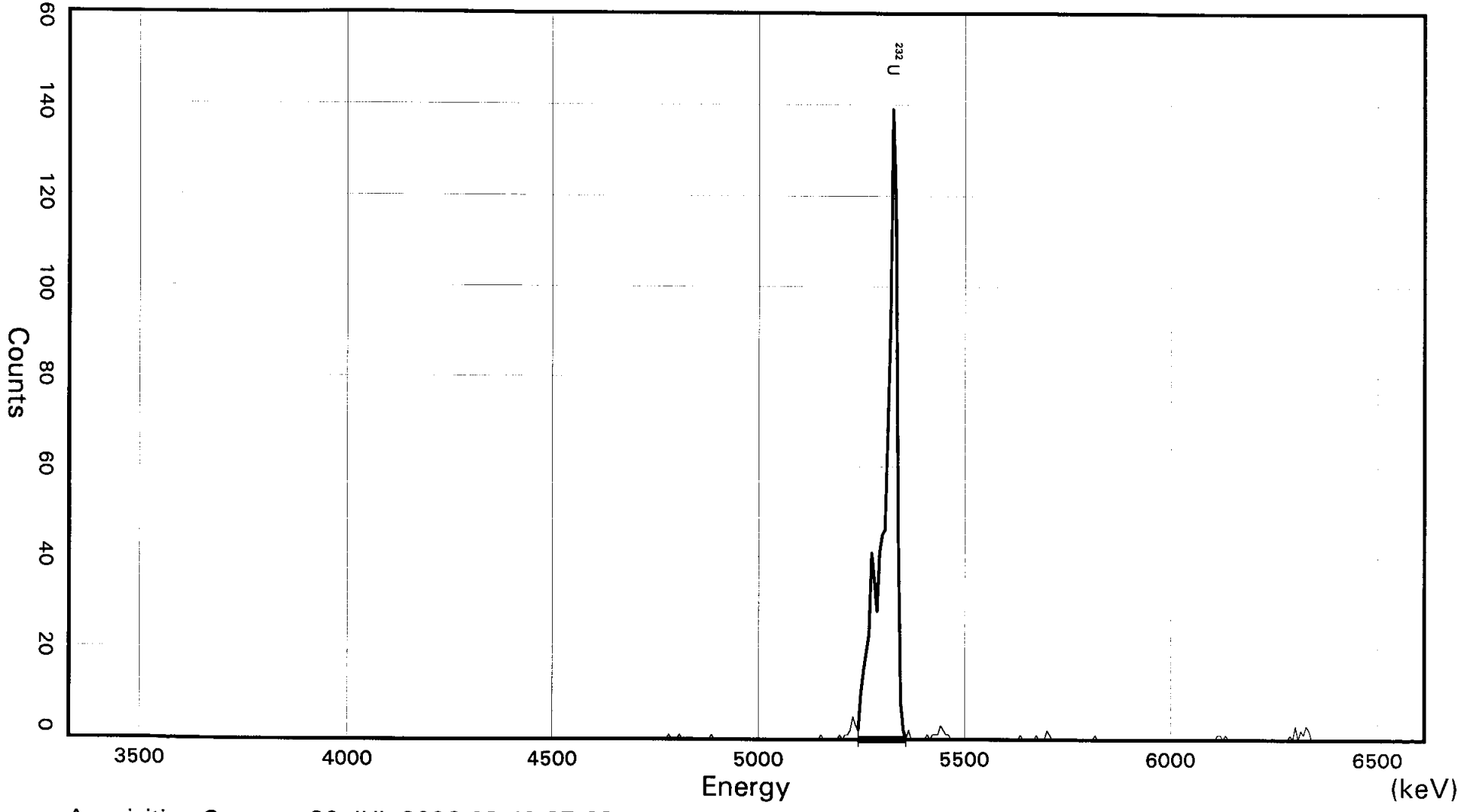
STL Richland WA.

U BRC

Sample ID: H9GEK1AG

Detector ID: ALP10 1

Batch ID: 6200105



Acquisition Start: 30-JUL-2006 08:40:27.69

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:07.00

Energy Coefficients:

Offset: 3.30961E+03

Slope: 6.42195E+00

Quadrature: 5.74933E-05

SAMPLE IDENTIITY: H9GEK1AG

TITLE : U BRC

DETECTOR : ALP10 1
CONFIGURATION NAME : $DISK1:[ALP10.SAMPLE]H9GEK1AG_300760840.CNF;
1
ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:25

REPORT DATE : 30-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 08:40:27 CALIB DATE : 06-JUL-2006 01:19:51

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

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: H9GEK1AG

Detector: ALP10 1
Report Date: 30-Jul-06 12:00 PM
Acquire Date: 30-JUL-2006 08:40:27.69
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	781	3	0	3.900	5324.9	116.2	300	318	0.00	0.00	P
U-234	2	1	0	0.009	4779.4	116.1	215	233	0.00	0.00	
U-235	0	0	0	0.000	4402.6	115.9	157	175	0.00	0.00	
U-238	0	1	0	-0.001	4202.8	115.9	126	144	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GEK1AG
Detector: ALP10 1
Report Date: 30-Jul-06 12:00 PM
Acquire Date: 30-JUL 2006 08:40:27.69

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	10	+	301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0		202	0		252	15	+	302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0		203	0		253	19	+	303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0		204	0		254	23	+	304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0		205	0		255	41	+	305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0		206	0		256	35	+	306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0	+	157	0		207	0		257	28	+	307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0	+	158	0		208	0		258	41	+	308	0		358	0		408	0		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	46	+	310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	0	+	161	0		211	0		261	67	+	311	1		361	0		411	0		461	0		511
0		12	0		62	0		112	0	+	162	0		212	0		262	91	+	312	0		362	0		412	1		462	0		512
0		13	0		63	0		113	0	+	163	0		213	0		263	139	+	313	0		363	0		413	0		463			
0		14	0		64	0		114	0	+	164	0		214	0		264	119	+	314	0		364	0		414	3		464			
0		15	0		65	0		115	0	+	165	0	+	215	0		265	44	+	315	0		365	0		415	0		465			
0		16	0		66	0		116	0	+	166	0	+	216	0		266	8	+	316	0		366	0		416	2		466			
0		17	0		67	0		117	0	+	167	0	+	217	0		267	2	+	317	1		367	0		417	1		467			
0		18	0		68	0		118	0	+	168	0	+	218	0		268	0		318	0		368	0		418	3		468			
0		19	0		69	0		119	0	+	169	0	+	219	0		269	2		319	0		369	0		419	2		469			
0		20	0		70	0		120	0	+	170	0	+	220	0		270	0		320	0		370	0		420	0		470			
0		21	0		71	0		121	0	+	171	0	+	221	0		271	0		321	2		371	0		421	0		471			
0		22	0		72	0		122	0	+	172	0	+	222	0		272	0		322	1		372	0		422	0		472			
0		23	0		73	0		123	0	+	173	0	+	223	0		273	0		323	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	0		276	1		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	1		328	0		378	0		428	0		478			
0		29	0		79	0	+	129	0		179	1	+	229	0		279	1		329	0		379	0		429	0		479			
0		30	0		80	0	+	130	0		180	0	+	230	0		280	1		330	0		380	0		430	0		480			
0		31	0		81	0	+	131	0		181	0	+	231	0		281	3		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	1	+	233	0		283	1		333	0		383	0		433	0		483			
0		34	0		84	0	+	134	0		184	0		234	0		284	1		334	0		384	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	1		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	1		438	0		488			
0		39	0		89	0	+	139	0		189	0		239	0		289	0		339	1		389	0		439	0		489			
0		40	0		90	0	+	140	0		190	0		240	0		290	0		340	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	1		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	1		245	1		295	0		345	0		395	0		445	0		495			
0		46	0		96	0		146	0		196	0		246	1		296	0		346	0		396	0		446	0		496			
0		47	0		97	0		147	0		197	0		247	2		297	0		347	0		397	0		447	0		497			
0		48	0		98	0		148	0		198	0		248	5		298	0		348	0		398	0		448	0		498			
0		49	0		99	0		149	0		199	0		249	3		299	0		349	0		399	0		449	0		499			
0		50	0		100	0		150	0		200	0		250	2	+	300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 30-JUL-2006 12:00:50

Configuration : $DISK1:[ALP10.SAMPLE]H9GEK1AG_300760840.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 3-JUL-2006 12:00:00 Acquisition date : 30-JUL-2006 08:40:27
Sample ID : H9GEK1AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP10 Detector geometry:
Elapsed live time: 0 03:20:07.00 Elapsed real time: 0 03:20:07.00 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	5324.95	781	0	32.11	312.94	300	18	6.50E-02	3.6	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 12:00:51

```
Configuration     : $DISK1:[ALP10.SAMPLE]H9GEK1AG_300760840.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : U BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 30-JUL-2006 08:40:27
Sample ID         : H9GEK1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP10                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:[ALP10.SAMPLE]H9GEK1AG_300760840.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5324.94	300	318	781	775	0.21		

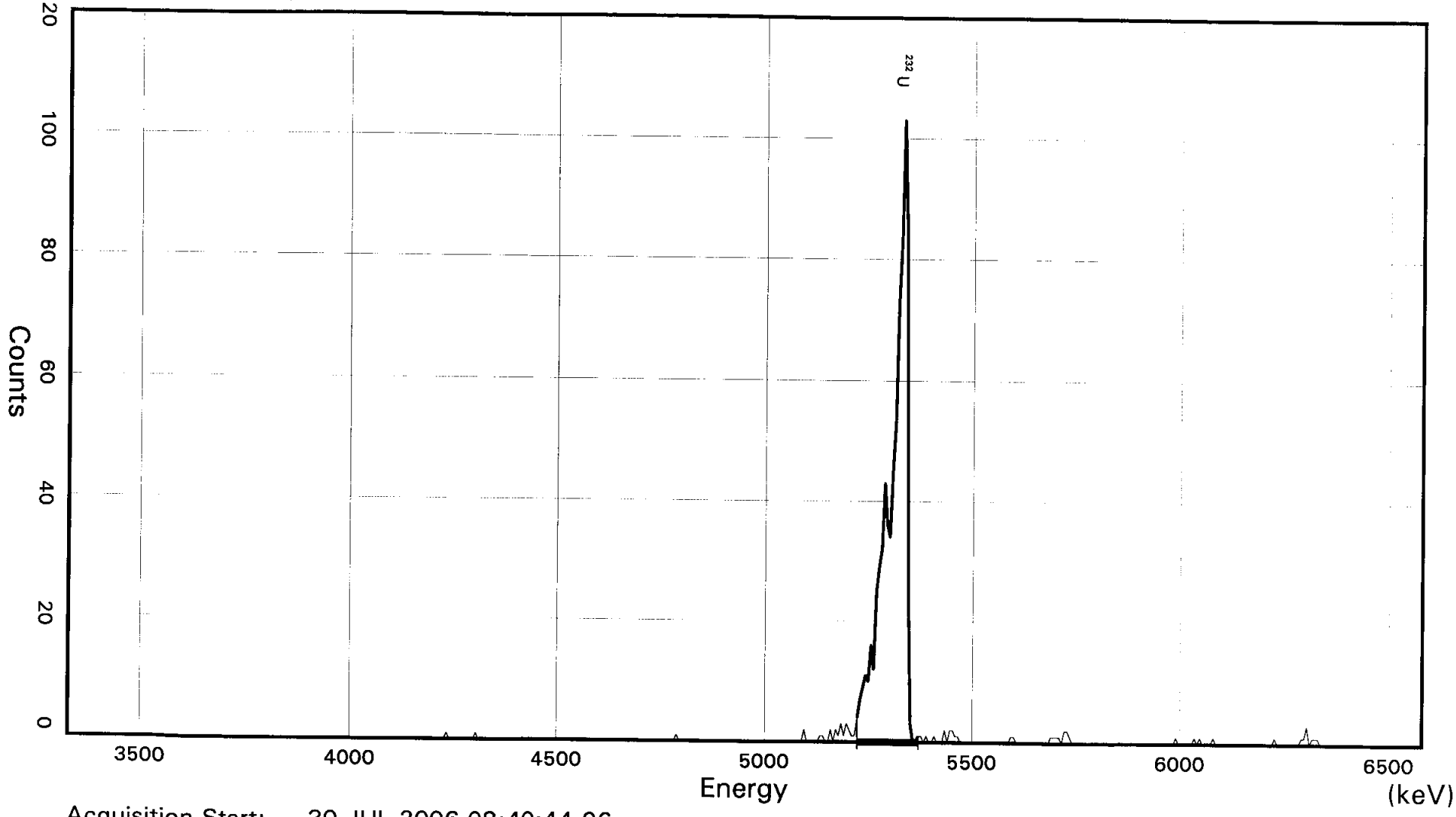
End of Report

STL Richland WA.

U BRC

Sample ID: H9GEM1AG
Detector ID: ALP11 1

Batch ID: 6200105



Acquisition Start: 30-JUL-2006 08:40:44.96
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:06.00

Energy Coefficients:
Offset: 3.30819E+03
Slope: 6.37367E+00
Quadrature: 2.86048E-05

SAMPLE IDENTIITY: H9GEM1AG

TITLE : U BRC

DETECTOR : ALP11 1
CONFIGURATION NAME : $DISK1:[ALP11.SAMPLE]H9GEM1AG_300760840.CNF;
1
ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:28

REPORT DATE : 30-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 08:40:44 CALIB DATE : 06-JUL-2006 01:20:09

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

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

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

Sample Identity: H9GEM1AG

Detector: ALP11 1
Report Date: 30-Jul-06 12:01 PM
Acquire Date: 30-JUL-2006 08:40:44.96
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

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

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	743	9	0	3.704	5323.3	147.0	300	323	0.00	0.00	P
U-234	1	0	0	0.005	4777.7	146.9	215	238	0.00	0.00	
U-235	1	1	0	0.004	4400.9	146.8	156	179	0.00	0.00	
U-238	1	1	0	0.004	4201.1	146.8	124	147	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GEM1AG
Detector: ALP11 1
Report Date: 30-Jul 06 12:01 PM
Acquire Date: 30-JUL-2006 08:40:44.96

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

VMS Peak Search Report V1.9 Generated 30-JUL-2006 12:01:07

Configuration	: $DISK1:[ALP11.SAMPLE]H9GEM1AG_300760840.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: U BRC		
Sample date	: 3-JUL-2006 12:00:00	Acquisition date	: 30-JUL-2006 08:40:44
Sample ID	: H9GEM1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP11	Detector geometry	:
Elapsed live time	: 0 03:20:06.00	Elapsed real time	: 0 03:20:06.00 0.0%
Start energy	: 3327.31 keV	End energy	: 6579.00 keV
Sensitivity	: 4.00	Sum Sensitivity	: 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5323.26	743	0	38.24	315.71	300	23	6.19E-02	3.7	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 12:01:09

Configuration	: $DISK1:[ALP11.SAMPLE]H9GEM1AG_300760840.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 3-JUL-2006 12:00:00	Acquisition date	: 30-JUL-2006 08:40:44
Sample ID	: H9GEM1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP11	Detector geometry	:
Elapsed live time	: 0 03:20:06.00	Elapsed real time	: 0 03:20:06.00 0.0%
Energy tolerance	: 40.00 keV	Half life ratio	: 1.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Spline	Efficiencies at	: Peak Energy
Abundance limit	: 60.00		

Summary of Nuclide Activity

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

Nuclide Type : AP

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

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

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

Configuration: $DISK1:[ALP11.SAMPLE]H9GEM1AG_300760840.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5323.26	300	323	743	737	0.22		

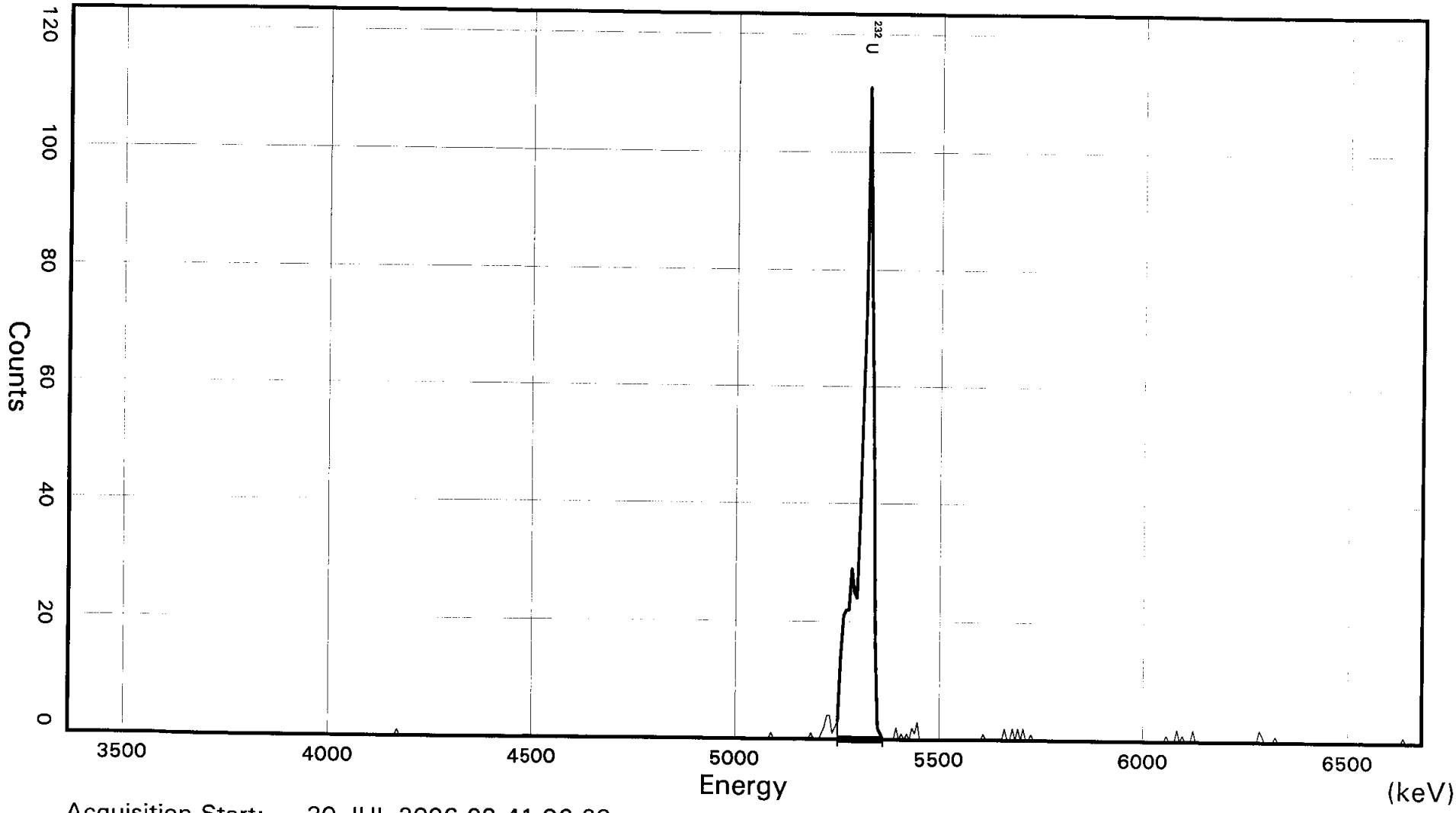
End of Report

STL Richland WA.

U BRC

Sample ID: H9GEQ1AG
Detector ID: ALP12 1

Batch ID: 6200105



Acquisition Start: 30-JUL-2006 08:41:06.23
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:02.00

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

SAMPLE IDENTIITY: H9GEQ1AG

TITLE : U BRC

DETECTOR : ALP12 1
CONFIGURATION NAME : $DISK1:[ALP12.SAMPLE]H9GEQ1AG_300760841.CNF;
1
ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:31

REPORT DATE : 30-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 08:41:06 CALIB DATE : 06-JUL-2006 01:20:03

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

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: H9GEQ1AG

Detector: ALP12 1
Report Date: 30-Jul-06 12:01 PM
Acquire Date: 30-JUL-2006 08:41:06.23
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	596	5	0	2.975	5322.3	110.6	292	309	0.00	0.00	P
U-234	0	0	0	0.000	4776.7	110.8	208	225	0.00	0.00	
U-235	0	0	0	0.000	4399.9	110.9	150	167	0.00	0.00	
U-238	1	1	0	0.004	4200.1	110.9	120	137	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GEQ1AG
Detector: ALP12 1
Report Date: 30-Jul-06 12:01 PM
Acquire Date: 30-JUL-2006 08:41:06.23

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	55	+	301	0		351	0		401	2		451	0		501
		2	0		52	0		102	0	+	152	0		202	0		252	73	+	302	0		352	0		402	1		452	0		502
0		3	0		53	0		103	0	+	153	0		203	0		253	111	+	303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0	+	154	0		204	0		254	78	+	304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0	+	155	0		205	0		255	56	+	305	2		355	0		405	0		455	1		505
0		6	0		56	0		106	0	+	156	0		206	0		256	16	+	306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0	+	157	0		207	0		257	2	+	307	0		357	0		407	1		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	0		459	0		509
0		10	0		60	0		110	0	+	160	0	+	210	0		260	0		310	2		360	0		410	0		460	0		510
0		11	0		61	0		111	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	2		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	2		314	0		364	0		414	0		464			
0		15	0		65	0		115	0	+	165	0	+	215	0		265	0		315	1		365	0		415	0		465			
0		16	0		66	0		116	0	+	166	0	+	216	0		266	1		316	0		366	1		416	0		466			
0		17	0		67	0		117	0	+	167	0	+	217	1		267	0		317	0		367	0		417	0		467			
0		18	0		68	0		118	0		168	0	+	218	0		268	1		318	0		368	0		418	0		468			
0		19	0		69	0		119	0		169	0	+	219	0		269	0		319	0		369	0		419	0		469			
0		20	0		70	0	+	120	0		170	0	+	220	0		270	2		320	0		370	2		420	0		470			
0		21	0		71	0	+	121	0		171	0	+	221	0		271	1		321	0		371	0		421	0		471			
0		22	0		72	0	+	122	0		172	0	+	222	0		272	3		322	0		372	1		422	0		472			
0		23	0		73	0	+	123	0		173	0	+	223	0		273	0		323	0		373	0		423	0		473			
0		24	0		74	0	+	124	0		174	0	+	224	0		274	0		324	0		374	0		424	0		474			
0		25	0		75	0	+	125	0		175	0	+	225	0		275	0		325	0		375	0		425	0		475			
0		26	0		76	1	+	126	0		176	0		226	0		276	0		326	0		376	2		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	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	0		331	0		381	0		431	0		481			
0		32	0		82	0	+	132	0		182	0		232	1		282	0		332	0		382	0		432	0		482			
0		33	0		83	0	+	133	0		183	0		233	0		283	0		333	0		383	0		433	0		483			
0		34	0		84	0	+	134	0		184	0		234	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	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	4		288	0		338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	4		289	0		339	0		389	0		439	0		489			
0		40	0		90	0		140	0		190	0		240	1		290	0		340	0		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	2		291	0		341	0		391	0		441	0		491			
0		42	0		92	0		142	0		192	0		242	3	+	292	0		342	0		392	0		442	0		492			
0		43	0		93	0		143	0		193	0		243	14	+	293	0		343	0		393	0		443	0		493			
0		44	0		94	0		144	0		194	0		244	21	+	294	0		344	0		394	0		444	0		494			
0		45	0		95	0		145	0		195	0		245	22	+	295	0		345	0		395	0		445	0		495			
0		46	0		96	0		146	0		196	0		246	22	+	296	0		346	0		396	0		446	0		496			
0		47	0		97	0		147	0		197	0		247	29	+	297	1		347	0		397	0		447	0		497			
0		48	0		98	0		148	0		198	0		248	25	+	298	0		348	0		398	0		448	0		498			
0		49	0		99	0		149	0		199	0		249	24	+	299	0		349	0		399	0		449	0		499			
0		50	0		100	0	+	150	0		200	0		250	38	+	300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 30-JUL-2006 12:01:23

Configuration	: $DISK1:[ALP12.SAMPLE]H9GEQ1AG_300760841.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: U BRC		
Sample date	: 3-JUL-2006 12:00:00	Acquisition date	: 30-JUL-2006 08:41:06
Sample ID	: H9GEQ1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP12	Detector geometry	:
Elapsed live time	: 0 03:20:02.00	Elapsed real time	: 0 03:20:02.00 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	5322.28	596	0	32.68	302.97	292	17	4.97E-02	4.1	

VMS Nuclide Identification Report V3.0 Generated 30-JUL-2006 12:01:25

Configuration	: $DISK1:[ALP12.SAMPLE]H9GEQ1AG_300760841.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 3-JUL-2006 12:00:00	Acquisition date	: 30-JUL-2006 08:41:06
Sample ID	: H9GEQ1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP12	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:[ALP12.SAMPLE]H9GEQ1AG_300760841.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5322.27	292	309	596	590	0.25		

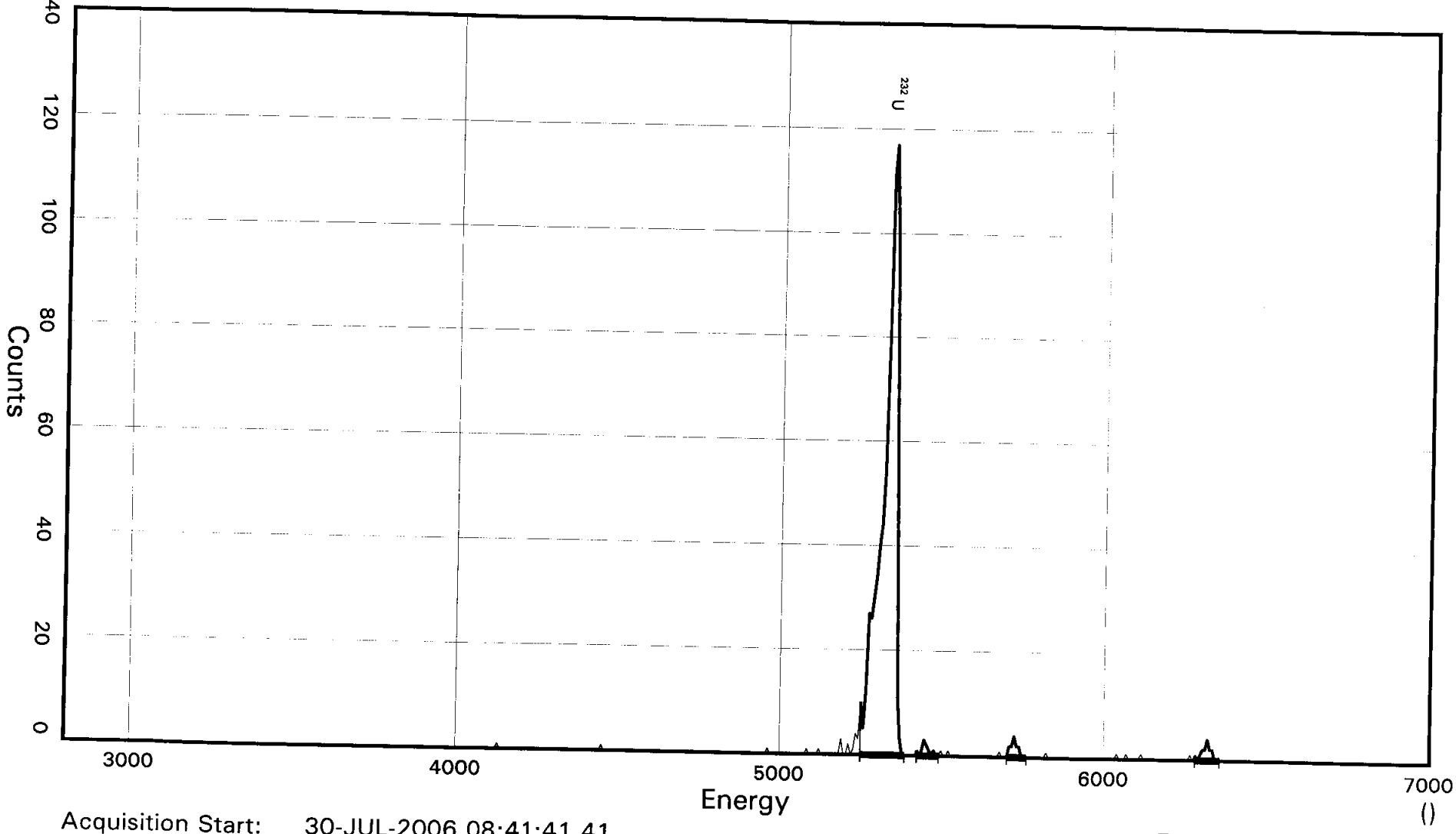
End of Report

STL Richland WA.

U BRC

Sample ID: H9GER1AG
Detector ID: ALP69 1

Batch ID: 6200105



Acquisition Start: 30-JUL-2006 08:41:41.41
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:01.00

Energy Coefficients:
Offset: 2.77736E+03
Slope: 7.50385E+00
Quadrature: 3.07924E-05

SAMPLE IDENTIITY: H9GER1AG

TITLE : U BRC

DETECTOR : ALP69 1
CONFIGURATION NAME : RDND06$DKA100:[ALP69.SAMPLE]H9GER1AG_3007608
41.CNF;1
ACQUIRE DATE of BACKGROUND: 22-JUL-2006 06:10:47

REPORT DATE : 30-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 08:41:41 CALIB DATE : 22-JUL-2006 02:00:58

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

OFFSET : 2777.36 keV CONSTANT FWHM : 8.33333 Channels
SLOPE : 7.50385 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 3.079240E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

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

Sample Identity: H9GER1AG

Detector: ALP69 1
Report Date: 30-Jul-06 12:01 PM
Acquire Date: 30-JUL-2006 08:41:41.41
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 2500 minutes

Flags Key

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

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	753	34	0	3.751	5333.7	135.4	329	347	0.00	0.00	P
U-234	0	2	0	-0.001	4788.1	135.4	256	274	0.00	0.00	
U-235	1	3	0	0.004	4411.3	135.3	206	224	0.00	0.00	
U-238	1	6	0	0.003	4211.5	135.3	180	198	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GER1AG
Detector: ALP69 1
Report Date: 30-Jul-06 12:01 PM
Acquire Date: 30-JUL-2006 08:41:41.41

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

VMS Peak Search Report V1.9 Generated 30-JUL-2006 12:01:57

Configuration	: RDND06$DKA100:[ALP69.SAMPLE]H9GER1AG_300760841.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: U BRC		
Sample date	: 3-JUL-2006 12:00:00	Acquisition date	: 30-JUL-2006 08:41:41
Sample ID	: H9GER1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP69	Detector geometry	:
Elapsed live time	: 0 03:20:01.00	Elapsed real time	: 0 03:20:01.00 0.0%
Start energy	: 2799.87	End energy	: 6627.40
Sensitivity	: 3.00	Sum Sensitivity	: 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5333.70	753	0	37.52	340.20	329	18	6.27E-02	3.6	
2	0	5442.95	9	0	30.02	354.71	352	9	7.50E-04	33.3	
3	0	5723.60	11	0	37.52	392.00	389	8	9.17E-04	30.2	
4	0	6317.87	14	0	37.52	470.92	466	10	1.17E-03	26.7	

VMS Nuclide Identification Report V3.1 Generated 30-JUL-2006 12:01:59

```
Configuration     : RDND06$DKA100:[ALP69.SAMPLE]H9GER1AG_300760841.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : U BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 30-JUL-2006 08:41:41
Sample ID         : H9GER1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP69                Detector geometry:
Elapsed live time: 0 03:20:01.00         Elapsed real time: 0 03:20:01.00   0.0%
Energy tolerance :    80.00              Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    60.00
```

Summary of Nuclide Activity

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

Nuclide Type : AP

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

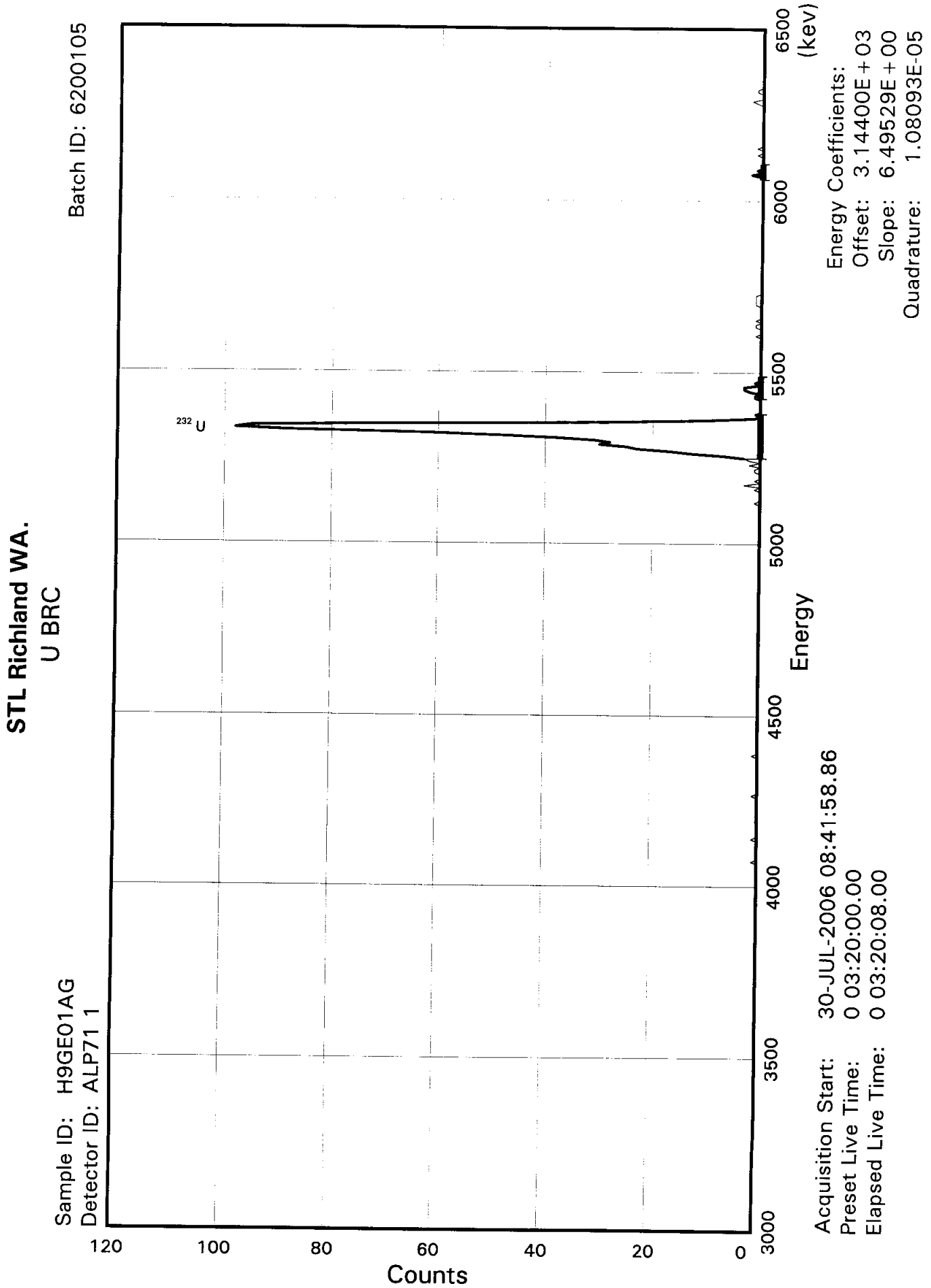
Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

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

Configuration: RDND06$DKA100:[ALP69.SAMPLE]H9GER1AG_300760841.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5333.69	329	347	753	751	0.07		
5442.95	352	361	9	9	0.00		
5723.59	389	397	11	12	-0.30		
6317.87	466	476	14	14	0.00		

End of Report


STL Richland WA.
U BRC
Batch ID: 6200105
Sample ID: H9GE01AG
Detector ID: ALP71 1
232 U
Counts
120
100
80
60
40
20
0
Energy
3000
3500
4000
4500
5000
5500
6000
6500
(kev)
Acquisition Start: 30-JUL-2006 08:41:58.86
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:08.00
Energy Coefficients:
Offset: 3.14400E+03
Slope: 6.49529E+00
Quadrature: 1.08093E-05

SAMPLE IDENTIITY: H9GE01AG

TITLE : U BRC

DETECTOR : ALP71 1
CONFIGURATION NAME : RDND06$DKA100:[ALP71.SAMPLE]H9GE01AG_3007608
41.CNF;1
ACQUIRE DATE of BACKGROUND: 23-JUL-2006 06:31:21

REPORT DATE : 30-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 08:41:58 CALIB DATE : 21-JUL-2006 01:15:27

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

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: H9GE01AG

Detector: ALP71 1
Report Date: 30-Jul-06 12:02 PM
Acquire Date: 30-JUL-2006 08:41:58.86
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	718	30	0	3.576	5331.6	130.1	324	344	0.00	0.00	P
U-234	0	6	0	-0.002	4786.1	130.0	240	260	0.00	0.00	
U-235	1	3	0	0.004	4409.3	130.0	182	202	0.00	0.00	
U-238	1	5	0	0.003	4209.5	130.0	151	171	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GE01AG
Detector: ALP71 1
Report Date: 30-Jul-06 12:02 PM
Acquire Date: 30-JUL-2006 08:41:58.86

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
		1	0		51	0		101	0	+	151	0	+	201	0	+	251	0		301	1		351	0		401	2		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	1	+	153	0		203	0	+	253	0		303	0		353	0		403	1		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	3		355	0		405	0		455	0		505
0		6	0		56	0		106	0	+	156	0		206	0	+	256	0		306	3		356	0		406	0		456	0		506
0		7	0		57	0		107	0	+	157	0		207	0	+	257	0		307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0	+	158	0		208	0	+	258	0		308	1		358	0		408	0		458	0		508
0		9	0		59	0		109	0	+	159	0		209	0	+	259	0		309	0		359	0		409	0		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	3		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0	+	163	0		213	0		263	0		313	0		363	0		413	1		463			
0		14	0		64	0		114	0	+	164	0		214	0		264	1		314	0		364	0		414	0		464			
0		15	0		65	0		115	0	+	165	0		215	0		265	0		315	0		365	0		415	0		465			
0		16	0		66	0		116	0	+	166	0		216	0		266	0		316	0		366	0		416	0		466			
0		17	0		67	0		117	0	+	167	0		217	0		267	0		317	0		367	0		417	0		467			
0		18	0		68	0		118	0	+	168	0		218	0		268	1		318	0		368	0		418	0		468			
0		19	0		69	0		119	0	+	169	0		219	0		269	1		319	0		369	0		419	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	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	1		173	0		223	0		273	2		323	0		373	0		423	0		473			
0		24	0		74	0		124	0		174	0		224	0		274	3	+	324	0		374	0		424	0		474			
0		25	0		75	0		125	0		175	0		225	0		275	7	+	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	17	+	327	0		377	0		427	0		477			
0		28	0		78	0		128	0		178	0		228	0		278	23	+	328	0		378	0		428	0		478			
0		29	0		79	0		129	0		179	0		229	0		279	25	+	329	1		379	0		429	0		479			
0		30	0		80	0		130	0		180	0		230	0		280	30	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	0		181	0		231	0		281	28	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	31	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	38	+	333	1		383	0		433	1		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	48	+	334	1		384	0		434	2		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	62	+	335	0		385	0		435	0		485			
0		36	0		86	0		136	0	+	186	0		236	0		286	88	+	336	1		386	0		436	0		486			
0		37	0		87	0		137	0	+	187	0		237	0		287	98	+	337	0		387	0		437	0		487			
0		38	0		88	0		138	0	+	188	0		238	0		288	95	+	338	0		388	0		438	1		488			
0		39	0		89	0		139	0	+	189	0		239	0		289	67	+	339	0		389	0		439	1		489			
0		40	0		90	0		140	0	+	190	0	+	240	0		290	28	+	340	0		390	0		440	0		490			
0		41	0		91	0		141	1	+	191	0	+	241	0		291	10	+	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	1		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	1		394	0		444	0		494			
0		45	0		95	0		145	0	+	195	0	+	245	0		295	0		345	1		395	0		445	0		495			
0		46	0		96	0		146	0	+	196	0	+	246	0		296	0		346	1		396	0		446	0		496			
0		47	0		97	0		147	0	+	197	0	+	247	0		297	0		347	1		397	0		447	0		497			
0		48	0		98	0		148	0	+	198	0	+	248	0		298	0		348	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 12:02:20

Configuration : RDND06$DKA100:[ALP71.SAMPLE]H9GE01AG_300760841.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 3-JUL-2006 12:00:00 Acquisition date : 30-JUL-2006 08:41:58
Sample ID : H9GE01AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP71 Detector geometry:
Elapsed live time: 0 03:20:08.00 Elapsed real time: 0 03:20:08.00 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	5331.63	718	0	38.97	336.61	324	20	5.98E-02	3.7	
2	0	5449.42	12	0	38.97	354.73	351	10	9.99E-04	28.9	
3	0	6078.83	4	0	25.98	451.50	449	7	3.33E-04	50.0	

VMS Nuclide Identification Report V3.1 Generated 30-JUL-2006 12:02:22

```
Configuration     : RDND06$DKA100:[ALP71.SAMPLE]H9GE01AG_300760841.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : U BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 30-JUL-2006 08:41:58
Sample ID         : H9GE01AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP71                Detector geometry:
Elapsed live time: 0 03:20:08.00         Elapsed real time: 0 03:20:08.00   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	3	
Number of unidentified lines	2	
Number of lines tentatively identified by NID	1	33.33%

Nuclide Type : AP

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

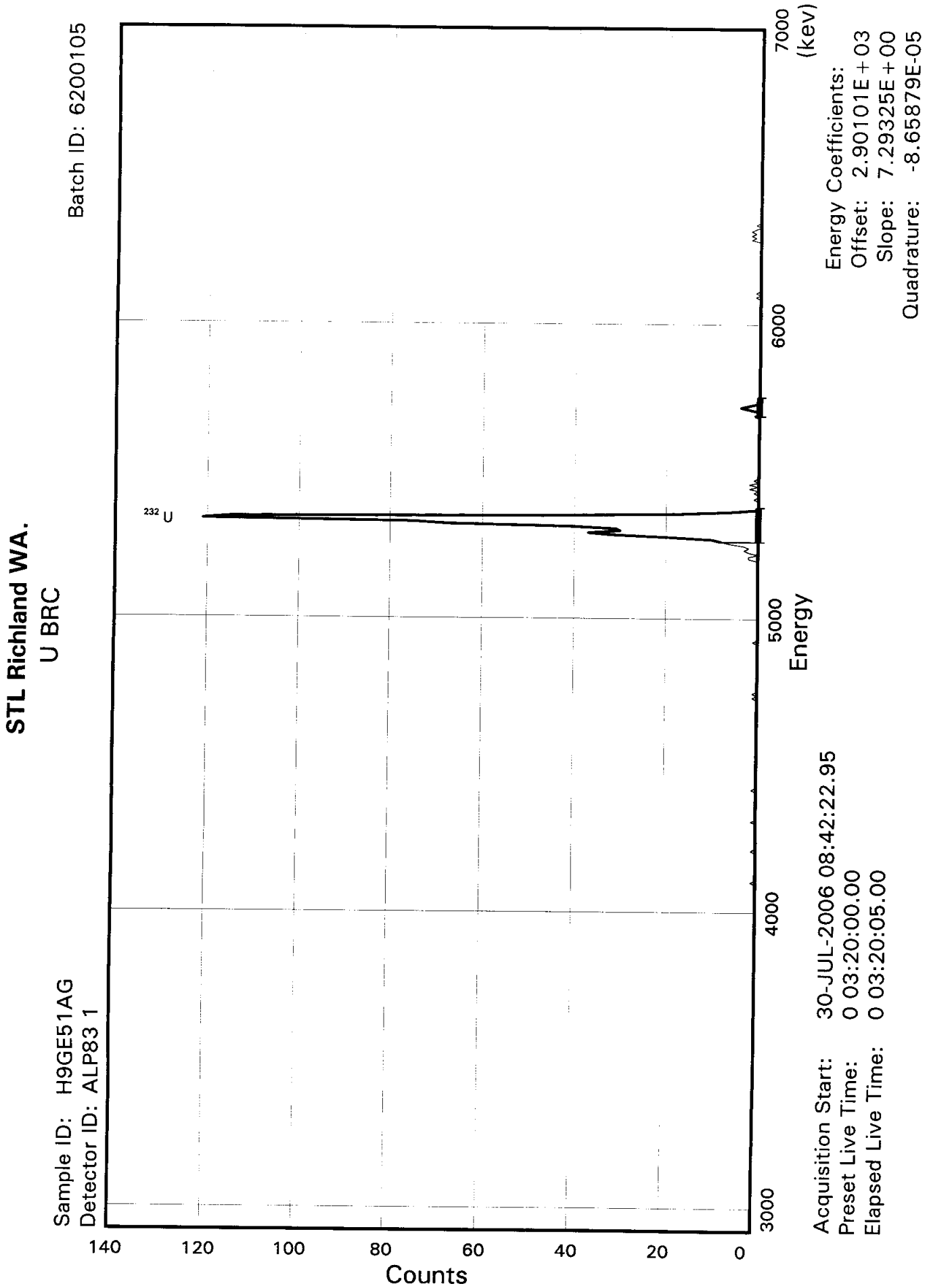
Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

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

Configuration: RDND06$DKA100:[ALP71.SAMPLE]H9GE01AG_300760841.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5331.63	324	344	718	713	0.19		
5449.41	351	361	12	11	0.29		
6078.83	449	456	4	3	0.50		

End of Report


STL Richland WA.
U BRC
Batch ID: 6200105
Sample ID: H9GE51AG
Detector ID: ALP83 1
232 U
Counts
140
120
100
80
60
40
20
0
Energy
3000
4000
5000
6000
7000
(kev)
Acquisition Start: 30-JUL-2006 08:42:22.95
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:05.00
Energy Coefficients:
Offset: 2.90101E+03
Slope: 7.29325E+00
Quadrature: -8.65879E-05

SAMPLE IDENTIITY: H9GE51AG

TITLE : U BRC

DETECTOR : ALP83 1
CONFIGURATION NAME : RDND06$DKA100:[ALP83.SAMPLE]H9GE51AG_3007608
42.CNF;1
ACQUIRE DATE of BACKGROUND: 21-JUL-2006 09:20:02

REPORT DATE : 30-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 08:42:22 CALIB DATE : 21-JUL-2006 01:14:17

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:05

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: H9GE51AG

Detector: ALP83 1
Report Date: 30-Jul-06 12:02 PM
Acquire Date: 30-JUL-2006 08:42:22.95
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	660	24	0	3.289	5331.9	115.8	325	341	0.00	0.00	P
U-234	2	2	0	0.009	4786.3	116.0	250	266	0.00	0.00	
U-235	1	2	0	0.004	4409.5	116.1	198	214	0.00	0.00	
U-238	1	2	0	0.004	4209.7	116.2	170	186	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9GE51AG
Detector: ALP83 1
Report Date: 30-Jul-06 12:02 PM
Acquire Date: 30-JUL-2006 08:42:22.95

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	0		301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0	+	202	1	+	252	0		302	2		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0	+	203	0	+	253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	1	+	254	0		304	1		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0	+	255	0		305	0		355	0		405	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	1	+	209	0	+	259	0		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	0	+	210	0	+	260	0		310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	0		161	0	+	211	0	+	261	0		311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0	+	212	0	+	262	0		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0	+	213	0	+	263	0		313	0		363	0		413	0		463			
0		14	0		64	0		114	0		164	0	+	214	0	+	264	0		314	0		364	0		414	0		464			
0		15	0		65	0		115	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	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	2		467			
0		18	0		68	0		118	0		168	0		218	0		268	2		318	0		368	0		418	1		468			
0		19	0		69	0		119	0		169	0		219	0		269	0		319	0		369	0		419	2		469			
0		20	0		70	0		120	0	+	170	0		220	0		270	2		320	0		370	0		420	1		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	3		321	0		371	0		421	2		471			
0		22	0		72	0		122	0	+	172	0		222	0		272	2		322	0		372	0		422	1		472			
0		23	0		73	0		123	0	+	173	0		223	0		273	3		323	0		373	0		423	0		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	6		324	0		374	0		424	1		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	10	+	326	0		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	19	+	327	0		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	1		278	31	+	328	0		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	37	+	329	0		379	0		429	0		479			
0		30	0		80	0		130	1	+	180	0		230	0		280	30	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	31	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	41	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	67	+	333	0		383	0		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	75	+	334	1		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	121	+	335	0		385	0		435	0		485			
0		36	0		86	0		136	0	+	186	0		236	0		286	115	+	336	0		386	0		436	0		486			
0		37	0		87	0		137	0		187	0		237	0		287	44	+	337	2		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	0		288	17	+	338	4		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	0		289	6	+	339	2		389	0		439	0		489			
0		40	0		90	0		140	0		190	0		240	0		290	0	+	340	0		390	1		440	0		490			
0		41	0		91	0		141	0		191	0		241	0		291	0		341	0		391	0		441	0		491			
0		42	0		92	0		142	0		192	0		242	0		292	0		342	0		392	1		442	0		492			
0		43	0		93	0		143	0		193	0		243	0		293	0		343	0		393	0		443	0		493			
0		44	0		94	0		144	1		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	0		346	0		396	0		446	0		496			
0		47	0		97	0		147	0		197	0		247	0		297	0		347	0		397	0		447	0		497			
0		48	0		98	0		148	0	+	198	0		248	0		298	1		348	0		398	0		448	0		498			
0		49	0		99	0		149	0	+	199	0		249	0		299	0		349	0		399	0		449	0		499			
0		50	0		100	0		150	0	+	200	0	+	250	0		300	2		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 30-JUL-2006 12:02:31

Configuration	: RDND06$DKA100:[ALP83.SAMPLE]H9GE51AG_300760842.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: U BRC		
Sample date	: 3-JUL-2006 12:00:00	Acquisition date	: 30-JUL-2006 08:42:22
Sample ID	: H9GE51AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP83	Detector geometry	:
Elapsed live time	: 0 03:20:05.00	Elapsed real time	: 0 03:20:05.00 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	5331.87	660	0	43.76	334.63	325	16	5.50E-02	3.9	
2	0	5713.24	9	0	36.47	387.38	384	9	7.50E-04	33.3	

VMS Nuclide Identification Report V3.1 Generated 30-JUL-2006 12:02:32

```
Configuration     : RDND06$DKA100:[ALP83.SAMPLE]H9GE51AG_300760842.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : U BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 30-JUL-2006 08:42:22
Sample ID         : H9GE51AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP83                Detector geometry:
Elapsed live time: 0 03:20:05.00         Elapsed real time: 0 03:20:05.00   0.0%
Energy tolerance :    80.00 kev          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    70.00
```

Summary of Nuclide Activity

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

Nuclide Type : AP

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

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

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

Configuration: RDND06$DKA100:[ALP83.SAMPLE]H9GE51AG_300760842.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5331.87	325	341	660	652	0.31		
5713.24	384	393	9	9	0.00		

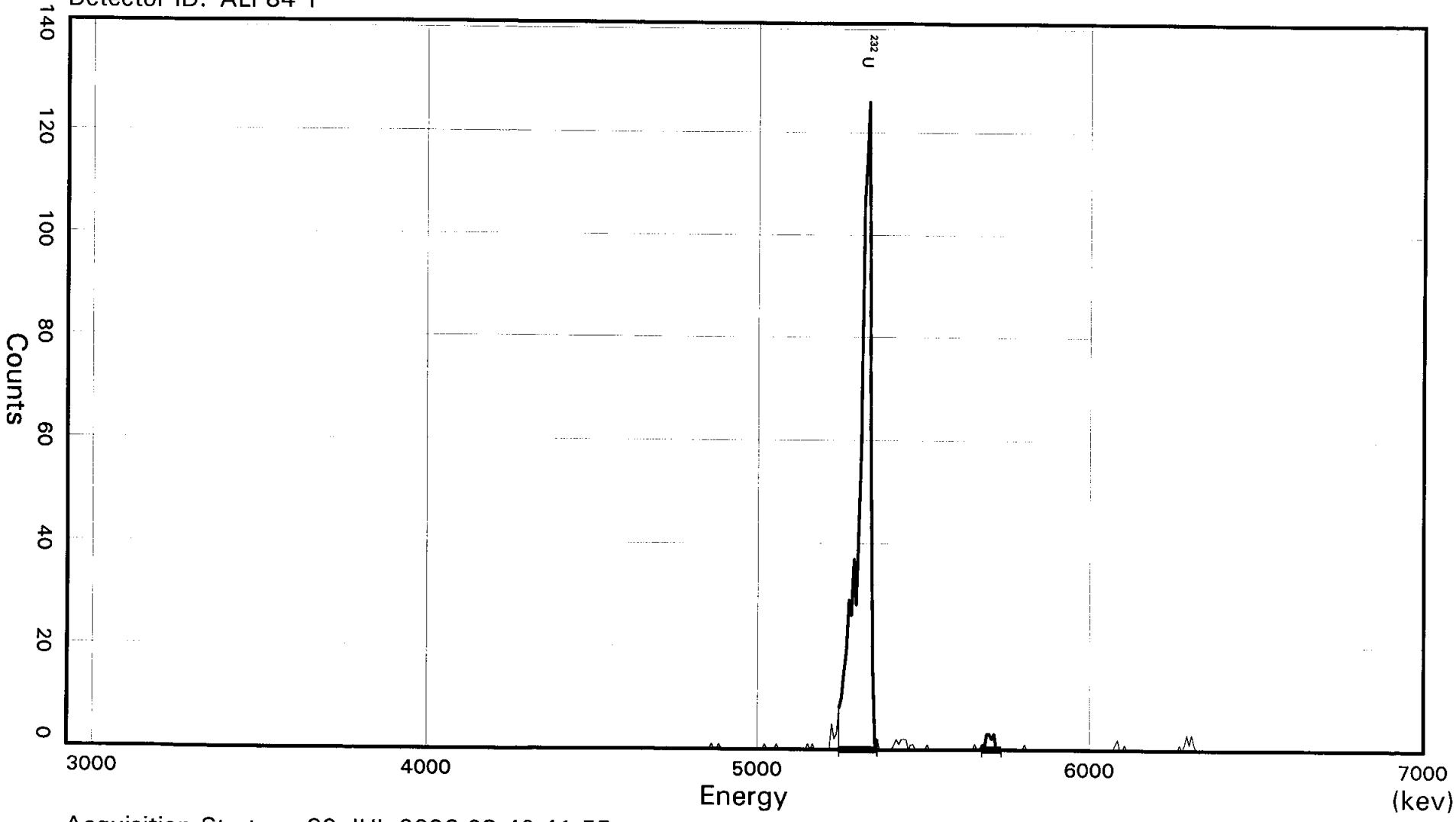
End of Report

STL Richland WA.

U BRC

Sample ID: H9HTL1AA
Detector ID: ALP84 1

Batch ID: 6200105



Acquisition Start: 30-JUL-2006 08:42:41.55
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:04.00

Energy Coefficients:
Offset: 2.90201E+03
Slope: 7.34585E+00
Quadrature: -2.19631E-04

SAMPLE IDENTIITY: H9HTL1AA

TITLE : U BRC

DETECTOR : ALP84 1
CONFIGURATION NAME : RDND06$DKA100:[ALP84.SAMPLE]H9HTL1AA_3007608
42.CNF;1
ACQUIRE DATE of BACKGROUND: 21-JUL-2006 09:20:05

REPORT DATE : 30-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 08:42:41 CALIB DATE : 21-JUL-2006 01:14:12

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

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: H9HTL1AA

Detector: ALP84 1
Report Date: 30-Jul-06 12:02 PM
Acquire Date: 30-JUL-2006 08:42:41.55
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 2500 minutes

Flags Key

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

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	693	15	0	3.458	5323.9	115.2	322	338	0.00	0.00	P
U-234	0	5	0	-0.002	4778.3	115.7	246	262	0.00	0.00	
U-235	0	1	0	0.000	4401.5	116.1	194	210	0.00	0.00	
U-238	0	2	0	-0.001	4201.7	116.3	167	183	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9HTL1AA
Detector: ALP84 1
Report Date: 30-Jul-06 12:02 PM
Acquire Date: 30-JUL-2006 08:42:41.55

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	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	1		309	1		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	0	+	210	0	+	260	0		310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	0		161	0		211	0	+	261	1		311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0		212	0	+	262	0		312	0		362	0		412	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	1		465			
0		16	0		66	0		116	0		166	0		216	0		266	0		316	0		366	0		416	0		466			
0		17	0		67	0		117	0	+	167	0		217	0		267	0		317	0		367	0		417	1		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	1		269	5		319	0		369	0		419	1		469			
0		20	0		70	0		120	0	+	170	0		220	0		270	2		320	0		370	0		420	3		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	3		321	0		371	0		421	1		471			
0		22	0		72	0		122	0	+	172	0		222	1		272	8	+	322	0		372	0		422	0		472			
0		23	0		73	0		123	0	+	173	0		223	0		273	10	+	323	0		373	0		423	0		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	15	+	324	0		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	19	+	325	0		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	0		276	29	+	326	0		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	26	+	327	0		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	37	+	328	0		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	28	+	329	1		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	44	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	60	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	106	+	332	1		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	114	+	333	0		383	0		433	0		483			
0		34	0		84	0		134	0		184	0		234	0		284	126	+	334	3		384	0		434	0		484			
0		35	0		85	0		135	0		185	0		235	0		285	54	+	335	3		385	0		435	0		485			
0		36	0		86	0		136	0		186	0		236	0		286	16	+	336	2		386	0		436	0		486			
0		37	0		87	0		137	0		187	0		237	0		287	1	+	337	3		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	0		288	2		338	0		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	0		340	0		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	1		291	0		341	0		391	0		441	0		491			
0		42	0		92	0		142	0		192	0		242	0		292	0		342	0		392	1		442	0		492			
0		43	0		93	0		143	0		193	0		243	0		293	0		343	0		393	0		443	0		493			
0		44	0		94	0		144	0	+	194	0		244	0		294	0		344	0		394	0		444	0		494			
0		45	0		95	0		145	0	+	195	0		245	0		295	1		345	0		395	0		445	0		495			
0		46	0		96	0		146	0	+	196	0	+	246	1		296	2		346	0		396	0		446	0		496			
0		47	0		97	0		147	0	+	197	0	+	247	0		297	1		347	0		397	0		447	0		497			
0		48	0		98	0		148	0	+	198	0	+	248	0		298	2		348	0		398	0		448	0		498			
0		49	0		99	0		149	0	+	199	0	+	249	0		299	2		349	0		399	0		449	0		499			
0		50	0		100	0		150	0	+	200	0	+	250	0		300	2		350	1		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 30-JUL-2006 12:02:49

Configuration	: RDND06$DKA100:[ALP84.SAMPLE]H9HTL1AA_300760842.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: U BRC		
Sample date	: 3-JUL-2006 12:00:00	Acquisition date	: 30-JUL-2006 08:42:41
Sample ID	: H9HTL1AA	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP84	Detector geometry	:
Elapsed live time	: 0 03:20:04.00	Elapsed real time	: 0 03:20:04.00 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	5323.90	693	0	36.73	333.01	322	16	5.77E-02	3.8	
2	0	5701.19	12	0	29.38	385.50	382	8	1.00E-03	28.9	

VMS Nuclide Identification Report V3.1 Generated 30-JUL-2006 12:02:51

```
Configuration     : RDND06$DKA100:[ALP84.SAMPLE]H9HTL1AA_300760842.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : U BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 30-JUL-2006 08:42:41
Sample ID         : H9HTL1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP84                Detector geometry:
Elapsed live time: 0 03:20:04.00         Elapsed real time: 0 03:20:04.00   0.0%
Energy tolerance :    80.00 kev          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    70.00
```

Summary of Nuclide Activity

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

Nuclide Type : AP

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

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

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

Configuration: RDND06$DKA100:[ALP84.SAMPLE]H9HTL1AA_300760842.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5323.89	322	338	693	695	-0.08		
5701.19	382	390	12	12	0.00		

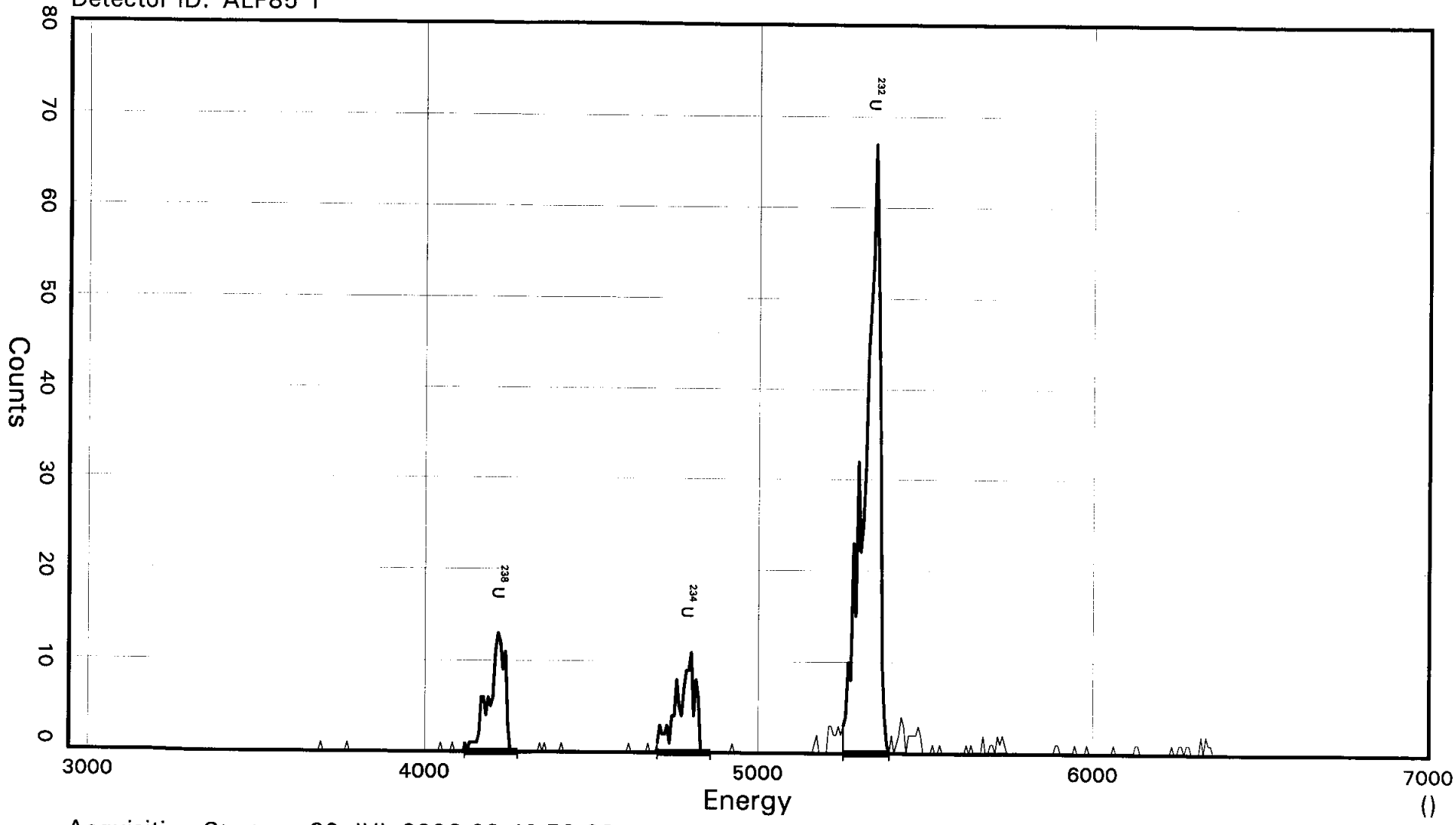
End of Report

STL Richland WA.

U BRC

Sample ID: H9HTL1AC
Detector ID: ALP85 1

Batch ID: 6200105



Acquisition Start: 30-JUL-2006 08:42:59.93
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:04.00

Energy Coefficients:
Offset: 2.92156E+03
Slope: 7.10750E+00
Quadrature: 1.43271E-04

SAMPLE IDENTIITY: H9HTL1AC

TITLE : U BRC

DETECTOR : ALP85 1
CONFIGURATION NAME : RDND06$DKA100:[ALP85.SAMPLE]H9HTL1AC_3007608
42.CNF;1
ACQUIRE DATE of BACKGROUND: 21-JUL-2006 09:20:08

REPORT DATE : 30-Jul-06 SAMPLE DATE: 03-JUL-2006 12:00:00
ACQUIRE DATE: 30-JUL-2006 08:42:59 CALIB DATE : 21-JUL-2006 01:14:34

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

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: H9HTL1AC

Detector: ALP85 1
Report Date: 30-Jul-06 12:03 PM
Acquire Date: 30-JUL-2006 08:42:59.93
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	496	61	0	2.455	5340.8	136.9	326	345	0.00	0.00	P
U-234	92	1	0	0.459	4795.2	158.0	249	271	0.00	0.00	P
U-235	3	2	0	0.014	4418.4	136.2	198	217	0.00	0.00	
U-238	98	2	0	0.489	4218.6	157.5	168	190	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

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

Sample Identity: H9HTL1AC
Detector: ALP85 1
Report Date: 30-Jul-06 12:03 PM
Acquire Date: 30-JUL-2006 08:42:59.93

Flags Key

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

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

VMS Peak Search Report V1.9 Generated 30-JUL-2006 12:03:11

Configuration : RDND06$DKA100:[ALP85.SAMPLE]H9HTL1AC_300760842.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 3-JUL-2006 12:00:00 Acquisition date : 30-JUL-2006 08:42:59
Sample ID : H9HTL1AC Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP85 Detector geometry:
Elapsed live time: 0 03:20:04.00 Elapsed real time: 0 03:20:04.00 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	4220.87	98	0	49.75	182.14	168	22	8.16E-03	10.1	
2	0	4788.25	92	0	63.97	261.26	249	22	7.66E-03	10.4	
3	0	5340.77	496	0	49.75	338.07	326	19	4.13E-02	4.5	

VMS Nuclide Identification Report V3.1 Generated 30-JUL-2006 12:03:12

```
Configuration     : RDND06$DKA100:[ALP85.SAMPLE]H9HTL1AC_300760842.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : U BRC
Sample date       : 3-JUL-2006 12:00:00  Acquisition date : 30-JUL-2006 08:42:59
Sample ID         : H9HTL1AC             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP85                Detector geometry:
Elapsed live time: 0 03:20:04.00         Elapsed real time: 0 03:20:04.00   0.0%
Energy tolerance :    80.00              Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    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 : AP

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

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-234	2.45E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
U-238	4.47E+09Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

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

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

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

Configuration: RDND06$DKA100:[ALP85.SAMPLE]H9HTL1AC_300760842.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4220.87	168	190	98	99	-0.10		
4788.25	249	271	92	91	0.10		
5340.77	326	345	496	492	0.18		

End of Report

ALPHA

SAMPLE AND QC DATA

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

8/7/2006 2:31:49 PM

Lot No., Due Date: J6G180224; 08/15/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6200110; RALPHA-A Alpha by GPC-Am

SDG, Matrix: 32140; 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. 10.08453

First Level Review Pam Anderson **Date** 8-7-06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6Z00110

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 R Adam Date: 8-7-04

STL RICHLAND

7/27/2006 10:55:51 AM

Sample Preparation/Analysis

536403, Brown and Caldwell , Brown & Caldwell

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

Balance Id:1120373922

Pipet #: _____

AnalyDueDate: 08/14/2006

Sep1 DT/Tm Tech:

Batch: 6200110 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 H9GDP-1-AE J6G180224-1-SAMP 07/03/2006 09:40	0.833sa,g	12.74g,in	AmtRec: FILTER	#Containers: 1	0.0051.0g	150	10A	Scr: 1457	Alpha: 8/5/06 R	Beta:
2 H9GDW-1-AE J6G180224-2-SAMP 07/03/2006 09:55	0.833sa,g	12.56g,in	AmtRec: FILTER	#Containers: 1	0.0019.0g		10B	Scr:	Alpha:	Beta:
3 H9GD1-1-AE J6G180224-3-SAMP 07/03/2006 10:15	0.833sa,g	12.56g,in	AmtRec: FILTER	#Containers: 1	0.0017.0g		10c	Scr:	Alpha:	Beta:
4 H9GD4-1-AE J6G180224-4-SAMP 07/03/2006 10:35	0.833sa,g	12.60g,in	AmtRec: FILTER	#Containers: 1	0.0032.0g		10d	Scr:	Alpha:	Beta:
5 H9GD6-1-AE J6G180224-5-SAMP 07/03/2006 10:50	0.833sa,g	12.51g,in	AmtRec: FILTER	#Containers: 1	0.0017.0g		10e	Scr:	Alpha:	Beta:
6 H9GD8-1-AE J6G180224-6-SAMP 07/03/2006 11:05	0.833sa,g	12.64g,in	AmtRec: FILTER	#Containers: 1	0.0025.0g		10A	Scr: 1045	Alpha: 8/6/06	Beta:
7 H9GEC-1-AE J6G180224-7-SAMP 07/03/2006 10:00	0.833sa,g	12.60g,in	AmtRec: FILTER	#Containers: 1	0.0034.0g		10B	Scr:	Alpha:	Beta:

376

STL RICHLAND

7/27/2006 10:55:52 AM

Sample Preparation/Analysis

536403, Brown and Caldwell , Brown & Caldwell

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

Balance Id:1120373922

Pipet #: _____

AnalyDueDate: 08/14/2006

Sep1 DT/Tm Tech:

Batch: 6200110 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: HansenM

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 H9GED-1-AE J6G180224-8-SAMP	0.833sa,g	12.62g,in			0.0017mg -	150		10c	1045	8/6/06 R
07/03/2006 09:45		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
9 H9GEF-1-AE J6G180224-9-SAMP	0.833sa,g	12.53g,in			0.0023mg -			10d		
07/03/2006 09:30		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
10 H9GEK-1-AE J6G180224-10-SAMP	0.833sa,g	12.50g,in			0.0024.0mg			10e		
07/03/2006 09:50		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
11 H9GEM-1-AE J6G180224-11-SAMP	0.833sa,g	12.78g,in			0.0025.0mg			10A	1331	8/4/06 R
07/03/2006 10:10		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
12 H9GEQ-1-AE J6G180224-12-SAMP	0.833sa,g	12.80g,in			0.0021.0mg			10B		
07/03/2006 10:30		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
13 H9GER-1-AE J6G180224-13-SAMP	0.833sa,g	12.68g,in			0.0021.0mg			10c		
07/03/2006 10:45		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
14 H9GE0-1-AE J6G180224-14-SAMP	0.833sa,g	12.80g,in			0.0022.0mg			10d		
07/03/2006 11:00		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:

7/27/2006 10:55:52 AM

Sample Preparation/Analysis

536403, Brown and Caldwell , Brown & Caldwell

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

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

AnalyDueDate: 08/14/2006

Batch: 6200110 FILTER pCi/sampl PM, Quote: SA , 63174
SEQ Batch, Test: None

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
15H9GE5-1-AE J6G180224-15-SAMP 07/03/2006 09:35	0.833sa,g	12.77g,in			0.W 16.9mg	-	10e	1331	8/6/06 RS	
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:	
16H9HTW-1-AA-B J6G190000-110-BLK 07/03/2006 09:40		1.00sa,in			0.W 17.0mg		NA	0811	8/7/06	
		AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:	
17H9HTW-1-AC-C J6G190000-110-LCS 07/03/2006 09:40		1.00sa,in	ASC0398 06/15/06,pd 02/09/06,r		0.W 21.0mg		NB			
		AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:	

Comments: 8/3/06 #7 & #8 were stacked in the wrong order (8 then 7) - ~~may be~~ Jms

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

H9GDP1AE-SAMP Constituent List:
ALPHA RDL:20 pCi/sam LCL: UCL: RPD:
H9HTW1AA-BLK:
ALPHA RDL:20 pCi/sam LCL: UCL: RPD:
H9HTW1AC-LCS:

H9GDP1AE-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H9HTW1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H9HTW1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Clouseau
Nonconformance Memo

SEVERN TRENT SERVICES

NCM #: **10-08453**
NCM Initiated By: Pam Anderson
Date Opened: 08/07/2006
Date Closed:

Classification: **Deficiency**
Status: **GLREVIEW**
Production Area: Environmental - Sep
Tests: Alpha by GPC-Am
Lot #'s (Sample #'s): J6G180224 (7,8),
QC Batches: 6200110

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

Problem Description / Root Cause

Name	Date	Description
Pam Anderson	08/07/2006	The tech noted in the paperwork that sampleS H9GEC and H9GED for alpha were out of order, switched, when she was putting the planchets on the cards. The samples may have been mixed. Both results of these samples are below CRDL. Data will be accepted.

Corrective Action

Name	Date	Corrective Action
Pam Anderson	08/07/2006	Note in case narrative.

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: 8/7/2006

8/7/2006 2:13:19 PM

ICOC Fraction Transfer/Status Report

ByDate: 8/7/2005, 8/12/2006, Batch: '6200110', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6200110						
AC		**CalcC**	**HansenM**	7/20/2006 1:19:39 PM		
SC			wagarr	IsBatched	7/19/2006 8:00:26 AM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	7/20/2006 1:19:39 PM	RICH-RC-5016 REVISION 5
SC			HoganS	Prep2C	8/3/2006 2:13:28 PM	RICH-RC-5014 REVISION 6
SC			AntonsonL	Prep2C	8/3/2006 2:18:25 PM	RICHRC5014 REVISION 6
SC			DAWKINSO	InCnt1	8/3/2006 3:54:51 PM	RICH-RD-0003 REVISION 4
SC			BlackCL	CalcC	8/7/2006 9:44:41 AM	RICH-RD-0003 REVISION 4
AC			**HoganS**	8/3/2006 2:13:28 PM		6200160
AC			**AntonsonL**	8/3/2006 2:18:25 PM		
AC			**DAWKINSO**	8/3/2006 3:54:51 PM		
AC			**BlackCL**	8/7/2006 9:44:41 AM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 5

ICOCFractions v4.8.18

8/7/2006 2:13:18 PM

Rpt DB Transfer log (Batch Results)

SEVERN TRENT STL

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Sample Date / Mda	Units	Expected	Yield	Volumes
32140	**9H9GD110**			**J6G1802243**	000518	FILTER	7/18/2006 10:00:00	7/3/2006 10:15:00 AM				
ALPHA	BAS7		0	8/5/2006 1:41:57 PM	**2.3576E+00**	1.386E+00	1.407E+00	5.169E+00	PCI/SA	1.0	1.0E+0	2.079E-2
BETA	BDS8		0	8/3/2006 7:32:27 AM	**3.7893E+01**	2.155E+00	3.394E+00	5.239E+00	PCI/SA	1.0	1.0E+0	3.297E-2
TH-228	9NS1		0	7/28/2006 8:02:46 PM	**6.7221E-02**	6.722E-02	6.749E-02	2.688E-01	PCI/SA	0.988	1.0E+0	3.282E-2
TH-230	9NS1		0	7/28/2006 8:02:46 PM	**2.6062E-01**	1.064E-01	1.09E-01	1.177E-01	PCI/SA	0.988	1.0E+0	3.282E-2
TH-232	9NS1		0	7/28/2006 8:02:46 PM	**4.3436E-02**	4.344E-02	4.361E-02	1.177E-01	PCI/SA	0.988	1.0E+0	3.282E-2
U-234	7YSR		0	7/30/2006 10:18:27	**1.6161E-01**	1.83E-01	1.835E-01	8.299E-01	PCI/SA	0.953	1.0E+0	3.211E-2
U-235	7YSR		0	7/30/2006 10:18:27	**-6.0657E-02**	3.502E-02	3.536E-02	6.379E-01	PCI/SA	0.953	1.0E+0	3.211E-2
U-238	7YSR		0	7/30/2006 10:18:27	**-1.2131E-01**	4.953E-02	5.048E-02	7.887E-01	PCI/SA	0.953	1.0E+0	3.211E-2
32140	**9H9GD410**			**J6G1802244**	000519	FILTER	7/18/2006 10:00:00	7/3/2006 10:35:00 AM				
ALPHA	BAS7		0	8/5/2006 1:41:57 PM	**5.8949E+00**	1.795E+00	1.894E+00	5.329E+00	PCI/SA	1.0	1.0E+0	2.098E-2
BETA	BDS8		0	8/3/2006 7:32:27 AM	**4.2234E+01**	2.197E+00	4.389E+00	5.049E+00	PCI/SA	1.0	1.0E+0	3.346E-2
TH-228	9NS1		0	7/28/2006 8:02:46 PM	**1.7886E-01**	8.943E-02	9.088E-02	1.212E-01	PCI/SA	1.016	1.0E+0	3.386E-2
TH-230	9NS1		0	7/28/2006 8:02:46 PM	**2.6005E-01**	1.062E-01	1.087E-01	1.175E-01	PCI/SA	1.016	1.0E+0	3.386E-2
TH-232	9NS1		0	7/28/2006 8:02:46 PM	**4.3341E-02**	4.334E-02	4.352E-02	1.175E-01	PCI/SA	1.016	1.0E+0	3.386E-2
U-234	7YSR		0	7/30/2006 10:18:44	**1.8213E-01**	1.822E-01	1.828E-01	7.898E-01	PCI/SA	0.939	1.0E+0	3.245E-2
U-235	7YSR		0	7/30/2006 10:18:44	**0.0E+00**	0.0E+00	1.239E-01	2.742E-01	PCI/SA	0.939	1.0E+0	3.245E-2
U-238	7YSR		0	7/30/2006 10:18:44	**1.8213E-01**	1.822E-01	1.828E-01	7.898E-01	PCI/SA	0.939	1.0E+0	3.245E-2
32140	**9H9GD610**			**J6G1802245**	000520	FILTER	7/18/2006 10:00:00	7/3/2006 10:50:00 AM				
ALPHA	BAS7		0	8/5/2006 1:41:57 PM	**1.1322E+00**	9.913E-01	9.981E-01	4.062E+00	PCI/SA	1.0	1.0E+0	2.076E-2
BETA	BDS8		0	8/3/2006 7:32:27 AM	**4.4768E+01**	2.358E+00	3.988E+00	5.721E+00	PCI/SA	1.0	1.0E+0	3.362E-2
TH-228	9NS1		0	7/28/2006 8:02:46 PM	**1.3357E-01**	7.867E-02	7.954E-02	2.289E-01	PCI/SA	1.103	1.0E+0	3.304E-2
TH-230	9NS1		0	7/28/2006 8:02:46 PM	**2.9592E-01**	1.046E-01	1.078E-01	1.002E-01	PCI/SA	1.103	1.0E+0	3.304E-2
TH-232	9NS1		0	7/28/2006 8:02:46 PM	**-1.8495E-02**	1.849E-02	1.857E-02	2.219E-01	PCI/SA	1.103	1.0E+0	3.304E-2
U-234	7YSR		0	7/30/2006 10:19:01	**3.6866E-02**	9.755E-02	9.759E-02	5.818E-01	PCI/SA	1.025	1.0E+0	3.232E-2
U-235	7YSR		0	7/30/2006 10:19:01	**5.5302E-02**	9.579E-02	9.589E-02	5.209E-01	PCI/SA	1.025	1.0E+0	3.232E-2
U-238	7YSR		0	7/30/2006 10:19:01	**1.8431E-02**	9.927E-02	9.928E-02	6.332E-01	PCI/SA	1.025	1.0E+0	3.232E-2
32140	**9H9GD810**			**J6G1802246**	000521	FILTER	7/18/2006 10:00:00	7/3/2006 11:05:00 AM				
ALPHA	BAS7		0	8/6/2006 9:29:45 AM	**2.0078E+00**	1.426E+00	1.441E+00	5.638E+00	PCI/SA	1.0	1.0E+0	2.105E-2
BETA	BDS8		0	8/3/2006 10:09:07 AM	**4.731E+01**	2.348E+00	4.186E+00	5.552E+00	PCI/SA	1.0	1.0E+0	3.391E-2
TH-228	9NS1		0	7/28/2006 8:02:46 PM	**5.9232E-02**	7.647E-02	7.665E-02	3.319E-01	PCI/SA	0.968	1.0E+0	3.349E-2
TH-230	9NS1		0	7/28/2006 8:02:46 PM	**2.8706E-01**	1.099E-01	1.129E-01	2.296E-01	PCI/SA	0.968	1.0E+0	3.349E-2
TH-232	9NS1		0	7/28/2006 8:02:46 PM	**7.6551E-02**	7.161E-02	7.193E-02	2.817E-01	PCI/SA	0.968	1.0E+0	3.349E-2
U-234	7YSR		0	7/30/2006 10:19:17	**2.0406E-01**	1.443E-01	1.452E-01	2.765E-01	PCI/SA	0.939	1.0E+0	3.253E-2
U-235	7YSR		0	7/30/2006 10:19:17	**-2.0408E-02**	2.041E-02	2.047E-02	4.887E-01	PCI/SA	0.939	1.0E+0	3.253E-2
U-238	7YSR		0	7/30/2006 10:19:17	**-4.0816E-02**	2.886E-02	2.905E-02	5.766E-01	PCI/SA	0.939	1.0E+0	3.253E-2
32140	**9H9GDP10**			**J6G1802241**	000516	FILTER	7/18/2006 10:00:00	7/3/2006 9:40:00 AM				
ALPHA	BAS7		0	8/5/2006 1:41:57 PM	**5.0586E+00**	1.807E+00	1.882E+00	5.787E+00	PCI/SA	1.0	1.0E+0	2.086E-2
BETA	BDS8		0	8/3/2006 7:32:14 AM	**3.9213E+01**	2.256E+00	3.563E+00	5.523E+00	PCI/SA	1.0	1.0E+0	3.325E-2
TH-228	9NS1		0	7/28/2006 8:02:46 PM	**1.9522E-06**	8.274E-02	8.274E-02	4.198E-01	PCI/SA	1.0	1.0E+0	3.202E-2
TH-230	9NS1		0	7/28/2006 8:02:46 PM	**1.7012E-01**	8.662E-02	8.793E-02	2.267E-01	PCI/SA	1.0	1.0E+0	3.202E-2
TH-232	9NS1		0	7/28/2006 8:02:46 PM	**1.5122E-01**	7.561E-02	7.679E-02	1.024E-01	PCI/SA	1.0	1.0E+0	3.202E-2
U-234	7YSR		0	7/30/2006 10:17:46	**8.3983E-02**	1.455E-01	1.457E-01	7.913E-01	PCI/SA	0.713	1.0E+0	3.169E-2
U-235	7YSR		0	7/30/2006 10:17:46	**-5.6025E-02**	3.962E-02	3.989E-02	7.913E-01	PCI/SA	0.713	1.0E+0	3.169E-2
U-238	7YSR		0	7/30/2006 10:17:46	**1.6797E-01**	2.058E-01	2.063E-01	9.618E-01	PCI/SA	0.713	1.0E+0	3.169E-2
32140	**9H9GDW10**			**J6G1802242**	000517	FILTER	7/18/2006 10:00:00	7/3/2006 9:55:00 AM				
ALPHA	BAS7		0	8/5/2006 1:41:57 PM	**7.2484E-01**	1.135E+00	1.137E+00	5.11E+00	PCI/SA	1.0	1.0E+0	2.078E-2
BETA	BDS8		0	8/3/2006 7:32:27 AM	**3.9721E+01**	2.217E+00	3.529E+00	5.358E+00	PCI/SA	1.0	1.0E+0	3.345E-2
TH-228	9NS1		0	7/28/2006 8:02:46 PM	**1.5259E-01**	1.112E-01	1.12E-01	4.106E-01	PCI/SA	0.977	1.0E+0	3.337E-2
TH-230	9NS1		0	7/28/2006 8:02:46 PM	**4.252E-01**	1.294E-01	1.348E-01	2.218E-01	PCI/SA	0.977	1.0E+0	3.337E-2
TH-232	9NS1		0	7/28/2006 8:02:46 PM	**3.6975E-02**	5.846E-02	5.855E-02	2.721E-01	PCI/SA	0.977	1.0E+0	3.337E-2
U-234	7YSR		0	7/30/2006 10:18:08	**2.2371E-01**	1.292E-01	1.304E-01	2.021E-01	PCI/SA	1.021	1.0E+0	3.34E-2

6200110, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => .

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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 10:18:08	**2.9823E-02**	7.892E-02	7.895E-02	4.707E-01	PCI/SA	1.021	1.0E+0	3.34E-2
U-238	7YSR	0		7/30/2006 10:18:08	**1.0439E-01**	1.086E-01	1.089E-01	4.707E-01	PCI/SA	1.021	1.0E+0	3.34E-2
32140	**9H9GE010**			**J6G18022414**	P-0696	FILTER	7/18/2006 10:00:00	7/3/2006 11:00:00 AM				
ALPHA	BAS7	0		8/6/2006 12:14:10 PM	**3.4516E+00**	1.417E+00	1.461E+00	4.606E+00	PCI/SA	1.0	1.0E+0	2.1E-2
BETA	BDS8	0		8/3/2006 10:09:02 AM	**3.4235E+01**	2.048E+00	3.562E+00	5.053E+00	PCI/SA	1.0	1.0E+0	3.227E-2
TH-228	9NS1	0		7/29/2006 1:47:52 PM	**1.1019E-01**	7.946E-02	8.006E-02	2.644E-01	PCI/SA	1.083	1.0E+0	3.326E-2
TH-230	9NS1	0		7/29/2006 1:47:52 PM	**6.4035E-01**	1.653E-01	1.75E-01	1.157E-01	PCI/SA	1.083	1.0E+0	3.326E-2
TH-232	9NS1	0		7/29/2006 1:47:52 PM	**0.0E+00**	0.0E+00	5.228E-02	1.157E-01	PCI/SA	1.083	1.0E+0	3.326E-2
U-234	7YSR	0		7/30/2006 10:22:03	**-3.623E-02**	1.479E-02	1.508E-02	4.475E-01	PCI/SA	0.972	1.0E+0	3.401E-2
U-235	7YSR	0		7/30/2006 10:22:03	**5.7318E-02**	7.615E-02	7.629E-02	3.763E-01	PCI/SA	0.972	1.0E+0	3.401E-2
U-238	7YSR	0		7/30/2006 10:22:03	**4.5242E-02**	7.663E-02	7.672E-02	4.263E-01	PCI/SA	0.972	1.0E+0	3.401E-2
32140	**9H9GE510**			**J6G18022415**	P-0697	FILTER	7/18/2006 10:00:00	7/3/2006 9:35:00 AM				
ALPHA	BAS7	0		8/6/2006 12:14:10 PM	**1.8229E+00**	1.028E+00	1.045E+00	3.515E+00	PCI/SA	1.0	1.0E+0	2.105E-2
BETA	BDS8	0		8/3/2006 10:09:02 AM	**3.6557E+01**	2.07E+00	3.249E+00	4.962E+00	PCI/SA	1.0	1.0E+0	3.463E-2
TH-228	9NS1	0		7/29/2006 1:47:52 PM	**1.8191E-01**	9.095E-02	9.242E-02	1.232E-01	PCI/SA	1.042	1.0E+0	3.252E-2
TH-230	9NS1	0		7/29/2006 1:47:52 PM	**1.3214E-01**	7.629E-02	7.721E-02	1.194E-01	PCI/SA	1.042	1.0E+0	3.252E-2
TH-232	9NS1	0		7/29/2006 1:47:52 PM	**4.4045E-02**	4.405E-02	4.422E-02	1.194E-01	PCI/SA	1.042	1.0E+0	3.252E-2
U-234	7YSR	0		7/30/2006 10:22:25	**2.0441E-01**	1.576E-01	1.585E-01	5.077E-01	PCI/SA	0.941	1.0E+0	3.193E-2
U-235	7YSR	0		7/30/2006 10:22:25	**9.3313E-02**	1.118E-01	1.121E-01	5.077E-01	PCI/SA	0.941	1.0E+0	3.193E-2
U-238	7YSR	0		7/30/2006 10:22:25	**9.3313E-02**	1.118E-01	1.121E-01	5.077E-01	PCI/SA	0.941	1.0E+0	3.193E-2
32140	**9H9GEC10**			**J6G1802247**	000522	FILTER	7/18/2006 10:00:00	7/3/2006 10:00:00 AM				
ALPHA	BAS7	0		8/6/2006 9:29:45 AM	**4.3461E-01**	9.879E-01	9.889E-01	4.671E+00	PCI/SA	1.0	1.0E+0	2.096E-2
BETA	BDS8	0		8/3/2006 10:09:07 AM	**6.6588E-01**	1.349E+00	1.35E+00	5.647E+00	PCI/SA	1.0	1.0E+0	3.416E-2
TH-228	9NS1	0		7/28/2006 8:02:46 PM	**-7.0015E-02**	7.002E-02	7.045E-02	8.399E-01	PCI/SA	0.303	1.0E+0	3.401E-2
TH-230	9NS1	0		7/28/2006 8:02:46 PM	**1.6287E+00**	4.702E-01	5.04E-01	3.678E-01	PCI/SA	0.303	1.0E+0	3.401E-2
TH-232	9NS1	0		7/28/2006 8:02:46 PM	**1.3573E-01**	1.357E-01	1.366E-01	3.678E-01	PCI/SA	0.303	1.0E+0	3.401E-2
U-234	7YSR	0		7/30/2006 10:19:35	**-2.7717E-02**	2.772E-02	2.781E-02	6.638E-01	PCI/SA	0.714	1.0E+0	3.267E-2
U-235	7YSR	0		7/30/2006 10:19:35	**1.3859E-01**	1.386E-01	1.391E-01	3.756E-01	PCI/SA	0.714	1.0E+0	3.267E-2
U-238	7YSR	0		7/30/2006 10:19:35	**-2.7717E-02**	2.772E-02	2.781E-02	6.638E-01	PCI/SA	0.714	1.0E+0	3.267E-2
32140	**9H9GED10**			**J6G1802248**	000523	FILTER	7/18/2006 10:00:00	7/3/2006 9:45:00 AM				
ALPHA	BAS7	0		8/6/2006 9:29:45 AM	**7.1155E-01**	1.094E+00	1.096E+00	4.948E+00	PCI/SA	1.0	1.0E+0	2.078E-2
BETA	BDS8	0		8/3/2006 10:09:07 AM	**1.6827E+00**	1.347E+00	1.352E+00	5.501E+00	PCI/SA	1.0	1.0E+0	3.278E-2
TH-228	9NS1	0		7/28/2006 8:02:46 PM	**7.0729E-02**	7.073E-02	7.102E-02	2.828E-01	PCI/SA	0.754	1.0E+0	3.347E-2
TH-230	9NS1	0		7/28/2006 8:02:46 PM	**2.2852E-02**	5.11E-02	5.114E-02	2.741E-01	PCI/SA	0.754	1.0E+0	3.347E-2
TH-232	9NS1	0		7/28/2006 8:02:46 PM	**-4.5702E-02**	3.232E-02	3.258E-02	3.364E-01	PCI/SA	0.754	1.0E+0	3.347E-2
U-234	7YSR	0		7/30/2006 10:19:56	**1.0473E-01**	1.047E-01	1.051E-01	2.838E-01	PCI/SA	0.891	1.0E+0	3.177E-2
U-235	7YSR	0		7/30/2006 10:19:56	**-2.0954E-02**	2.095E-02	2.102E-02	5.017E-01	PCI/SA	0.891	1.0E+0	3.177E-2
U-238	7YSR	0		7/30/2006 10:19:56	**1.0473E-01**	1.047E-01	1.051E-01	2.838E-01	PCI/SA	0.891	1.0E+0	3.177E-2
32140	**9H9GEF10**			**J6G1802249**	P-0691	FILTER	7/18/2006 10:00:00	7/3/2006 9:30:00 AM				
ALPHA	BAS7	0		8/6/2006 9:29:45 AM	**2.0807E+00**	1.248E+00	1.266E+00	4.659E+00	PCI/SA	1.0	1.0E+0	2.077E-2
BETA	BDS8	0		8/3/2006 10:09:07 AM	**3.117E+01**	2.011E+00	2.922E+00	5.079E+00	PCI/SA	1.0	1.0E+0	3.35E-2
TH-228	9NS1	0		7/28/2006 8:03:19 PM	**1.2894E-01**	7.444E-02	7.534E-02	1.165E-01	PCI/SA	0.786	1.0E+0	3.368E-2
TH-230	9NS1	0		7/28/2006 8:03:19 PM	**2.916E-01**	1.102E-01	1.133E-01	1.129E-01	PCI/SA	0.786	1.0E+0	3.368E-2
TH-232	9NS1	0		7/28/2006 8:03:19 PM	**-2.083E-02**	2.083E-02	2.091E-02	2.499E-01	PCI/SA	0.786	1.0E+0	3.368E-2
U-234	7YSR	0		7/30/2006 10:20:15	**-3.9615E-02**	2.801E-02	2.819E-02	5.594E-01	PCI/SA	0.995	1.0E+0	3.233E-2
U-235	7YSR	0		7/30/2006 10:20:15	**9.8984E-02**	9.898E-02	9.93E-02	2.682E-01	PCI/SA	0.995	1.0E+0	3.233E-2
U-238	7YSR	0		7/30/2006 10:20:15	**-3.9615E-02**	2.801E-02	2.819E-02	5.594E-01	PCI/SA	0.995	1.0E+0	3.233E-2
32140	**9H9GEK10**			**J6G18022410**	P-0692	FILTER	7/18/2006 10:00:00	7/3/2006 9:50:00 AM				
ALPHA	BAS7	0		8/6/2006 9:29:45 AM	**-3.7913E-02**	6.148E-01	6.149E-01	3.582E+00	PCI/SA	1.0	1.0E+0	2.073E-2
BETA	BDS8	0		8/3/2006 10:09:09 AM	**3.5573E+01**	2.087E+00	3.207E+00	5.11E+00	PCI/SA	1.0	1.0E+0	3.305E-2
TH-228	9NS1	0		7/28/2006 8:03:37 PM	**1.5418E-01**	1.09E-01	1.099E-01	3.782E-01	PCI/SA	0.856	1.0E+0	3.399E-2
TH-230	9NS1	0		7/28/2006 8:03:37 PM	**1.2453E-01**	8.979E-02	9.053E-02	2.987E-01	PCI/SA	0.856	1.0E+0	3.399E-2
TH-232	9NS1	0		7/28/2006 8:03:37 PM	**2.4912E-02**	5.569E-02	5.573E-02	2.987E-01	PCI/SA	0.856	1.0E+0	3.399E-2
U-234	7YSR	0		7/30/2006 10:20:31	**1.7627E-01**	1.399E-01	1.406E-01	4.691E-01	PCI/SA	1.048	1.0E+0	3.227E-2

6200110, **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 10:20:31	**0.0E+00**	0.0E+00	1.199E-01	2.654E-01	PCI/SA	1.048	1.0E+0	3.227E-2
U-238	7YSR	0		7/30/2006 10:20:31	**-1.9591E-02**	1.959E-02	1.965E-02	4.691E-01	PCI/SA	1.048	1.0E+0	3.227E-2
32140	**9H9GEM10**			**J6G18022411**	P-0693	FILTER	7/18/2006 10:00:00	7/3/2006 10:10:00 AM				
ALPHA	BAS7	0		8/6/2006 12:14:10 PM	**7.4254E+00**	1.992E+00	2.138E+00	5.594E+00	PCI/SA	1.0	1.0E+0	2.121E-2
BETA	BDS8	0		8/3/2006 10:09:09 AM	**4.239E+01**	2.17E+00	3.624E+00	4.93E+00	PCI/SA	1.0	1.0E+0	3.386E-2
TH-228	9NS1	0		7/28/2006 8:03:50 PM	**8.9856E-06**	9.339E-02	9.339E-02	5.007E-01	PCI/SA	0.848	1.0E+0	3.442E-2
TH-230	9NS1	0		7/28/2006 8:03:50 PM	**1.5679E-01**	9.052E-02	9.169E-02	1.416E-01	PCI/SA	0.848	1.0E+0	3.442E-2
TH-232	9NS1	0		7/28/2006 8:03:50 PM	**0.0E+00**	0.0E+00	6.401E-02	1.416E-01	PCI/SA	0.848	1.0E+0	3.442E-2
U-234	7YSR	0		7/30/2006 10:20:48	**9.8511E-02**	9.851E-02	9.883E-02	2.67E-01	PCI/SA	0.894	1.0E+0	3.241E-2
U-235	7YSR	0		7/30/2006 10:20:48	**7.8805E-02**	1.005E-01	1.007E-01	4.718E-01	PCI/SA	0.894	1.0E+0	3.241E-2
U-238	7YSR	0		7/30/2006 10:20:48	**7.8805E-02**	1.005E-01	1.007E-01	4.718E-01	PCI/SA	0.894	1.0E+0	3.241E-2
32140	**9H9GEQ10**			**J6G18022412**	P-0694	FILTER	7/18/2006 10:00:00	7/3/2006 10:30:00 AM				
ALPHA	BAS7	0		8/6/2006 12:14:10 PM	**2.6056E+00**	1.327E+00	1.354E+00	4.667E+00	PCI/SA	1.0	1.0E+0	2.083E-2
BETA	BDS8	0		8/3/2006 10:09:09 AM	**4.0275E+01**	2.193E+00	3.558E+00	5.193E+00	PCI/SA	1.0	1.0E+0	3.15E-2
TH-228	9NS1	0		7/29/2006 1:47:52 PM	**-7.7975E-02**	6.165E-02	6.203E-02	4.197E-01	PCI/SA	1.015	1.0E+0	3.211E-2
TH-230	9NS1	0		7/29/2006 1:47:52 PM	**2.4546E-01**	1.017E-01	1.04E-01	2.265E-01	PCI/SA	1.015	1.0E+0	3.211E-2
TH-232	9NS1	0		7/29/2006 1:47:52 PM	**0.0E+00**	0.0E+00	4.625E-02	1.023E-01	PCI/SA	1.015	1.0E+0	3.211E-2
U-234	7YSR	0		7/30/2006 10:21:07	**0.0E+00**	0.0E+00	1.527E-01	3.378E-01	PCI/SA	0.806	1.0E+0	3.106E-2
U-235	7YSR	0		7/30/2006 10:21:07	**0.0E+00**	0.0E+00	1.527E-01	3.378E-01	PCI/SA	0.806	1.0E+0	3.106E-2
U-238	7YSR	0		7/30/2006 10:21:07	**9.9719E-02**	1.271E-01	1.274E-01	5.97E-01	PCI/SA	0.806	1.0E+0	3.106E-2
32140	**9H9GER10**			**J6G18022413**	P-0695	FILTER	7/18/2006 10:00:00	7/3/2006 10:45:00 AM				
ALPHA	BAS7	0		8/6/2006 12:14:10 PM	**1.4471E+00**	1.204E+00	1.213E+00	4.902E+00	PCI/SA	1.0	1.0E+0	2.101E-2
BETA	BDS8	0		8/3/2006 10:09:02 AM	**3.0876E+01**	2.027E+00	2.989E+00	5.331E+00	PCI/SA	1.0	1.0E+0	3.297E-2
TH-228	9NS1	0		7/29/2006 1:47:52 PM	**3.7118E-02**	8.705E-02	8.711E-02	3.995E-01	PCI/SA	1.024	1.0E+0	3.376E-2
TH-230	9NS1	0		7/29/2006 1:47:52 PM	**5.2128E-01**	1.404E-01	1.478E-01	2.156E-01	PCI/SA	1.024	1.0E+0	3.376E-2
TH-232	9NS1	0		7/29/2006 1:47:52 PM	**-3.5949E-02**	2.542E-02	2.562E-02	2.646E-01	PCI/SA	1.024	1.0E+0	3.376E-2
U-234	7YSR	0		7/30/2006 10:21:42	**-1.5489E-02**	1.095E-02	1.102E-02	4.424E-01	PCI/SA	0.997	1.0E+0	3.235E-2
U-235	7YSR	0		7/30/2006 10:21:42	**7.3569E-02**	9.773E-02	9.791E-02	4.829E-01	PCI/SA	0.997	1.0E+0	3.235E-2
U-238	7YSR	0		7/30/2006 10:21:42	**5.0335E-02**	9.864E-02	9.873E-02	5.742E-01	PCI/SA	0.997	1.0E+0	3.235E-2
32140	**H9HTW1AB**			**J6G190000110**	INTRA-LAB BLANK	FILTER	7/18/2006 10:00:00	7/3/2006 9:40:00 AM				
ALPHA	BAS7	0	B	8/7/2006 6:55:41 AM	**1.453E-02**	2.233E-02	2.238E-02	1.01E-01	PCI/SA	1.0	1.0E+0	1.0E+0
32140	**H9HTW1CS**			**J6G190000110**	INTRA-LAB CHECK	FILTER	7/18/2006 10:00:00	7/3/2006 9:40:00 AM				
ALPHA	BAS7	0	S	8/7/2006 6:55:41 AM	**2.4056E+00**	1.357E-01	2.796E-01	8.966E-02	PCI/SA	2.3827E+00 1.0	1.0E+0	1.0E+0

6200110, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => .

Batch Nbr: 6200110

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

8/7/2006 9:42:30 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	H9GDP1AE	ALPHA	5.06E+00	(1.88E+00)		PCI/SA	R	2.39E+00	5.79E+00		CRDLE 100%	
Calc	S7	FILTER	H9GDW1AE	ALPHA	7.25E-01	(1.14E+00)	U4	PCI/SA	R	2.07E+00	5.11E+00		100%	
Calc	S7	FILTER	H9GD11AE	ALPHA	2.36E+00	(1.41E+00)		PCI/SA	R	2.08E+00	5.17E+00		100%	
Calc	S7	FILTER	H9GD41AE	ALPHA	5.89E+00	(1.89E+00)		PCI/SA	R	2.19E+00	5.33E+00		100%	
Calc	S7	FILTER	H9GD61AE	ALPHA	1.13E+00	(9.98E-01)	U4	PCI/SA	R	1.52E+00	4.06E+00		100%	
Calc	S7	FILTER	H9GD81AE	ALPHA	2.01E+00	(1.44E+00)	U4	PCI/SA	R	2.33E+00	5.64E+00		100%	
Calc	S7	FILTER	H9GEC1AE	ALPHA	4.35E-01	(9.89E-01)	U4	PCI/SA	R	1.85E+00	4.67E+00		100%	
Calc	S7	FILTER	H9GED1AE	ALPHA	7.12E-01	(1.10E+00)	U4	PCI/SA	R	1.97E+00	4.95E+00		100%	
Calc	S7	FILTER	H9GEF1AE	ALPHA	2.08E+00	(1.27E+00)	U4	PCI/SA	R	1.85E+00	4.66E+00		100%	
Calc	S7	FILTER	H9GEK1AE	ALPHA	-3.79E-02	(6.15E-01)	U4	PCI/SA	R	1.28E+00	3.58E+00		100%	
Calc	S7	FILTER	H9GEM1AE	ALPHA	7.43E+00	(2.14E+00)		PCI/SA	R	2.31E+00	5.59E+00		100%	
Calc	S7	FILTER	H9GEQ1AE	ALPHA	2.61E+00	(1.35E+00)		PCI/SA	R	1.84E+00	4.67E+00		100%	
Calc	S7	FILTER	H9GER1AE	ALPHA	1.45E+00	(1.21E+00)	U4	PCI/SA	R	1.95E+00	4.90E+00		100%	
Calc	S7	FILTER	H9GE01AE	ALPHA	3.45E+00	(1.46E+00)		PCI/SA	R	1.83E+00	4.61E+00		100%	
Calc	S7	FILTER	H9GE51AE	ALPHA	1.82E+00	(1.04E+00)		PCI/SA	R	1.25E+00	3.52E+00		100%	
Calc	S7	FILTER	H9HTW1AA	ALPHA	1.45E-02	(2.24E-02)	U4	PCI/SA	R	4.02E-02	1.01E-01	B	100%	
Calc	S7	FILTER	H9HTW1AC	ALPHA	2.41E+00	(2.80E-01)		PCI/SA	R	3.46E-02	8.97E-02	S	100%	101%

P Anderson
8-7-06

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

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

RecCnt:17
RADCALC v4.8.24
STL Richland

Batch Nbr: 6200110

Alpha Beta, Alpha by GPC-Am , Calculated Results
Detailed Report

8/7/2006 9:42:30 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	**H9GDP1AE**	**PCI/SA**		07/03/06 09:40	08/05/06 13:41			1	1.00 SA	
536403,000516					,J6G180224-1 v4.8.24		FILTER			05.1				0.020857 SA	

Sq	Cnt Date	Parameter	Sample 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	08/05/06 14:56	ALPHA	21	25	GPC10A	1.5	N	N	3.8425E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.327E-02)	(0.000E+00)		8%			(0.000E+00)	47.946651		

Sq	Calc Date	Parameter	Avg	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	**5.058586**		9.00000E-02	0.23422	0.23422	1.00 SA	100%		5.787228		
				(1.882345)		(3.2146E-02)	(0.086111)	(0.086111)	(0.028284)			2.387299		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GDW1AE**	**PCI/SA**		07/03/06 09:55	08/05/06 13:41			1	1.00 SA	
536403,000517					,J6G180224-2 v4.8.24		FILTER			01.9				0.02078 SA	

Sq	Cnt Date	Parameter	Sample 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	08/05/06 14:56	ALPHA	8	20	GPC10B	1.5	N	N	3.9875E-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)	48.123389		

Sq	Calc Date	Parameter	Avg	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	**0.724844**	U4	1.33333E-02	0.033438	0.033438	1.00 SA	100%		5.110193		
				(1.137064)		(2.0870E-02)	(0.052419)	(0.052419)	(0.028284)			2.065241		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GD11AE**	**PCI/SA**		07/03/06 10:15	08/05/06 13:41			1	1.00 SA	
536403,000518					,J6G180224-3 v4.8.24		FILTER			01.7				0.020792 SA	

Sq	Cnt Date	Parameter	Sample 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	08/05/06 14:56	ALPHA	12	19	GPC10C	1.5	N	N	3.8594E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.285E-02)	(0.000E+00)		8%			(0.000E+00)	48.094716		

Sq	Calc Date	Parameter	Avg	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	**2.357612**		4.20000E-02	0.108825	0.108825	1.00 SA	100%		5.16868		
				(1.407153)		(2.4685E-02)	(0.064651)	(0.064651)	(0.028284)			2.0785		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GD41AE**	**PCI/SA**		07/03/06 10:35	08/05/06 13:41			1	1.00 SA	
536403,000519					,J6G180224-4 v4.8.24		FILTER			03.2				0.020977 SA	

Sq	Cnt Date	Parameter	Sample 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	08/05/06 14:56	ALPHA	24	24	GPC10D	1.5	N	N	4.0799E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.187E-02)	(0.000E+00)		8%			(0.000E+00)	47.67145		

() - (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: 6200110

Alpha Beta, Alpha by GPC-Am , Calculated Results

8/7/2006 9:42:30 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	**5.894851**		1.12000E-01	0.274516	0.274516	1.00 SA	100%		5.328966		
				(1.894012)		(3.4098E-02)	(0.086781)	(0.086781)	(0.028284)			2.190336		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GD61AE**	**PCI/SA**		07/03/06 10:50	08/05/06 13:41			1	1.00 SA	
536403,000520					,J6G180224-5 v4.8.24		FILTER			01.7				0.020756 SA	

Sq	Cnt Date	Parameter	Sample 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	08/05/06 14:56	ALPHA	6	10	GPC10E	1.5	N	N	3.8337E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.134E-02)	(0.000E+00)		8%			(0.000E+00)	48.178504		

Sq	Calc Date	Parameter	Avg	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	**1.132179**	**U4**	2.00000E-02	0.052169	0.052169	1.00 SA	100%		4.062271		
				(0.998144)		(1.7512E-02)	(0.045895)	(0.045895)	(0.028284)			1.520671		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GD81AE**	**PCI/SA**		07/03/06 11:05	08/06/06 09:29			1	1.00 SA	
536403,000521					,J6G180224-6 v4.8.24		FILTER			02.5				0.021048 SA	

Sq	Cnt Date	Parameter	Sample 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	08/06/06 10:44	ALPHA	13	25	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)	47.510143		

Sq	Calc Date	Parameter	Avg	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	**2.007782**	**U4**	3.66667E-02	0.093817	0.093817	1.00 SA	100%		5.638053		
				(1.44089)		(2.6034E-02)	(0.067112)	(0.067112)	(0.028284)			2.325763		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GEC1AE**	**PCI/SA**		07/03/06 10:00	08/06/06 09:29			1	1.00 SA	
536403,000522					,J6G180224-7 v4.8.24		FILTER			03.4				0.020961 SA	

Sq	Cnt Date	Parameter	Sample 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	08/06/06 10:44	ALPHA	6	16	GPC10B	1.5	N	N	3.9556E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.328E-02)	(0.000E+00)		8%			(0.000E+00)	47.706702		

Sq	Calc Date	Parameter	Avg	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	**0.434612**	**U4**	8.00000E-03	0.020224	0.020224	1.00 SA	100%		4.671223		
				(0.988921)		(1.8184E-02)	(0.046004)	(0.046004)	(0.028284)			1.845958		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GED1AE**	**PCI/SA**		07/03/06 09:45	08/06/06 09:29			1	1.00 SA	
536403,000523					,J6G180224-8 v4.8.24		FILTER			01.7				0.020777 SA	

Sq	Cnt Date	Parameter	Sample 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: 6200110

Alpha Beta, Alpha by GPC-Am , Calculated Results

8/7/2006 9:42:31 AM

0	08/06/06 10:44	ALPHA	7	17	GPC10C	1.5	N	N	3.8594E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.285E-02)	(0.000E+00)		8%			(0.000E+00)	48.130504		

Sq	Calc Date	Parameter	Avg	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	**0.711555**	U4	1.26667E-02	0.03282	0.03282	1.00 SA	100%		4.94762		
				(1.096277)		(1.9471E-02)	(0.05053)	(0.05053)	(0.028284)			1.967527		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GEF1AE**	**PCI/SA**		07/03/06 09:30	08/06/06 09:29			1	1.00 SA	
536403,P-0691					,J6G180224-9 v4.8.24		FILTER			02.3				0.020771 SA	

Sq	Cnt Date	Parameter	Sample 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	08/06/06 10:44	ALPHA	11	17	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)	48.144717		

Sq	Calc Date	Parameter	Avg	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	**2.080697**	U4	3.93333E-02	0.095943	0.095943	1.00 SA	100%		4.659062		
				(1.266494)		(2.3598E-02)	(0.058139)	(0.058139)	(0.028284)			1.852776		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GEK1AE**	**PCI/SA**		07/03/06 09:50	08/06/06 09:29			1	1.00 SA	
536403,P-0692					,J6G180224-10 v4.8.24		FILTER			02.4				0.020733 SA	

Sq	Cnt Date	Parameter	Sample 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	08/06/06 10:44	ALPHA	2	7	GPC10E	1.5	N	N	3.8203E-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)		8%			(0.000E+00)	48.231453		

Sq	Calc Date	Parameter	Avg	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	**-0.037913**	U4	-6.66667E-04	-0.001745	-0.001745	1.00 SA	100%		3.582218		
				(0.61486)		(1.0812E-02)	(0.028301)	(0.028301)	(0.028284)			1.278145		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GEM1AE**	**PCI/SA**		07/03/06 10:10	08/06/06 12:14			1	1.00 SA	
536403,P-0693					,J6G180224-11 v4.8.24		FILTER			02.5				0.021213 SA	

Sq	Cnt Date	Parameter	Sample 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	08/06/06 13:29	ALPHA	28	25	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)	47.140922		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/07/06	ALPHA	R	**7.425395**		1.36667E-01	0.349683	0.349683	1.00 SA	100%		5.594238		
				(2.137611)		(3.6667E-02)	(0.098642)	(0.098642)	(0.028284)			2.307689		

() - (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: 6200110

Alpha Beta, Alpha by GPC-Am , Calculated Results

8/7/2006 9:42:31 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	**H9GEQ1AE**	**PCI/SA**		07/03/06 10:30	08/06/06 12:14			1	1.00 SA	
536403,P-0694					,J6G180224-12 v4.8.24		FILTER			02.1				0.020832 SA	

Sq	Cnt Date	Parameter	Sample 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	08/06/06 13:29	ALPHA	12	16	GPC10B	1.5	N	N	3.9834E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.337E-02)	(0.000E+00)		8%			(0.000E+00)	48.003264		

Sq	Calc Date	Parameter	Avg	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	**2.605574**		4.80000E-02	0.1205	0.1205	1.00 SA	100%		4.667466		
				(1.354112)		(2.4440E-02)	(0.06224)	(0.06224)	(0.028284)			1.844474		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GER1AE**	**PCI/SA**		07/03/06 10:45	08/06/06 12:14			1	1.00 SA	
536403,P-0695					,J6G180224-13 v4.8.24		FILTER			02.1				0.021011 SA	

Sq	Cnt Date	Parameter	Sample 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	08/06/06 13:29	ALPHA	9	17	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)	47.59317		

Sq	Calc Date	Parameter	Avg	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	**1.447115**	**U4**	2.60000E-02	0.067501	0.067501	1.00 SA	100%		4.902074		
				(1.213435)		(2.1633E-02)	(0.056468)	(0.056468)	(0.028284)			1.949415		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GE01AE**	**PCI/SA**		07/03/06 11:00	08/06/06 12:14			1	1.00 SA	
536403,P-0696					,J6G180224-14 v4.8.24		FILTER			02.2				0.020999 SA	

Sq	Cnt Date	Parameter	Sample 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	08/06/06 13:29	ALPHA	15	17	GPC10D	1.5	N	N	4.1018E-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)	47.621549		

Sq	Calc Date	Parameter	Avg	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	**3.451611**		6.60000E-02	0.160906	0.160906	1.00 SA	100%		4.606045		
				(1.461147)		(2.7105E-02)	(0.067485)	(0.067485)	(0.028284)			1.831693		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GE51AE**	**PCI/SA**		07/03/06 09:35	08/06/06 12:14			1	1.00 SA	
536403,P-0697					,J6G180224-15 v4.8.24		FILTER			01.6				0.021045 SA	

Sq	Cnt Date	Parameter	Sample 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	08/06/06 13:29	ALPHA	7	7	GPC10E	1.5	N	N	3.8355E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.135E-02)	(0.000E+00)		8%			(0.000E+00)	47.516266		

() - (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: 6200110

Alpha Beta, Alpha by GPC-Am , Calculated Results

8/7/2006 9:42:31 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	**1.822927**		3.26667E-02	0.085169	0.085169	1.00 SA	100%		3.515083		
				(1.044586)		(1.8415E-02)	(0.048558)	(0.048558)	(0.028284)			1.254191		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9HTW1AA**	**PCI/SA**	**B**	07/03/06 09:40	08/07/06 06:55			1	1.00 SA	
0,INTRA-LAB BLANK					,J6G190000-110		FILTER			01.7				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	08/07/06 08:10	ALPHA	7	17	GPC10A	1.5	N	N	3.9270E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.356E-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	**0.01453**	**U4**	1.26667E-02	0.032256	0.032256	1.00 SA	100%		0.101028		
				(0.022383)		(1.9471E-02)	(0.049662)	(0.049662)	(0.017321)			0.040176		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9HTW1AC**	**PCI/SA**	**S**	07/03/06 09:40	08/07/06 06:55		ASC0398	1	1.00 SA	
0,INTRA-LAB CHECK					,J6G190000-110		FILTER			02.1		ASC0398 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	08/07/06 08:10	ALPHA	323	13	GPC10B	1.5	N	N	3.9834E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.337E-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	**2.40562**		2.12733E+00	5.340481	5.340481	1.00 SA	100%	101%	0.089659		
				(0.279617)		(1.2003E-01)	(0.552696)	(0.552696)	(0.017321)			0.034635		

() - (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: H9GDP1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-A File: [quad10.sample.A]H9GDP1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.A_15;4274

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00021	00000	0150	00000	1000	5-AUG-2006 14:56:57.41

Bkg File: [quad10.bkgrnd]2006-08-05_0510.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00025	0500	0.05	00000	1000	5-AUG-2006 05:10:41.32

UST Number: H9GDW1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-B File: [quad10.sample.B]H9GDW1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.B_15;4271

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00008	00000	0150	00000	1000	5-AUG-2006 14:56:57.41

Bkg File: [quad10.bkgrnd]2006-08-05_0510.B_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00020	0500	0.04	00000	1000	5-AUG-2006 05:10:41.32

UST Number: H9GD11AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-C File: [quad10.sample.C]H9GD11AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.C_15;4280

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00012	00000	0150	00000	1000	5-AUG-2006 14:56:57.41

Bkg File: [quad10.bkgrnd]2006-08-05_0510.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00019	0500	0.04	00000	1000	5-AUG-2006 05:10:41.32

UST Number: H9GD41AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-D File: [quad10.sample.D]H9GD41AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.D_15;4274

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00024	00000	0150	00000	1000	5-AUG-2006 14:56:57.41

Bkg File: [quad10.bkgrnd]2006-08-05_0510.D_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00024	0500	0.05	00000	1000	5-AUG-2006 05:10:41.32

UST Number: H9GD61AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-E File: [quad10.sample.E]H9GD61AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.E_15;4269

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00006	00000	0150	00000	1000	5-AUG-2006 14:56:57.41

Bkg File: [quad10.bkgrnd]2006-08-05_0510.E_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00010	0500	0.02	00000	1000	5-AUG-2006 05:10:41.32

UST Number: H9GD81AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-A File: [quad10.sample.A]H9GD81AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.A_15;4275

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00013	00000	0150	00000	1000	6-AUG-2006 10:44:45.87

Bkg File: [quad10.bkgrnd]2006-08-05_2335.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00025	0500	0.05	00000	1000	5-AUG-2006 23:35:52.41

UST Number: H9GEC1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-B File: [quad10.sample.B]H9GEC1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.B_15;4272

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00006	00000	0150	00000	1000	6-AUG-2006 10:44:45.87

Bkg File: [quad10.bkgrnd]2006-08-05_2335.B_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00016	0500	0.03	00000	1000	5-AUG-2006 23:35:52.41

UST Number: H9GED1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-C File: [quad10.sample.C]H9GED1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.C_15;4281

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00007	00000	0150	00000	1000	6-AUG-2006 10:44:45.87

Bkg File: [quad10.bkgrnd]2006-08-05_2335.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00017	0500	0.03	00000	1000	5-AUG-2006 23:35:52.41

UST Number: H9GEF1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-D File: [quad10.sample.D]H9GEF1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.D_15;4275

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00011	00000	0150	00000	1000	6-AUG-2006 10:44:45.87

Bkg File: [quad10.bkgrnd]2006-08-05_2335.D_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00017	0500	0.03	00000	1000	5-AUG-2006 23:35:52.41

UST Number: H9GEK1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-E File: [quad10.sample.E]H9GEK1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.E_15;4270

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00002	00000	0150	00000	1000	6-AUG-2006 10:44:45.87

Bkg File: [quad10.bkgrnd]2006-08-05_2335.E_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00007	0500	0.01	00000	1000	5-AUG-2006 23:35:52.41

UST Number: H9GEM1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-A File: [quad10.sample.A]H9GEM1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.A_15;4275

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00028	00000	0150	00000	1000	6-AUG-2006 13:29:10.95

Bkg File: [quad10.bkgrnd]2006-08-05_2335.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00025	0500	0.05	00000	1000	5-AUG-2006 23:35:52.41

UST Number: H9GEQ1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-B File: [quad10.sample.B]H9GEQ1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.B_15;4272

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00012	00000	0150	00000	1000	6-AUG-2006 13:29:10.95

Bkg File: [quad10.bkgrnd]2006-08-05_2335.B_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00016	0500	0.03	00000	1000	5-AUG-2006 23:35:52.41

UST Number: H9GER1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-C File: [quad10.sample.C]H9GER1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.C_15;4281

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00009	00000	0150	00000	1000	6-AUG-2006 13:29:10.95

Bkg File: [quad10.bkgrnd]2006-08-05_2335.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00017	0500	0.03	00000	1000	5-AUG-2006 23:35:52.41

UST Number: H9GE01AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-D File: [quad10.sample.D]H9GE01AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.D_15;4275

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00015	00000	0150	00000	1000	6-AUG-2006 13:29:10.95

Bkg File: [quad10.bkgrnd]2006-08-05_2335.D_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00017	0500	0.03	00000	1000	5-AUG-2006 23:35:52.41

UST Number: H9GE51AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-E File: [quad10.sample.E]H9GE51AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.E_15;4270

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00007	00000	0150	00000	1000	6-AUG-2006 13:29:10.95

Bkg File: [quad10.bkgrnd]2006-08-05_2335.E_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00007	0500	0.01	00000	1000	5-AUG-2006 23:35:52.41

UST Number: H9HTW1AA Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-A File: [quad10.sample.A]H9HTW1AA.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.A_15;4276

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00007	00000	0150	00000	1000	7-AUG-2006 08:10:41.43

Bkg File: [quad10.bkgrnd]2006-08-06_2204.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00017	0500	0.03	00000	1000	6-AUG-2006 22:04:19.68

UST Number: H9HTW1AC Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-B File: [quad10.sample.B]H9HTW1AC.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.B_15;4273

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00323	00000	0150	00000	1000	7-AUG-2006 08:10:41.43

Bkg File: [quad10.bkgrnd]2006-08-06_2204.B_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00013	0500	0.03	00000	1000	6-AUG-2006 22:04:19.68

BETA

SAMPLE AND QC DATA

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

8/4/2006 8:25:24 AM

Lot No., Due Date: J6G180224; 08/15/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6200111; RBETA-SR Beta by GPC-Sr/Y

SDG, Matrix: 32140; FILTER

1.0 COC

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

2.0 QC Batch

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

3.0 QC & Samples

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

4.0 Raw Data

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

5.0 Other

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

6.0 Comments on any No response:

See NCM. 06-08437

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

STL Richland

QAS_RADCALCv4.8.18

STL RICHLAND

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6200111

Review Item	Yes (√)	No (√)	N/A (√)
A. Sample Analysis 1. Are the sample yields within acceptance criteria?		/	
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	/		
3. Are the correct isotopes reported?	/		
B. QC Samples 1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	/		
2. Does the blank result meet the Contract criteria?	/		
3. Is the blank result < the Contract Detection Limit?	/		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			/
5. Is the LCS recovery with contract acceptance criteria?	/		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	/		
8. Do the MS/MSD results and yields meet acceptance criteria?			/
9. Do the duplicate sample results and yields meet acceptance criteria?			/
C. Other 1. Are all Nonconformances included and noted?	/		
2. Are all required forms filled out?	/		
3. Was the correct methodology used?	/		
4. Was transcription checked?	/		
5. Were all calculations checked at a minimum frequency?	/		
6. Were units checked?	/		

Comments on any "No" response: See NCM

Second Level Review: Sherryl R Adam Date: 8-7-06

STL RICHLAND

7/27/2006 10:55:53 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: MA

Batch: 6200111 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst Init/Date	Comments:
1 H9GDP-1-AF J6G180224-1-SAMP 07/03/2006 09:40	0.833sa,g	508.83sa,g	50.85g,in	0.0832g	DISH PPT 1.5	54.6	150	31D	0845	8/3/06
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
2 H9GDW-1-AF J6G180224-2-SAMP 07/03/2006 09:55	0.833sa,g	503.49sa,g	50.44g,in	0.0835g		5.4		30A		
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
3 H9GD1-1-AF J6G180224-3-SAMP 07/03/2006 10:15	0.833sa,g	503.19sa,g	50.12g,in	0.083g		3.7		30B		
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
4 H9GD4-1-AF J6G180224-4-SAMP 07/03/2006 10:35	0.833sa,g	500.35sa,g	50.13g,in	0.0835g		27.3		30C		
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
5 H9GD6-1-AF J6G180224-5-SAMP 07/03/2006 10:50	0.833sa,g	502.06sa,g	50.40g,in	0.0836g		3.9		30D		
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
6 H9GD8-1-AF J6G180224-6-SAMP 07/03/2006 11:05	0.833sa,g	500.24sa,g	50.39g,in	0.0839g		14.4		26A	1122	8/3/06
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
7 H9GEC-1-AF J6G180224-7-SAMP 07/03/2006 10:00	0.833sa,g	500.72sa,g	50.59g,in	0.0842g		37.5		26B		
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:

STL Richland Richland Wa.

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Page 1

ISV - Insufficient Volume for Analysis

WO Cnt: 7

Prep_SamplePrep v4.8.24

410

STL RICHLAND

7/27/2006 10:55:54 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: 6200111 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

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:
8 H9GED-1-AF J6G180224-8-SAMP 07/03/2006 09:45	0.833sa,g	505.97sa,g	50.28g,in	0.0828g	DISH PPT 1.5 11.3	150	26C	1122	8/3/06	
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
9 H9GEF-1-AF J6G180224-9-SAMP 07/03/2006 09:30	0.833sa,g	502.51sa,g	50.37g,in	0.0835g	2.4		26D			
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
10 H9GEK-1-AF J6G180224-10-SAMP 07/03/2006 09:50	0.833sa,g	502.21sa,g	50.07g,in	0.083g	2.7		27A			
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
11 H9GEM-1-AF J6G180224-11-SAMP 07/03/2006 10:10	0.833sa,g	501.85sa,g	50.52g,in	0.0839g	2.1		27C			
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
12 H9GEQ-1-AF J6G180224-12-SAMP 07/03/2006 10:30	0.833sa,g	511.83sa,g	50.08g,in	0.0815g	2.8		27D			
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
13 H9GER-1-AF J6G180224-13-SAMP 07/03/2006 10:45	0.833sa,g	502.70sa,g	50.07g,in	0.083g	2.1		31A			
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
14 H9GE0-1-AF J6G180224-14-SAMP 07/03/2006 11:00	0.833sa,g	507.76sa,g	50.15g,in	0.0823g	2.5		31B			
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:

STL RICHLAND

7/27/2006 10:55:54 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: 6200111 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:
15H9GE5-1-AF J6G180224-15-SAMP 07/03/2006 09:35	0.833sa,g	505.45sa,g	51.35g,in	0.0846g	DISH PPT 1.5 2.6	150	31C	1122	8/3/06	
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
16H9HT2-1-AA-B J6G190000-111-BLK 07/03/2006 09:40		1.00sa,in	1.00sa		0.0		31D			
		AmtRec:	#Containers: 1				Scr:	Alpha:		Beta:
17H9HT2-1-AC-C J6G190000-111-LCS 07/03/2006 09:40		1.00sa,in	1.00sa		BESB2839 06/15/06,pd 12/28/05,r 0.4		32A			
		AmtRec:	#Containers: 1				Scr:	Alpha:		Beta:

Comments:

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

H9GDP1AF-SAMP Constituent List:
BETA RDL:5 pCi/sam LCL: UCL: RPD:
H9HT21AA-BLK:
BETA RDL:5 pCi/sam LCL: UCL: RPD:
H9HT21AC-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

H9GDP1AF-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H9HT21AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H9HT21AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Clouseau
Nonconformance Memo

SEVERN TRENT SERVICES

NCM #: **10-08437**
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): J6G180224 (1,10,11,12,13,14,15,2,3,4,5, 6,7,8,9),
QC Batches: 6200111

Nonconformance: MDA not met
Subcategory: Data accepted

Problem Description / Root Cause

Name	Date	Description
Pam Anderson	08/04/2006	None of the samples meet CRDL for beta for thsese filters. All the results >MDA>CRDL, except samples H9GEC1AF (5.6 pCi/filter) and H9GED1AF (5.5 pCi/filter). Data will be accepted.

Corrective Action

Name	Date	Corrective Action
Pam Anderson	08/04/2006	Note in case narrative.

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 4:27:08 PM

ICOC Fraction Transfer/Status Report

ByDate: 8/3/2005, 8/8/2006, Batch: '6200111', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6200111						
AC		**CalcC**	**HansenM**	7/20/2006 1:19:44 PM		
SC			wagarr	IsBatched	7/19/2006 8:00:26 AM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	7/20/2006 1:19:44 PM	RICH-RC-5016 REVISION 5
SC			DAWKINSO	InCnt1	8/2/2006 3:26:54 PM	RICH-RD-0003 REVISION 4
SC			BlackCL	CalcC	8/3/2006 11:46:44 AM	RICH-RD-0003 REVISION 4
AC			**DAWKINSO**	8/2/2006 3:26:54 PM		
AC			**BlackCL**	8/3/2006 11:46:44		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 3

ICOCFractions v4.8.18

8/3/2006 4:27:07 PM

Rpt DB Transfer log (Batch Results)

SEVERN TRENT STL

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot uncert	Sample Date / mda	Units	Expected	Yield	Volumes
32140	**9H9GD110**			**J6G1802243**	000518	FILTER	7/18/2006 10:00:00	7/3/2006 10:15:00 AM				
BETA	BDS8		0	8/3/2006 7:32:27 AM	**3.7893E+01**	2.155E+00	3.394E+00	5.239E+00	PCI/SA	1.0	1.0E+0	3.297E-2
TH-228	9NS1		0	7/28/2006 8:02:46 PM	**6.7221E-02**	6.722E-02	6.749E-02	2.688E-01	PCI/SA	0.988	1.0E+0	3.282E-2
TH-230	9NS1		0	7/28/2006 8:02:46 PM	**2.6062E-01**	1.064E-01	1.09E-01	1.177E-01	PCI/SA	0.988	1.0E+0	3.282E-2
TH-232	9NS1		0	7/28/2006 8:02:46 PM	**4.3436E-02**	4.344E-02	4.361E-02	1.177E-01	PCI/SA	0.988	1.0E+0	3.282E-2
U-234	7YSR		0	7/30/2006 10:18:27	**1.6161E-01**	1.83E-01	1.835E-01	8.299E-01	PCI/SA	0.953	1.0E+0	3.211E-2
U-235	7YSR		0	7/30/2006 10:18:27	**-6.0657E-02**	3.502E-02	3.536E-02	6.379E-01	PCI/SA	0.953	1.0E+0	3.211E-2
U-238	7YSR		0	7/30/2006 10:18:27	**-1.2131E-01**	4.953E-02	5.048E-02	7.887E-01	PCI/SA	0.953	1.0E+0	3.211E-2
32140	**9H9GD410**			**J6G1802244**	000519	FILTER	7/18/2006 10:00:00	7/3/2006 10:35:00 AM				
BETA	BDS8		0	8/3/2006 7:32:27 AM	**4.2234E+01**	2.197E+00	4.389E+00	5.049E+00	PCI/SA	1.0	1.0E+0	3.346E-2
TH-228	9NS1		0	7/28/2006 8:02:46 PM	**1.7886E-01**	8.943E-02	9.088E-02	1.212E-01	PCI/SA	1.016	1.0E+0	3.386E-2
TH-230	9NS1		0	7/28/2006 8:02:46 PM	**2.6005E-01**	1.062E-01	1.087E-01	1.175E-01	PCI/SA	1.016	1.0E+0	3.386E-2
TH-232	9NS1		0	7/28/2006 8:02:46 PM	**4.3341E-02**	4.334E-02	4.352E-02	1.175E-01	PCI/SA	1.016	1.0E+0	3.386E-2
U-234	7YSR		0	7/30/2006 10:18:44	**1.8213E-01**	1.822E-01	1.828E-01	7.898E-01	PCI/SA	0.939	1.0E+0	3.245E-2
U-235	7YSR		0	7/30/2006 10:18:44	**0.0E+00**	0.0E+00	1.239E-01	2.742E-01	PCI/SA	0.939	1.0E+0	3.245E-2
U-238	7YSR		0	7/30/2006 10:18:44	**1.8213E-01**	1.822E-01	1.828E-01	7.898E-01	PCI/SA	0.939	1.0E+0	3.245E-2
32140	**9H9GD610**			**J6G1802245**	000520	FILTER	7/18/2006 10:00:00	7/3/2006 10:50:00 AM				
BETA	BDS8		0	8/3/2006 7:32:27 AM	**4.4768E+01**	2.358E+00	3.988E+00	5.721E+00	PCI/SA	1.0	1.0E+0	3.362E-2
TH-228	9NS1		0	7/28/2006 8:02:46 PM	**1.3357E-01**	7.867E-02	7.954E-02	2.289E-01	PCI/SA	1.103	1.0E+0	3.304E-2
TH-230	9NS1		0	7/28/2006 8:02:46 PM	**2.9592E-01**	1.046E-01	1.078E-01	1.002E-01	PCI/SA	1.103	1.0E+0	3.304E-2
TH-232	9NS1		0	7/28/2006 8:02:46 PM	**-1.8495E-02**	1.849E-02	1.857E-02	2.219E-01	PCI/SA	1.103	1.0E+0	3.304E-2
U-234	7YSR		0	7/30/2006 10:19:01	**3.6866E-02**	9.755E-02	9.759E-02	5.818E-01	PCI/SA	1.025	1.0E+0	3.232E-2
U-235	7YSR		0	7/30/2006 10:19:01	**5.5302E-02**	9.579E-02	9.589E-02	5.209E-01	PCI/SA	1.025	1.0E+0	3.232E-2
U-238	7YSR		0	7/30/2006 10:19:01	**1.8431E-02**	9.927E-02	9.928E-02	6.332E-01	PCI/SA	1.025	1.0E+0	3.232E-2
32140	**9H9GD810**			**J6G1802246**	000521	FILTER	7/18/2006 10:00:00	7/3/2006 11:05:00 AM				
BETA	BDS8		0	8/3/2006 10:09:07 AM	**4.731E+01**	2.348E+00	4.186E+00	5.552E+00	PCI/SA	1.0	1.0E+0	3.391E-2
TH-228	9NS1		0	7/28/2006 8:02:46 PM	**5.9232E-02**	7.647E-02	7.665E-02	3.319E-01	PCI/SA	0.968	1.0E+0	3.349E-2
TH-230	9NS1		0	7/28/2006 8:02:46 PM	**2.8706E-01**	1.099E-01	1.129E-01	2.296E-01	PCI/SA	0.968	1.0E+0	3.349E-2
TH-232	9NS1		0	7/28/2006 8:02:46 PM	**7.6551E-02**	7.161E-02	7.193E-02	2.817E-01	PCI/SA	0.968	1.0E+0	3.349E-2
U-234	7YSR		0	7/30/2006 10:19:17	**2.0406E-01**	1.443E-01	1.452E-01	2.765E-01	PCI/SA	0.939	1.0E+0	3.253E-2
U-235	7YSR		0	7/30/2006 10:19:17	**-2.0408E-02**	2.041E-02	2.047E-02	4.887E-01	PCI/SA	0.939	1.0E+0	3.253E-2
U-238	7YSR		0	7/30/2006 10:19:17	**-4.0816E-02**	2.886E-02	2.905E-02	5.766E-01	PCI/SA	0.939	1.0E+0	3.253E-2
32140	**9H9GDP10**			**J6G1802241**	000516	FILTER	7/18/2006 10:00:00	7/3/2006 9:40:00 AM				
BETA	BDS8		0	8/3/2006 7:32:14 AM	**3.9213E+01**	2.256E+00	3.563E+00	5.523E+00	PCI/SA	1.0	1.0E+0	3.325E-2
TH-228	9NS1		0	7/28/2006 8:02:46 PM	**1.9522E-06**	8.274E-02	8.274E-02	4.198E-01	PCI/SA	1.0	1.0E+0	3.202E-2
TH-230	9NS1		0	7/28/2006 8:02:46 PM	**1.7012E-01**	8.662E-02	8.793E-02	2.267E-01	PCI/SA	1.0	1.0E+0	3.202E-2
TH-232	9NS1		0	7/28/2006 8:02:46 PM	**1.5122E-01**	7.561E-02	7.679E-02	1.024E-01	PCI/SA	1.0	1.0E+0	3.202E-2
U-234	7YSR		0	7/30/2006 10:17:46	**8.3983E-02**	1.455E-01	1.457E-01	7.913E-01	PCI/SA	0.713	1.0E+0	3.169E-2
U-235	7YSR		0	7/30/2006 10:17:46	**-5.6025E-02**	3.962E-02	3.989E-02	7.913E-01	PCI/SA	0.713	1.0E+0	3.169E-2
U-238	7YSR		0	7/30/2006 10:17:46	**1.6797E-01**	2.058E-01	2.063E-01	9.618E-01	PCI/SA	0.713	1.0E+0	3.169E-2
32140	**9H9GDW10**			**J6G1802242**	000517	FILTER	7/18/2006 10:00:00	7/3/2006 9:55:00 AM				
BETA	BDS8		0	8/3/2006 7:32:27 AM	**3.9721E+01**	2.217E+00	3.529E+00	5.358E+00	PCI/SA	1.0	1.0E+0	3.345E-2
TH-228	9NS1		0	7/28/2006 8:02:46 PM	**1.5259E-01**	1.112E-01	1.12E-01	4.106E-01	PCI/SA	0.977	1.0E+0	3.337E-2
TH-230	9NS1		0	7/28/2006 8:02:46 PM	**4.252E-01**	1.294E-01	1.348E-01	2.218E-01	PCI/SA	0.977	1.0E+0	3.337E-2
TH-232	9NS1		0	7/28/2006 8:02:46 PM	**3.6975E-02**	5.846E-02	5.855E-02	2.721E-01	PCI/SA	0.977	1.0E+0	3.337E-2
U-234	7YSR		0	7/30/2006 10:18:08	**2.2371E-01**	1.292E-01	1.304E-01	2.021E-01	PCI/SA	1.021	1.0E+0	3.34E-2
U-235	7YSR		0	7/30/2006 10:18:08	**2.9823E-02**	7.892E-02	7.895E-02	4.707E-01	PCI/SA	1.021	1.0E+0	3.34E-2
U-238	7YSR		0	7/30/2006 10:18:08	**1.0439E-01**	1.086E-01	1.089E-01	4.707E-01	PCI/SA	1.021	1.0E+0	3.34E-2
32140	**9H9GE010**			**J6G18022414**	P-0696	FILTER	7/18/2006 10:00:00	7/3/2006 11:00:00 AM				
BETA	BDS8		0	8/3/2006 10:09:02 AM	**3.4235E+01**	2.048E+00	3.562E+00	5.053E+00	PCI/SA	1.0	1.0E+0	3.227E-2
TH-228	9NS1		0	7/29/2006 1:47:52 PM	**1.1019E-01**	7.946E-02	8.006E-02	2.644E-01	PCI/SA	1.083	1.0E+0	3.326E-2
TH-230	9NS1		0	7/29/2006 1:47:52 PM	**6.4035E-01**	1.653E-01	1.75E-01	1.157E-01	PCI/SA	1.083	1.0E+0	3.326E-2

6200111, **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		7/29/2006 1:47:52 PM	**0.0E+00**	0.0E+00	5.228E-02	1.157E-01	PCI/SA		1.083	1.0E+0	3.326E-2
U-234	7YSR	0		7/30/2006 10:22:03	**-3.623E-02**	1.479E-02	1.508E-02	4.475E-01	PCI/SA		0.972	1.0E+0	3.401E-2
U-235	7YSR	0		7/30/2006 10:22:03	**5.7318E-02**	7.615E-02	7.629E-02	3.763E-01	PCI/SA		0.972	1.0E+0	3.401E-2
U-238	7YSR	0		7/30/2006 10:22:03	**4.5242E-02**	7.663E-02	7.672E-02	4.263E-01	PCI/SA		0.972	1.0E+0	3.401E-2
32140	**9H9GE510**			**J6G18022415**	P-0697	FILTER	7/18/2006 10:00:00	7/3/2006 9:35:00 AM					
BETA	BDS8	0		8/3/2006 10:09:02 AM	**3.6557E+01**	2.07E+00	3.249E+00	4.962E+00	PCI/SA		1.0	1.0E+0	3.463E-2
TH-228	9NS1	0		7/29/2006 1:47:52 PM	**1.8191E-01**	9.095E-02	9.242E-02	1.232E-01	PCI/SA		1.042	1.0E+0	3.252E-2
TH-230	9NS1	0		7/29/2006 1:47:52 PM	**1.3214E-01**	7.629E-02	7.721E-02	1.194E-01	PCI/SA		1.042	1.0E+0	3.252E-2
TH-232	9NS1	0		7/29/2006 1:47:52 PM	**4.4045E-02**	4.405E-02	4.422E-02	1.194E-01	PCI/SA		1.042	1.0E+0	3.252E-2
U-234	7YSR	0		7/30/2006 10:22:25	**2.0441E-01**	1.576E-01	1.585E-01	5.077E-01	PCI/SA		0.941	1.0E+0	3.193E-2
U-235	7YSR	0		7/30/2006 10:22:25	**9.3313E-02**	1.118E-01	1.121E-01	5.077E-01	PCI/SA		0.941	1.0E+0	3.193E-2
U-238	7YSR	0		7/30/2006 10:22:25	**9.3313E-02**	1.118E-01	1.121E-01	5.077E-01	PCI/SA		0.941	1.0E+0	3.193E-2
32140	**9H9GEC10**			**J6G1802247**	000522	FILTER	7/18/2006 10:00:00	7/3/2006 10:00:00 AM					
BETA	BDS8	0		8/3/2006 10:09:07 AM	**6.6588E-01**	1.349E+00	1.35E+00	5.647E+00	PCI/SA		1.0	1.0E+0	3.416E-2
TH-228	9NS1	0		7/28/2006 8:02:46 PM	**-7.0015E-02**	7.002E-02	7.045E-02	8.399E-01	PCI/SA		0.303	1.0E+0	3.401E-2
TH-230	9NS1	0		7/28/2006 8:02:46 PM	**1.6287E+00**	4.702E-01	5.04E-01	3.678E-01	PCI/SA		0.303	1.0E+0	3.401E-2
TH-232	9NS1	0		7/28/2006 8:02:46 PM	**1.3573E-01**	1.357E-01	1.366E-01	3.678E-01	PCI/SA		0.303	1.0E+0	3.401E-2
U-234	7YSR	0		7/30/2006 10:19:35	**-2.7717E-02**	2.772E-02	2.781E-02	6.638E-01	PCI/SA		0.714	1.0E+0	3.267E-2
U-235	7YSR	0		7/30/2006 10:19:35	**1.3859E-01**	1.386E-01	1.391E-01	3.756E-01	PCI/SA		0.714	1.0E+0	3.267E-2
U-238	7YSR	0		7/30/2006 10:19:35	**-2.7717E-02**	2.772E-02	2.781E-02	6.638E-01	PCI/SA		0.714	1.0E+0	3.267E-2
32140	**9H9GED10**			**J6G1802248**	000523	FILTER	7/18/2006 10:00:00	7/3/2006 9:45:00 AM					
BETA	BDS8	0		8/3/2006 10:09:07 AM	**1.6827E+00**	1.347E+00	1.352E+00	5.501E+00	PCI/SA		1.0	1.0E+0	3.278E-2
TH-228	9NS1	0		7/28/2006 8:02:46 PM	**7.0729E-02**	7.073E-02	7.102E-02	2.828E-01	PCI/SA		0.754	1.0E+0	3.347E-2
TH-230	9NS1	0		7/28/2006 8:02:46 PM	**2.2852E-02**	5.11E-02	5.114E-02	2.741E-01	PCI/SA		0.754	1.0E+0	3.347E-2
TH-232	9NS1	0		7/28/2006 8:02:46 PM	**-4.5702E-02**	3.232E-02	3.258E-02	3.364E-01	PCI/SA		0.754	1.0E+0	3.347E-2
U-234	7YSR	0		7/30/2006 10:19:56	**1.0473E-01**	1.047E-01	1.051E-01	2.838E-01	PCI/SA		0.891	1.0E+0	3.177E-2
U-235	7YSR	0		7/30/2006 10:19:56	**-2.0954E-02**	2.095E-02	2.102E-02	5.017E-01	PCI/SA		0.891	1.0E+0	3.177E-2
U-238	7YSR	0		7/30/2006 10:19:56	**1.0473E-01**	1.047E-01	1.051E-01	2.838E-01	PCI/SA		0.891	1.0E+0	3.177E-2
32140	**9H9GEF10**			**J6G1802249**	P-0691	FILTER	7/18/2006 10:00:00	7/3/2006 9:30:00 AM					
BETA	BDS8	0		8/3/2006 10:09:07 AM	**3.117E+01**	2.011E+00	2.922E+00	5.079E+00	PCI/SA		1.0	1.0E+0	3.35E-2
TH-228	9NS1	0		7/28/2006 8:03:19 PM	**1.2894E-01**	7.444E-02	7.534E-02	1.165E-01	PCI/SA		0.786	1.0E+0	3.368E-2
TH-230	9NS1	0		7/28/2006 8:03:19 PM	**2.916E-01**	1.102E-01	1.133E-01	1.129E-01	PCI/SA		0.786	1.0E+0	3.368E-2
TH-232	9NS1	0		7/28/2006 8:03:19 PM	**-2.083E-02**	2.083E-02	2.091E-02	2.499E-01	PCI/SA		0.786	1.0E+0	3.368E-2
U-234	7YSR	0		7/30/2006 10:20:15	**-3.9615E-02**	2.801E-02	2.819E-02	5.594E-01	PCI/SA		0.995	1.0E+0	3.233E-2
U-235	7YSR	0		7/30/2006 10:20:15	**9.8984E-02**	9.898E-02	9.93E-02	2.682E-01	PCI/SA		0.995	1.0E+0	3.233E-2
U-238	7YSR	0		7/30/2006 10:20:15	**-3.9615E-02**	2.801E-02	2.819E-02	5.594E-01	PCI/SA		0.995	1.0E+0	3.233E-2
32140	**9H9GEK10**			**J6G18022410**	P-0692	FILTER	7/18/2006 10:00:00	7/3/2006 9:50:00 AM					
BETA	BDS8	0		8/3/2006 10:09:09 AM	**3.5573E+01**	2.087E+00	3.207E+00	5.11E+00	PCI/SA		1.0	1.0E+0	3.305E-2
TH-228	9NS1	0		7/28/2006 8:03:37 PM	**1.5418E-01**	1.09E-01	1.099E-01	3.782E-01	PCI/SA		0.856	1.0E+0	3.399E-2
TH-230	9NS1	0		7/28/2006 8:03:37 PM	**1.2453E-01**	8.979E-02	9.053E-02	2.987E-01	PCI/SA		0.856	1.0E+0	3.399E-2
TH-232	9NS1	0		7/28/2006 8:03:37 PM	**2.4912E-02**	5.569E-02	5.573E-02	2.987E-01	PCI/SA		0.856	1.0E+0	3.399E-2
U-234	7YSR	0		7/30/2006 10:20:31	**1.7627E-01**	1.399E-01	1.406E-01	4.691E-01	PCI/SA		1.048	1.0E+0	3.227E-2
U-235	7YSR	0		7/30/2006 10:20:31	**0.0E+00**	0.0E+00	1.199E-01	2.654E-01	PCI/SA		1.048	1.0E+0	3.227E-2
U-238	7YSR	0		7/30/2006 10:20:31	**-1.9591E-02**	1.959E-02	1.965E-02	4.691E-01	PCI/SA		1.048	1.0E+0	3.227E-2
32140	**9H9GEM10**			**J6G18022411**	P-0693	FILTER	7/18/2006 10:00:00	7/3/2006 10:10:00 AM					
BETA	BDS8	0		8/3/2006 10:09:09 AM	**4.239E+01**	2.17E+00	3.624E+00	4.93E+00	PCI/SA		1.0	1.0E+0	3.386E-2
TH-228	9NS1	0		7/28/2006 8:03:50 PM	**8.9856E-06**	9.339E-02	9.339E-02	5.007E-01	PCI/SA		0.848	1.0E+0	3.442E-2
TH-230	9NS1	0		7/28/2006 8:03:50 PM	**1.5679E-01**	9.052E-02	9.169E-02	1.416E-01	PCI/SA		0.848	1.0E+0	3.442E-2
TH-232	9NS1	0		7/28/2006 8:03:50 PM	**0.0E+00**	0.0E+00	6.401E-02	1.416E-01	PCI/SA		0.848	1.0E+0	3.442E-2
U-234	7YSR	0		7/30/2006 10:20:48	**9.8511E-02**	9.851E-02	9.883E-02	2.67E-01	PCI/SA		0.894	1.0E+0	3.241E-2
U-235	7YSR	0		7/30/2006 10:20:48	**7.8805E-02**	1.005E-01	1.007E-01	4.718E-01	PCI/SA		0.894	1.0E+0	3.241E-2
U-238	7YSR	0		7/30/2006 10:20:48	**7.8805E-02**	1.005E-01	1.007E-01	4.718E-01	PCI/SA		0.894	1.0E+0	3.241E-2
32140	**9H9GEQ10**			**J6G18022412**	P-0694	FILTER	7/18/2006 10:00:00	7/3/2006 10:30:00 AM					
BETA	BDS8	0		8/3/2006 10:09:09 AM	**4.0275E+01**	2.193E+00	3.558E+00	5.193E+00	PCI/SA		1.0	1.0E+0	3.15E-2

6200111, **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		7/29/2006 1:47:52 PM	**-7.7975E-02**	6.165E-02	6.203E-02	4.197E-01	PCI/SA		1.015	1.0E+0	3.211E-2
TH-230	9NS1	0		7/29/2006 1:47:52 PM	**2.4546E-01**	1.017E-01	1.04E-01	2.265E-01	PCI/SA		1.015	1.0E+0	3.211E-2
TH-232	9NS1	0		7/29/2006 1:47:52 PM	**0.0E+00**	0.0E+00	4.625E-02	1.023E-01	PCI/SA		1.015	1.0E+0	3.211E-2
U-234	7YSR	0		7/30/2006 10:21:07	**0.0E+00**	0.0E+00	1.527E-01	3.378E-01	PCI/SA		0.806	1.0E+0	3.106E-2
U-235	7YSR	0		7/30/2006 10:21:07	**0.0E+00**	0.0E+00	1.527E-01	3.378E-01	PCI/SA		0.806	1.0E+0	3.106E-2
U-238	7YSR	0		7/30/2006 10:21:07	**9.9719E-02**	1.271E-01	1.274E-01	5.97E-01	PCI/SA		0.806	1.0E+0	3.106E-2
32140	**9H9GER10**			**J6G18022413**	P-0695	FILTER	7/18/2006 10:00:00	7/3/2006 10:45:00 AM					
BETA	BDS8	0		8/3/2006 10:09:02 AM	**3.0876E+01**	2.027E+00	2.989E+00	5.331E+00	PCI/SA		1.0	1.0E+0	3.297E-2
TH-228	9NS1	0		7/29/2006 1:47:52 PM	**3.7118E-02**	8.705E-02	8.711E-02	3.995E-01	PCI/SA		1.024	1.0E+0	3.376E-2
TH-230	9NS1	0		7/29/2006 1:47:52 PM	**5.2128E-01**	1.404E-01	1.478E-01	2.156E-01	PCI/SA		1.024	1.0E+0	3.376E-2
TH-232	9NS1	0		7/29/2006 1:47:52 PM	**-3.5949E-02**	2.542E-02	2.562E-02	2.646E-01	PCI/SA		1.024	1.0E+0	3.376E-2
U-234	7YSR	0		7/30/2006 10:21:42	**-1.5489E-02**	1.095E-02	1.102E-02	4.424E-01	PCI/SA		0.997	1.0E+0	3.235E-2
U-235	7YSR	0		7/30/2006 10:21:42	**7.3569E-02**	9.773E-02	9.791E-02	4.829E-01	PCI/SA		0.997	1.0E+0	3.235E-2
U-238	7YSR	0		7/30/2006 10:21:42	**5.0335E-02**	9.864E-02	9.873E-02	5.742E-01	PCI/SA		0.997	1.0E+0	3.235E-2
32140	**H9HT21AB**			**J6G190000111**	INTRA-LAB BLANK	FILTER	7/18/2006 10:00:00	7/3/2006 9:40:00 AM					
BETA	BDS8	0	B	8/3/2006 10:09:02 AM	**1.6496E-01**	1.079E-01	1.084E-01	4.366E-01	PCI/SA		1.0	1.0E+0	1.0E+0
32140	**H9HT21CS**			**J6G190000111**	INTRA-LAB CHECK	FILTER	7/18/2006 10:00:00	7/3/2006 9:40:00 AM					
BETA	BDS8	0	S	8/3/2006 10:09:16 AM	**4.7164E+00**	2.093E-01	3.728E-01	4.452E-01	PCI/SA	4.6004E+00	1.0	1.0E+0	1.0E+0

6200111, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => .

Batch Nbr: 6200111

Alpha Beta, Beta by GPC-Sr/Y , Results

8/3/2006 12:58:12 PM

Summary Report

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	**H9GDP1AF**	BETA	**3.92E+01**	**(3.56E+00)**		PCI/SA	R	2.65E+00	5.52E+00		100%	
Calc	S8	FILTER	**H9GDW1AF**	BETA	**3.97E+01**	**(3.53E+00)**		PCI/SA	R	2.57E+00	5.36E+00		100%	
Calc	S8	FILTER	**H9GD11AF**	BETA	**3.79E+01**	**(3.39E+00)**		PCI/SA	R	2.51E+00	5.24E+00		100%	
Calc	S8	FILTER	**H9GD41AF**	BETA	**4.22E+01**	**(4.39E+00)**		PCI/SA	R	2.42E+00	5.05E+00		100%	
Calc	S8	FILTER	**H9GD61AF**	BETA	**4.48E+01**	**(3.99E+00)**		PCI/SA	R	2.75E+00	5.72E+00		100%	
Calc	S8	FILTER	**H9GD81AF**	BETA	**4.73E+01**	**(4.19E+00)**		PCI/SA	R	2.67E+00	5.55E+00		100%	
Calc	S8	FILTER	**H9GEC1AF**	BETA	**6.66E-01**	**(1.35E+00)**	**U4**	PCI/SA	R	2.71E+00	5.65E+00		100%	
Calc	S8	FILTER	**H9GED1AF**	BETA	**1.68E+00**	**(1.35E+00)**	**U4**	PCI/SA	R	2.63E+00	5.50E+00		100%	
Calc	S8	FILTER	**H9GEF1AF**	BETA	**3.12E+01**	**(2.92E+00)**		PCI/SA	R	2.43E+00	5.08E+00		100%	
Calc	S8	FILTER	**H9GEK1AF**	BETA	**3.56E+01**	**(3.21E+00)**		PCI/SA	R	2.44E+00	5.11E+00		100%	
Calc	S8	FILTER	**H9GEM1AF**	BETA	**4.24E+01**	**(3.62E+00)**		PCI/SA	R	2.36E+00	4.93E+00		100%	
Calc	S8	FILTER	**H9GEQ1AF**	BETA	**4.03E+01**	**(3.56E+00)**		PCI/SA	R	2.49E+00	5.19E+00		100%	
Calc	S8	FILTER	**H9GER1AF**	BETA	**3.09E+01**	**(2.99E+00)**		PCI/SA	R	2.56E+00	5.33E+00		100%	
Calc	S8	FILTER	**H9GE01AF**	BETA	**3.42E+01**	**(3.56E+00)**		PCI/SA	R	2.42E+00	5.05E+00		100%	
Calc	S8	FILTER	**H9GE51AF**	BETA	**3.66E+01**	**(3.25E+00)**		PCI/SA	R	2.37E+00	4.96E+00		100%	
Calc	S8	FILTER	**H9HT21AA**	BETA	**1.65E-01**	**(1.08E-01)**	**U4**	PCI/SA	R	2.09E-01	4.37E-01	**B**	100%	
Calc	S8	FILTER	**H9HT21AC**	BETA	**4.72E+00**	**(3.73E-01)**		PCI/SA	R	2.13E-01	4.45E-01	**S**	100%	103%

all but H9GEC1AF
H9GED1AF

have results > MDA > CRDL.

Henderson
8-3-06

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

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

RecCnt:17
RADCALC v4.8.24
STL Richland

Batch Nbr: 6200111

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

Detailed Report

8/3/2006 12:58:13 PM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
1	Calc	S8	FILTER	*STLE	GabWoBS	**H9GDP1AF**	**PCI/SA**		07/03/06 09:40	08/03/06 07:32			1	1.00 SA	
536403,000516					,J6G180224-1 v4.8.24		FILTER			54.6	08/02/06 11:50			0.083246 SA	

Sq	Cnt Date	Parameter	Sample 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	622	570	GPC31D	1.5	N	N	4.1489E-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)		5%			(0.000E+00)	12.012593		

Sq	Calc Date	Parameter	Avg	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	**39.213127**		3.00667E+00	7.246831	7.246831	1.00 SA	100%		5.522586		
				(3.562896)		(1.7299E-01)	(0.586747)	(0.586747)	(0.028284)			2.64505		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GDW1AF**	**PCI/SA**		07/03/06 09:55	08/03/06 07:32			1	1.00 SA	
536403,000517					,J6G180224-2 v4.8.24		FILTER			05.4	08/02/06 11:50			0.083451 SA	

Sq	Cnt Date	Parameter	Sample 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	646	576	GPC32A	1.5	N	N	4.2870E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.031E-02)	(0.000E+00)		5%			(0.000E+00)	11.983144		

Sq	Calc Date	Parameter	Avg	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	**39.720725**		3.15467E+00	7.358678	7.358678	1.00 SA	100%		5.358423		
				(3.529315)		(1.7611E-01)	(0.579184)	(0.579184)	(0.028284)			2.566996		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GD11AF**	**PCI/SA**		07/03/06 10:15	08/03/06 07:32			1	1.00 SA	
536403,000518					,J6G180224-3 v4.8.24		FILTER			03.7	08/02/06 11:50			0.082971 SA	

Sq	Cnt Date	Parameter	Sample 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	629	568	GPC32B	1.5	N	N	4.3803E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.064E-02)	(0.000E+00)		5%			(0.000E+00)	12.052467		

Sq	Calc Date	Parameter	Avg	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	**37.893342**		3.05733E+00	6.979758	6.979758	1.00 SA	100%		5.23945		
				(3.394432)		(1.7386E-01)	(0.555069)	(0.555069)	(0.028284)			2.509254		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GD41AF**	**PCI/SA**		07/03/06 10:35	08/03/06 07:32			1	1.00 SA	
536403,000519					,J6G180224-4 v4.8.24		FILTER			27.3	08/02/06 11:50			0.083458 SA	

Sq	Cnt Date	Parameter	Sample 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	685	547	GPC32C	1.5	N	N	4.4379E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(2.768E-02)	(0.000E+00)		5%			(0.000E+00)	11.982052		

() - (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: 6200111

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

8/3/2006 12:58:13 PM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/03/06	BETA	R	**42.234006**		3.47267E+00	7.825003	7.825003	1.00 SA	100%		5.049368		
				(4.388525)		(1.8064E-01)	(0.746344)	(0.746344)	(0.028284)			2.416257		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GD61AF**	**PCI/SA**		07/03/06 10:50	08/03/06 07:32			1	1.00 SA	
536403,000520					,J6G180224-5 v4.8.24		FILTER			03.9	08/02/06 11:50			0.083622 SA	

Sq	Cnt Date	Parameter	Sample 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	734	664	GPC32D	1.5	N	N	4.2901E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.329E-02)	(0.000E+00)		5%			(0.000E+00)	11.958593		

Sq	Calc Date	Parameter	Avg	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	**44.767569**		3.56533E+00	8.310685	8.310685	1.00 SA	100%		5.720612		
				(3.987687)		(1.8782E-01)	(0.656198)	(0.656198)	(0.028284)			2.748512		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GD81AF**	**PCI/SA**		07/03/06 11:05	08/03/06 10:09			1	1.00 SA	
536403,000521					,J6G180224-6 v4.8.24		FILTER			14.4	08/02/06 11:50			0.083909 SA	

Sq	Cnt Date	Parameter	Sample 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 11:24	BETA	793	680	GPC26A	1.5	N	N	4.4556E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.521E-02)	(0.000E+00)		5%			(0.000E+00)	11.917607		

Sq	Calc Date	Parameter	Avg	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	**47.310457**		3.92667E+00	8.812954	8.812954	1.00 SA	100%		5.552375		
				(4.185596)		(1.9484E-01)	(0.68984)	(0.68984)	(0.028284)			2.668934		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GEC1AF**	**PCI/SA**		07/03/06 10:00	08/03/06 10:09			1	1.00 SA	
536403,000522					,J6G180224-7 v4.8.24		FILTER			37.5	08/02/06 11:50			0.084162 SA	

Sq	Cnt Date	Parameter	Sample 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 11:24	BETA	199	637	GPC26B	1.5	N	N	4.2332E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.182E-02)	(0.000E+00)		5%			(0.000E+00)	11.881883		

Sq	Calc Date	Parameter	Avg	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	**0.665882**	**U4**	5.26667E-02	0.124413	0.124413	1.00 SA	100%		5.646599		
				(1.350308)		(1.0674E-01)	(0.252238)	(0.252238)	(0.028284)			2.710698		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GED1AF**	**PCI/SA**		07/03/06 09:45	08/03/06 10:09			1	1.00 SA	
536403,000523					,J6G180224-8 v4.8.24		FILTER			11.3	08/02/06 11:50			0.082778 SA	

Sq	Cnt Date	Parameter	Sample 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: 6200111

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

8/3/2006 12:58:13 PM

1	08/03/06 11:24	BETA	186	556	GPC26C	1.5	N	N	4.1393E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00
			150	500			Y		(1.022E-02)	(0.000E+00)		5%			(0.000E+00)	12.080489	

Sq	Calc Date	Parameter	Avg	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	**1.68274**	U4	1.28000E-01	0.309233	0.309233	1.00 SA	100%		5.500916		
				(1.351555)		(1.0242E-01)	(0.248045)	(0.248045)	(0.028284)			2.633265		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GEF1AF**	**PCI/SA**		07/03/06 09:30	08/03/06 10:09			1	1.00 SA	
536403,P-0691					,J6G180224-9 v4.8.24		FILTER			02.4	08/02/06 11:50			0.083497 SA	

Sq	Cnt Date	Parameter	Sample 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 11:24	BETA	522	509	GPC26D	1.5	N	N	4.2611E-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)	11.97644		

Sq	Calc Date	Parameter	Avg	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	**31.169916**		2.46200E+00	5.777784	5.777784	1.00 SA	100%		5.078587		
				(2.921547)		(1.5886E-01)	(0.486339)	(0.486339)	(0.028284)			2.426368		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GEK1AF**	**PCI/SA**		07/03/06 09:50	08/03/06 10:09			1	1.00 SA	
536403,P-0692					,J6G180224-10 v4.8.24		FILTER			02.7	08/02/06 11:50			0.08305 SA	

Sq	Cnt Date	Parameter	Sample 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 11:24	BETA	597	546	GPC27A	1.5	N	N	4.4033E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(9.705E-03)	(0.000E+00)		5%			(0.000E+00)	12.041006		

Sq	Calc Date	Parameter	Avg	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	**35.57324**		2.88800E+00	6.558644	6.558644	1.00 SA	100%		5.109567		
				(3.207291)		(1.6946E-01)	(0.525873)	(0.525873)	(0.028284)			2.444966		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GEM1AF**	**PCI/SA**		07/03/06 10:10	08/03/06 10:09			1	1.00 SA	
536403,P-0693					,J6G180224-11 v4.8.24		FILTER			02.1	08/02/06 11:50			0.083856 SA	

Sq	Cnt Date	Parameter	Sample 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 11:24	BETA	695	541	GPC27C	1.5	N	N	4.5003E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(9.955E-03)	(0.000E+00)		5%			(0.000E+00)	11.925198		

Sq	Calc Date	Parameter	Avg	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	**42.389538**		3.55133E+00	7.891263	7.891263	1.00 SA	100%		4.929633		
				(3.624256)		(1.8180E-01)	(0.591058)	(0.591058)	(0.028284)			2.358393		

() - (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: 6200111

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

8/3/2006 12:58:13 PM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
12	Calc	S8	FILTER	*STLE	GabWoBS	**H9GEQ1AF**	**PCI/SA**		07/03/06 10:30	08/03/06 10:09			1	1.00 SA	
536403,P-0694					,J6G180224-12 v4.8.24		FILTER			02.8	08/02/06 11:50			0.081505 SA	

Sq	Cnt Date	Parameter	Sample 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 11:24	BETA	655	558	GPC27D	1.5	N	N	4.4607E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.129E-02)	(0.000E+00)		5%			(0.000E+00)	12.269205		

Sq	Calc Date	Parameter	Avg	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	**40.274636**		3.25067E+00	7.287333	7.287333	1.00 SA	100%		5.193179		
				(3.558388)		(1.7704E-01)	(0.569451)	(0.569451)	(0.028284)			2.486146		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GER1AF**	**PCI/SA**		07/03/06 10:45	08/03/06 10:09			1	1.00 SA	
536403,P-0695					,J6G180224-13 v4.8.24		FILTER			02.1	08/02/06 11:50			0.082969 SA	

Sq	Cnt Date	Parameter	Sample 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 11:24	BETA	554	595	GPC31A	1.5	N	N	4.4018E-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)	12.052754		

Sq	Calc Date	Parameter	Avg	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	**30.87632**		2.50333E+00	5.687123	5.687123	1.00 SA	100%		5.331268		
				(2.989396)		(1.6432E-01)	(0.498193)	(0.498193)	(0.028284)			2.555734		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GE01AF**	**PCI/SA**		07/03/06 11:00	08/03/06 10:09			1	1.00 SA	
536403,P-0696					,J6G180224-14 v4.8.24		FILTER			02.5	08/02/06 11:50			0.082273 SA	

Sq	Cnt Date	Parameter	Sample 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 11:24	BETA	582	541	GPC31B	1.5	N	N	4.4748E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(2.471E-02)	(0.000E+00)		5%			(0.000E+00)	12.154652		

Sq	Calc Date	Parameter	Avg	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	**34.234516**		2.79800E+00	6.252807	6.252807	1.00 SA	100%		5.053169		
				(3.562462)		(1.6742E-01)	(0.597416)	(0.597416)	(0.028284)			2.417494		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GE51AF**	**PCI/SA**		07/03/06 09:35	08/03/06 10:09			1	1.00 SA	
536403,P-0697					,J6G180224-15 v4.8.24		FILTER			02.6	08/02/06 11:50			0.084627 SA	

Sq	Cnt Date	Parameter	Sample 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 11:24	BETA	618	540	GPC31C	1.5	N	N	4.4263E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(9.844E-03)	(0.000E+00)		5%			(0.000E+00)	11.816606		

() - (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: 6200111

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

8/3/2006 12:58:13 PM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/03/06	BETA	R	**36.557218**		3.04000E+00	6.868055	6.868055	1.00 SA	100%		4.962068		
				(3.249361)		(1.7212E-01)	(0.540809)	(0.540809)	(0.028284)			2.373814		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9HT21AA**	**PCI/SA**	**B**	07/03/06 09:40	08/03/06 10:09			1	1.00 SA	
0,INTRA-LAB BLANK					,J6G190000-111		FILTER			00.0	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 11:24	BETA	195	570	GPC31D	1.5	N	N	4.3690E-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)		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	**0.164962**	**U4**	1.60000E-01	0.366217	0.366217	1.00 SA	100%		0.436577		
				(0.10843)		(1.0463E-01)	(0.240381)	(0.240381)	(0.017321)			0.209099		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9HT21AC**	**PCI/SA**	**S**	07/03/06 09:40	08/03/06 10:09		BESB2839	1	1.00 SA	
0,INTRA-LAB CHECK					,J6G190000-111		FILTER			00.4	08/02/06 11:50	BESB2839 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 11:24	BETA	849	576	GPC32A	1.5	N	N	4.3055E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.035E-02)	(0.000E+00)		5%			(0.000E+00)	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	**4.716353**		4.50800E+00	10.470314	10.470314	1.00 SA	100%	103%	0.445242		
				(0.372817)		(2.0009E-01)	(0.743948)	(0.743948)	(0.017321)			0.213297		

() - (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
03-AUG-2006 08:47:14.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9GDP1AF	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	622	150.00	570	500.00	31D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
12	23	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 08:47:27.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9GDW1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
03-AUG-2006 08:47:27.00	646	150.00	576	500.00	32A

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
18	13	4649	1492

Bkg Count Date/Time
03-AUG-2006 05:18:45.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
03-AUG-2006 08:47:27.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9GD11AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
03-AUG-2006 08:47:27.00	629	150.00	568	500.00	32B

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
2	19	4649	1492

Bkg Count Date/Time
03-AUG-2006 05:18:45.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
03-AUG-2006 08:47:27.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9GD41AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
03-AUG-2006 08:47:27.00	685	150.00	547	500.00	32C

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
5	19	4649	1492

Bkg Count Date/Time
03-AUG-2006 05:18:45.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
03-AUG-2006 08:47:27.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9GD61AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
03-AUG-2006 08:47:27.00	734	150.00	664	500.00	32D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
10	20	4649	1492

Bkg Count Date/Time
03-AUG-2006 05:18:45.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
03-AUG-2006 11:24:07.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9GD81AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
03-AUG-2006 11:24:07.00	793	150.00	680	500.00	26A

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
26	27	4866	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 11:24:07.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9GEC1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
03-AUG-2006 11:24:07.00	199	150.00	637	500.00	26B

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
8	35	4866	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 11:24:07.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9GED1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
03-AUG-2006 11:24:07.00	186	150.00	556	500.00	26C

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
5	14	4866	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 11:24:07.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9GEF1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
03-AUG-2006 11:24:07.00	522	150.00	509	500.00	26D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
13	19	4866	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 11:24:09.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9GEK1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
03-AUG-2006 11:24:09.00	597	150.00	546	500.00	27A

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
5	25	4856	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 11:24:09.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9GEM1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
03-AUG-2006 11:24:09.00	695	150.00	541	500.00	27C

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
6	17	4856	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 11:24:09.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9GEQ1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
03-AUG-2006 11:24:09.00	655	150.00	558	500.00	27D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
3	25	4856	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 11:24:02.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9GER1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
03-AUG-2006 11:24:02.00	554	150.00	595	500.00	31A

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
3	14	4909	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 11:24:02.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9GE01AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
03-AUG-2006 11:24:02.00	582	150.00	541	500.00	31B

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
4	19	4909	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 11:24:02.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9GE51AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
03-AUG-2006 11:24:02.00	618	150.00	540	500.00	31C

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
2	17	4909	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 11:24:02.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9HT21AA	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
03-AUG-2006 11:24:02.00	195	150.00	570	500.00	31D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
7	23	4909	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 11:24:16.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H9HT21AC	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
03-AUG-2006 11:24:16.00	849	150.00	576	500.00	32A

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
2	13	4634	1492

Bkg Count Date/Time
03-AUG-2006 05:18:45.00

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

8/11/2006 9:33:38 AM

Lot No., Due Date: J6G180224; 08/15/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6200116; RRA228 Ra-228 by GPC

SDG, Matrix: 32140; FILTER

1.0 COC

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

2.0 QC Batch

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet? Yes ✓ No N/A

2.2 Are the QC appropriate for the analysis included in the batch? Yes ✓ No N/A

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc? Yes ✓ No N/A

2.4 Does the Worksheets include a Tracer Vial label for each sample? Yes ✓ No N/A

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits? Yes ✓ No N/A

3.2 Is the LCS result, yield, and MDA within contract limits? Yes ✓ No N/A

3.3 Are the MS/MSD results, yields, and MDA within contract limits? Yes No N/A ✓

3.4 Are the duplicate result, yields, and MDAs within contract limits? Yes No N/A ✓

3.5 Are the sample yields and MDAs within contract limits? Yes ✓ No N/A

4.0 Raw Data

4.1 Were results calculated in the correct units? Yes ✓ No N/A

4.2 Were analysis volumes entered correctly? Yes ✓ No N/A

4.3 Were Yields entered correctly? Yes ✓ No N/A

4.4 Were spectra reviewed/meet contractual requirements? Yes ✓ No N/A

4.5 Were raw counts reviewed for anomalies? Yes ✓ No N/A

5.0 Other

5.1 Are all nonconformances included and noted? Yes No N/A ✓

5.2 Are all required forms filled out? Yes ✓ No N/A

5.3 Was the correct methodology used? Yes ✓ No N/A

5.4 Was transcription checked? Yes ✓ No N/A

5.5 Were all calculations checked at a minimum frequency? Yes ✓ No N/A

5.6 Are worksheet entries complete and correct? Yes ✓ No N/A

6.0 Comments on any No response:

First Level Review [signature] **Date** 8/11/06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6200116

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: Kerryl A Adam Date: 8-15-06

8/11/2006 9:32:10 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 / mga	Units	Expected	Yield	Volumes
32140	**9H9GD110**		**J6G1802243**	000518	FILTER	7/18/2006 10:00:00	7/3/2006 10:15:00 AM				
ALPHA	BAS7	0	8/5/2006 1:41:57 PM	**2.3576E+00**	1.386E+00	1.407E+00	5.169E+00	PCI/SA	1.0	1.0E+0	2.079E-2
BETA	BDS8	0	8/3/2006 7:32:27 AM	**3.7893E+01**	2.155E+00	3.394E+00	5.239E+00	PCI/SA	1.0	1.0E+0	8.297E-2
RA-228	BXTF	0	8/11/2006 6:08:21 AM	**2.1832E-01**	3.412E-01	5.186E-01	2.43E+00	PCI/SA	0.803	1.0E+0	2.502E-1
TH-228	9NS1	0	7/28/2006 8:02:46 PM	**6.7221E-02**	6.722E-02	6.749E-02	2.688E-01	PCI/SA	0.988	1.0E+0	8.282E-2
TH-230	9NS1	0	7/28/2006 8:02:46 PM	**2.6062E-01**	1.064E-01	1.09E-01	1.177E-01	PCI/SA	0.988	1.0E+0	8.282E-2
TH-232	9NS1	0	7/28/2006 8:02:46 PM	**4.3436E-02**	4.344E-02	4.361E-02	1.177E-01	PCI/SA	0.988	1.0E+0	8.282E-2
U-234	7YSR	0	7/30/2006 10:18:27	**1.6161E-01**	1.83E-01	1.835E-01	8.299E-01	PCI/SA	0.953	1.0E+0	6.211E-2
U-235	7YSR	0	7/30/2006 10:18:27	**-6.0657E-02**	3.502E-02	3.536E-02	6.379E-01	PCI/SA	0.953	1.0E+0	6.211E-2
U-238	7YSR	0	7/30/2006 10:18:27	**-1.2131E-01**	4.953E-02	5.048E-02	7.887E-01	PCI/SA	0.953	1.0E+0	6.211E-2
32140	**9H9GD410**		**J6G1802244**	000519	FILTER	7/18/2006 10:00:00	7/3/2006 10:35:00 AM				
ALPHA	BAS7	0	8/5/2006 1:41:57 PM	**5.8949E+00**	1.795E+00	1.894E+00	5.329E+00	PCI/SA	1.0	1.0E+0	2.098E-2
BETA	BDS8	0	8/3/2006 7:32:27 AM	**4.2234E+01**	2.197E+00	4.389E+00	5.049E+00	PCI/SA	1.0	1.0E+0	8.346E-2
RA-228	BXTF	0	8/11/2006 6:08:32 AM	**1.4395E+00**	5.054E-01	5.378E-01	2.249E+00	PCI/SA	0.826	1.0E+0	2.503E-1
TH-228	9NS1	0	7/28/2006 8:02:46 PM	**1.7886E-01**	8.943E-02	9.088E-02	1.212E-01	PCI/SA	1.016	1.0E+0	8.386E-2
TH-230	9NS1	0	7/28/2006 8:02:46 PM	**2.6005E-01**	1.062E-01	1.087E-01	1.175E-01	PCI/SA	1.016	1.0E+0	8.386E-2
TH-232	9NS1	0	7/28/2006 8:02:46 PM	**4.3341E-02**	4.334E-02	4.352E-02	1.175E-01	PCI/SA	1.016	1.0E+0	8.386E-2
U-234	7YSR	0	7/30/2006 10:18:44	**1.8213E-01**	1.822E-01	1.828E-01	7.898E-01	PCI/SA	0.939	1.0E+0	6.245E-2
U-235	7YSR	0	7/30/2006 10:18:44	**0.0E+00**	0.0E+00	1.239E-01	2.742E-01	PCI/SA	0.939	1.0E+0	6.245E-2
U-238	7YSR	0	7/30/2006 10:18:44	**1.8213E-01**	1.822E-01	1.828E-01	7.898E-01	PCI/SA	0.939	1.0E+0	6.245E-2
32140	**9H9GD610**		**J6G1802245**	000520	FILTER	7/18/2006 10:00:00	7/3/2006 10:50:00 AM				
ALPHA	BAS7	0	8/5/2006 1:41:57 PM	**1.1322E+00**	9.913E-01	9.981E-01	4.062E+00	PCI/SA	1.0	1.0E+0	2.076E-2
BETA	BDS8	0	8/3/2006 7:32:27 AM	**4.4768E+01**	2.358E+00	3.988E+00	5.721E+00	PCI/SA	1.0	1.0E+0	8.362E-2
RA-228	BXTF	0	8/11/2006 6:08:32 AM	**1.3485E+00**	4.763E-01	5.035E-01	2.098E+00	PCI/SA	0.853	1.0E+0	2.498E-1
TH-228	9NS1	0	7/28/2006 8:02:46 PM	**1.3357E-01**	7.867E-02	7.954E-02	2.289E-01	PCI/SA	1.103	1.0E+0	8.304E-2
TH-230	9NS1	0	7/28/2006 8:02:46 PM	**2.9592E-01**	1.046E-01	1.078E-01	1.002E-01	PCI/SA	1.103	1.0E+0	8.304E-2
TH-232	9NS1	0	7/28/2006 8:02:46 PM	**-1.8495E-02**	1.849E-02	1.857E-02	2.219E-01	PCI/SA	1.103	1.0E+0	8.304E-2
U-234	7YSR	0	7/30/2006 10:19:01	**3.6866E-02**	9.755E-02	9.759E-02	5.818E-01	PCI/SA	1.025	1.0E+0	6.232E-2
U-235	7YSR	0	7/30/2006 10:19:01	**5.5302E-02**	9.579E-02	9.589E-02	5.209E-01	PCI/SA	1.025	1.0E+0	6.232E-2
U-238	7YSR	0	7/30/2006 10:19:01	**1.8431E-02**	9.927E-02	9.928E-02	6.332E-01	PCI/SA	1.025	1.0E+0	6.232E-2
32140	**9H9GD810**		**J6G1802246**	000521	FILTER	7/18/2006 10:00:00	7/3/2006 11:05:00 AM				
ALPHA	BAS7	0	8/6/2006 9:29:45 AM	**2.0078E+00**	1.426E+00	1.441E+00	5.638E+00	PCI/SA	1.0	1.0E+0	2.105E-2
BETA	BDS8	0	8/3/2006 10:09:07 AM	**4.731E+01**	2.348E+00	4.186E+00	5.552E+00	PCI/SA	1.0	1.0E+0	8.391E-2
RA-228	BXTF	0	8/11/2006 6:08:32 AM	**1.8771E+00**	4.05E-01	4.353E-01	1.51E+00	PCI/SA	0.893	1.0E+0	2.503E-1
TH-228	9NS1	0	7/28/2006 8:02:46 PM	**5.9232E-02**	7.647E-02	7.665E-02	3.319E-01	PCI/SA	0.968	1.0E+0	8.349E-2
TH-230	9NS1	0	7/28/2006 8:02:46 PM	**2.8706E-01**	1.099E-01	1.129E-01	2.296E-01	PCI/SA	0.968	1.0E+0	8.349E-2
TH-232	9NS1	0	7/28/2006 8:02:46 PM	**7.6551E-02**	7.161E-02	7.193E-02	2.817E-01	PCI/SA	0.968	1.0E+0	8.349E-2
U-234	7YSR	0	7/30/2006 10:19:17	**2.0406E-01**	1.443E-01	1.452E-01	2.765E-01	PCI/SA	0.939	1.0E+0	6.253E-2
U-235	7YSR	0	7/30/2006 10:19:17	**-2.0408E-02**	2.041E-02	2.047E-02	4.887E-01	PCI/SA	0.939	1.0E+0	6.253E-2
U-238	7YSR	0	7/30/2006 10:19:17	**-4.0816E-02**	2.886E-02	2.905E-02	5.766E-01	PCI/SA	0.939	1.0E+0	6.253E-2
32140	**9H9GDP10**		**J6G1802241**	000516	FILTER	7/18/2006 10:00:00	7/3/2006 9:40:00 AM				
ALPHA	BAS7	0	8/5/2006 1:41:57 PM	**5.0586E+00**	1.807E+00	1.882E+00	5.787E+00	PCI/SA	1.0	1.0E+0	2.086E-2
BETA	BDS8	0	8/3/2006 7:32:14 AM	**3.9213E+01**	2.256E+00	3.563E+00	5.523E+00	PCI/SA	1.0	1.0E+0	8.325E-2
RA-228	BXTF	0	8/11/2006 6:08:21 AM	**7.2917E-01**	5.174E-01	5.598E-01	2.521E+00	PCI/SA	0.869	1.0E+0	2.477E-1
TH-228	9NS1	0	7/28/2006 8:02:46 PM	**1.9522E-06**	8.274E-02	8.274E-02	4.198E-01	PCI/SA	1.0	1.0E+0	8.202E-2
TH-230	9NS1	0	7/28/2006 8:02:46 PM	**1.7012E-01**	8.662E-02	8.793E-02	2.267E-01	PCI/SA	1.0	1.0E+0	8.202E-2
TH-232	9NS1	0	7/28/2006 8:02:46 PM	**1.5122E-01**	7.561E-02	7.679E-02	1.024E-01	PCI/SA	1.0	1.0E+0	8.202E-2
U-234	7YSR	0	7/30/2006 10:17:46	**8.3983E-02**	1.455E-01	1.457E-01	7.913E-01	PCI/SA	0.713	1.0E+0	6.169E-2
U-235	7YSR	0	7/30/2006 10:17:46	**-5.6025E-02**	3.962E-02	3.989E-02	7.913E-01	PCI/SA	0.713	1.0E+0	6.169E-2
U-238	7YSR	0	7/30/2006 10:17:46	**1.6797E-01**	2.058E-01	2.063E-01	9.618E-01	PCI/SA	0.713	1.0E+0	6.169E-2
32140	**9H9GDW10**		**J6G1802242**	000517	FILTER	7/18/2006 10:00:00	7/3/2006 9:55:00 AM				
ALPHA	BAS7	0	8/5/2006 1:41:57 PM	**7.2484E-01**	1.135E+00	1.137E+00	5.11E+00	PCI/SA	1.0	1.0E+0	2.078E-2

6200116, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H9HVE1AA=> , mat:FILTER | Air *wo:H9HVE1AC=> , mat:FILTER | Air.

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Sample Date / Mda	Units	Expected	Yield	Volumes	
BETA	BDS8		0	8/3/2006 7:32:27 AM	**3.9721E+01**	2.217E+00	3.529E+00	5.358E+00	PCI/SA		1.0	1.0E+0	8.345E-2
RA-228	BXTF		0	8/11/2006 6:08:21 AM	**6.4114E-01**	4.707E-01	4.707E-01	2.106E+00	PCI/SA		0.966	1.0E+0	2.494E-1
TH-228	9NS1		0	7/28/2006 8:02:46 PM	**1.5259E-01**	1.112E-01	1.12E-01	4.106E-01	PCI/SA		0.977	1.0E+0	8.337E-2
TH-230	9NS1		0	7/28/2006 8:02:46 PM	**4.252E-01**	1.294E-01	1.348E-01	2.218E-01	PCI/SA		0.977	1.0E+0	8.337E-2
TH-232	9NS1		0	7/28/2006 8:02:46 PM	**3.6975E-02**	5.846E-02	5.855E-02	2.721E-01	PCI/SA		0.977	1.0E+0	8.337E-2
U-234	7YSR		0	7/30/2006 10:18:08	**2.2371E-01**	1.292E-01	1.304E-01	2.021E-01	PCI/SA		1.021	1.0E+0	8.34E-2
U-235	7YSR		0	7/30/2006 10:18:08	**2.9823E-02**	7.892E-02	7.895E-02	4.707E-01	PCI/SA		1.021	1.0E+0	8.34E-2
U-238	7YSR		0	7/30/2006 10:18:08	**1.0439E-01**	1.086E-01	1.089E-01	4.707E-01	PCI/SA		1.021	1.0E+0	8.34E-2
32140	**9H9GE010**			**J6G18022414**	P-0696	FILTER	7/18/2006 10:00:00	7/3/2006 11:00:00 AM					
ALPHA	BAS7		0	8/6/2006 12:14:10 PM	**3.4516E+00**	1.417E+00	1.461E+00	4.606E+00	PCI/SA		1.0	1.0E+0	2.1E-2
BETA	BDS8		0	8/3/2006 10:09:02 AM	**3.4235E+01**	2.048E+00	3.562E+00	5.053E+00	PCI/SA		1.0	1.0E+0	8.227E-2
RA-228	BXTF		0	8/11/2006 6:09:38 AM	**2.0846E+00**	4.654E-01	5.122E-01	1.944E+00	PCI/SA		0.869	1.0E+0	2.486E-1
TH-228	9NS1		0	7/29/2006 1:47:52 PM	**1.1019E-01**	7.946E-02	8.006E-02	2.644E-01	PCI/SA		1.083	1.0E+0	8.326E-2
TH-230	9NS1		0	7/29/2006 1:47:52 PM	**6.4035E-01**	1.653E-01	1.75E-01	1.157E-01	PCI/SA		1.083	1.0E+0	8.326E-2
TH-232	9NS1		0	7/29/2006 1:47:52 PM	**0.0E+00**	0.0E+00	5.228E-02	1.157E-01	PCI/SA		1.083	1.0E+0	8.326E-2
U-234	7YSR		0	7/30/2006 10:22:03	**-3.623E-02**	1.479E-02	1.508E-02	4.475E-01	PCI/SA		0.972	1.0E+0	8.401E-2
U-235	7YSR		0	7/30/2006 10:22:03	**5.7318E-02**	7.615E-02	7.629E-02	3.763E-01	PCI/SA		0.972	1.0E+0	8.401E-2
U-238	7YSR		0	7/30/2006 10:22:03	**4.5242E-02**	7.663E-02	7.672E-02	4.263E-01	PCI/SA		0.972	1.0E+0	8.401E-2
32140	**9H9GE510**			**J6G18022415**	P-0697	FILTER	7/18/2006 10:00:00	7/3/2006 9:35:00 AM					
ALPHA	BAS7		0	8/6/2006 12:14:10 PM	**1.8229E+00**	1.028E+00	1.045E+00	3.515E+00	PCI/SA		1.0	1.0E+0	2.105E-2
BETA	BDS8		0	8/3/2006 10:09:02 AM	**3.6557E+01**	2.07E+00	3.249E+00	4.962E+00	PCI/SA		1.0	1.0E+0	8.463E-2
RA-228	BXTF		0	8/11/2006 6:09:38 AM	**1.4131E+00**	4.871E-01	5.343E-01	2.223E+00	PCI/SA		0.787	1.0E+0	2.504E-1
TH-228	9NS1		0	7/29/2006 1:47:52 PM	**1.8191E-01**	9.095E-02	9.242E-02	1.232E-01	PCI/SA		1.042	1.0E+0	8.252E-2
TH-230	9NS1		0	7/29/2006 1:47:52 PM	**1.3214E-01**	7.629E-02	7.721E-02	1.194E-01	PCI/SA		1.042	1.0E+0	8.252E-2
TH-232	9NS1		0	7/29/2006 1:47:52 PM	**4.4045E-02**	4.405E-02	4.422E-02	1.194E-01	PCI/SA		1.042	1.0E+0	8.252E-2
U-234	7YSR		0	7/30/2006 10:22:25	**2.0441E-01**	1.576E-01	1.585E-01	5.077E-01	PCI/SA		0.941	1.0E+0	6.193E-2
U-235	7YSR		0	7/30/2006 10:22:25	**9.3313E-02**	1.118E-01	1.121E-01	5.077E-01	PCI/SA		0.941	1.0E+0	6.193E-2
U-238	7YSR		0	7/30/2006 10:22:25	**9.3313E-02**	1.118E-01	1.121E-01	5.077E-01	PCI/SA		0.941	1.0E+0	6.193E-2
32140	**9H9GEC10**			**J6G1802247**	000522	FILTER	7/18/2006 10:00:00	7/3/2006 10:00:00 AM					
ALPHA	BAS7		0	8/6/2006 9:29:45 AM	**4.3461E-01**	9.879E-01	9.889E-01	4.671E+00	PCI/SA		1.0	1.0E+0	2.096E-2
BETA	BDS8		0	8/3/2006 10:09:07 AM	**6.6588E-01**	1.349E+00	1.35E+00	5.647E+00	PCI/SA		1.0	1.0E+0	8.416E-2
RA-228	BXTF		0	8/11/2006 6:08:42 AM	**1.6203E+00**	3.819E-01	4.214E-01	1.53E+00	PCI/SA		0.905	1.0E+0	2.499E-1
TH-228	9NS1		0	7/28/2006 8:02:46 PM	**-7.0015E-02**	7.002E-02	7.045E-02	8.399E-01	PCI/SA		0.303	1.0E+0	8.401E-2
TH-230	9NS1		0	7/28/2006 8:02:46 PM	**1.6287E+00**	4.702E-01	5.04E-01	3.678E-01	PCI/SA		0.303	1.0E+0	8.401E-2
TH-232	9NS1		0	7/28/2006 8:02:46 PM	**1.3573E-01**	1.357E-01	1.366E-01	3.678E-01	PCI/SA		0.303	1.0E+0	8.401E-2
U-234	7YSR		0	7/30/2006 10:19:35	**-2.7717E-02**	2.772E-02	2.781E-02	6.638E-01	PCI/SA		0.714	1.0E+0	6.267E-2
U-235	7YSR		0	7/30/2006 10:19:35	**1.3859E-01**	1.386E-01	1.391E-01	3.756E-01	PCI/SA		0.714	1.0E+0	6.267E-2
U-238	7YSR		0	7/30/2006 10:19:35	**-2.7717E-02**	2.772E-02	2.781E-02	6.638E-01	PCI/SA		0.714	1.0E+0	6.267E-2
32140	**9H9GED10**			**J6G1802248**	000523	FILTER	7/18/2006 10:00:00	7/3/2006 9:45:00 AM					
ALPHA	BAS7		0	8/6/2006 9:29:45 AM	**7.1155E-01**	1.094E+00	1.096E+00	4.948E+00	PCI/SA		1.0	1.0E+0	2.078E-2
BETA	BDS8		0	8/3/2006 10:09:07 AM	**1.6827E+00**	1.347E+00	1.352E+00	5.501E+00	PCI/SA		1.0	1.0E+0	8.278E-2
RA-228	BXTF		0	8/11/2006 6:08:42 AM	**1.1308E+00**	3.977E-01	4.205E-01	1.731E+00	PCI/SA		0.85	1.0E+0	2.505E-1
TH-228	9NS1		0	7/28/2006 8:02:46 PM	**7.0729E-02**	7.073E-02	7.102E-02	2.828E-01	PCI/SA		0.754	1.0E+0	8.347E-2
TH-230	9NS1		0	7/28/2006 8:02:46 PM	**2.2852E-02**	5.11E-02	5.114E-02	2.741E-01	PCI/SA		0.754	1.0E+0	8.347E-2
TH-232	9NS1		0	7/28/2006 8:02:46 PM	**-4.5702E-02**	3.232E-02	3.258E-02	3.364E-01	PCI/SA		0.754	1.0E+0	8.347E-2
U-234	7YSR		0	7/30/2006 10:19:56	**1.0473E-01**	1.047E-01	1.051E-01	2.838E-01	PCI/SA		0.891	1.0E+0	6.177E-2
U-235	7YSR		0	7/30/2006 10:19:56	**-2.0954E-02**	2.095E-02	2.102E-02	5.017E-01	PCI/SA		0.891	1.0E+0	6.177E-2
U-238	7YSR		0	7/30/2006 10:19:56	**1.0473E-01**	1.047E-01	1.051E-01	2.838E-01	PCI/SA		0.891	1.0E+0	6.177E-2
32140	**9H9GEF10**			**J6G1802249**	P-0691	FILTER	7/18/2006 10:00:00	7/3/2006 9:30:00 AM					
ALPHA	BAS7		0	8/6/2006 9:29:45 AM	**2.0807E+00**	1.248E+00	1.266E+00	4.659E+00	PCI/SA		1.0	1.0E+0	2.077E-2
BETA	BDS8		0	8/3/2006 10:09:07 AM	**3.117E+01**	2.011E+00	2.922E+00	5.079E+00	PCI/SA		1.0	1.0E+0	8.35E-2
RA-228	BXTF		0	8/11/2006 6:08:42 AM	**1.1899E+00**	3.387E-01	3.61E-01	1.38E+00	PCI/SA		0.877	1.0E+0	2.582E-1
TH-228	9NS1		0	7/28/2006 8:03:19 PM	**1.2894E-01**	7.444E-02	7.534E-02	1.165E-01	PCI/SA		0.786	1.0E+0	8.368E-2
TH-230	9NS1		0	7/28/2006 8:03:19 PM	**2.916E-01**	1.102E-01	1.133E-01	1.129E-01	PCI/SA		0.786	1.0E+0	8.368E-2

6200116, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H9HVE1AA=> , mat:FILTER | Air *wo:H9HVE1AC=> , mat:FILTER | Air.

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Cnt Uncert	Tot uncert	mga	Matrix / Units	Received Date / Expected	Sample Date / Yield	Volumes	
TH-232	9NS1	0		7/28/2006 8:03:19 PM	**-2.083E-02**	2.083E-02	2.091E-02	2.499E-01	PCI/SA		0.786	1.0E+0	8.368E-2
U-234	7YSR	0		7/30/2006 10:20:15	**-3.9615E-02**	2.801E-02	2.819E-02	5.594E-01	PCI/SA		0.995	1.0E+0	6.233E-2
U-235	7YSR	0		7/30/2006 10:20:15	**9.8984E-02**	9.898E-02	9.93E-02	2.682E-01	PCI/SA		0.995	1.0E+0	6.233E-2
U-238	7YSR	0		7/30/2006 10:20:15	**-3.9615E-02**	2.801E-02	2.819E-02	5.594E-01	PCI/SA		0.995	1.0E+0	6.233E-2
32140	**9H9GEK10**			**J6G18022410**	P-0692		FILTER		7/18/2006 10:00:00	7/3/2006 9:50:00 AM			
ALPHA	BAS7	0		8/6/2006 9:29:45 AM	**-3.7913E-02**	6.148E-01	6.149E-01	3.582E+00	PCI/SA		1.0	1.0E+0	2.073E-2
BETA	BDS8	0		8/3/2006 10:09:09 AM	**3.5573E+01**	2.087E+00	3.207E+00	5.11E+00	PCI/SA		1.0	1.0E+0	8.305E-2
RA-228	BXTF	0		8/11/2006 6:08:42 AM	**1.259E+00**	4.516E-01	4.62E-01	1.897E+00	PCI/SA		0.814	1.0E+0	2.514E-1
TH-228	9NS1	0		7/28/2006 8:03:37 PM	**1.5418E-01**	1.09E-01	1.099E-01	3.782E-01	PCI/SA		0.856	1.0E+0	8.399E-2
TH-230	9NS1	0		7/28/2006 8:03:37 PM	**1.2453E-01**	8.979E-02	9.053E-02	2.987E-01	PCI/SA		0.856	1.0E+0	8.399E-2
TH-232	9NS1	0		7/28/2006 8:03:37 PM	**2.4912E-02**	5.569E-02	5.573E-02	2.987E-01	PCI/SA		0.856	1.0E+0	8.399E-2
U-234	7YSR	0		7/30/2006 10:20:31	**1.7627E-01**	1.399E-01	1.406E-01	4.691E-01	PCI/SA		1.048	1.0E+0	6.227E-2
U-235	7YSR	0		7/30/2006 10:20:31	**0.0E+00**	0.0E+00	1.199E-01	2.654E-01	PCI/SA		1.048	1.0E+0	6.227E-2
U-238	7YSR	0		7/30/2006 10:20:31	**-1.9591E-02**	1.959E-02	1.965E-02	4.691E-01	PCI/SA		1.048	1.0E+0	6.227E-2
32140	**9H9GEM10**			**J6G18022411**	P-0693		FILTER		7/18/2006 10:00:00	7/3/2006 10:10:00 AM			
ALPHA	BAS7	0		8/6/2006 12:14:10 PM	**7.4254E+00**	1.992E+00	2.138E+00	5.594E+00	PCI/SA		1.0	1.0E+0	2.121E-2
BETA	BDS8	0		8/3/2006 10:09:09 AM	**4.239E+01**	2.17E+00	3.624E+00	4.93E+00	PCI/SA		1.0	1.0E+0	8.386E-2
RA-228	BXTF	0		8/11/2006 6:08:55 AM	**1.4869E+00**	4.654E-01	4.975E-01	1.992E+00	PCI/SA		0.769	1.0E+0	2.496E-1
TH-228	9NS1	0		7/28/2006 8:03:50 PM	**8.9856E-06**	9.339E-02	9.339E-02	5.007E-01	PCI/SA		0.848	1.0E+0	8.442E-2
TH-230	9NS1	0		7/28/2006 8:03:50 PM	**1.5679E-01**	9.052E-02	9.169E-02	1.416E-01	PCI/SA		0.848	1.0E+0	8.442E-2
TH-232	9NS1	0		7/28/2006 8:03:50 PM	**0.0E+00**	0.0E+00	6.401E-02	1.416E-01	PCI/SA		0.848	1.0E+0	8.442E-2
U-234	7YSR	0		7/30/2006 10:20:48	**9.8511E-02**	9.851E-02	9.883E-02	2.67E-01	PCI/SA		0.894	1.0E+0	6.241E-2
U-235	7YSR	0		7/30/2006 10:20:48	**7.8805E-02**	1.005E-01	1.007E-01	4.718E-01	PCI/SA		0.894	1.0E+0	6.241E-2
U-238	7YSR	0		7/30/2006 10:20:48	**7.8805E-02**	1.005E-01	1.007E-01	4.718E-01	PCI/SA		0.894	1.0E+0	6.241E-2
32140	**9H9GEQ10**			**J6G18022412**	P-0694		FILTER		7/18/2006 10:00:00	7/3/2006 10:30:00 AM			
ALPHA	BAS7	0		8/6/2006 12:14:10 PM	**2.6056E+00**	1.327E+00	1.354E+00	4.667E+00	PCI/SA		1.0	1.0E+0	2.083E-2
BETA	BDS8	0		8/3/2006 10:09:09 AM	**4.0275E+01**	2.193E+00	3.558E+00	5.193E+00	PCI/SA		1.0	1.0E+0	8.15E-2
RA-228	BXTF	0		8/11/2006 6:08:55 AM	**8.6682E-01**	3.829E-01	3.894E-01	1.643E+00	PCI/SA		0.891	1.0E+0	2.5E-1
TH-228	9NS1	0		7/29/2006 1:47:52 PM	**-7.7975E-02**	6.165E-02	6.203E-02	4.197E-01	PCI/SA		1.015	1.0E+0	8.211E-2
TH-230	9NS1	0		7/29/2006 1:47:52 PM	**2.4546E-01**	1.017E-01	1.04E-01	2.265E-01	PCI/SA		1.015	1.0E+0	8.211E-2
TH-232	9NS1	0		7/29/2006 1:47:52 PM	**0.0E+00**	0.0E+00	4.625E-02	1.023E-01	PCI/SA		1.015	1.0E+0	8.211E-2
U-234	7YSR	0		7/30/2006 10:21:07	**0.0E+00**	0.0E+00	1.527E-01	3.378E-01	PCI/SA		0.806	1.0E+0	6.106E-2
U-235	7YSR	0		7/30/2006 10:21:07	**0.0E+00**	0.0E+00	1.527E-01	3.378E-01	PCI/SA		0.806	1.0E+0	6.106E-2
U-238	7YSR	0		7/30/2006 10:21:07	**9.9719E-02**	1.271E-01	1.274E-01	5.97E-01	PCI/SA		0.806	1.0E+0	6.106E-2
32140	**9H9GER10**			**J6G18022413**	P-0695		FILTER		7/18/2006 10:00:00	7/3/2006 10:45:00 AM			
ALPHA	BAS7	0		8/6/2006 12:14:10 PM	**1.4471E+00**	1.204E+00	1.213E+00	4.902E+00	PCI/SA		1.0	1.0E+0	2.101E-2
BETA	BDS8	0		8/3/2006 10:09:02 AM	**3.0876E+01**	2.027E+00	2.989E+00	5.331E+00	PCI/SA		1.0	1.0E+0	8.297E-2
RA-228	BXTF	0		8/11/2006 6:08:55 AM	**3.8263E+00**	5.721E-01	6.354E-01	1.882E+00	PCI/SA		0.779	1.0E+0	2.526E-1
TH-228	9NS1	0		7/29/2006 1:47:52 PM	**3.7118E-02**	8.705E-02	8.711E-02	3.995E-01	PCI/SA		1.024	1.0E+0	8.376E-2
TH-230	9NS1	0		7/29/2006 1:47:52 PM	**5.2128E-01**	1.404E-01	1.478E-01	2.156E-01	PCI/SA		1.024	1.0E+0	8.376E-2
TH-232	9NS1	0		7/29/2006 1:47:52 PM	**-3.5949E-02**	2.542E-02	2.562E-02	2.646E-01	PCI/SA		1.024	1.0E+0	8.376E-2
U-234	7YSR	0		7/30/2006 10:21:42	**-1.5489E-02**	1.095E-02	1.102E-02	4.424E-01	PCI/SA		0.997	1.0E+0	6.235E-2
U-235	7YSR	0		7/30/2006 10:21:42	**7.3569E-02**	9.773E-02	9.791E-02	4.829E-01	PCI/SA		0.997	1.0E+0	6.235E-2
U-238	7YSR	0		7/30/2006 10:21:42	**5.0335E-02**	9.864E-02	9.873E-02	5.742E-01	PCI/SA		0.997	1.0E+0	6.235E-2
32140	**H9HVE1AB**			**J6G190000116**	INTRA-LAB BLANK		FILTER		7/18/2006 10:00:00	7/3/2006 9:40:00 AM			
RA-228	BXTF	0	B	8/11/2006 6:09:38 AM	**3.4362E-01**	1.086E-01	1.129E-01	4.617E-01	PCI/SA		0.9	1.0E+0	1.0E+0
32140	**H9HVE1CS**			**J6G190000116**	INTRA-LAB CHECK		FILTER		7/18/2006 10:00:00	7/3/2006 9:40:00 AM			
RA-228	BXTF	0	S	8/11/2006 6:09:38 AM	**4.7491E+00**	2.616E-01	3.777E-01	5.674E-01	PCI/SA	5.0508E+00	0.771	1.0E+0	1.0E+0

6200116, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H9HVE1AA=> , mat:FILTER | Air *wo:H9HVE1AC=> , mat:FILTER | Air.

8/11/2006 9:32:13 AM

ICOC Fraction Transfer/Status Report

ByDate: 8/11/2005, 8/16/2006, Batch: '6200116', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6200116						
AC		**CalcC**	**HansenM**	7/20/2006 1:19:59 PM		
SC			wagarr	IsBatched	7/19/2006 8:00:26 AM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	7/20/2006 1:19:59 PM	RICH-RC-5016 REVISION 5
SC			LongA	InPrep	7/27/2006 1:43:54 PM	RICH-RC-5005 REVISION 5
SC			LongA	Sep1C	7/28/2006 11:58:36 AM	RICH-RC-5005 REVISION 5
SC			TamosaitisM	Sep2C	8/10/2006 10:12:57 AM	RICH-RC-5005 REVISION 4
SC			BlackCL	InCnt2	8/10/2006 11:12:01 AM	RICH-RD-0003 REVISION 4
SC			BlackCL	CalcC	8/11/2006 7:47:35 AM	RICH-RD-0003 REVISION 4
AC			**LongA**	7/27/2006 1:43:54 PM		
AC			**LongA**	7/28/2006 11:58:36		
AC			**TamosaitisM**	8/10/2006 10:12:57		
AC			**BlackCL**	8/10/2006 11:12:01		
AC			**BlackCL**	8/11/2006 7:47:35		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 6

ICOCFractions v4.8.18

7/27/2006 2:11:13 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: [illegible] 7/28/06 10:58

Batch: 6200116 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: 6200115, BXTE

Sep2 DT/Tm Tech: 8-10-6 M 8:27

Prep Tech: HansenM,LongA

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 H9GDP-1-AD J6G180224-1-SAMP	0.833sa,g	508.83sa,g	151.28g,in	0.2477g 0.9963	RATA23483 07/19/06	30.0	3x50	7A 1353	8/10/06	
								7A decay	8/11/06	
07/03/2006 09:40		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
2 H9GDW-1-AD J6G180224-2-SAMP	0.833sa,g	503.49sa,g	150.74g,in	0.2494g 1.0514	RATA23484 07/19/06	31.6		7B 1353	8/10/06	
								7B decay	8/11/06	
07/03/2006 09:55		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
3 H9GD1-1-AD J6G180224-3-SAMP	0.833sa,g	503.19sa,g	151.16g,in	0.2502g 0.9032	RATA23485 07/19/06	30.6		1A 1353	8/10/06	
								7C decay	8/11/06	
07/03/2006 10:15		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
4 H9GD4-1-AD J6G180224-4-SAMP	0.833sa,g	500.35sa,g	150.32g,in	0.2503g 0.9259	RATA23486 07/19/06	30.7		1C 1353	8/10/06	
								1A decay	8/11/06	
07/03/2006 10:35		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:

STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1 ISV - Insufficient Volume for Analysis WO Cnt: 4

Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Prep_SamplePrep v4.8.24

7/27/2006 2:11:14 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: 6200116 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: 6200115, BXTE

Sep2 DT/Tm Tech:

Prep Tech: HansenM,LongA

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
5 H9GD6-1-AD J6G180224-5-SAMP	0.833sa,g	502.06sa,g	150.54g,in	0.2498g 0.9809	RATA23487 07/19/06	in	29.9	3x50 1D 1C	1353 clay	8/10/06 8/11/06
07/03/2006 10:50		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
6 H9GD8-1-AD J6G180224-6-SAMP	0.833sa,g	500.24sa,g	150.32g,in	0.2503g 0.9938	RATA23488 07/19/06		30.9	3A 1D	1353 clay	8/10/06 8/11/06
07/03/2006 11:05		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
7 H9GEC-1-AD J6G180224-7-SAMP	0.833sa,g	500.72sa,g	150.20g,in	0.2499g 1.0141	RATA23489 07/19/06		30.7	3B 2A	1353 clay	8/10/06 8/11/06
07/03/2006 10:00		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
8 H9GED-1-AD J6G180224-8-SAMP	0.833sa,g	505.97sa,g	152.13g,in	0.2505g 0.9488	RATA23490 07/19/06		30.8	3C 2B	1353 clear	8/10/06 8/11/06
07/03/2006 09:45		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:

7/27/2006 2:11:14 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: 6200116 FILTER pCi/sampl PM, Quote: SA , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: 6200115, BXTE

Prep Tech: HansenM,LongA

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
9 H9GEF-1-AD J6G180224-9-SAMP	0.833sa,g	502.51sa,g	155.73g,in	0.2582g 0.9671	RATA23491 07/19/06	in	31.2	3x50 3D 2C	1353 0604	8/10/06 8/10/06
07/03/2006 09:30		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
10H9GEK-1-AD J6G180224-10-SAMP	0.833sa,g	502.21sa,g	151.58g,in	0.2514g 0.9178	RATA23492 07/19/06		30.5	4A 2D	1353 0604	8/10/06 8/10/06
07/03/2006 09:50		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
11H9GEM-1-AD J6G180224-11-SAMP	0.833sa,g	501.85sa,g	150.35g,in	0.2496g 0.8707	RATA23493 07/19/06		30.4	4B 3A	1353 0604	8/10/06 8/10/06
07/03/2006 10:10		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
12H9GEQ-1-AD J6G180224-12-SAMP	0.833sa,g	511.83sa,g	153.60g,in	0.25g 0.9947	RATA23494 07/19/06		30.8	4C 3B	1353 0604	8/10/06 8/10/06
07/03/2006 10:30		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:

STL RICHLAND

7/27/2006 2:11:14 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: 6200116 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: 6200115, 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:
13H9GER-1-AD J6G180224-13-SAMP	0.833sa,g	502.70sa,g	152.44g,in	0.2526g 0.8781	RATA23495 07/19/06	1in	30.5	3x50yD	1353 3C clody	8/10/06 8/10/06
07/03/2006 10:45		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
14H9GE0-1-AD J6G180224-14-SAMP	0.833sa,g	507.76sa,g	151.51g,in	0.2486g 0.9993	RATA23496 07/19/06	1 1/2in	29.9		5A 1353 5A clody	8/10/06 8/10/06
07/03/2006 11:00		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
15H9GE5-1-AD J6G180224-15-SAMP	0.833sa,g	505.45sa,g	151.92g,in	0.2504g 0.8852	RATA23497 07/19/06		30.6		5B 1353 5B clody	8/10/06 8/10/06
07/03/2006 09:35		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
16H9HVE-1-AA-B J6G190000-116-BLK			1.00sa,in	1.00sa 0.9990	RATA23498 07/19/06		31.0		5C 1353 5C clody	8/10/06 8/10/06
07/03/2006 09:40		AmtRec:		#Containers: 1			Scr:	Alpha:		Beta:

STL RICHLAND

7/27/2006 2:11:15 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: 6200116 pCi/sampl

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,LongA

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
17H9HVE-1-AC-C J6G190000-116-LCS			1.00g,in	1.00g	RASC4146 06/13/06	1/2in	30.9	3x50	SD 1353	8/16/06
				0.8579					SD Clear	8/16

07/03/2006 09:40 AmtRec: #Containers: 1 Scr: Alpha: Beta:

Comments: Reg-lm 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

H9GDP1AD-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:						
H9HVE1AA-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:						
H9HVE1AC-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

H9GDP1AD-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H9HVE1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H9HVE1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

UST Number: H9GDP1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 7-A File: [quad7.sample.A]H9GDP1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.A_1;2976

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00055	0050	01141	1700	10-AUG-2006 12:17:38.24
2	00000	00046	0050	01151	1700	10-AUG-2006 13:12:54.08
3	00000	00042	0050	01139	1700	10-AUG-2006 14:08:09.73

Bkg File: [quad7.bkgrnd]2006-08-10_0214.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00334	0400	0.84	09149	1700	10-AUG-2006 02:14:23.91

UST Number: H9GDP1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 7-A File: [quad7.sample.A]H9GDP1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.A_1;2977

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00041	0050	01148	1700	11-AUG-2006 06:08:21.48

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: H9GDW1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 7-B File: [quad7.sample.B]H9GDW1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.B_1;2963

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00042	0050	01141	1700	10-AUG-2006 12:17:38.24
2	00000	00036	0050	01151	1700	10-AUG-2006 13:12:54.08
3	00000	00045	0050	01139	1700	10-AUG-2006 14:08:09.73

Bkg File: [quad7.bkgrnd]2006-08-10_0214.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00286	0400	0.72	09149	1700	10-AUG-2006 02:14:23.91

UST Number: H9GDW1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 7-B File: [quad7.sample.B]H9GDW1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.B_1;2964

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00034	0050	01148	1700	11-AUG-2006 06:08:21.48

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: H9GD11AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-A File: [quad1.sample.A]H9GD11AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.A_1;3025

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00053	0050	01146	1650	10-AUG-2006 12:17:48.85
2	00000	00029	0050	01144	1650	10-AUG-2006 13:13:05.04
3	00000	00029	0050	01159	1650	10-AUG-2006 14:08:20.70

Bkg File: [quad1.bkgrnd]2006-08-10_0213.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00277	0400	0.69	09217	1650	10-AUG-2006 02:13:44.21

UST Number: H9GD11AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 7-C File: [quad7.sample.C]H9GD11AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.C_1;2969

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00047	0050	01148	1700	11-AUG-2006 06:08:21.48

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: H9GD41AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-C File: [quad1.sample.C]H9GD41AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.C_1;3021

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00049	0050	01146	1650	10-AUG-2006 12:17:48.85
2	00000	00042	0050	01144	1650	10-AUG-2006 13:13:05.04
3	00000	00032	0050	01159	1650	10-AUG-2006 14:08:20.70

Bkg File: [quad1.bkgrnd]2006-08-10_0213.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00240	0400	0.60	09217	1650	10-AUG-2006 02:13:44.21

UST Number: H9GD41AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-A File: [quad1.sample.A]H9GD41AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.A_1;3026

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00044	0050	01157	1650	11-AUG-2006 06:08:32.42

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: H9GD61AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-D File: [quad1.sample.D]H9GD61AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.D_1;3024

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00050	0050	01146	1650	10-AUG-2006 12:17:48.85
2	00000	00032	0050	01144	1650	10-AUG-2006 13:13:05.04
3	00000	00036	0050	01159	1650	10-AUG-2006 14:08:20.70

Bkg File: [quad1.bkgrnd]2006-08-10_0213.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00229	0400	0.57	09217	1650	10-AUG-2006 02:13:44.21

UST Number: H9GD61AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-C File: [quad1.sample.C]H9GD61AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.C_1;3022

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00041	0050	01157	1650	11-AUG-2006 06:08:32.42

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: H9GD81AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-A File: [quad3.sample.A]H9GD81AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.A_1;5479

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00038	0050	01251	1920	10-AUG-2006 12:18:00.83
2	00000	00017	0050	01252	1920	10-AUG-2006 13:13:16.51
3	00000	00020	0050	01276	1920	10-AUG-2006 14:08:32.11

Bkg File: [quad3.bkgrnd]2006-08-10_0209.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00090	0400	0.23	10007	1920	10-AUG-2006 02:09:03.76

UST Number: H9GD81AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-D File: [quad1.sample.D]H9GD81AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.D_1;3025

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00021	0050	01157	1650	11-AUG-2006 06:08:32.42

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: H9GEC1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-B File: [quad3.sample.B]H9GEC1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.B_1;5488

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00044	0050	01251	1920	10-AUG-2006 12:18:00.83
2	00000	00016	0050	01252	1920	10-AUG-2006 13:13:16.51
3	00000	00016	0050	01276	1920	10-AUG-2006 14:08:32.11

Bkg File: [quad3.bkgrnd]2006-08-10_0209.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00101	0400	0.25	10007	1920	10-AUG-2006 02:09:03.76

UST Number: H9GEC1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-A File: [quad2.sample.A]H9GEC1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.A_1;3566

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00017	0050	01170	1810	11-AUG-2006 06:08:42.13

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: H9GED1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-C File: [quad3.sample.C]H9GED1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.C_1;5493

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00028	0050	01251	1920	10-AUG-2006 12:18:00.83
2	00000	00022	0050	01252	1920	10-AUG-2006 13:13:16.51
3	00000	00016	0050	01276	1920	10-AUG-2006 14:08:32.11

Bkg File: [quad3.bkgrnd]2006-08-10_0209.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00112	0400	0.28	10007	1920	10-AUG-2006 02:09:03.76

UST Number: H9GED1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-B File: [quad2.sample.B]H9GED1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.B_1;3563

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00015	0050	01170	1810	11-AUG-2006 06:08:42.13

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: H9GEF1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-D File: [quad3.sample.D]H9GEF1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.D_1;5473

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00025	0050	01251	1920	10-AUG-2006 12:18:00.83
2	00000	00020	0050	01252	1920	10-AUG-2006 13:13:16.51
3	00000	00010	0050	01276	1920	10-AUG-2006 14:08:32.11

Bkg File: [quad3.bkgrnd]2006-08-10_0209.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00075	0400	0.19	10007	1920	10-AUG-2006 02:09:03.76

UST Number: H9GEF1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-C File: [quad2.sample.C]H9GEF1AD.430
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	01170	1810	11-AUG-2006 06:08:42.13

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: H9GEK1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-A File: [quad4.sample.A]H9GEK1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.A_1;5497

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00025	0050	01189	1850	10-AUG-2006 12:18:12.35
2	00000	00027	0050	01207	1850	10-AUG-2006 13:13:28.18
3	00000	00023	0050	01213	1850	10-AUG-2006 14:08:43.81

Bkg File: [quad4.bkgrnd]2006-08-10_0209.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00133	0400	0.33	09562	1850	10-AUG-2006 02:09:08.99

UST Number: H9GEK1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-D File: [quad2.sample.D]H9GEK1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.D_1;3563

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00013	0050	01170	1810	11-AUG-2006 06:08:42.13

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: H9GEM1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-B File: [quad4.sample.B]H9GEM1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.B_1;5496

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00035	0050	01189	1850	10-AUG-2006 12:18:12.35
2	00000	00018	0050	01207	1850	10-AUG-2006 13:13:28.18
3	00000	00019	0050	01213	1850	10-AUG-2006 14:08:43.81

Bkg File: [quad4.bkgrnd]2006-08-10_0209.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00117	0400	0.29	09562	1850	10-AUG-2006 02:09:08.99

UST Number: H9GEM1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-A File: [quad3.sample.A]H9GEM1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.A_1;5480

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00006	0050	01257	1920	11-AUG-2006 06:08:55.93

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: H9GEQ1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-C File: [quad4.sample.C]H9GEQ1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.C_1;5499

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00023	0050	01189	1850	10-AUG-2006 12:18:12.35
2	00000	00013	0050	01207	1850	10-AUG-2006 13:13:28.18
3	00000	00023	0050	01213	1850	10-AUG-2006 14:08:43.81

Bkg File: [quad4.bkgrnd]2006-08-10_0209.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00109	0400	0.27	09562	1850	10-AUG-2006 02:09:08.99

UST Number: H9GEQ1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-B File: [quad3.sample.B]H9GEQ1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.B_1;5489

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00014	0050	01257	1920	11-AUG-2006 06:08:55.93

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: H9GER1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-D File: [quad4.sample.D]H9GER1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.D_1;5513

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00054	0050	01189	1850	10-AUG-2006 12:18:12.35
2	00000	00036	0050	01207	1850	10-AUG-2006 13:13:28.18
3	00000	00021	0050	01213	1850	10-AUG-2006 14:08:43.81

Bkg File: [quad4.bkgrnd]2006-08-10_0209.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00104	0400	0.26	09562	1850	10-AUG-2006 02:09:08.99

UST Number: H9GER1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-C File: [quad3.sample.C]H9GER1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.C_1;5494

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00018	0050	01257	1920	11-AUG-2006 06:08:55.93

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: H9GE01AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 5-A File: [quad5.sample.A]H9GE01AD.180
Dish Size: 15 Bkg File: $DISK1:[QUAD5.BKGRND]CURRENT.A_15;5541

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00068	0050	01262	1800	10-AUG-2006 12:18:24.75
2	00000	00050	0050	01271	1800	10-AUG-2006 13:13:40.47
3	00000	00031	0050	01280	1800	10-AUG-2006 14:08:56.13

Bkg File: [quad5.bkgrnd]2006-08-10_0214.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00246	0400	0.62	10102	1800	10-AUG-2006 02:14:06.47

UST Number: H9GE01AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 5-A File: [quad5.sample.A]H9GE01AD.430
Dish Size: 15 Bkg File: $DISK1:[QUAD5.BKGRND]CURRENT.A_15;5542

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00025	0050	01264	1800	11-AUG-2006 06:09:38.85

Bkg File: [quad5.bkgrnd]2006-08-11_0240.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00262	0400	0.66	10192	1800	11-AUG-2006 02:40:43.48

UST Number: H9GE51AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 5-B File: [quad5.sample.B]H9GE51AD.180
Dish Size: 15 Bkg File: $DISK1:[QUAD5.BKGRND]CURRENT.B_15;5534

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00065	0050	01262	1800	10-AUG-2006 12:18:24.75
2	00000	00035	0050	01271	1800	10-AUG-2006 13:13:40.47
3	00000	00038	0050	01280	1800	10-AUG-2006 14:08:56.13

Bkg File: [quad5.bkgrnd]2006-08-10_0214.B_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00273	0400	0.68	10102	1800	10-AUG-2006 02:14:06.47

UST Number: H9GE51AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 5-B File: [quad5.sample.B]H9GE51AD.430
Dish Size: 15 Bkg File: $DISK1:[QUAD5.BKGRND]CURRENT.B_15;5535

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00038	0050	01264	1800	11-AUG-2006 06:09:38.85

Bkg File: [quad5.bkgrnd]2006-08-11_0240.B_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00276	0400	0.69	10192	1800	11-AUG-2006 02:40:43.48

UST Number: H9HVE1AA Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 5-C File: [quad5.sample.C]H9HVE1AA.180
Dish Size: 15 Bkg File: $DISK1:[QUAD5.BKGRND]CURRENT.C_15;5554

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00050	0050	01262	1800	10-AUG-2006 12:18:24.75
2	00000	00038	0050	01271	1800	10-AUG-2006 13:13:40.47
3	00000	00041	0050	01280	1800	10-AUG-2006 14:08:56.13

Bkg File: [quad5.bkgrnd]2006-08-10_0214.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00244	0400	0.61	10102	1800	10-AUG-2006 02:14:06.47

UST Number: H9HVE1AA Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 5-C File: [quad5.sample.C]H9HVE1AA.430
Dish Size: 15 Bkg File: $DISK1:[QUAD5.BKGRND]CURRENT.C_15;5555

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00055	0050	01264	1800	11-AUG-2006 06:09:38.85

Bkg File: [quad5.bkgrnd]2006-08-11_0240.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00249	0400	0.62	10192	1800	11-AUG-2006 02:40:43.48

UST Number: H9HVE1AC Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 5-D File: [quad5.sample.D]H9HVE1AC.180
Dish Size: 15 Bkg File: $DISK1:[QUAD5.BKGRND]CURRENT.D_15;5607

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00171	0050	01262	1800	10-AUG-2006 12:18:24.75
2	00000	00160	0050	01271	1800	10-AUG-2006 13:13:40.47
3	00000	00173	0050	01280	1800	10-AUG-2006 14:08:56.13

Bkg File: [quad5.bkgrnd]2006-08-10_0214.D_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00245	0400	0.61	10102	1800	10-AUG-2006 02:14:06.47

UST Number: H9HVE1AC Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 5-D File: [quad5.sample.D]H9HVE1AC.430
Dish Size: 15 Bkg File: $DISK1:[QUAD5.BKGRND]CURRENT.D_15;5608

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00044	0050	01264	1800	11-AUG-2006 06:09:38.85

Bkg File: [quad5.bkgrnd]2006-08-11_0240.D_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00247	0400	0.62	10192	1800	11-AUG-2006 02:40:43.48

Batch Nbr: 6200116

Alpha Beta, Ra-228 by GPC , Results

8/11/2006 7:43:14 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	H9GDP1AD	RA-228	1.59E+00	(9.43E-01)		PCI/SA	R	1.80E+00	3.92E+00		87%	
Calc	TF	FILTER	H9GDP1AD	RA-228	5.64E-01	(9.52E-01)	U4	PCI/SA	R	2.00E+00	4.35E+00		87%	
Calc	TF	FILTER	H9GDP1AD	RA-228	3.68E-02	(1.01E+00)	U4	PCI/SA	R	2.21E+00	4.83E+00		87%	
Calc	TF	FILTER	H9GDP1AD	RA-228	7.29E-01	(5.60E-01)	U4	PCI/SA	A	1.16E+00	2.52E+00		87%	
Calc	TF	FILTER	H9GDP1AD	RA-228	-1.12E-01	(6.08E+00)	U4	PCI/SA	R	1.33E+01	2.91E+01		87%	
Calc	TF	FILTER	H9GDW1AD	RA-228	6.71E-01	(7.35E-01)	U4	PCI/SA	R	1.49E+00	3.28E+00		97%	
Calc	TF	FILTER	H9GDW1AD	RA-228	2.98E-02	(7.58E-01)	U4	PCI/SA	R	1.66E+00	3.64E+00		97%	
Calc	TF	FILTER	H9GDW1AD	RA-228	1.22E+00	(9.38E-01)	U4	PCI/SA	R	1.84E+00	4.03E+00		97%	
Calc	TF	FILTER	H9GDW1AD	RA-228	6.41E-01	(4.71E-01)	U4	PCI/SA	A	9.60E-01	2.11E+00		97%	
Calc	TF	FILTER	H9GDW1AD	RA-228	-2.01E+00	(4.99E+00)	U4	PCI/SA	R	1.13E+01	2.47E+01		97%	
Calc	TF	FILTER	H9GD11AD	RA-228	2.31E+00	(9.80E-01)		PCI/SA	R	1.72E+00	3.78E+00		80%	
Calc	TF	FILTER	H9GD11AD	RA-228	-7.84E-01	(8.09E-01)	U4	PCI/SA	R	1.91E+00	4.19E+00		80%	
Calc	TF	FILTER	H9GD11AD	RA-228	-8.70E-01	(8.97E-01)	U4	PCI/SA	R	2.12E+00	4.65E+00		80%	
Calc	TF	FILTER	H9GD11AD	RA-228	2.18E-01	(5.19E-01)	U4	PCI/SA	A	1.11E+00	2.43E+00		80%	
Calc	TF	FILTER	H9GD11AD	RA-228	7.74E+00	(7.12E+00)	U4	PCI/SA	R	1.43E+01	3.13E+01		80%	
Calc	TF	FILTER	H9GD41AD	RA-228	2.36E+00	(9.33E-01)		PCI/SA	R	1.58E+00	3.50E+00		83%	
Calc	TF	FILTER	H9GD41AD	RA-228	1.65E+00	(9.47E-01)		PCI/SA	R	1.76E+00	3.88E+00		83%	
Calc	TF	FILTER	H9GD41AD	RA-228	3.06E-01	(9.14E-01)	U4	PCI/SA	R	1.95E+00	4.31E+00		83%	
Calc	TF	FILTER	H9GD41AD	RA-228	1.44E+00	(5.38E-01)		PCI/SA	A	1.02E+00	2.25E+00		83%	
Calc	TF	FILTER	H9GD41AD	RA-228	1.22E+01	(6.44E+00)		PCI/SA	R	1.18E+01	2.60E+01		83%	
Calc	TF	FILTER	H9GD61AD	RA-228	2.53E+00	(9.03E-01)		PCI/SA	R	1.47E+00	3.26E+00		85%	
Calc	TF	FILTER	H9GD61AD	RA-228	4.43E-01	(7.84E-01)	U4	PCI/SA	R	1.63E+00	3.62E+00		85%	
Calc	TF	FILTER	H9GD61AD	RA-228	1.07E+00	(9.22E-01)	U4	PCI/SA	R	1.81E+00	4.02E+00		85%	
Calc	TF	FILTER	H9GD61AD	RA-228	1.35E+00	(5.04E-01)		PCI/SA	A	9.47E-01	2.10E+00		85%	
Calc	TF	FILTER	H9GD61AD	RA-228	1.00E+01	(6.10E+00)	U4	PCI/SA	R	1.14E+01	2.53E+01		85%	
Calc	TF	FILTER	H9GD81AD	RA-228	3.43E+00	(8.79E-01)		PCI/SA	R	1.00E+00	2.35E+00		89%	
Calc	TF	FILTER	H9GD81AD	RA-228	8.18E-01	(6.16E-01)	U4	PCI/SA	R	1.11E+00	2.61E+00		89%	
Calc	TF	FILTER	H9GD81AD	RA-228	1.38E+00	(7.44E-01)		PCI/SA	R	1.23E+00	2.89E+00		89%	
Calc	TF	FILTER	H9GD81AD	RA-228	1.88E+00	(4.35E-01)		PCI/SA	A	6.43E-01	1.51E+00		89%	
Calc	TF	FILTER	H9GD81AD	RA-228	-5.70E+00	(4.21E+00)	U4	PCI/SA	R	1.03E+01	2.30E+01		89%	
Calc	TF	FILTER	H9GEC1AD	RA-228	3.88E+00	(9.24E-01)		PCI/SA	R	1.02E+00	2.38E+00		91%	
Calc	TF	FILTER	H9GEC1AD	RA-228	4.63E-01	(5.78E-01)	U4	PCI/SA	R	1.14E+00	2.64E+00		91%	
Calc	TF	FILTER	H9GEC1AD	RA-228	5.14E-01	(6.41E-01)	U4	PCI/SA	R	1.26E+00	2.93E+00		91%	
Calc	TF	FILTER	H9GEC1AD	RA-228	1.62E+00	(4.21E-01)		PCI/SA	A	6.58E-01	1.53E+00		91%	
Calc	TF	FILTER	H9GEC1AD	RA-228	2.33E+00	(4.50E+00)	U4	PCI/SA	R	9.25E+00	2.13E+01		91%	
Calc	TF	FILTER	H9GED1AD	RA-228	1.87E+00	(7.55E-01)		PCI/SA	R	1.17E+00	2.69E+00		85%	
Calc	TF	FILTER	H9GED1AD	RA-228	1.19E+00	(7.34E-01)	U4	PCI/SA	R	1.29E+00	2.99E+00		85%	
Calc	TF	FILTER	H9GED1AD	RA-228	3.30E-01	(6.95E-01)	U4	PCI/SA	R	1.43E+00	3.31E+00		85%	

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

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

RecCnt:39
RADCALC v4.8.24
STL Richland

Batch Nbr: 6200116

Alpha Beta, Ra-228 by GPC , Results

8/11/2006 7:43:14 AM

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Calc	TF	FILTER	H9GED1AD	RA-228	1.13E+00	(4.20E-01)		PCI/SA	A	7.49E-01	1.73E+00		85%	
Calc	TF	FILTER	H9GED1AD	RA-228	2.91E+00	(4.31E+00)	U4	PCI/SA	R	8.62E+00	2.01E+01		85%	
Calc	TF	FILTER	H9GEF1AD	RA-228	1.98E+00	(6.78E-01)		PCI/SA	R	9.02E-01	2.15E+00		88%	
Calc	TF	FILTER	H9GEF1AD	RA-228	1.49E+00	(6.64E-01)		PCI/SA	R	1.00E+00	2.38E+00		88%	
Calc	TF	FILTER	H9GEF1AD	RA-228	9.74E-02	(5.21E-01)	U4	PCI/SA	R	1.11E+00	2.64E+00		88%	
Calc	TF	FILTER	H9GEF1AD	RA-228	1.19E+00	(3.61E-01)		PCI/SA	A	5.80E-01	1.38E+00		88%	
Calc	TF	FILTER	H9GEF1AD	RA-228	1.42E+00	(4.07E+00)	U4	PCI/SA	R	8.51E+00	1.98E+01		88%	
Calc	TF	FILTER	H9GEK1AD	RA-228	1.14E+00	(7.18E-01)	U4	PCI/SA	R	1.29E+00	2.95E+00		81%	
Calc	TF	FILTER	H9GEK1AD	RA-228	1.57E+00	(8.30E-01)		PCI/SA	R	1.43E+00	3.27E+00		81%	
Calc	TF	FILTER	H9GEK1AD	RA-228	1.07E+00	(8.46E-01)	U4	PCI/SA	R	1.59E+00	3.63E+00		81%	
Calc	TF	FILTER	H9GEK1AD	RA-228	1.26E+00	(4.62E-01)		PCI/SA	A	8.30E-01	1.90E+00		81%	
Calc	TF	FILTER	H9GEK1AD	RA-228	3.77E+00	(4.23E+00)	U4	PCI/SA	R	8.07E+00	1.92E+01		81%	
Calc	TF	FILTER	H9GEM1AD	RA-228	3.08E+00	(9.69E-01)		PCI/SA	R	1.35E+00	3.10E+00		77%	
Calc	TF	FILTER	H9GEM1AD	RA-228	5.66E-01	(7.49E-01)	U4	PCI/SA	R	1.49E+00	3.44E+00		77%	
Calc	TF	FILTER	H9GEM1AD	RA-228	8.14E-01	(8.53E-01)	U4	PCI/SA	R	1.66E+00	3.81E+00		77%	
Calc	TF	FILTER	H9GEM1AD	RA-228	1.49E+00	(4.98E-01)		PCI/SA	A	8.65E-01	1.99E+00		77%	
Calc	TF	FILTER	H9GEM1AD	RA-228	-6.84E+00	(3.14E+00)	U4	PCI/SA	R	9.04E+00	2.11E+01		77%	
Calc	TF	FILTER	H9GEQ1AD	RA-228	1.21E+00	(6.51E-01)		PCI/SA	R	1.10E+00	2.56E+00		89%	
Calc	TF	FILTER	H9GEQ1AD	RA-228	-8.92E-02	(5.47E-01)	U4	PCI/SA	R	1.23E+00	2.84E+00		89%	
Calc	TF	FILTER	H9GEQ1AD	RA-228	1.48E+00	(8.01E-01)		PCI/SA	R	1.36E+00	3.15E+00		89%	
Calc	TF	FILTER	H9GEQ1AD	RA-228	8.67E-01	(3.89E-01)		PCI/SA	A	7.10E-01	1.64E+00		89%	
Calc	TF	FILTER	H9GEQ1AD	RA-228	4.70E+00	(3.69E+00)	U4	PCI/SA	R	6.56E+00	1.57E+01		89%	
Calc	TF	FILTER	H9GER1AD	RA-228	6.16E+00	(1.28E+00)		PCI/SA	R	1.26E+00	2.93E+00		78%	
Calc	TF	FILTER	H9GER1AD	RA-228	3.84E+00	(1.09E+00)		PCI/SA	R	1.40E+00	3.25E+00		78%	
Calc	TF	FILTER	H9GER1AD	RA-228	1.48E+00	(8.92E-01)		PCI/SA	R	1.55E+00	3.60E+00		78%	
Calc	TF	FILTER	H9GER1AD	RA-228	3.83E+00	(6.35E-01)		PCI/SA	A	8.11E-01	1.88E+00		78%	
Calc	TF	FILTER	H9GER1AD	RA-228	7.44E+00	(4.83E+00)	U4	PCI/SA	R	8.40E+00	1.97E+01		78%	
Calc	TF	FILTER	H9GE01AD	RA-228	3.95E+00	(9.84E-01)		PCI/SA	R	1.37E+00	3.02E+00		87%	
Calc	TF	FILTER	H9GE01AD	RA-228	2.27E+00	(8.94E-01)		PCI/SA	R	1.52E+00	3.36E+00		87%	
Calc	TF	FILTER	H9GE01AD	RA-228	3.27E-02	(7.71E-01)	U4	PCI/SA	R	1.69E+00	3.72E+00		87%	
Calc	TF	FILTER	H9GE01AD	RA-228	2.08E+00	(5.12E-01)		PCI/SA	A	8.80E-01	1.94E+00		87%	
Calc	TF	FILTER	H9GE01AD	RA-228	-6.15E+00	(4.33E+00)	U4	PCI/SA	R	1.06E+01	2.33E+01		87%	
Calc	TF	FILTER	H9GE51AD	RA-228	3.57E+00	(1.03E+00)		PCI/SA	R	1.57E+00	3.46E+00		79%	
Calc	TF	FILTER	H9GE51AD	RA-228	1.12E-01	(8.05E-01)	U4	PCI/SA	R	1.75E+00	3.84E+00		79%	
Calc	TF	FILTER	H9GE51AD	RA-228	5.52E-01	(9.28E-01)	U4	PCI/SA	R	1.94E+00	4.26E+00		79%	
Calc	TF	FILTER	H9GE51AD	RA-228	1.41E+00	(5.34E-01)		PCI/SA	A	1.01E+00	2.22E+00		79%	
Calc	TF	FILTER	H9GE51AD	RA-228	3.03E+00	(5.64E+00)	U4	PCI/SA	R	1.18E+01	2.60E+01		79%	
Calc	TF	FILTER	H9HVE1AA	RA-228	4.93E-01	(1.92E-01)		PCI/SA	R	3.25E-01	7.18E-01	B	90%	
Calc	TF	FILTER	H9HVE1AA	RA-228	2.11E-01	(1.83E-01)	U4	PCI/SA	R	3.61E-01	7.97E-01	B	90%	

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

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

RecCnt:78
RADCALC v4.8.24
STL Richland

Batch Nbr: 6200116

Alpha Beta, Ra-228 by GPC , Results

8/11/2006 7:43:14 AM

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Calc	TF	FILTER	**H9HVE1AA**	RA-228	**3.27E-01**	**(2.11E-01)**	**U4**	PCI/SA	R	4.00E-01	8.84E-01	**B**	90%	
Calc	TF	FILTER	**H9HVE1AA**	RA-228	**3.44E-01**	**(1.13E-01)**		PCI/SA	A	2.09E-01	4.62E-01	**B**	90%	
Calc	TF	FILTER	**H9HVE1AA**	RA-228	**4.52E+00**	**(1.52E+00)**		PCI/SA	R	2.46E+00	5.42E+00	**B**	90%	
Calc	TF	FILTER	**H9HVE1AC**	RA-228	**4.36E+00**	**(5.94E-01)**		PCI/SA	R	3.99E-01	8.83E-01	**S**	77%	86%
Calc	TF	FILTER	**H9HVE1AC**	RA-228	**4.45E+00**	**(6.22E-01)**		PCI/SA	R	4.43E-01	9.79E-01	**S**	77%	88%
Calc	TF	FILTER	**H9HVE1AC**	RA-228	**5.44E+00**	**(7.38E-01)**		PCI/SA	R	4.92E-01	1.09E+00	**S**	77%	108%
Calc	TF	FILTER	**H9HVE1AC**	RA-228	**4.75E+00**	**(3.78E-01)**		PCI/SA	A	2.57E-01	5.67E-01	**S**	77%	94%
Calc	TF	FILTER	**H9HVE1AC**	RA-228	**3.05E+00**	**(1.63E+00)**		PCI/SA	R	3.00E+00	6.63E+00	**S**	77%	60%

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8/11/06

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

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

RecCnt:85
RADCALC v4.8.24
STL Richland

Batch Nbr: 6200116

Alpha Beta, Ra-228 by GPC , Calculated Results

8/11/2006 7:43:15 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	**H9GDP1AD**	**PCI/SA**		07/03/06 09:40	08/11/06 06:08	07/28/06 16:58	RATA23483	1	1.00 SA	
536403,000516					,J6G180224-1 v4.8.24		FILTER			30.0	08/10/06 08:27	RATA23483 Alq	100%	0.247659 SA	

Sq	Cnt Date	Parameter	Sample 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	08/10/06 12:17	RA-228	55	334	GPC7A	1	N	N	5.2042E-01	1.0000E+00	N	87%	N		1.4757E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.203E-02)	(0.000E+00)		7%			(0.000E+00)	4.037813		
1	08/10/06 13:12	RA-228	46	334	GPC7A	1	N	N	5.2042E-01	1.0000E+00	N	87%	N		1.6372E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.203E-02)	(0.000E+00)		7%			(0.000E+00)	4.037813		
2	08/10/06 14:08	RA-228	42	334	GPC7A	1	N	N	5.2042E-01	1.0000E+00	N	87%	N		1.8162E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.203E-02)	(0.000E+00)		7%			(0.000E+00)	4.037813		
3	08/11/06 06:08	RA-228	41	329	GPC7A	1	N	N	5.2042E-01	1.0000E+00	N	87%	N		1.1028E+01	4.5045E-01	1.0084E+00	
			50	400			N		(1.203E-02)	(0.000E+00)		7%			(0.000E+00)	4.037813		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/11/06	RA-228	R	**1.586228**		2.65000E-01	0.864872	0.864872	1.00 SA	87%		3.921349		
				(0.942757)		(1.5520E-01)	(0.511621)	(0.511621)	(0.028284)			1.799529		
	08/11/06	RA-228	R	**0.564449**	U4	8.50000E-02	0.30776	0.30776	1.00 SA	87%		4.350328		
				(0.95221)		(1.4313E-01)	(0.518881)	(0.518881)	(0.028284)			1.99639		
	08/11/06	RA-228	R	**0.036834**	U4	5.00000E-03	0.020083	0.020083	1.00 SA	87%		4.826084		
				(1.01244)		(1.3743E-01)	(0.55202)	(0.55202)	(0.028284)			2.214717		
	08/11/06	RA-228	A	**0.72917**	U4	1.18333E-01	0.397572	0.397572	1.00 SA	87%		2.520665		
				(0.559814)		(8.3973E-02)	(0.304726)	(0.304726)	(0.01633)			1.156747		
	08/11/06	RA-228	R	**-0.111828**	U4	-2.50000E-03	-0.060973	-0.060973	1.00 SA	87%		29.101955		
				(6.076901)		(1.3585E-01)	(3.313359)	(3.313359)	(0.028284)			13.346689		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GDW1AD**	**PCI/SA**		07/03/06 09:55	08/11/06 06:08	07/28/06 16:58	RATA23484	1	1.00 SA	
536403,000517					,J6G180224-2 v4.8.24		FILTER			31.6	08/10/06 08:27	RATA23484 Alq	105%	0.249392 SA	

Sq	Cnt Date	Parameter	Sample 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	08/10/06 12:17	RA-228	42	286	GPC7B	1	N	N	5.1830E-01	1.0000E+00	N	97%	N		1.4757E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.254E-02)	(0.000E+00)		8%			(0.000E+00)	4.00975		
1	08/10/06 13:12	RA-228	36	286	GPC7B	1	N	N	5.1830E-01	1.0000E+00	N	97%	N		1.6372E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.254E-02)	(0.000E+00)		8%			(0.000E+00)	4.00975		
2	08/10/06 14:08	RA-228	45	286	GPC7B	1	N	N	5.1830E-01	1.0000E+00	N	97%	N		1.8162E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.254E-02)	(0.000E+00)		8%			(0.000E+00)	4.00975		

() - (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: 6200116

Alpha Beta, Ra-228 by GPC , Calculated Results

8/11/2006 7:43:15 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
3	08/11/06 06:08	RA-228	34	292		GPC7B 1	N N	5.1830E-01	1.0000E+00 N	97%	N	1.1028E+01	4.5045E-01	1.0084E+00
			50	400			N	(1.254E-02)	(0.000E+00)	8%		(0.000E+00)	4.00975	
	08/11/06	RA-228	R	**0.671157**	U4	1.25000E-01	0.368503	0.368503	1.00 SA	97%		3.276637		
				(0.735181)		(1.3634E-01)	(0.4031)	(0.4031)	(0.028284)			1.493699		
	08/11/06	RA-228	R	**0.029783**	U4	5.00000E-03	0.016353	0.016353	1.00 SA	97%		3.635088		
				(0.757869)		(1.2723E-01)	(0.416112)	(0.416112)	(0.028284)			1.657103		
	08/11/06	RA-228	R	**1.22249**	U4	1.85000E-01	0.671216	0.671216	1.00 SA	97%		4.032625		
				(0.937774)		(1.4067E-01)	(0.513445)	(0.513445)	(0.028284)			1.838326		
	08/11/06	RA-228	A	**0.641143**	U4	1.05000E-01	0.352024	0.352024	1.00 SA	97%		2.106241		
				(0.470729)		(7.7862E-02)	(0.258041)	(0.258041)	(0.01633)			0.960158		
	08/11/06	RA-228	R	**-2.0062**	U4	-5.00000E-02	-1.101517	-1.101517	1.00 SA	97%		24.718854		
				(4.987449)		(1.2420E-01)	(2.737659)	(2.737659)	(0.028284)			11.278764		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GD11AD**	**PCI/SA**		07/03/06 10:15	08/11/06 06:08	07/28/06 16:58	RATA23485	1	1.00 SA	
536403,000518					,J6G180224-3 v4.8.24		FILTER			30.6	08/10/06 08:27	RATA23485 Alq	90%	0.250236 SA	

Sq	Cnt Date	Parameter	Sample 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	08/10/06 12:17	RA-228	53	277	GPC1A	1	N	N	5.3073E-01	1.0000E+00	N	80%	N		1.4762E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.448E-02)	(0.000E+00)		6%			(0.000E+00)	3.996227		
1	08/10/06 13:13	RA-228	29	277	GPC1A	1	N	N	5.3073E-01	1.0000E+00	N	80%	N		1.6377E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.448E-02)	(0.000E+00)		6%			(0.000E+00)	3.996227		
2	08/10/06 14:08	RA-228	29	277	GPC1A	1	N	N	5.3073E-01	1.0000E+00	N	80%	N		1.8169E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.448E-02)	(0.000E+00)		6%			(0.000E+00)	3.996227		
3	08/11/06 06:08	RA-228	47	313	GPC7C	1	N	N	5.0696E-01	1.0000E+00	N	80%	N		1.1028E+01	4.5045E-01	1.0084E+00	
			50	400			N		(1.091E-02)	(0.000E+00)		6%			(0.000E+00)	3.996227		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/11/06	RA-228	R	**2.309377**		3.67500E-01	1.272275	1.272275	1.00 SA	80%		3.77946		
				(0.980425)		(1.5143E-01)	(0.535165)	(0.535165)	(0.028284)			1.720455		
	08/11/06	RA-228	R	**-0.784314**	U4	-1.12500E-01	-0.432092	-0.432092	1.00 SA	80%		4.193048		
				(0.808939)		(1.1546E-01)	(0.444966)	(0.444966)	(0.028284)			1.908725		
	08/11/06	RA-228	R	**-0.870088**	U4	-1.12500E-01	-0.479346	-0.479346	1.00 SA	80%		4.651604		
				(0.897405)		(1.1546E-01)	(0.493628)	(0.493628)	(0.028284)			2.117465		
	08/11/06	RA-228	A	**0.218325**	U4	4.75000E-02	0.120279	0.120279	1.00 SA	80%		2.429512		
				(0.518647)		(7.4232E-02)	(0.284423)	(0.284423)	(0.01633)			1.105942		
	08/11/06	RA-228	R	**7.740636**	U4	1.57500E-01	4.264447	4.264447	1.00 SA	80%		31.253238		
				(7.123479)		(1.4407E-01)	(3.916791)	(3.916791)	(0.028284)			14.303231		

() - (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: 6200116

Alpha Beta, Ra-228 by GPC , Calculated Results

8/11/2006 7:43:15 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	**H9GD41AD**	**PCI/SA**		07/03/06 10:35	08/11/06 06:08	07/28/06 16:58	RATA23486	1	1.00 SA	
536403,000519					,J6G180224-4 v4.8.24		FILTER			30.7	08/10/06 08:27	RATA23486 Alq	93%	0.250258 SA	

Sq	Cnt Date	Parameter	Sample 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	08/10/06 12:17	RA-228	49	240	GPC1C	1	N	N	5.2220E-01	1.0000E+00	N	83%	N		1.4762E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.169E-02)	(0.000E+00)		7%			(0.000E+00)	3.995877		
1	08/10/06 13:13	RA-228	42	240	GPC1C	1	N	N	5.2220E-01	1.0000E+00	N	83%	N		1.6377E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.169E-02)	(0.000E+00)		7%			(0.000E+00)	3.995877		
2	08/10/06 14:08	RA-228	32	240	GPC1C	1	N	N	5.2220E-01	1.0000E+00	N	83%	N		1.8169E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.169E-02)	(0.000E+00)		7%			(0.000E+00)	3.995877		
3	08/11/06 06:08	RA-228	44	245	GPC1A	1	N	N	5.3050E-01	1.0000E+00	N	83%	N		1.1032E+01	4.5045E-01	1.0084E+00	
			50	400			N		(1.448E-02)	(0.000E+00)		7%			(0.000E+00)	3.995877		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/11/06	RA-228	R	**2.359515**		3.80000E-01	1.300016	1.300016	1.00 SA	83%		3.499422		
				(0.932897)		(1.4526E-01)	(0.508542)	(0.508542)	(0.028284)			1.58238		
	08/11/06	RA-228	R	**1.653296**		2.40000E-01	0.910912	0.910912	1.00 SA	83%		3.882365		
				(0.946733)		(1.3528E-01)	(0.518988)	(0.518988)	(0.028284)			1.75554		
	08/11/06	RA-228	R	**0.305684**	**U4**	4.00000E-02	0.168422	0.168422	1.00 SA	83%		4.306945		
				(0.914383)		(1.1958E-01)	(0.503702)	(0.503702)	(0.028284)			1.947528		
	08/11/06	RA-228	A	**1.439498**		2.20000E-01	0.793117	0.793117	1.00 SA	83%		2.249497		
				(0.537762)		(7.7244E-02)	(0.294709)	(0.294709)	(0.01633)			1.017185		
	08/11/06	RA-228	R	**12.218411**		2.67500E-01	6.731949	6.731949	1.00 SA	83%		25.983454		
				(6.439976)		(1.3832E-01)	(3.527081)	(3.527081)	(0.028284)			11.760882		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GD61AD**	**PCI/SA**		07/03/06 10:50	08/11/06 06:08	07/28/06 16:58	RATA23487	1	1.00 SA	
536403,000520					,J6G180224-5 v4.8.24		FILTER			29.9	08/10/06 08:27	RATA23487 Alq	98%	0.249771 SA	

Sq	Cnt Date	Parameter	Sample 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	08/10/06 12:17	RA-228	50	229	GPC1D	1	N	N	5.3231E-01	1.0000E+00	N	85%	N		1.4762E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.370E-02)	(0.000E+00)		7%			(0.000E+00)	4.003674		
1	08/10/06 13:13	RA-228	32	229	GPC1D	1	N	N	5.3231E-01	1.0000E+00	N	85%	N		1.6377E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.370E-02)	(0.000E+00)		7%			(0.000E+00)	4.003674		
2	08/10/06 14:08	RA-228	36	229	GPC1D	1	N	N	5.3231E-01	1.0000E+00	N	85%	N		1.8169E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.370E-02)	(0.000E+00)		7%			(0.000E+00)	4.003674		
3	08/11/06 06:08	RA-228	41	239	GPC1C	1	N	N	5.2336E-01	1.0000E+00	N	85%	N		1.1032E+01	4.5045E-01	1.0084E+00	
			50	400			N		(1.171E-02)	(0.000E+00)		7%			(0.000E+00)	4.003674		

() - (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: 6200116

Alpha Beta, Ra-228 by GPC , Calculated Results

8/11/2006 7:43:15 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
	08/11/06	RA-228	R	**2.528719**		4.27500E-01	1.390534	1.390534	1.00 SA	85%		3.263803		
				(0.90339)		(1.4639E-01)	(0.490306)	(0.490306)	(0.028284)			1.472476		
	08/11/06	RA-228	R	**0.442964**	U4	6.75000E-02	0.243584	0.243584	1.00 SA	85%		3.620963		
				(0.784161)		(1.1929E-01)	(0.43098)	(0.43098)	(0.028284)			1.63361		
	08/11/06	RA-228	R	**1.073815**	U4	1.47500E-01	0.590487	0.590487	1.00 SA	85%		4.016955		
				(0.922498)		(1.2582E-01)	(0.506143)	(0.506143)	(0.028284)			1.812263		
	08/11/06	RA-228	A	**1.3485**		2.14167E-01	0.741535	0.741535	1.00 SA	85%		2.098037		
				(0.503546)		(7.5641E-02)	(0.275343)	(0.275343)	(0.01633)			0.946537		
	08/11/06	RA-228	R	**10.003698**	U4	2.22500E-01	5.500999	5.500999	1.00 SA	85%		25.291133		
				(6.098525)		(1.3377E-01)	(3.338636)	(3.338636)	(0.028284)			11.433927		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GD81AD**	**PCI/SA**		07/03/06 11:05	08/11/06 06:08	07/28/06 16:58	RATA23488	1	1.00 SA	
536403,000521					,J6G180224-6 v4.8.24		FILTER			30.9	08/10/06 08:27	RATA23488 Alq	99%	0.250313 SA	

Sq	Cnt Date	Parameter	Sample 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	08/10/06 12:18	RA-228	38	90	GPC3A	1	N	N	4.6800E-01	1.0000E+00	N	89%	N		1.4768E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.324E-02)	(0.000E+00)		7%			(0.000E+00)	3.994999		
1	08/10/06 13:13	RA-228	17	90	GPC3A	1	N	N	4.6800E-01	1.0000E+00	N	89%	N		1.6383E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.324E-02)	(0.000E+00)		7%			(0.000E+00)	3.994999		
2	08/10/06 14:08	RA-228	20	90	GPC3A	1	N	N	4.6800E-01	1.0000E+00	N	89%	N		1.8175E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.324E-02)	(0.000E+00)		7%			(0.000E+00)	3.994999		
3	08/11/06 06:08	RA-228	21	222	GPC1D	1	N	N	5.3150E-01	1.0000E+00	N	89%	N		1.1032E+01	4.5045E-01	1.0084E+00	
			50	400			N		(1.368E-02)	(0.000E+00)		7%			(0.000E+00)	3.994999		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/11/06	RA-228	R	**3.43158**		5.35000E-01	1.891118	1.891118	1.00 SA	89%		2.348429		
				(0.87872)		(1.2555E-01)	(0.471913)	(0.471913)	(0.028284)			1.000985		
	08/11/06	RA-228	R	**0.818323**	U4	1.15000E-01	0.450972	0.450972	1.00 SA	89%		2.605337		
				(0.616307)		(8.5805E-02)	(0.338653)	(0.338653)	(0.028284)			1.110488		
	08/11/06	RA-228	R	**1.381502**		1.75000E-01	0.761335	0.761335	1.00 SA	89%		2.89035		
				(0.74408)		(9.2534E-02)	(0.407718)	(0.407718)	(0.028284)			1.231971		
	08/11/06	RA-228	A	**1.877135**		2.75000E-01	1.034475	1.034475	1.00 SA	89%		1.509601		
				(0.435334)		(5.9337E-02)	(0.236554)	(0.236554)	(0.01633)			0.643446		
	08/11/06	RA-228	R	**-5.695802**	U4	-1.35000E-01	-3.138914	-3.138914	1.00 SA	89%		22.956525		
				(4.21412)		(9.8932E-02)	(2.315359)	(2.315359)	(0.028284)			10.341023		

() - (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: 6200116

Alpha Beta, Ra-228 by GPC , Calculated Results

8/11/2006 7:43:16 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	**H9GEC1AD**	**PCI/SA**		07/03/06 10:00	08/11/06 06:08	07/28/06 16:58	RATA23489	1	1.00 SA	
536403,000522					,J6G180224-7 v4.8.24		FILTER			30.7	08/10/06 08:27	RATA23489 Alq	101%	0.249873 SA	

Sq	Cnt Date	Parameter	Sample 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	08/10/06 12:18	RA-228	44	101	GPC3B	1	N	N	4.7930E-01	1.0000E+00	N	91%	N		1.4768E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.181E-02)	(0.000E+00)		7%			(0.000E+00)	4.002027		
1	08/10/06 13:13	RA-228	16	101	GPC3B	1	N	N	4.7930E-01	1.0000E+00	N	91%	N		1.6383E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.181E-02)	(0.000E+00)		7%			(0.000E+00)	4.002027		
2	08/10/06 14:08	RA-228	16	101	GPC3B	1	N	N	4.7930E-01	1.0000E+00	N	91%	N		1.8175E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.181E-02)	(0.000E+00)		7%			(0.000E+00)	4.002027		
3	08/11/06 06:08	RA-228	17	118	GPC2A	1	N	N	4.2823E-01	1.0000E+00	N	91%	N		1.1035E+01	4.5045E-01	1.0084E+00	
			50	400			N		(1.185E-02)	(0.000E+00)		7%			(0.000E+00)	4.002027		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/11/06	RA-228	R	**3.883297**		6.27500E-01	2.136266	2.136266	1.00 SA	91%		2.380381		
				(0.923927)		(1.3502E-01)	(0.49323)	(0.49323)	(0.028284)			1.023089		
	08/11/06	RA-228	R	**0.463423**	**U4**	6.75000E-02	0.254936	0.254936	1.00 SA	91%		2.640785		
				(0.577611)		(8.3853E-02)	(0.317415)	(0.317415)	(0.028284)			1.135011		
	08/11/06	RA-228	R	**0.514119**	**U4**	6.75000E-02	0.282825	0.282825	1.00 SA	91%		2.929675		
				(0.640799)		(8.3853E-02)	(0.352139)	(0.352139)	(0.028284)			1.259176		
	08/11/06	RA-228	A	**1.620279**		2.54167E-01	0.891343	0.891343	1.00 SA	91%		1.53014		
				(0.42136)		(5.9902E-02)	(0.228043)	(0.228043)	(0.01633)			0.657655		
	08/11/06	RA-228	R	**2.329217**	**U4**	4.50000E-02	1.281341	1.281341	1.00 SA	91%		21.292833		
				(4.500085)		(8.6819E-02)	(2.474477)	(2.474477)	(0.028284)			9.249202		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GED1AD**	**PCI/SA**		07/03/06 09:45	08/11/06 06:08	07/28/06 16:58	RATA23490	1	1.00 SA	
536403,000523					,J6G180224-8 v4.8.24		FILTER			30.8	08/10/06 08:27	RATA23490 Alq	95%	0.250458 SA	

Sq	Cnt Date	Parameter	Sample 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	08/10/06 12:18	RA-228	28	112	GPC3C	1	N	N	4.7091E-01	1.0000E+00	N	85%	N		1.4768E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.100E-02)	(0.000E+00)		7%			(0.000E+00)	3.992684		
1	08/10/06 13:13	RA-228	22	112	GPC3C	1	N	N	4.7091E-01	1.0000E+00	N	85%	N		1.6383E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.100E-02)	(0.000E+00)		7%			(0.000E+00)	3.992684		
2	08/10/06 14:08	RA-228	16	112	GPC3C	1	N	N	4.7091E-01	1.0000E+00	N	85%	N		1.8175E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.100E-02)	(0.000E+00)		7%			(0.000E+00)	3.992684		
3	08/11/06 06:08	RA-228	15	98	GPC2B	1	N	N	4.4502E-01	1.0000E+00	N	85%	N		1.1035E+01	4.5045E-01	1.0084E+00	
			50	400			N		(1.050E-02)	(0.000E+00)		7%			(0.000E+00)	3.992684		

() - (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: 6200116

Alpha Beta, Ra-228 by GPC , Calculated Results

8/11/2006 7:43:16 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
	08/11/06	RA-228	R	**1.874536**		2.80000E-01	1.033623	1.033623	1.00 SA	85%		2.692464		
				(0.754559)		(1.0909E-01)	(0.411807)	(0.411807)	(0.028284)			1.165496		
	08/11/06	RA-228	R	**1.188344**	U4	1.60000E-01	0.655255	0.655255	1.00 SA	85%		2.987008		
				(0.733835)		(9.7468E-02)	(0.402883)	(0.402883)	(0.028284)			1.292996		
	08/11/06	RA-228	R	**0.329586**	U4	4.00000E-02	0.181734	0.181734	1.00 SA	85%		3.313775		
				(0.695086)		(8.4261E-02)	(0.38313)	(0.38313)	(0.028284)			1.434444		
	08/11/06	RA-228	A	**1.130822**		1.60000E-01	0.623538	0.623538	1.00 SA	85%		1.730751		
				(0.420452)		(5.6273E-02)	(0.230624)	(0.230624)	(0.01633)			0.749196		
	08/11/06	RA-228	R	**2.911616**	U4	5.50000E-02	1.605471	1.605471	1.00 SA	85%		20.100739		
				(4.3149)		(8.1317E-02)	(2.377456)	(2.377456)	(0.028284)			8.620856		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GEF1AD**	**PCI/SA**		07/03/06 09:30	08/11/06 06:08	07/28/06 16:58	RATA23491	1	1.00 SA	
536403,P-0691					,J6G180224-9 v4.8.24		FILTER			31.2	08/10/06 08:27	RATA23491 Alq	97%	0.25815 SA	

Sq	Cnt Date	Parameter	Sample 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	08/10/06 12:18	RA-228	25	75	GPC3D	1	N	N	4.6772E-01	1.0000E+00	N	88%	N		1.4768E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.145E-02)	(0.000E+00)		7%			(0.000E+00)	3.873713		
1	08/10/06 13:13	RA-228	20	75	GPC3D	1	N	N	4.6772E-01	1.0000E+00	N	88%	N		1.6383E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.145E-02)	(0.000E+00)		7%			(0.000E+00)	3.873713		
2	08/10/06 14:08	RA-228	10	75	GPC3D	1	N	N	4.6772E-01	1.0000E+00	N	88%	N		1.8175E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.145E-02)	(0.000E+00)		7%			(0.000E+00)	3.873713		
3	08/11/06 06:08	RA-228	14	101	GPC2C	1	N	N	4.2983E-01	1.0000E+00	N	88%	N		1.1035E+01	4.5045E-01	1.0084E+00	
			50	400			N		(9.349E-03)	(0.000E+00)		7%			(0.000E+00)	3.873713		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/11/06	RA-228	R	**1.979237**		3.12500E-01	1.12487	1.12487	1.00 SA	88%		2.14678		
				(0.678445)		(1.0232E-01)	(0.380131)	(0.380131)	(0.028284)			0.902286		
	08/11/06	RA-228	R	**1.493115**		2.12500E-01	0.848589	0.848589	1.00 SA	88%		2.381629		
				(0.664129)		(9.2026E-02)	(0.374287)	(0.374287)	(0.028284)			1.000993		
	08/11/06	RA-228	R	**0.097439**	U4	1.25000E-02	0.055378	0.055378	1.00 SA	88%		2.642169		
				(0.521185)		(6.6849E-02)	(0.296191)	(0.296191)	(0.028284)			1.110497		
	08/11/06	RA-228	A	**1.18993**		1.79167E-01	0.676279	0.676279	1.00 SA	88%		1.379978		
				(0.361015)		(5.0997E-02)	(0.203393)	(0.203393)	(0.01633)			0.580001		
	08/11/06	RA-228	R	**1.416271**	U4	2.75000E-02	0.804916	0.804916	1.00 SA	88%		19.809488		
				(4.067889)		(7.8938E-02)	(2.311461)	(2.311461)	(0.028284)			8.514129		

() - (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: 6200116

Alpha Beta, Ra-228 by GPC , Calculated Results

8/11/2006 7:43:16 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	**H9GEK1AD**	**PCI/SA**		07/03/06 09:50	08/11/06 06:08	07/28/06 16:58	RATA23492	1	1.00 SA	
536403,P-0692					,J6G180224-10 v4.8.24		FILTER			30.5	08/10/06 08:27	RATA23492 Alq	92%	0.251421 SA	

Sq	Cnt Date	Parameter	Sample 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	08/10/06 12:18	RA-228	25	133	GPC4A	1	N	N	4.8160E-01	1.0000E+00	N	81%	N		1.4773E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.103E-02)	(0.000E+00)		7%			(0.000E+00)	3.977393		
1	08/10/06 13:13	RA-228	27	133	GPC4A	1	N	N	4.8160E-01	1.0000E+00	N	81%	N		1.6389E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.103E-02)	(0.000E+00)		7%			(0.000E+00)	3.977393		
2	08/10/06 14:08	RA-228	23	133	GPC4A	1	N	N	4.8160E-01	1.0000E+00	N	81%	N		1.8182E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.103E-02)	(0.000E+00)		7%			(0.000E+00)	3.977393		
3	08/11/06 06:08	RA-228	13	77	GPC2D	1	N	N	4.3846E-01	1.0000E+00	N	81%	N		1.1035E+01	4.5045E-01	1.0084E+00	
			50	400			N		(1.311E-02)	(0.000E+00)		7%			(0.000E+00)	3.977393		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/11/06	RA-228	R	**1.140713**	**U4**	1.67500E-01	0.63141	0.63141	1.00 SA	81%		2.951526		
				(0.718087)		(1.0407E-01)	(0.395819)	(0.395819)	(0.028284)			1.291973		
	08/11/06	RA-228	R	**1.567712**		2.07500E-01	0.867764	0.867764	1.00 SA	81%		3.27441		
				(0.830096)		(1.0785E-01)	(0.456765)	(0.456765)	(0.028284)			1.433309		
	08/11/06	RA-228	R	**1.06864**	**U4**	1.27500E-01	0.591516	0.591516	1.00 SA	81%		3.632503		
				(0.846383)		(1.0016E-01)	(0.467258)	(0.467258)	(0.028284)			1.590058		
	08/11/06	RA-228	A	**1.259022**		1.67500E-01	0.696897	0.696897	1.00 SA	81%		1.897258		
				(0.462009)		(6.0087E-02)	(0.254654)	(0.254654)	(0.01633)			0.830488		
	08/11/06	RA-228	R	**3.77169**	**U4**	6.75000E-02	2.087715	2.087715	1.00 SA	81%		19.1504		
				(4.229521)		(7.5374E-02)	(2.338061)	(2.338061)	(0.028284)			8.065725		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GEM1AD**	**PCI/SA**		07/03/06 10:10	08/11/06 06:08	07/28/06 16:58	RATA23493	1	1.00 SA	
536403,P-0693					,J6G180224-11 v4.8.24		FILTER			30.4	08/10/06 08:27	RATA23493 Alq	87%	0.24956 SA	

Sq	Cnt Date	Parameter	Sample 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	08/10/06 12:18	RA-228	35	117	GPC4B	1	N	N	4.6227E-01	1.0000E+00	N	77%	N		1.4773E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.048E-02)	(0.000E+00)		6%			(0.000E+00)	4.007057		
1	08/10/06 13:13	RA-228	18	117	GPC4B	1	N	N	4.6227E-01	1.0000E+00	N	77%	N		1.6389E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.048E-02)	(0.000E+00)		6%			(0.000E+00)	4.007057		
2	08/10/06 14:08	RA-228	19	117	GPC4B	1	N	N	4.6227E-01	1.0000E+00	N	77%	N		1.8182E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.048E-02)	(0.000E+00)		6%			(0.000E+00)	4.007057		
3	08/11/06 06:08	RA-228	6	97	GPC3A	1	N	N	4.6800E-01	1.0000E+00	N	77%	N		1.1040E+01	4.5045E-01	1.0084E+00	
			50	400			N		(1.324E-02)	(0.000E+00)		6%			(0.000E+00)	4.007057		

() - (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: 6200116

Alpha Beta, Ra-228 by GPC , Calculated Results

8/11/2006 7:43:16 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
	08/11/06	RA-228	R	**3.080454**		4.07500E-01	1.692486	1.692486	1.00 SA	77%		3.098269		
				(0.968882)		(1.2137E-01)	(0.523376)	(0.523376)	(0.028284)			1.345073		
	08/11/06	RA-228	R	**0.566079**	U4	6.75000E-02	0.31102	0.31102	1.00 SA	77%		3.437206		
				(0.749057)		(8.9058E-02)	(0.411164)	(0.411164)	(0.028284)			1.492219		
	08/11/06	RA-228	R	**0.814057**	U4	8.75000E-02	0.447265	0.447265	1.00 SA	77%		3.813103		
				(0.85316)		(9.1276E-02)	(0.468045)	(0.468045)	(0.028284)			1.655409		
	08/11/06	RA-228	A	**1.486863**		1.87500E-01	0.816923	0.816923	1.00 SA	77%		1.991585		
				(0.497516)		(5.8683E-02)	(0.27122)	(0.27122)	(0.01633)			0.864621		
	08/11/06	RA-228	R	**-6.835327**	U4	-1.22500E-01	-3.755515	-3.755515	1.00 SA	77%		21.093819		
				(3.138555)		(5.4829E-02)	(1.710859)	(1.710859)	(0.028284)			9.040136		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GEQ1AD**	**PCI/SA**		07/03/06 10:30	08/11/06 06:08	07/28/06 16:58	RATA23494	1	1.00 SA	
536403,P-0694					,J6G180224-12 v4.8.24		FILTER			30.8	08/10/06 08:27	RATA23494 Alq	99%	0.249983 SA	

Sq	Cnt Date	Parameter	Sample 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	08/10/06 12:18	RA-228	23	109	GPC4C	1	N	N	4.6870E-01	1.0000E+00	N	89%	N		1.4773E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.147E-02)	(0.000E+00)		7%			(0.000E+00)	4.000272		
1	08/10/06 13:13	RA-228	13	109	GPC4C	1	N	N	4.6870E-01	1.0000E+00	N	89%	N		1.6389E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.147E-02)	(0.000E+00)		7%			(0.000E+00)	4.000272		
2	08/10/06 14:08	RA-228	23	109	GPC4C	1	N	N	4.6870E-01	1.0000E+00	N	89%	N		1.8182E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.147E-02)	(0.000E+00)		7%			(0.000E+00)	4.000272		
3	08/11/06 06:08	RA-228	14	72	GPC3B	1	N	N	4.7930E-01	1.0000E+00	N	89%	N		1.1040E+01	4.5045E-01	1.0084E+00	
			50	400			N		(1.181E-02)	(0.000E+00)		7%			(0.000E+00)	4.000272		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/11/06	RA-228	R	**1.20572**		1.87500E-01	0.663582	0.663582	1.00 SA	89%		2.556012		
				(0.650828)		(9.9404E-02)	(0.356156)	(0.356156)	(0.028284)			1.104395		
	08/11/06	RA-228	R	**-0.089175**	U4	-1.25000E-02	-0.049078	-0.049078	1.00 SA	89%		2.835629		
				(0.547175)		(7.6689E-02)	(0.301131)	(0.301131)	(0.028284)			1.225211		
	08/11/06	RA-228	R	**1.483905**		1.87500E-01	0.816684	0.816684	1.00 SA	89%		3.145737		
				(0.800987)		(9.9404E-02)	(0.438329)	(0.438329)	(0.028284)			1.359202		
	08/11/06	RA-228	A	**0.866817**		1.20833E-01	0.477063	0.477063	1.00 SA	89%		1.643019		
				(0.389381)		(5.3379E-02)	(0.213349)	(0.213349)	(0.01633)			0.709911		
	08/11/06	RA-228	R	**4.699189**	U4	1.00000E-01	2.586254	2.586254	1.00 SA	89%		15.657699		
				(3.686114)		(7.7782E-02)	(2.023248)	(2.023248)	(0.028284)			6.559264		

() - (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: 6200116

Alpha Beta, Ra-228 by GPC , Calculated Results

8/11/2006 7:43:16 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	H9GER1AD	PCI/SA		07/03/06 10:45	08/11/06 06:08	07/28/06 16:58	RATA23495	1	1.00 SA	
536403,P-0695					,J6G180224-13 v4.8.24		FILTER			30.5	08/10/06 08:27	RATA23495 Alq	88%	0.252601 SA	

Sq	Cnt Date	Parameter	Sample 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	08/10/06 12:18	RA-228	54	104	GPC4D	1	N	N	4.5396E-01	1.0000E+00	N	78%	N		1.4773E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(9.347E-03)	(0.000E+00)		6%			(0.000E+00)	3.958813		
1	08/10/06 13:13	RA-228	36	104	GPC4D	1	N	N	4.5396E-01	1.0000E+00	N	78%	N		1.6389E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(9.347E-03)	(0.000E+00)		6%			(0.000E+00)	3.958813		
2	08/10/06 14:08	RA-228	21	104	GPC4D	1	N	N	4.5396E-01	1.0000E+00	N	78%	N		1.8182E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(9.347E-03)	(0.000E+00)		6%			(0.000E+00)	3.958813		
3	08/11/06 06:08	RA-228	18	89	GPC3C	1	N	N	4.7114E-01	1.0000E+00	N	78%	N		1.1040E+01	4.5045E-01	1.0084E+00	
			50	400			N		(1.101E-02)	(0.000E+00)		6%			(0.000E+00)	3.958813		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/11/06	RA-228	R	**6.163199**		8.20000E-01	3.427524	3.427524	1.00 SA	78%		2.927642		
				(1.28121)		(1.4916E-01)	(0.684771)	(0.684771)	(0.028284)			1.260883		
	08/11/06	RA-228	R	**3.83563**		4.60000E-01	2.133099	2.133099	1.00 SA	78%		3.247914		
				(1.093314)		(1.2268E-01)	(0.595546)	(0.595546)	(0.028284)			1.398819		
	08/11/06	RA-228	R	**1.480034**		1.60000E-01	0.823088	0.823088	1.00 SA	78%		3.603109		
				(0.892498)		(9.5131E-02)	(0.494085)	(0.494085)	(0.028284)			1.551795		
	08/11/06	RA-228	A	**3.826288**		4.80000E-01	2.127903	2.127903	1.00 SA	78%		1.881905		
				(0.635382)		(7.1764E-02)	(0.344433)	(0.344433)	(0.01633)			0.810503		
	08/11/06	RA-228	R	**7.441465**	U4	1.37500E-01	4.138402	4.138402	1.00 SA	78%		19.720892		
				(4.825453)		(8.8070E-02)	(2.673016)	(2.673016)	(0.028284)			8.398788		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	H9GE01AD	PCI/SA		07/03/06 11:00	08/11/06 06:09	07/28/06 16:58	RATA23496	1	1.00 SA	
536403,P-0696					,J6G180224-14 v4.8.24		FILTER			29.9	08/10/06 08:27	RATA23496 Alq	100%	0.248558 SA	

Sq	Cnt Date	Parameter	Sample 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	08/10/06 12:18	RA-228	68	246	GPC5A	1.5	N	N	5.8583E-01	1.0000E+00	N	87%	N		1.4779E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.192E-02)	(0.000E+00)		7%			(0.000E+00)	4.023205		
1	08/10/06 13:13	RA-228	50	246	GPC5A	1.5	N	N	5.8583E-01	1.0000E+00	N	87%	N		1.6395E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.192E-02)	(0.000E+00)		7%			(0.000E+00)	4.023205		
2	08/10/06 14:08	RA-228	31	246	GPC5A	1.5	N	N	5.8583E-01	1.0000E+00	N	87%	N		1.8189E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.192E-02)	(0.000E+00)		7%			(0.000E+00)	4.023205		
3	08/11/06 06:09	RA-228	25	262	GPC5A	1.5	N	N	5.8583E-01	1.0000E+00	N	87%	N		1.1055E+01	4.5045E-01	1.0084E+00	
			50	400			N		(1.192E-02)	(0.000E+00)		7%			(0.000E+00)	4.023205		

() - (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: 6200116

Alpha Beta, Ra-228 by GPC , Calculated Results

8/11/2006 7:43:17 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
	08/11/06	RA-228	R	**3.954084**		7.45000E-01	2.163786	2.163786	1.00 SA	87%		3.024794		
				(0.983694)		(1.6952E-01)	(0.523757)	(0.523757)	(0.028284)			1.369377		
	08/11/06	RA-228	R	**2.266923**		3.85000E-01	1.240524	1.240524	1.00 SA	87%		3.355694		
				(0.893688)		(1.4676E-01)	(0.483831)	(0.483831)	(0.028284)			1.519181		
	08/11/06	RA-228	R	**0.032661**	U4	5.00000E-03	0.017873	0.017873	1.00 SA	87%		3.722793		
				(0.771186)		(1.1806E-01)	(0.422013)	(0.422013)	(0.028284)			1.685373		
	08/11/06	RA-228	A	**2.084556**		3.78333E-01	1.140728	1.140728	1.00 SA	87%		1.944377		
				(0.512191)		(8.4467E-02)	(0.276186)	(0.276186)	(0.01633)			0.880253		
	08/11/06	RA-228	R	**-6.15365**	U4	-1.55000E-01	-3.367451	-3.367451	1.00 SA	87%		23.281317		
				(4.327313)		(1.0788E-01)	(2.360113)	(2.360113)	(0.028284)			10.571039		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GE51AD**	**PCI/SA**		07/03/06 09:35	08/11/06 06:09	07/28/06 16:58	RATA23497	1	1.00 SA	
536403,P-0697					,J6G180224-15 v4.8.24		FILTER			30.6	08/10/06 08:27	RATA23497 Alq	89%	0.25037 SA	

Sq	Cnt Date	Parameter	Sample 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	08/10/06 12:18	RA-228	65	273	GPC5B	1.5	N	N	5.8818E-01	1.0000E+00	N	79%	N		1.4779E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.383E-02)	(0.000E+00)		6%			(0.000E+00)	3.994094		
1	08/10/06 13:13	RA-228	35	273	GPC5B	1.5	N	N	5.8818E-01	1.0000E+00	N	79%	N		1.6395E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.383E-02)	(0.000E+00)		6%			(0.000E+00)	3.994094		
2	08/10/06 14:08	RA-228	38	273	GPC5B	1.5	N	N	5.8818E-01	1.0000E+00	N	79%	N		1.8189E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.383E-02)	(0.000E+00)		6%			(0.000E+00)	3.994094		
3	08/11/06 06:09	RA-228	38	276	GPC5B	1.5	N	N	5.8818E-01	1.0000E+00	N	79%	N		1.1055E+01	4.5045E-01	1.0084E+00	
			50	400			N		(1.383E-02)	(0.000E+00)		6%			(0.000E+00)	3.994094		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/11/06	RA-228	R	**3.574744**		6.17500E-01	1.970421	1.970421	1.00 SA	79%		3.458815		
				(1.029344)		(1.6645E-01)	(0.555975)	(0.555975)	(0.028284)			1.573458		
	08/11/06	RA-228	R	**0.112391**	U4	1.75000E-02	0.061951	0.061951	1.00 SA	79%		3.837195		
				(0.80496)		(1.2532E-01)	(0.443684)	(0.443684)	(0.028284)			1.745588		
	08/11/06	RA-228	R	**0.552183**	U4	7.75000E-02	0.304366	0.304366	1.00 SA	79%		4.256968		
				(0.928099)		(1.3002E-01)	(0.511275)	(0.511275)	(0.028284)			1.936548		
	08/11/06	RA-228	A	**1.413106**		2.37500E-01	0.778913	0.778913	1.00 SA	79%		2.223372		
				(0.534257)		(8.1866E-02)	(0.291998)	(0.291998)	(0.01633)			1.01144		
	08/11/06	RA-228	R	**3.031221**	U4	7.00000E-02	1.670827	1.670827	1.00 SA	79%		26.001437		
				(5.641928)		(1.3010E-01)	(3.108383)	(3.108383)	(0.028284)			11.83423		

() - (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: 6200116

Alpha Beta, Ra-228 by GPC , Calculated Results

8/11/2006 7:43:17 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	**H9HVE1AA**	**PCI/SA**	**B**	07/03/06 09:40	08/11/06 06:09	07/28/06 16:58	RATA23498	1	1.00 SA	
0,INTRA-LAB BLANK					,J6G190000-116		FILTER			31.0	08/10/06 08:27	RATA23498 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
0	08/10/06 12:18	RA-228	50	244	GPC5C	1.5	N	N	5.8942E-01	1.0000E+00	N	90%	N		1.4779E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.179E-02)	(0.000E+00)		7%			(0.000E+00)	1.00		
1	08/10/06 13:13	RA-228	38	244	GPC5C	1.5	N	N	5.8942E-01	1.0000E+00	N	90%	N		1.6395E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.179E-02)	(0.000E+00)		7%			(0.000E+00)	1.00		
2	08/10/06 14:08	RA-228	41	244	GPC5C	1.5	N	N	5.8942E-01	1.0000E+00	N	90%	N		1.8189E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.179E-02)	(0.000E+00)		7%			(0.000E+00)	1.00		
3	08/11/06 06:09	RA-228	55	249	GPC5C	1.5	N	N	5.8942E-01	1.0000E+00	N	90%	N		1.1055E+01	4.5045E-01	1.0084E+00	
			50	400			N		(1.179E-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
	08/11/06	RA-228	R	**0.493369**		3.90000E-01	1.086187	1.086187	1.00 SA	90%		0.718306		
				(0.191792)		(1.4671E-01)	(0.418315)	(0.418315)	(0.017321)			0.325063		
	08/11/06	RA-228	R	**0.210516**	**U4**	1.50000E-01	0.463466	0.463466	1.00 SA	90%		0.796886		
				(0.182668)		(1.2933E-01)	(0.401409)	(0.401409)	(0.017321)			0.360624		
	08/11/06	RA-228	R	**0.326964**	**U4**	2.10000E-01	0.719834	0.719834	1.00 SA	90%		0.884062		
				(0.210901)		(1.3388E-01)	(0.462749)	(0.462749)	(0.017321)			0.400075		
	08/11/06	RA-228	A	**0.343616**		2.50000E-01	0.756496	0.756496	1.00 SA	90%		0.461737		
				(0.112858)		(7.9004E-02)	(0.247263)	(0.247263)	(0.01)			0.208955		
	08/11/06	RA-228	R	**4.518478**		4.77500E-01	9.947751	9.947751	1.00 SA	90%		5.422599		
				(1.518333)		(1.5348E-01)	(3.301012)	(3.301012)	(0.017321)			2.456317		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9HVE1AC**	**PCI/SA**	**S**	07/03/06 09:40	08/11/06 06:09	07/28/06 16:58	RASC4146	1	1.00 SA	
0,INTRA-LAB CHECK					,J6G190000-116		FILTER			30.9	08/10/06 08:27	RASC4146 Alq	86%	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	08/10/06 12:18	RA-228	171	245	GPC5D	1.5	N	N	5.6143E-01	1.0000E+00	N	77%	N		1.4779E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.257E-02)	(0.000E+00)		6%			(0.000E+00)	1.00		
1	08/10/06 13:13	RA-228	160	245	GPC5D	1.5	N	N	5.6143E-01	1.0000E+00	N	77%	N		1.6395E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.257E-02)	(0.000E+00)		6%			(0.000E+00)	1.00		
2	08/10/06 14:08	RA-228	173	245	GPC5D	1.5	N	N	5.6143E-01	1.0000E+00	N	77%	N		1.8189E+00	4.5045E-01	1.0084E+00	
			50	400			Y		(1.257E-02)	(0.000E+00)		6%			(0.000E+00)	1.00		
3	08/11/06 06:09	RA-228	44	247	GPC5D	1.5	N	N	5.6143E-01	1.0000E+00	N	77%	N		1.1055E+01	4.5045E-01	1.0084E+00	
			50	400			N		(1.257E-02)	(0.000E+00)		6%			(0.000E+00)	1.00		

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

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

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

RecCnt:17

RADCALC v4.8.24

STL Richland

Batch Nbr: 6200116

Alpha Beta, Ra-228 by GPC , Calculated Results

8/11/2006 7:43:17 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
	08/11/06	RA-228	R	**4.355992**		2.80750E+00	9.590026	9.590026	1.00 SA	77%	86%	0.882619		
				(0.593655)		(2.6445E-01)	(1.204437)	(1.204437)	(0.017321)			0.399499		
	08/11/06	RA-228	R	**4.453835**		2.58750E+00	9.805435	9.805435	1.00 SA	77%	88%	0.979174		
				(0.621772)		(2.5599E-01)	(1.266731)	(1.266731)	(0.017321)			0.443203		
	08/11/06	RA-228	R	**5.43756**		2.84750E+00	11.971175	11.971175	1.00 SA	77%	108%	1.086291		
				(0.738081)		(2.6595E-01)	(1.496381)	(1.496381)	(0.017321)			0.491688		
	08/11/06	RA-228	A	**4.749129**		2.74750E+00	10.455545	10.455545	1.00 SA	77%	94%	0.567359		
				(0.377681)		(1.5136E-01)	(0.766988)	(0.766988)	(0.01)			0.256803		
	08/11/06	RA-228	R	**3.046549**		2.62500E-01	6.707194	6.707194	1.00 SA	77%	60%	6.626471		
				(1.633599)		(1.3836E-01)	(3.57893)	(3.57893)	(0.017321)			3.000497		

() - (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

RADIUM 226

SAMPLE AND QC DATA

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

8/14/2006 8:28:48 AM

Lot No., Due Date: J6G180224; 08/15/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6200115; RRA2267 Ra-226 by ASC-7

SDG, Matrix: 32140; FILTER

1.0 COC

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

2.0 QC Batch

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

3.0 QC & Samples

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

4.0 Raw Data

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

5.0 Other

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

6.0 Comments on any No response:

First Level Review Pam Anderson **Date** 8-14-06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6R00115

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

STL RICHLAND

7/27/2006 2:11:11 PM

Sample Preparation/Analysis

Balance Id:1120373922,1120403183

536403, Brown and Caldwell , Brown & Caldwell

BX Ra-226/228 PrpRC5016, SepRC5005
TE Ba-133 by NaI & Ra-226 by Alpha Scint 7 day ingrow
01 STANDARD TEST SET

Pipet #:

AnalyDueDate: 08/14/2006

Sep1 DT/Tm Tech: MD 7/28/06 10:58

Batch: 6200115 FILTER pCi/sampl PM, Quote: SA , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: 6200116, BXTF All Tests: 6200105 7YSR, 6200109 9NS1, 6200110 BAS7, 6200111 BDS8, 6200115 BXTE, 6200116 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:
1 H9GDP-1-AC J6G180224-1-SAMP	0.833sa,g	508.83sa,g	151.28g,in	0.2477g	RATA23483 07/19/06		9"	1321	7/28	
			7.4875 / 7.46 = 1.0037					8-1-6M	10:10	
							1HB	8/9/06	0945 R	
07/03/2006 09:40			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
2 H9GDW-1-AC J6G180224-2-SAMP	0.833sa,g	503.49sa,g	150.74g,in	0.2494g	RATA23484 07/19/06		65	1321	7/28	
			7.5563 / 7.945 = 0.9511					8-1-6M	10:10	
							2RC	8/9/06	0942 R	
07/03/2006 09:55			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
3 H9GD1-1-AC J6G180224-3-SAMP	0.833sa,g	503.19sa,g	151.16g,in	0.2502g	RATA23485 07/19/06		64	1321	7/28	
			7.5563 / 6.825 = 1.1072					8-1-6M	10:10	
							3MA	8/9/06	0945 R	
07/03/2006 10:15			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
4 H9GD4-1-AC J6G180224-4-SAMP	0.833sa,g	500.35sa,g	150.32g,in	0.2503g	RATA23486 07/19/06		67	1322	7/28	
			7.5170 / 6.960 = 1.0800					8-1-6M	10:10	
							4UA	8/9/06	0943 R	
07/03/2006 10:35			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:

STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1 ISV - Insufficient Volume for Analysis WO Cnt: 4
Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Prep_SamplePrep v4.8.24

505

STL RICHLAND

7/27/2006 2:11:11 PM

536403, Brown and Caldwell , Brown & Caldwell

AnalyDueDate: 08/14/2006

Sample Preparation/Analysis

BX Ra-226/228 PrpRC5016, SepRC5005
TE Ba-133 by NaI & Ra-226 by Alpha Scint 7 day ingrow
01 STANDARD TEST SET

Balance Id:1120373922,1120373922,1120

Pipet #:

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: HansenM,LongA

Batch: 6200115 FILTER pCi/sampl PM, Quote: SA , 63174
SEQ Batch, Test: 6200116, BXTF

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
5 H9GD6-1-AC J6G180224-5-SAMP	0.833sa,g	502.06sa,g	150.54g,in	0.2498g	RATA23487 07/19/06		610	1322	7/25/06	
			7.5268 / 7.383 = 1.0195					8-1-6M	10:10	
							GMB	8/9/06	0944 R	
07/03/2006 10:50		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
6 H9GD8-1-AC J6G180224-6-SAMP	0.833sa,g	500.24sa,g	150.32g,in	0.2503g	RATA23488 07/19/06		66	1322	7/25/06	
			7.5367 / 7.490 = 1.0062					8-1-6M	10:10	
							7UA	8/9/06	0946 R	
07/03/2006 11:05		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
7 H9GEC-1-AC J6G180224-7-SAMP	0.833sa,g	500.72sa,g	150.20g,in	0.2499g	RATA23489 07/19/06		613	1322	7/25/06	
			7.5367 / 7.643 = 0.9861					8-1-6M	10:10	
							SRD	8/9/06	0944 R	
07/03/2006 10:00		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
8 H9GED-1-AC J6G180224-8-SAMP	0.833sa,g	505.97sa,g	152.13g,in	0.2505g	RATA23490 07/19/06		612	1322	7/25/06	
			7.5465 / 7.160 = 1.0540					8-1-6M	10:10	
							9RC	8/9/06	0943 R	
07/03/2006 09:45		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:

STL RICHLAND

7/27/2006 2:11:12 PM

Sample Preparation/Analysis

536403, Brown and Caldwell , Brown & Caldwell

BX Ra-226/228 PrpRC5016, SepRC5005
TE Ba-133 by NaI & Ra-226 by Alpha Scint 7 day ingrow
01 STANDARD TEST SET

Balance Id:1120373922,1120373922,1120

Pipet #:

AnalyDueDate: 08/14/2006

Sep1 DT/Tm Tech:

Batch: 6200115 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: 6200116, BXTF

Sep2 DT/Tm Tech:

Prep Tech: HansenM,LongA

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
9 H9GEF-1-AC J6G180224-9-SAMP	0.833sa,g	502.51sa,g	155.71g,in 7.5170 7.27 = 1.0340	0.2581g	RATA23491 07/19/06		9	1400 8-1-6M 10:35 ASC 8/9/06 1019	7/28/06	
07/03/2006 09:30			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
10H9GEK-1-AC J6G180224-10-SAMP	0.833sa,g	502.21sa,g	151.58g,in 7.5760 6.953 = 1.0896	0.2514g	RATA23492 07/19/06		65	1401 8-1-6M 10:35 CSA 8/9/06 1018	7/28/06	
07/03/2006 09:50			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
11H9GEM-1-AC J6G180224-11-SAMP	0.833sa,g	501.85sa,g	150.35g,in 7.5170 6.545 = 1.1485	0.2496g	RATA23493 07/19/06		64	1401 8-1-6M 10:35 DSA 8/9/06 1012	7/28/06	
07/03/2006 10:10			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:
12H9GEQ-1-AC J6G180224-12-SAMP	0.833sa,g	511.83sa,g	153.60g,in 7.4776 7.438 = 1.0053	0.25g	RATA23494 07/19/06		67	1401 8-1-6M 10:35 EHB 8/9/06 1019	7/28/06	
07/03/2006 10:30			AmtRec: FILTER	#Containers: 1			Scr:	Alpha:		Beta:

7/27/2006 2:11:12 PM

Sample Preparation/Analysis

536403, Brown and Caldwell , Brown & Caldwell

BX Ra-226/228 PrpRC5016, SepRC5005
TE Ba-133 by NaI & Ra-226 by Alpha Scint 7 day ingrow
01 STANDARD TEST SET

Balance Id:1120373922,1120373922,1120

Pipet #: _____

AnalyDueDate: 08/14/2006

Sep1 DT/Tm Tech:

Batch: 6200115 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: 6200116, BXTF

Sep2 DT/Tm Tech:

Prep Tech: HansenM,LongA

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
13H9GER-1-AC J6G180224-13-SAMP	0.833sa,g	502.70sa,g	152.44g,in	0.2526g	RATA23495 07/19/06		G10	1400	7/28hrs	
			7.5268 / 6.609 = 1.1389					8-1-6M 10:35		
							FSA	8/9/06	1020 R	
07/03/2006 10:45		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
14H9GE0-1-AC J6G180224-14-SAMP	0.833sa,g	507.76sa,g	151.51g,in	0.2486g	RATA23496 07/19/06		G6	1401	7/28hrs	
			7.5563 / 7.551 = 1.0007					8-1-6M 10:35		
							GSA	8/9/06	1019 R	
07/03/2006 11:00		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
15H9GE5-1-AC J6G180224-15-SAMP	0.833sa,g	505.45sa,g	151.92g,in	0.2504g	RATA23497 07/19/06		G13	1401	7/28hrs	
			7.5170 / 6.654 = 1.1297					8-1-6M 10:35		
							JSB	8/9/06	1018 R	
07/03/2006 09:35		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
16H9HT7-1-AA-B J6G190000-115-BLK			1.00sa,in	1.00sa	RATA23498 07/19/06		G12	1402	7/28hrs	
			7.4875 / 7.480 = 1.0010					8-1-6M 10:35		
							BMA	8/9/06	1026 R	
07/03/2006 09:40		AmtRec:	#Containers: 1				Scr:	Alpha:		Beta:

STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 4 ISV - Insufficient Volume for Analysis WO Cnt: 16
Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Prep_SamplePrep v4.8.24

STL RICHLAND

508

7/27/2006 2:11:13 PM

Sample Preparation/Analysis

BX Ra-226/228 PrpRC5016, SepRC5005
TE Ba-133 by NaI & Ra-226 by Alpha Scint 7 day ingrow
01 STANDARD TEST SET

Balance Id:1120373922,1120373922,1120

Pipet #:

AnalyDueDate: 08/14/2006

Sep1 DT/Tm Tech:

Batch: 6200115 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:
17H9HT7-1-AC-C J6G190000-115-LCS			1.00sa,in 7.5065 6.44 = 1.1656	1.00sa	RASC4146 06/13/06		9	1450 8-1-6 M 10:50 PMA 8/9/06 1022 R	7/28/06 RP	

07/03/2006 09:40 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

H9GDP1AC-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:
H9HT71AA-BLK:											
Ba-133	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20	Ra-226	RDL:1.00E+00	pCi/sam	LCL:	UCL:	RPD:
H9HT71AC-LCS:											
Ba-133	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20	Ra-226	RDL:1	pCi/sam	LCL:70	UCL:130	RPD:20

H9GDP1AC-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H9HT71AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H9HT71AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

8/14/2006 8:25:21 AM

ICOC Fraction Transfer/Status Report

ByDate: 8/14/2005, 8/19/2006, Batch: '6200115', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6200115						
AC		**CalcC**	**HansenM**	7/20/2006 1:19:51 PM		
SC			wagarr	IsBatched	7/19/2006 8:00:26 AM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	7/20/2006 1:19:51 PM	RICH-RC-5016 REVISION 5
SC			LongA	InPrep	7/27/2006 1:43:40 PM	RICH-RC-5005 REVISION 5
SC			LongA	Sep1C	7/28/2006 11:58:26 AM	RICH-RC-5005 REVISION 5
SC			BlackCL	InCnt1	7/28/2006 12:13:05 PM	RICH-RD-0007 REVISION 5
SC			DAWKINSO	Cnt1C	7/28/2006 4:52:17 PM	RICH-RD-0007 REVISION 5
SC			TamosaitisM	InSep2	8/1/2006 9:33:31 AM	RICH-RC-5005 REVISION 4
SC			StringerR	CalcC	8/9/2006 2:29:08 PM	RICH-RC-5005 REVISION 5
AC			**LongA**	7/27/2006 1:43:40 PM		
AC			**LongA**	7/28/2006 11:58:26		
AC			**BlackCL**	7/28/2006 12:13:05		
AC			**DAWKINSO**	7/28/2006 4:52:17 PM		181
AC			**DAWKINSO**	7/28/2006 4:52:35 PM		
AC			**TamosaitisM**	8/1/2006 9:33:31 AM		
AC			**StringerR**	8/9/2006 2:29:08 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 8

ICOCFractions v4.8.18

8/14/2006 8:25:20 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
32140	**9H9GD110**			**J6G1802243**	000518	FILTER	7/18/2006 10:00:00	7/3/2006 10:15:00 AM				
ALPHA	BAS7		0	8/5/2006 1:41:57 PM	**2.3576E+00**	1.386E+00	1.407E+00	5.169E+00	PCI/SA	1.0	1.0E+0	2.079E-2
BETA	BDS8		0	8/3/2006 7:32:27 AM	**3.7893E+01**	2.155E+00	3.394E+00	5.239E+00	PCI/SA	1.0	1.0E+0	3.297E-2
RA-226	BXTE		0	8/9/2006 12:45:00 PM	**1.8219E-01**	9.698E-02	9.874E-02	3.173E-01	PCI/SA	0.903	8.33E-1	2.502E-1
RA-228	BXTF		0	8/11/2006 6:08:21 AM	**2.1832E-01**	3.412E-01	5.186E-01	2.43E+00	PCI/SA	0.803	1.0E+0	2.502E-1
TH-228	9NS1		0	7/28/2006 8:02:46 PM	**6.7221E-02**	6.722E-02	6.749E-02	2.688E-01	PCI/SA	0.988	1.0E+0	3.282E-2
TH-230	9NS1		0	7/28/2006 8:02:46 PM	**2.6062E-01**	1.064E-01	1.09E-01	1.177E-01	PCI/SA	0.988	1.0E+0	3.282E-2
TH-232	9NS1		0	7/28/2006 8:02:46 PM	**4.3436E-02**	4.344E-02	4.361E-02	1.177E-01	PCI/SA	0.988	1.0E+0	3.282E-2
U-234	7YSR		0	7/30/2006 10:18:27	**1.6161E-01**	1.83E-01	1.835E-01	8.299E-01	PCI/SA	0.953	1.0E+0	3.211E-2
U-235	7YSR		0	7/30/2006 10:18:27	**-6.0657E-02**	3.502E-02	3.536E-02	6.379E-01	PCI/SA	0.953	1.0E+0	3.211E-2
U-238	7YSR		0	7/30/2006 10:18:27	**-1.2131E-01**	4.953E-02	5.048E-02	7.887E-01	PCI/SA	0.953	1.0E+0	3.211E-2
32140	**9H9GD410**			**J6G1802244**	000519	FILTER	7/18/2006 10:00:00	7/3/2006 10:35:00 AM				
ALPHA	BAS7		0	8/5/2006 1:41:57 PM	**5.8949E+00**	1.795E+00	1.894E+00	5.329E+00	PCI/SA	1.0	1.0E+0	2.098E-2
BETA	BDS8		0	8/3/2006 7:32:27 AM	**4.2234E+01**	2.197E+00	4.389E+00	5.049E+00	PCI/SA	1.0	1.0E+0	3.346E-2
RA-226	BXTE		0	8/9/2006 12:43:00 PM	**2.0251E-02**	1.081E-01	1.081E-01	4.196E-01	PCI/SA	0.926	8.33E-1	2.503E-1
RA-228	BXTF		0	8/11/2006 6:08:32 AM	**1.4395E+00**	5.054E-01	5.378E-01	2.249E+00	PCI/SA	0.826	1.0E+0	2.503E-1
TH-228	9NS1		0	7/28/2006 8:02:46 PM	**1.7886E-01**	8.943E-02	9.088E-02	1.212E-01	PCI/SA	1.016	1.0E+0	3.386E-2
TH-230	9NS1		0	7/28/2006 8:02:46 PM	**2.6005E-01**	1.062E-01	1.087E-01	1.175E-01	PCI/SA	1.016	1.0E+0	3.386E-2
TH-232	9NS1		0	7/28/2006 8:02:46 PM	**4.3341E-02**	4.334E-02	4.352E-02	1.175E-01	PCI/SA	1.016	1.0E+0	3.386E-2
U-234	7YSR		0	7/30/2006 10:18:44	**1.8213E-01**	1.822E-01	1.828E-01	7.898E-01	PCI/SA	0.939	1.0E+0	3.245E-2
U-235	7YSR		0	7/30/2006 10:18:44	**0.0E+00**	0.0E+00	1.239E-01	2.742E-01	PCI/SA	0.939	1.0E+0	3.245E-2
U-238	7YSR		0	7/30/2006 10:18:44	**1.8213E-01**	1.822E-01	1.828E-01	7.898E-01	PCI/SA	0.939	1.0E+0	3.245E-2
32140	**9H9GD610**			**J6G1802245**	000520	FILTER	7/18/2006 10:00:00	7/3/2006 10:50:00 AM				
ALPHA	BAS7		0	8/5/2006 1:41:57 PM	**1.1322E+00**	9.913E-01	9.981E-01	4.062E+00	PCI/SA	1.0	1.0E+0	2.076E-2
BETA	BDS8		0	8/3/2006 7:32:27 AM	**4.4768E+01**	2.358E+00	3.988E+00	5.721E+00	PCI/SA	1.0	1.0E+0	3.362E-2
RA-226	BXTE		0	8/9/2006 12:44:00 PM	**1.3846E-01**	7.683E-02	7.806E-02	2.516E-01	PCI/SA	0.981	8.33E-1	2.498E-1
RA-228	BXTF		0	8/11/2006 6:08:32 AM	**1.3485E+00**	4.763E-01	5.035E-01	2.098E+00	PCI/SA	0.853	1.0E+0	2.498E-1
TH-228	9NS1		0	7/28/2006 8:02:46 PM	**1.3357E-01**	7.867E-02	7.954E-02	2.289E-01	PCI/SA	1.103	1.0E+0	3.304E-2
TH-230	9NS1		0	7/28/2006 8:02:46 PM	**2.9592E-01**	1.046E-01	1.078E-01	1.002E-01	PCI/SA	1.103	1.0E+0	3.304E-2
TH-232	9NS1		0	7/28/2006 8:02:46 PM	**-1.8495E-02**	1.849E-02	1.857E-02	2.219E-01	PCI/SA	1.103	1.0E+0	3.304E-2
U-234	7YSR		0	7/30/2006 10:19:01	**3.6866E-02**	9.755E-02	9.759E-02	5.818E-01	PCI/SA	1.025	1.0E+0	3.232E-2
U-235	7YSR		0	7/30/2006 10:19:01	**5.5302E-02**	9.579E-02	9.589E-02	5.209E-01	PCI/SA	1.025	1.0E+0	3.232E-2
U-238	7YSR		0	7/30/2006 10:19:01	**1.8431E-02**	9.927E-02	9.928E-02	6.332E-01	PCI/SA	1.025	1.0E+0	3.232E-2
32140	**9H9GD810**			**J6G1802246**	000521	FILTER	7/18/2006 10:00:00	7/3/2006 11:05:00 AM				
ALPHA	BAS7		0	8/6/2006 9:29:45 AM	**2.0078E+00**	1.426E+00	1.441E+00	5.638E+00	PCI/SA	1.0	1.0E+0	2.105E-2
BETA	BDS8		0	8/3/2006 10:09:07 AM	**4.731E+01**	2.348E+00	4.186E+00	5.552E+00	PCI/SA	1.0	1.0E+0	3.391E-2
RA-226	BXTE		0	8/9/2006 12:46:00 PM	**1.3434E-01**	9.818E-02	9.928E-02	3.406E-01	PCI/SA	0.994	8.33E-1	2.503E-1
RA-228	BXTF		0	8/11/2006 6:08:32 AM	**1.8771E+00**	4.05E-01	4.353E-01	1.51E+00	PCI/SA	0.893	1.0E+0	2.503E-1
TH-228	9NS1		0	7/28/2006 8:02:46 PM	**5.9232E-02**	7.647E-02	7.665E-02	3.319E-01	PCI/SA	0.968	1.0E+0	3.349E-2
TH-230	9NS1		0	7/28/2006 8:02:46 PM	**2.8706E-01**	1.099E-01	1.129E-01	2.296E-01	PCI/SA	0.968	1.0E+0	3.349E-2
TH-232	9NS1		0	7/28/2006 8:02:46 PM	**7.6551E-02**	7.161E-02	7.193E-02	2.817E-01	PCI/SA	0.968	1.0E+0	3.349E-2
U-234	7YSR		0	7/30/2006 10:19:17	**2.0406E-01**	1.443E-01	1.452E-01	2.765E-01	PCI/SA	0.939	1.0E+0	3.253E-2
U-235	7YSR		0	7/30/2006 10:19:17	**-2.0408E-02**	2.041E-02	2.047E-02	4.887E-01	PCI/SA	0.939	1.0E+0	3.253E-2
U-238	7YSR		0	7/30/2006 10:19:17	**-4.0816E-02**	2.886E-02	2.905E-02	5.766E-01	PCI/SA	0.939	1.0E+0	3.253E-2
32140	**9H9GDP10**			**J6G1802241**	000516	FILTER	7/18/2006 10:00:00	7/3/2006 9:40:00 AM				
ALPHA	BAS7		0	8/5/2006 1:41:57 PM	**5.0586E+00**	1.807E+00	1.882E+00	5.787E+00	PCI/SA	1.0	1.0E+0	2.086E-2
BETA	BDS8		0	8/3/2006 7:32:14 AM	**3.9213E+01**	2.256E+00	3.563E+00	5.523E+00	PCI/SA	1.0	1.0E+0	3.325E-2
RA-226	BXTE		0	8/9/2006 12:45:00 PM	**9.5723E-02**	1.38E-01	1.384E-01	4.993E-01	PCI/SA	0.996	8.33E-1	2.477E-1
RA-228	BXTF		0	8/11/2006 6:08:21 AM	**7.2917E-01**	5.174E-01	5.598E-01	2.521E+00	PCI/SA	0.869	1.0E+0	2.477E-1
TH-228	9NS1		0	7/28/2006 8:02:46 PM	**1.9522E-06**	8.274E-02	8.274E-02	4.198E-01	PCI/SA	1.0	1.0E+0	3.202E-2
TH-230	9NS1		0	7/28/2006 8:02:46 PM	**1.7012E-01**	8.662E-02	8.793E-02	2.267E-01	PCI/SA	1.0	1.0E+0	3.202E-2
TH-232	9NS1		0	7/28/2006 8:02:46 PM	**1.5122E-01**	7.561E-02	7.679E-02	1.024E-01	PCI/SA	1.0	1.0E+0	3.202E-2

6200115, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => .

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Sample Date / Mda	Units	Expected	Yield	Volumes
U-234	7YSR	0		7/30/2006 10:17:46	**8.3983E-02**	1.455E-01	1.457E-01	7.913E-01	PCI/SA	0.713	1.0E+0	3.169E-2
U-235	7YSR	0		7/30/2006 10:17:46	**-5.6025E-02**	3.962E-02	3.989E-02	7.913E-01	PCI/SA	0.713	1.0E+0	3.169E-2
U-238	7YSR	0		7/30/2006 10:17:46	**1.6797E-01**	2.058E-01	2.063E-01	9.618E-01	PCI/SA	0.713	1.0E+0	3.169E-2
32140	**9H9GDW10**			**J6G1802242**	000517	FILTER	7/18/2006 10:00:00	7/3/2006 9:55:00 AM				
ALPHA	BAS7	0		8/5/2006 1:41:57 PM	**7.2484E-01**	1.135E+00	1.137E+00	5.11E+00	PCI/SA	1.0	1.0E+0	2.078E-2
BETA	BDS8	0		8/3/2006 7:32:27 AM	**3.9721E+01**	2.217E+00	3.529E+00	5.358E+00	PCI/SA	1.0	1.0E+0	3.345E-2
RA-226	BXTE	0		8/9/2006 12:42:00 PM	**1.6069E-01**	1.202E-01	1.214E-01	4.183E-01	PCI/SA	1.051	8.33E-1	2.494E-1
RA-228	BXTF	0		8/11/2006 6:08:21 AM	**6.4114E-01**	4.707E-01	4.707E-01	2.106E+00	PCI/SA	0.966	1.0E+0	2.494E-1
TH-228	9NS1	0		7/28/2006 8:02:46 PM	**1.5259E-01**	1.112E-01	1.12E-01	4.106E-01	PCI/SA	0.977	1.0E+0	3.337E-2
TH-230	9NS1	0		7/28/2006 8:02:46 PM	**4.252E-01**	1.294E-01	1.348E-01	2.218E-01	PCI/SA	0.977	1.0E+0	3.337E-2
TH-232	9NS1	0		7/28/2006 8:02:46 PM	**3.6975E-02**	5.846E-02	5.855E-02	2.721E-01	PCI/SA	0.977	1.0E+0	3.337E-2
U-234	7YSR	0		7/30/2006 10:18:08	**2.2371E-01**	1.292E-01	1.304E-01	2.021E-01	PCI/SA	1.021	1.0E+0	3.34E-2
U-235	7YSR	0		7/30/2006 10:18:08	**2.9823E-02**	7.892E-02	7.895E-02	4.707E-01	PCI/SA	1.021	1.0E+0	3.34E-2
U-238	7YSR	0		7/30/2006 10:18:08	**1.0439E-01**	1.086E-01	1.089E-01	4.707E-01	PCI/SA	1.021	1.0E+0	3.34E-2
32140	**9H9GE010**			**J6G18022414**	P-0696	FILTER	7/18/2006 10:00:00	7/3/2006 11:00:00 AM				
ALPHA	BAS7	0		8/6/2006 12:14:10 PM	**3.4516E+00**	1.417E+00	1.461E+00	4.606E+00	PCI/SA	1.0	1.0E+0	2.1E-2
BETA	BDS8	0		8/3/2006 10:09:02 AM	**3.4235E+01**	2.048E+00	3.562E+00	5.053E+00	PCI/SA	1.0	1.0E+0	3.227E-2
RA-226	BXTE	0		8/9/2006 1:19:01 PM	**6.2303E-02**	9.293E-02	9.316E-02	3.475E-01	PCI/SA	0.999	8.33E-1	2.486E-1
RA-228	BXTF	0		8/11/2006 6:09:38 AM	**2.0846E+00**	4.654E-01	5.122E-01	1.944E+00	PCI/SA	0.869	1.0E+0	2.486E-1
TH-228	9NS1	0		7/29/2006 1:47:52 PM	**1.1019E-01**	7.946E-02	8.006E-02	2.644E-01	PCI/SA	1.083	1.0E+0	3.326E-2
TH-230	9NS1	0		7/29/2006 1:47:52 PM	**6.4035E-01**	1.653E-01	1.75E-01	1.157E-01	PCI/SA	1.083	1.0E+0	3.326E-2
TH-232	9NS1	0		7/29/2006 1:47:52 PM	**0.0E+00**	0.0E+00	5.228E-02	1.157E-01	PCI/SA	1.083	1.0E+0	3.326E-2
U-234	7YSR	0		7/30/2006 10:22:03	**-3.623E-02**	1.479E-02	1.508E-02	4.475E-01	PCI/SA	0.972	1.0E+0	3.401E-2
U-235	7YSR	0		7/30/2006 10:22:03	**5.7318E-02**	7.615E-02	7.629E-02	3.763E-01	PCI/SA	0.972	1.0E+0	3.401E-2
U-238	7YSR	0		7/30/2006 10:22:03	**4.5242E-02**	7.663E-02	7.672E-02	4.263E-01	PCI/SA	0.972	1.0E+0	3.401E-2
32140	**9H9GE510**			**J6G18022415**	P-0697	FILTER	7/18/2006 10:00:00	7/3/2006 9:35:00 AM				
ALPHA	BAS7	0		8/6/2006 12:14:10 PM	**1.8229E+00**	1.028E+00	1.045E+00	3.515E+00	PCI/SA	1.0	1.0E+0	2.105E-2
BETA	BDS8	0		8/3/2006 10:09:02 AM	**3.6557E+01**	2.07E+00	3.249E+00	4.962E+00	PCI/SA	1.0	1.0E+0	3.463E-2
RA-226	BXTE	0		8/9/2006 1:18:00 PM	**1.1513E-01**	6.253E-02	6.369E-02	1.881E-01	PCI/SA	0.885	8.33E-1	2.504E-1
RA-228	BXTF	0		8/11/2006 6:09:38 AM	**1.4131E+00**	4.871E-01	5.343E-01	2.223E+00	PCI/SA	0.787	1.0E+0	2.504E-1
TH-228	9NS1	0		7/29/2006 1:47:52 PM	**1.8191E-01**	9.095E-02	9.242E-02	1.232E-01	PCI/SA	1.042	1.0E+0	3.252E-2
TH-230	9NS1	0		7/29/2006 1:47:52 PM	**1.3214E-01**	7.629E-02	7.721E-02	1.194E-01	PCI/SA	1.042	1.0E+0	3.252E-2
TH-232	9NS1	0		7/29/2006 1:47:52 PM	**4.4045E-02**	4.405E-02	4.422E-02	1.194E-01	PCI/SA	1.042	1.0E+0	3.252E-2
U-234	7YSR	0		7/30/2006 10:22:25	**2.0441E-01**	1.576E-01	1.585E-01	5.077E-01	PCI/SA	0.941	1.0E+0	3.193E-2
U-235	7YSR	0		7/30/2006 10:22:25	**9.3313E-02**	1.118E-01	1.121E-01	5.077E-01	PCI/SA	0.941	1.0E+0	3.193E-2
U-238	7YSR	0		7/30/2006 10:22:25	**9.3313E-02**	1.118E-01	1.121E-01	5.077E-01	PCI/SA	0.941	1.0E+0	3.193E-2
32140	**9H9GEC10**			**J6G1802247**	000522	FILTER	7/18/2006 10:00:00	7/3/2006 10:00:00 AM				
ALPHA	BAS7	0		8/6/2006 9:29:45 AM	**4.3461E-01**	9.879E-01	9.889E-01	4.671E+00	PCI/SA	1.0	1.0E+0	2.096E-2
BETA	BDS8	0		8/3/2006 10:09:07 AM	**6.6588E-01**	1.349E+00	1.35E+00	5.647E+00	PCI/SA	1.0	1.0E+0	3.416E-2
RA-226	BXTE	0		8/9/2006 12:44:00 PM	**-1.2684E-01**	1.12E-01	1.127E-01	4.962E-01	PCI/SA	1.014	8.33E-1	2.499E-1
RA-228	BXTF	0		8/11/2006 6:08:42 AM	**1.6203E+00**	3.819E-01	4.214E-01	1.53E+00	PCI/SA	0.905	1.0E+0	2.499E-1
TH-228	9NS1	0		7/28/2006 8:02:46 PM	**-7.0015E-02**	7.002E-02	7.045E-02	8.399E-01	PCI/SA	0.303	1.0E+0	3.401E-2
TH-230	9NS1	0		7/28/2006 8:02:46 PM	**1.6287E+00**	4.702E-01	5.04E-01	3.678E-01	PCI/SA	0.303	1.0E+0	3.401E-2
TH-232	9NS1	0		7/28/2006 8:02:46 PM	**1.3573E-01**	1.357E-01	1.366E-01	3.678E-01	PCI/SA	0.303	1.0E+0	3.401E-2
U-234	7YSR	0		7/30/2006 10:19:35	**-2.7717E-02**	2.772E-02	2.781E-02	6.638E-01	PCI/SA	0.714	1.0E+0	3.267E-2
U-235	7YSR	0		7/30/2006 10:19:35	**1.3859E-01**	1.386E-01	1.391E-01	3.756E-01	PCI/SA	0.714	1.0E+0	3.267E-2
U-238	7YSR	0		7/30/2006 10:19:35	**-2.7717E-02**	2.772E-02	2.781E-02	6.638E-01	PCI/SA	0.714	1.0E+0	3.267E-2
32140	**9H9GED10**			**J6G1802248**	000523	FILTER	7/18/2006 10:00:00	7/3/2006 9:45:00 AM				
ALPHA	BAS7	0		8/6/2006 9:29:45 AM	**7.1155E-01**	1.094E+00	1.096E+00	4.948E+00	PCI/SA	1.0	1.0E+0	2.078E-2
BETA	BDS8	0		8/3/2006 10:09:07 AM	**1.6827E+00**	1.347E+00	1.352E+00	5.501E+00	PCI/SA	1.0	1.0E+0	3.278E-2
RA-226	BXTE	0		8/9/2006 12:43:00 PM	**-6.1712E-02**	1.409E-01	1.41E-01	5.636E-01	PCI/SA	0.949	8.33E-1	2.505E-1
RA-228	BXTF	0		8/11/2006 6:08:42 AM	**1.1308E+00**	3.977E-01	4.205E-01	1.731E+00	PCI/SA	0.85	1.0E+0	2.505E-1
TH-228	9NS1	0		7/28/2006 8:02:46 PM	**7.0729E-02**	7.073E-02	7.102E-02	2.828E-01	PCI/SA	0.754	1.0E+0	3.347E-2
TH-230	9NS1	0		7/28/2006 8:02:46 PM	**2.2852E-02**	5.11E-02	5.114E-02	2.741E-01	PCI/SA	0.754	1.0E+0	3.347E-2

6200115, **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		7/28/2006 8:02:46 PM	**-4.5702E-02**	3.232E-02	3.258E-02	3.364E-01	PCI/SA	0.754	1.0E+0	3.347E-2
U-234	7YSR	0		7/30/2006 10:19:56	**1.0473E-01**	1.047E-01	1.051E-01	2.838E-01	PCI/SA	0.891	1.0E+0	3.177E-2
U-235	7YSR	0		7/30/2006 10:19:56	**-2.0954E-02**	2.095E-02	2.102E-02	5.017E-01	PCI/SA	0.891	1.0E+0	3.177E-2
U-238	7YSR	0		7/30/2006 10:19:56	**1.0473E-01**	1.047E-01	1.051E-01	2.838E-01	PCI/SA	0.891	1.0E+0	3.177E-2
32140	**9H9GEF10**			**J6G1802249**	P-0691	FILTER	7/18/2006 10:00:00	7/3/2006 9:30:00 AM				
ALPHA	BAS7	0		8/6/2006 9:29:45 AM	**2.0807E+00**	1.248E+00	1.266E+00	4.659E+00	PCI/SA	1.0	1.0E+0	2.077E-2
BETA	BDS8	0		8/3/2006 10:09:07 AM	**3.117E+01**	2.011E+00	2.922E+00	5.079E+00	PCI/SA	1.0	1.0E+0	3.35E-2
RA-226	BXTE	0		8/9/2006 1:19:00 PM	**8.2335E-02**	9.77E-02	9.814E-02	3.633E-01	PCI/SA	0.967	8.33E-1	2.581E-1
RA-228	BXTF	0		8/11/2006 6:08:42 AM	**1.1899E+00**	3.387E-01	3.61E-01	1.38E+00	PCI/SA	0.877	1.0E+0	2.582E-1
TH-228	9NS1	0		7/28/2006 8:03:19 PM	**1.2894E-01**	7.444E-02	7.534E-02	1.165E-01	PCI/SA	0.786	1.0E+0	3.368E-2
TH-230	9NS1	0		7/28/2006 8:03:19 PM	**2.916E-01**	1.102E-01	1.133E-01	1.129E-01	PCI/SA	0.786	1.0E+0	3.368E-2
TH-232	9NS1	0		7/28/2006 8:03:19 PM	**-2.083E-02**	2.083E-02	2.091E-02	2.499E-01	PCI/SA	0.786	1.0E+0	3.368E-2
U-234	7YSR	0		7/30/2006 10:20:15	**-3.9615E-02**	2.801E-02	2.819E-02	5.594E-01	PCI/SA	0.995	1.0E+0	3.233E-2
U-235	7YSR	0		7/30/2006 10:20:15	**9.8984E-02**	9.898E-02	9.93E-02	2.682E-01	PCI/SA	0.995	1.0E+0	3.233E-2
U-238	7YSR	0		7/30/2006 10:20:15	**-3.9615E-02**	2.801E-02	2.819E-02	5.594E-01	PCI/SA	0.995	1.0E+0	3.233E-2
32140	**9H9GEK10**			**J6G18022410**	P-0692	FILTER	7/18/2006 10:00:00	7/3/2006 9:50:00 AM				
ALPHA	BAS7	0		8/6/2006 9:29:45 AM	**-3.7913E-02**	6.148E-01	6.149E-01	3.582E+00	PCI/SA	1.0	1.0E+0	2.073E-2
BETA	BDS8	0		8/3/2006 10:09:09 AM	**3.5573E+01**	2.087E+00	3.207E+00	5.11E+00	PCI/SA	1.0	1.0E+0	3.305E-2
RA-226	BXTE	0		8/9/2006 1:18:02 PM	**1.287E-02**	7.709E-02	7.71E-02	3.115E-01	PCI/SA	0.918	8.33E-1	2.514E-1
RA-228	BXTF	0		8/11/2006 6:08:42 AM	**1.259E+00**	4.516E-01	4.62E-01	1.897E+00	PCI/SA	0.814	1.0E+0	2.514E-1
TH-228	9NS1	0		7/28/2006 8:03:37 PM	**1.5418E-01**	1.09E-01	1.099E-01	3.782E-01	PCI/SA	0.856	1.0E+0	3.399E-2
TH-230	9NS1	0		7/28/2006 8:03:37 PM	**1.2453E-01**	8.979E-02	9.053E-02	2.987E-01	PCI/SA	0.856	1.0E+0	3.399E-2
TH-232	9NS1	0		7/28/2006 8:03:37 PM	**2.4912E-02**	5.569E-02	5.573E-02	2.987E-01	PCI/SA	0.856	1.0E+0	3.399E-2
U-234	7YSR	0		7/30/2006 10:20:31	**1.7627E-01**	1.399E-01	1.406E-01	4.691E-01	PCI/SA	1.048	1.0E+0	3.227E-2
U-235	7YSR	0		7/30/2006 10:20:31	**0.0E+00**	0.0E+00	1.199E-01	2.654E-01	PCI/SA	1.048	1.0E+0	3.227E-2
U-238	7YSR	0		7/30/2006 10:20:31	**-1.9591E-02**	1.959E-02	1.965E-02	4.691E-01	PCI/SA	1.048	1.0E+0	3.227E-2
32140	**9H9GEM10**			**J6G18022411**	P-0693	FILTER	7/18/2006 10:00:00	7/3/2006 10:10:00 AM				
ALPHA	BAS7	0		8/6/2006 12:14:10 PM	**7.4254E+00**	1.992E+00	2.138E+00	5.594E+00	PCI/SA	1.0	1.0E+0	2.121E-2
BETA	BDS8	0		8/3/2006 10:09:09 AM	**4.239E+01**	2.17E+00	3.624E+00	4.93E+00	PCI/SA	1.0	1.0E+0	3.386E-2
RA-226	BXTE	0		8/9/2006 1:12:00 PM	**-2.1353E-02**	8.046E-02	8.049E-02	3.572E-01	PCI/SA	0.871	8.33E-1	2.496E-1
RA-228	BXTF	0		8/11/2006 6:08:55 AM	**1.4869E+00**	4.654E-01	4.975E-01	1.992E+00	PCI/SA	0.769	1.0E+0	2.496E-1
TH-228	9NS1	0		7/28/2006 8:03:50 PM	**8.9856E-06**	9.339E-02	9.339E-02	5.007E-01	PCI/SA	0.848	1.0E+0	3.442E-2
TH-230	9NS1	0		7/28/2006 8:03:50 PM	**1.5679E-01**	9.052E-02	9.169E-02	1.416E-01	PCI/SA	0.848	1.0E+0	3.442E-2
TH-232	9NS1	0		7/28/2006 8:03:50 PM	**0.0E+00**	0.0E+00	6.401E-02	1.416E-01	PCI/SA	0.848	1.0E+0	3.442E-2
U-234	7YSR	0		7/30/2006 10:20:48	**9.8511E-02**	9.851E-02	9.883E-02	2.67E-01	PCI/SA	0.894	1.0E+0	3.241E-2
U-235	7YSR	0		7/30/2006 10:20:48	**7.8805E-02**	1.005E-01	1.007E-01	4.718E-01	PCI/SA	0.894	1.0E+0	3.241E-2
U-238	7YSR	0		7/30/2006 10:20:48	**7.8805E-02**	1.005E-01	1.007E-01	4.718E-01	PCI/SA	0.894	1.0E+0	3.241E-2
32140	**9H9GEQ10**			**J6G18022412**	P-0694	FILTER	7/18/2006 10:00:00	7/3/2006 10:30:00 AM				
ALPHA	BAS7	0		8/6/2006 12:14:10 PM	**2.6056E+00**	1.327E+00	1.354E+00	4.667E+00	PCI/SA	1.0	1.0E+0	2.083E-2
BETA	BDS8	0		8/3/2006 10:09:09 AM	**4.0275E+01**	2.193E+00	3.558E+00	5.193E+00	PCI/SA	1.0	1.0E+0	3.15E-2
RA-226	BXTE	0		8/9/2006 1:19:01 PM	**-2.5945E-03**	7.908E-02	7.908E-02	3.146E-01	PCI/SA	0.995	8.33E-1	2.5E-1
RA-228	BXTF	0		8/11/2006 6:08:55 AM	**8.6682E-01**	3.829E-01	3.894E-01	1.643E+00	PCI/SA	0.891	1.0E+0	2.5E-1
TH-228	9NS1	0		7/29/2006 1:47:52 PM	**-7.7975E-02**	6.165E-02	6.203E-02	4.197E-01	PCI/SA	1.015	1.0E+0	3.211E-2
TH-230	9NS1	0		7/29/2006 1:47:52 PM	**2.4546E-01**	1.017E-01	1.04E-01	2.265E-01	PCI/SA	1.015	1.0E+0	3.211E-2
TH-232	9NS1	0		7/29/2006 1:47:52 PM	**0.0E+00**	0.0E+00	4.625E-02	1.023E-01	PCI/SA	1.015	1.0E+0	3.211E-2
U-234	7YSR	0		7/30/2006 10:21:07	**0.0E+00**	0.0E+00	1.527E-01	3.378E-01	PCI/SA	0.806	1.0E+0	3.106E-2
U-235	7YSR	0		7/30/2006 10:21:07	**0.0E+00**	0.0E+00	1.527E-01	3.378E-01	PCI/SA	0.806	1.0E+0	3.106E-2
U-238	7YSR	0		7/30/2006 10:21:07	**9.9719E-02**	1.271E-01	1.274E-01	5.97E-01	PCI/SA	0.806	1.0E+0	3.106E-2
32140	**9H9GER10**			**J6G18022413**	P-0695	FILTER	7/18/2006 10:00:00	7/3/2006 10:45:00 AM				
ALPHA	BAS7	0		8/6/2006 12:14:10 PM	**1.4471E+00**	1.204E+00	1.213E+00	4.902E+00	PCI/SA	1.0	1.0E+0	2.101E-2
BETA	BDS8	0		8/3/2006 10:09:02 AM	**3.0876E+01**	2.027E+00	2.989E+00	5.331E+00	PCI/SA	1.0	1.0E+0	3.297E-2
RA-226	BXTE	0		8/9/2006 1:20:00 PM	**2.8146E-02**	1.238E-01	1.238E-01	4.901E-01	PCI/SA	0.878	8.33E-1	2.526E-1
RA-228	BXTF	0		8/11/2006 6:08:55 AM	**3.8263E+00**	5.721E-01	6.354E-01	1.882E+00	PCI/SA	0.779	1.0E+0	2.526E-1
TH-228	9NS1	0		7/29/2006 1:47:52 PM	**3.7118E-02**	8.705E-02	8.711E-02	3.995E-01	PCI/SA	1.024	1.0E+0	3.376E-2

6200115, **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-230	9NS1	0		7/29/2006 1:47:52 PM	**5.2128E-01**	1.404E-01	1.478E-01	2.156E-01	PCI/SA		1.024	1.0E+0	3.376E-2
TH-232	9NS1	0		7/29/2006 1:47:52 PM	**-3.5949E-02**	2.542E-02	2.562E-02	2.646E-01	PCI/SA		1.024	1.0E+0	3.376E-2
U-234	7YSR	0		7/30/2006 10:21:42	**-1.5489E-02**	1.095E-02	1.102E-02	4.424E-01	PCI/SA		0.997	1.0E+0	3.235E-2
U-235	7YSR	0		7/30/2006 10:21:42	**7.3569E-02**	9.773E-02	9.791E-02	4.829E-01	PCI/SA		0.997	1.0E+0	3.235E-2
U-238	7YSR	0		7/30/2006 10:21:42	**5.0335E-02**	9.864E-02	9.873E-02	5.742E-01	PCI/SA		0.997	1.0E+0	3.235E-2
32140	**H9HT71AB**			**J6G190000115**	INTRA-LAB BLANK	FILTER	7/18/2006 10:00:00	7/3/2006 9:40:00 AM					
RA-226	BXTE	0	B	8/9/2006 1:26:00 PM	**-4.3796E-03**	1.65E-02	1.651E-02	7.327E-02	PCI/SA		0.999	1.0E+0	1.0E+0
32140	**H9HT71CS**			**J6G190000115**	INTRA-LAB CHECK	FILTER	7/18/2006 10:00:00	7/3/2006 9:40:00 AM					
RA-226	BXTE	0	S	8/9/2006 1:22:00 PM	**1.2193E+00**	8.974E-02	1.53E-01	1.272E-01	PCI/SA	1.386E+00	0.858	1.0E+0	1.0E+0

6200115, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => .

Batch Nbr: 6200115

Alpha Beta, Ra-226 by ASC-7 , Results Summary Report

8/9/2006 2:41:46 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	**H9GDP1AC**	RA-226	**9.57E-02**	**(1.38E-01)**	**U4**	PCI/SA	R	2.27E-01	4.99E-01		100%	
Calc	TE	FILTER	**H9GDW1AC**	RA-226	**1.61E-01**	**(1.21E-01)**	**U4**	PCI/SA	R	1.83E-01	4.18E-01		105%	
Calc	TE	FILTER	**H9GD11AC**	RA-226	**1.82E-01**	**(9.87E-02)**		PCI/SA	R	1.34E-01	3.17E-01		90%	
Calc	TE	FILTER	**H9GD41AC**	RA-226	**2.03E-02**	**(1.08E-01)**	**U4**	PCI/SA	R	1.82E-01	4.20E-01		93%	
Calc	TE	FILTER	**H9GD61AC**	RA-226	**1.38E-01**	**(7.81E-02)**		PCI/SA	R	1.04E-01	2.52E-01		98%	
Calc	TE	FILTER	**H9GD81AC**	RA-226	**1.34E-01**	**(9.93E-02)**	**U4**	PCI/SA	R	1.46E-01	3.41E-01		99%	
Calc	TE	FILTER	**H9GEC1AC**	RA-226	**-1.27E-01**	**(1.13E-01)**	**U4**	PCI/SA	R	2.15E-01	4.96E-01		101%	
Calc	TE	FILTER	**H9GED1AC**	RA-226	**-6.17E-02**	**(1.41E-01)**	**U4**	PCI/SA	R	2.51E-01	5.64E-01		95%	
Calc	TE	FILTER	**H9GEF1AC**	RA-226	**8.23E-02**	**(9.81E-02)**	**U4**	PCI/SA	R	1.50E-01	3.63E-01		97%	
Calc	TE	FILTER	**H9GEK1AC**	RA-226	**1.29E-02**	**(7.71E-02)**	**U4**	PCI/SA	R	1.30E-01	3.11E-01		92%	
Calc	TE	FILTER	**H9GEM1AC**	RA-226	**-2.14E-02**	**(8.05E-02)**	**U4**	PCI/SA	R	1.44E-01	3.57E-01		87%	
Calc	TE	FILTER	**H9GEQ1AC**	RA-226	**-2.59E-03**	**(7.91E-02)**	**U4**	PCI/SA	R	1.36E-01	3.15E-01		99%	
Calc	TE	FILTER	**H9GER1AC**	RA-226	**2.81E-02**	**(1.24E-01)**	**U4**	PCI/SA	R	2.07E-01	4.90E-01		88%	
Calc	TE	FILTER	**H9GE01AC**	RA-226	**6.23E-02**	**(9.32E-02)**	**U4**	PCI/SA	R	1.49E-01	3.48E-01		100%	
Calc	TE	FILTER	**H9GE51AC**	RA-226	**1.15E-01**	**(6.37E-02)**		PCI/SA	R	6.48E-02	1.88E-01		89%	
Calc	TE	FILTER	**H9HT71AA**	RA-226	**-4.38E-03**	**(1.65E-02)**	**U4**	PCI/SA	R	2.95E-02	7.33E-02	**B**	100%	
Calc	TE	FILTER	**H9HT71AC**	RA-226	**1.22E+00**	**(1.53E-01)**		PCI/SA	R	5.58E-02	1.27E-01	**S**	86%	88%

CRDC met

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:17
RADCALC v4.8.24
STL Richland

Batch Nbr: 6200115

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

8/9/2006 2:41:47 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	**H9GDP1AC**	**PCI/SA**		07/03/06 09:40	08/09/06 12:45	08/01/06 10:10	RATA23483	1	0.833 Sa	
CID:000516LOT:J6G1802241 v4.8.24							FILTER				08/09/06 09:45	RATA23483 Alq	100%	0.247659 Sa	

Sq	Cnt Date	Parameter	Sample 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 12:45	RA-226	39	40	ASC1HB	ASC		N	2.4125E+00	1.0000E+00	N	100%	N		1.3399E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(7.648E-02)	(0.000E+00)		8%			(0.000E+00)	3.363498		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/09/06	RA-226	R	**0.095723**	**U4**	1.13333E-01	0.063178	0.063178	0.833 Sa	100%		0.499283		
				(0.138395)		(1.6344E-01)	(0.091269)	(0.091269)	(0.023561)			0.226887		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GDW1AC**	**PCI/SA**		07/03/06 09:55	08/09/06 12:42	08/01/06 10:10	RATA23484	1	0.833 Sa	
CID:000517LOT:J6G1802242 v4.8.24							FILTER				08/09/06 09:42	RATA23484 Alq	105%	0.249392 Sa	

Sq	Cnt Date	Parameter	Sample 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 12:42	RA-226	25	20	ASC2RC	ASC		N	2.0913E+00	1.0000E+00	N	105%	N		1.3401E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(6.818E-02)	(0.000E+00)		8%			(0.000E+00)	3.340122		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/09/06	RA-226	R	**0.160688**	**U4**	1.66667E-01	0.106797	0.106797	0.833 Sa	105%		0.418308		
				(0.121398)		(1.2472E-01)	(0.080451)	(0.080451)	(0.023561)			0.183135		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GD11AC**	**PCI/SA**		07/03/06 10:15	08/09/06 12:45	08/01/06 10:10	RATA23485	1	0.833 Sa	
CID:000518LOT:J6G1802243 v4.8.24							FILTER				08/09/06 09:45	RATA23485 Alq	90%	0.250236 Sa	

Sq	Cnt Date	Parameter	Sample 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 12:45	RA-226	20	12	ASC3MA	ASC		N	2.4421E+00	1.0000E+00	N	90%	N		1.3399E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(6.350E-02)	(0.000E+00)		7%			(0.000E+00)	3.328857		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/09/06	RA-226	R	**0.18219**		2.00000E-01	0.121498	0.121498	0.833 Sa	90%		0.317276		
				(0.098738)		(1.0646E-01)	(0.065475)	(0.065475)	(0.023561)			0.134031		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GD41AC**	**PCI/SA**		07/03/06 10:35	08/09/06 12:43	08/01/06 10:10	RATA23486	1	0.833 Sa	
CID:000519LOT:J6G1802244 v4.8.24							FILTER				08/09/06 09:43	RATA23486 Alq	93%	0.250258 Sa	

Sq	Cnt Date	Parameter	Sample 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 12:43	RA-226	16	18	ASC4UA	ASC		N	2.1431E+00	1.0000E+00	N	93%	N		1.3400E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(1.080E-01)	(0.000E+00)		7%			(0.000E+00)	3.328566		

() - (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: 6200115

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

8/9/2006 2:41:47 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
	08/09/06	RA-226	R	**0.020251**	**U4**	2.00000E-02	0.013506	0.013506	0.833 Sa	93%		0.41959		
				(0.108134)		(1.0677E-01)	(0.072114)	(0.072114)	(0.023561)			0.182463		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GD61AC**	**PCI/SA**		07/03/06 10:50	08/09/06 12:44	08/01/06 10:10	RATA23487	1	0.833 Sa	
CID:000520LOT:J6G1802245 v4.8.24							FILTER				08/09/06 09:44	RATA23487 Alq	98%	0.249771 Sa	

Sq	Cnt Date	Parameter	Sample 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 12:44	RA-226	16	9	ASC6MB	ASC		N	2.5199E+00	1.0000E+00	N	98%	N		1.3400E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(3.251E-02)	(0.000E+00)		8%			(0.000E+00)	3.33506		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/09/06	RA-226	R	**0.138456**		1.70000E-01	0.092161	0.092161	0.833 Sa	98%		0.251576		
				(0.078056)		(9.4340E-02)	(0.051686)	(0.051686)	(0.023561)			0.103778		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GD81AC**	**PCI/SA**		07/03/06 11:05	08/09/06 12:46	08/01/06 10:10	RATA23488	1	0.833 Sa	
CID:000521LOT:J6G1802246 v4.8.24							FILTER				08/09/06 09:46	RATA23488 Alq	99%	0.250313 Sa	

Sq	Cnt Date	Parameter	Sample 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 12:46	RA-226	19	14	ASC7UA	ASC		N	2.2064E+00	1.0000E+00	N	99%	N		1.3399E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(1.072E-01)	(0.000E+00)		8%			(0.000E+00)	3.327834		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/09/06	RA-226	R	**0.134341**	**U4**	1.46667E-01	0.089616	0.089616	0.833 Sa	99%		0.340606		
				(0.099281)		(1.0719E-01)	(0.066028)	(0.066028)	(0.023561)			0.145567		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GEC1AC**	**PCI/SA**		07/03/06 10:00	08/09/06 12:44	08/01/06 10:10	RATA23489	1	0.833 Sa	
CID:000522LOT:J6G1802247 v4.8.24							FILTER				08/09/06 09:44	RATA23489 Alq	101%	0.249873 Sa	

Sq	Cnt Date	Parameter	Sample 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 12:44	RA-226	9	17	ASC8RD	ASC		N	1.6393E+00	1.0000E+00	N	101%	N		1.3400E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(4.623E-02)	(0.000E+00)		8%			(0.000E+00)	3.333688		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/09/06	RA-226	R	**-0.126843**	**U4**	-1.03333E-01	-0.084466	-0.084466	0.833 Sa	101%		0.496209		
				(0.112733)		(9.1226E-02)	(0.074913)	(0.074913)	(0.023561)			0.214967		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GED1AC**	**PCI/SA**		07/03/06 09:45	08/09/06 12:43	08/01/06 10:10	RATA23490	1	0.833 Sa	
CID:000523LOT:J6G1802248 v4.8.24							FILTER				08/09/06 09:43	RATA23490 Alq	95%	0.250458 Sa	

Sq	Cnt Date	Parameter	Sample 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: 6200115

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

8/9/2006 2:41:47 PM

1	08/09/06 12:43	RA-226	19	26	ASC9RC	ASC		N	1.8288E+00	1.0000E+00	N	95%	N		1.3400E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(5.139E-02)	(0.000E+00)		8%			(0.000E+00)	3.325905		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/09/06	RA-226	R	**-0.061712**	U4	-5.33333E-02	-0.04119	-0.04119	0.833 Sa	95%		0.563611		
				(0.141014)		(1.2175E-01)	(0.094092)	(0.094092)	(0.023561)			0.250597		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GEF1AC**	**PCI/SA**		07/03/06 09:30	08/09/06 13:19	08/01/06 10:35	RATA23491	1	0.833 Sa	
CID:P-0691LOT:J6G1802249 v4.8.24							FILTER				08/09/06 10:19	RATA23491 Alq	97%	0.258117 Sa	

Sq	Cnt Date	Parameter	Sample 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 13:19	RA-226	11	9	ASCASC	ASC		N	1.7118E+00	1.0000E+00	N	97%	N		1.3395E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(9.244E-02)	(0.000E+00)		8%			(0.000E+00)	3.227217		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/09/06	RA-226	R	**0.082335**	U4	7.00000E-02	0.056636	0.056636	0.833 Sa	97%		0.36332		
				(0.09814)		(8.3066E-02)	(0.06743)	(0.06743)	(0.023561)			0.149874		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GEK1AC**	**PCI/SA**		07/03/06 09:50	08/09/06 13:18	08/01/06 10:35	RATA23492	1	0.833 Sa	
CID:P-0692LOT:J6G18022410 v4.8.24							FILTER				08/09/06 10:18	RATA23492 Alq	92%	0.251421 Sa	

Sq	Cnt Date	Parameter	Sample 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 13:18	RA-226	9	10	ASCCSA	ASC		N	2.2567E+00	1.0000E+00	N	92%	N		1.3395E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(7.628E-02)	(0.000E+00)		7%			(0.000E+00)	3.313168		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/09/06	RA-226	R	**0.01287**	U4	1.33333E-02	0.008623	0.008623	0.833 Sa	92%		0.311462		
				(0.077099)		(7.9861E-02)	(0.051656)	(0.051656)	(0.023561)			0.129649		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9GEM1AC**	**PCI/SA**		07/03/06 10:10	08/09/06 13:12	08/01/06 10:35	RATA23493	1	0.833 Sa	
CID:P-0693LOT:J6G18022411 v4.8.24							FILTER				08/09/06 10:12	RATA23493 Alq	87%	0.24956 Sa	

Sq	Cnt Date	Parameter	Sample 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 13:12	RA-226	5	7	ASCDSA	ASC		N	1.8059E+00	1.0000E+00	N	87%	N		1.3398E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(3.449E-02)	(0.000E+00)		7%			(0.000E+00)	3.337878		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/09/06	RA-226	R	**-0.021353**	U4	-1.66667E-02	-0.014201	-0.014201	0.833 Sa	87%		0.357211		
				(0.080492)		(6.2805E-02)	(0.053527)	(0.053527)	(0.023561)			0.143971		

() - (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: 6200115

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

8/9/2006 2:41:47 PM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
12	Calc	TE	FILTER	*STLE	Ra226WoBS	**H9GEQ1AC**	**PCI/SA**		07/03/06 10:30	08/09/06 13:19	08/01/06 10:35	RATA23494	1	0.833 Sa	
CID:P-0694LOT:J6G18022412 v4.8.24							FILTER				08/09/06 10:19	RATA23494 Alq	99%	0.249983 Sa	

Sq	Cnt Date	Parameter	Sample 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 13:19	RA-226	14	17	ASCEHB	ASC		N	2.5969E+00	1.0000E+00	N	99%	N		1.3395E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(2.438E-02)	(0.000E+00)		8%			(0.000E+00)	3.332227		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/09/06	RA-226	R	**-0.002594**	**U4**	-3.33333E-03	-0.001728	-0.001728	0.833 Sa	99%		0.314636		
				(0.079079)		(1.0160E-01)	(0.052682)	(0.052682)	(0.023561)			0.136306		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
13	Calc	TE	FILTER	*STLE	Ra226WoBS	**H9GER1AC**	**PCI/SA**		07/03/06 10:45	08/09/06 13:20	08/01/06 10:35	RATA23495	1	0.833 Sa	
CID:P-0695LOT:J6G18022413 v4.8.24							FILTER				08/09/06 10:20	RATA23495 Alq	88%	0.252601 Sa	

Sq	Cnt Date	Parameter	Sample 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 13:20	RA-226	11	12	ASCFSA	ASC		N	1.6102E+00	1.0000E+00	N	88%	N		1.3394E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(2.979E-02)	(0.000E+00)		7%			(0.000E+00)	3.297691		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/09/06	RA-226	R	**0.028146**	**U4**	2.00000E-02	0.018947	0.018947	0.833 Sa	88%		0.490144		
				(0.123787)		(8.7939E-02)	(0.083324)	(0.083324)	(0.023561)			0.207058		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
14	Calc	TE	FILTER	*STLE	Ra226WoBS	**H9GE01AC**	**PCI/SA**		07/03/06 11:00	08/09/06 13:19	08/01/06 10:35	RATA23496	1	0.833 Sa	
CID:P-0696LOT:J6G18022414 v4.8.24							FILTER				08/09/06 10:19	RATA23496 Alq	100%	0.248558 Sa	

Sq	Cnt Date	Parameter	Sample 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 13:19	RA-226	15	14	ASCGSA	ASC		N	2.1653E+00	1.0000E+00	N	100%	N		1.3395E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(7.622E-02)	(0.000E+00)		8%			(0.000E+00)	3.35133		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	08/09/06	RA-226	R	**0.062303**	**U4**	6.66667E-02	0.04127	0.04127	0.833 Sa	100%		0.347517		
				(0.093162)		(9.9443E-02)	(0.061665)	(0.061665)	(0.023561)			0.14852		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
15	Calc	TE	FILTER	*STLE	Ra226WoBS	**H9GE51AC**	**PCI/SA**		07/03/06 09:35	08/09/06 13:18	08/01/06 10:35	RATA23497	1	0.833 Sa	
CID:P-0697LOT:J6G18022415 v4.8.24							FILTER				08/09/06 10:18	RATA23497 Alq	89%	0.25037 Sa	

Sq	Cnt Date	Parameter	Sample 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 13:18	RA-226	7	2	ASCJSB	ASC		N	2.1011E+00	1.0000E+00	N	89%	N		1.3395E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(7.837E-02)	(0.000E+00)		7%			(0.000E+00)	3.32708		

() - (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: 6200115

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

8/9/2006 2:41:48 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
	08/09/06	RA-226	R	**0.115134**		1.06667E-01	0.076821	0.076821	0.833 Sa	89%		0.188096		
				(0.06369)		(5.7927E-02)	(0.042266)	(0.042266)	(0.023561)			0.064835		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9HT71AA**	**PCI/SA**	**B**	07/03/06 09:40	08/09/06 13:26	08/01/06 10:35	RATA23498	1	1.00 Sa	
CID:INTRA-LAB BLANKLOT:J6G190000115 v4.8.24							FILTER				08/09/06 10:26	RATA23498 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	08/09/06 13:26	RA-226	5	7	ASCBMA	ASC		N	2.2978E+00	1.0000E+00	N	100%	N		1.3391E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(2.895E-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
	08/09/06	RA-226	R	**-0.00438**	**U4**	-1.66667E-02	-0.009722	-0.009722	1.00 Sa	100%		0.073266		
				(0.016509)		(6.2805E-02)	(0.036645)	(0.036645)	(0.017321)			0.029529		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	**H9HT71AC**	**PCI/SA**	**S**	07/03/06 09:40	08/09/06 13:22	08/01/06 10:50	RASC4146	1	1.00 Sa	
CID:INTRA-LAB CHECKLOT:J6G190000115 v4.8.24							FILTER				08/09/06 10:22	RASC4146 Alq	86%	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	08/09/06 13:22	RA-226	230	21	ASCPMA	ASC		N	2.4525E+00	1.0000E+00	N	86%	N		1.3401E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(8.241E-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
	08/09/06	RA-226	R	**1.219305**		4.25000E+00	2.706767	2.706767	1.00 Sa	86%	88%	0.127165		
				(0.152999)		(3.1278E-01)	(0.307969)	(0.307969)	(0.017321)			0.055841		

() - (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: H9GDP1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200115 Activity Unit: PCI/SA Multiplier: 1.0037
Technician: RS

Analysis Size: 0.2477 Analysis Unit: SA

Report Date: 9-AUG-2006 13:35:00.90
First Separation Date: 1-AUG-2006 10:10:00.00
Second Separation Date: 9-AUG-2006 09:45:00.00

Detector ID: 1 Cell ID: 1HB

Bkg Date: 24-JUL-2006 08:00:18.25
Bkg Counts: 000040 Bkg Duration: 000060.0

Count Date: 9-AUG-2006 12:45:00.40
Counts: 000039 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9GDW1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200115 Activity Unit: PCI/SA Multiplier: 0.9511
Technician: RS

Analysis Size: 0.2494 Analysis Unit: SA

Report Date: 9-AUG-2006 13:32:00.70
First Separation Date: 1-AUG-2006 10:10:00.00
Second Separation Date: 9-AUG-2006 09:42:00.00

Detector ID: 2 Cell ID: 2RC

Bkg Date: 7-AUG-2006 09:54:24.63
Bkg Counts: 000020 Bkg Duration: 000060.0

Count Date: 9-AUG-2006 12:42:00.27
Counts: 000025 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9GD11AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200115 Activity Unit: PCI/SA Multiplier: 1.1072
Technician: RS

Analysis Size: 0.2502 Analysis Unit: SA

Report Date: 9-AUG-2006 13:35:00.80
First Separation Date: 1-AUG-2006 10:10:00.00
Second Separation Date: 9-AUG-2006 09:45:00.00

Detector ID: 3 Cell ID: 3MA

Bkg Date: 13-JUL-2006 09:20:07.62
Bkg Counts: 000012 Bkg Duration: 000060.0

Count Date: 9-AUG-2006 12:45:00.34
Counts: 000020 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9GD41AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200115 Activity Unit: PCI/SA Multiplier: 1.08
Technician: RS

Analysis Size: 0.2503 Analysis Unit: SA

Report Date: 9-AUG-2006 13:33:00.87
First Separation Date: 1-AUG-2006 10:10:00.00
Second Separation Date: 9-AUG-2006 09:43:00.00

Detector ID: 4 Cell ID: 4UA

Bkg Date: 24-JUL-2006 08:00:32.67
Bkg Counts: 000018 Bkg Duration: 000060.0

Count Date: 9-AUG-2006 12:43:00.37
Counts: 000016 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9GD61AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200115 Activity Unit: PCI/SA Multiplier: 1.0195
Technician: RS

Analysis Size: 0.2498 Analysis Unit: SA

Report Date: 9-AUG-2006 13:34:00.78
First Separation Date: 1-AUG-2006 10:10:00.00
Second Separation Date: 9-AUG-2006 09:44:00.00

Detector ID: 6 Cell ID: 6MB

Bkg Date: 11-JUL-2006 08:42:56.02
Bkg Counts: 000009 Bkg Duration: 000060.0

Count Date: 9-AUG-2006 12:44:00.32
Counts: 000016 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9GD81AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200115 Activity Unit: PCI/SA Multiplier: 1.0062
Technician: RS

Analysis Size: 0.2503 Analysis Unit: SA

Report Date: 9-AUG-2006 13:36:00.63
First Separation Date: 1-AUG-2006 10:10:00.00
Second Separation Date: 9-AUG-2006 09:46:00.00

Detector ID: 7 Cell ID: 7UA

Bkg Date: 11-JUL-2006 07:02:56.52
Bkg Counts: 000014 Bkg Duration: 000060.0

Count Date: 9-AUG-2006 12:46:00.26
Counts: 000019 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9GEC1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200115 Activity Unit: PCI/SA Multiplier: 0.9861
Technician: RS

Analysis Size: 0.2499 Analysis Unit: SA

Report Date: 9-AUG-2006 13:34:00.88
First Separation Date: 1-AUG-2006 10:10:00.00
Second Separation Date: 9-AUG-2006 09:44:00.00

Detector ID: 8 Cell ID: 8RD

Bkg Date: 7-AUG-2006 09:54:39.69
Bkg Counts: 000017 Bkg Duration: 000060.0

Count Date: 9-AUG-2006 12:44:00.37
Counts: 000009 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9GED1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200115 Activity Unit: PCI/SA Multiplier: 1.054
Technician: RS

Analysis Size: 0.2505 Analysis Unit: SA

Report Date: 9-AUG-2006 13:33:00.92
First Separation Date: 1-AUG-2006 10:10:00.00
Second Separation Date: 9-AUG-2006 09:43:00.00

Detector ID: 9 Cell ID: 9RC

Bkg Date: 7-AUG-2006 09:54:10.40
Bkg Counts: 000026 Bkg Duration: 000060.0

Count Date: 9-AUG-2006 12:43:00.32
Counts: 000019 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9GEF1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200115 Activity Unit: PCI/SA Multiplier: 1.034
Technician: RS

Analysis Size: 0.2581 Analysis Unit: SA

Report Date: 9-AUG-2006 14:09:01.02
First Separation Date: 1-AUG-2006 10:35:00.00
Second Separation Date: 9-AUG-2006 10:19:00.00

Detector ID: 10 Cell ID: ASC

Bkg Date: 7-AUG-2006 09:54:49.78
Bkg Counts: 000009 Bkg Duration: 000060.0

Count Date: 9-AUG-2006 13:19:00.45
Counts: 000011 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9GEK1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200115 Activity Unit: PCI/SA Multiplier: 1.0896
Technician: RS

Analysis Size: 0.2514 Analysis Unit: SA

Report Date: 9-AUG-2006 14:08:02.83
First Separation Date: 1-AUG-2006 10:35:00.00
Second Separation Date: 9-AUG-2006 10:18:00.00

Detector ID: 12 Cell ID: CSA

Bkg Date: 26-JUN-2006 07:36:32.51
Bkg Counts: 000010 Bkg Duration: 000060.0

Count Date: 9-AUG-2006 13:18:02.48
Counts: 000009 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9GEM1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200115 Activity Unit: PCI/SA Multiplier: 1.1485
Technician: RS

Analysis Size: 0.2496 Analysis Unit: SA

Report Date: 9-AUG-2006 14:02:00.80
First Separation Date: 1-AUG-2006 10:35:00.00
Second Separation Date: 9-AUG-2006 10:12:00.00

Detector ID: 13 Cell ID: DSA

Bkg Date: 7-AUG-2006 09:55:07.98
Bkg Counts: 000007 Bkg Duration: 000060.0

Count Date: 9-AUG-2006 13:12:00.37
Counts: 000005 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9GEQ1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200115 Activity Unit: PCI/SA Multiplier: 1.0053
Technician: RS

Analysis Size: 0.25 Analysis Unit: SA

Report Date: 9-AUG-2006 14:09:01.22
First Separation Date: 1-AUG-2006 10:35:00.00
Second Separation Date: 9-AUG-2006 10:19:00.00

Detector ID: 14 Cell ID: EHB

Bkg Date: 7-AUG-2006 09:53:59.34
Bkg Counts: 000017 Bkg Duration: 000060.0

Count Date: 9-AUG-2006 13:19:00.59
Counts: 000014 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9GER1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200115 Activity Unit: PCI/SA Multiplier: 1.1389
Technician: RS

Analysis Size: 0.2526 Analysis Unit: SA

Report Date: 9-AUG-2006 14:10:00.60
First Separation Date: 1-AUG-2006 10:35:00.00
Second Separation Date: 9-AUG-2006 10:20:00.00

Detector ID: 15 Cell ID: FSA

Bkg Date: 7-AUG-2006 09:55:16.91
Bkg Counts: 000012 Bkg Duration: 000060.0

Count Date: 9-AUG-2006 13:20:00.27
Counts: 000011 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9GE01AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200115 Activity Unit: PCI/SA Multiplier: 1.0007
Technician: RS

Analysis Size: 0.2486 Analysis Unit: SA

Report Date: 9-AUG-2006 14:09:01.09
First Separation Date: 1-AUG-2006 10:35:00.00
Second Separation Date: 9-AUG-2006 10:19:00.00

Detector ID: 16 Cell ID: GSA

Bkg Date: 7-AUG-2006 09:55:34.14
Bkg Counts: 000014 Bkg Duration: 000060.0

Count Date: 9-AUG-2006 13:19:00.51
Counts: 000015 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9GE51AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200115 Activity Unit: PCI/SA Multiplier: 1.1297
Technician: RS

Analysis Size: 0.2504 Analysis Unit: SA

Report Date: 9-AUG-2006 14:08:00.78
First Separation Date: 1-AUG-2006 10:35:00.00
Second Separation Date: 9-AUG-2006 10:18:00.00

Detector ID: 18 Cell ID: JSB

Bkg Date: 7-AUG-2006 09:53:51.95
Bkg Counts: 000002 Bkg Duration: 000060.0

Count Date: 9-AUG-2006 13:18:00.45
Counts: 000007 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9HT71AA Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200115 Activity Unit: PCI/SA Multiplier: 1.001
Technician: RS

Analysis Size: 1.0 Analysis Unit: SA

Report Date: 9-AUG-2006 14:16:00.63
First Separation Date: 1-AUG-2006 10:35:00.00
Second Separation Date: 9-AUG-2006 10:26:00.00

Detector ID: 11 Cell ID: BMA

Bkg Date: 6-JUL-2006 08:24:22.67
Bkg Counts: 000007 Bkg Duration: 000060.0

Count Date: 9-AUG-2006 13:26:00.30
Counts: 000005 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H9HT71AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6200115 Activity Unit: PCI/SA Multiplier: 1.1656
Technician: RS

Analysis Size: 1.0 Analysis Unit: SA

Report Date: 9-AUG-2006 14:12:00.69
First Separation Date: 1-AUG-2006 10:50:00.00
Second Separation Date: 9-AUG-2006 10:22:00.00

Detector ID: 23 Cell ID: PMA

Bkg Date: 24-JUL-2006 10:30:37.08
Bkg Counts: 000021 Bkg Duration: 000060.0

Count Date: 9-AUG-2006 13:22:00.34
Counts: 000230 Count Duration: 000050.0

End of Report

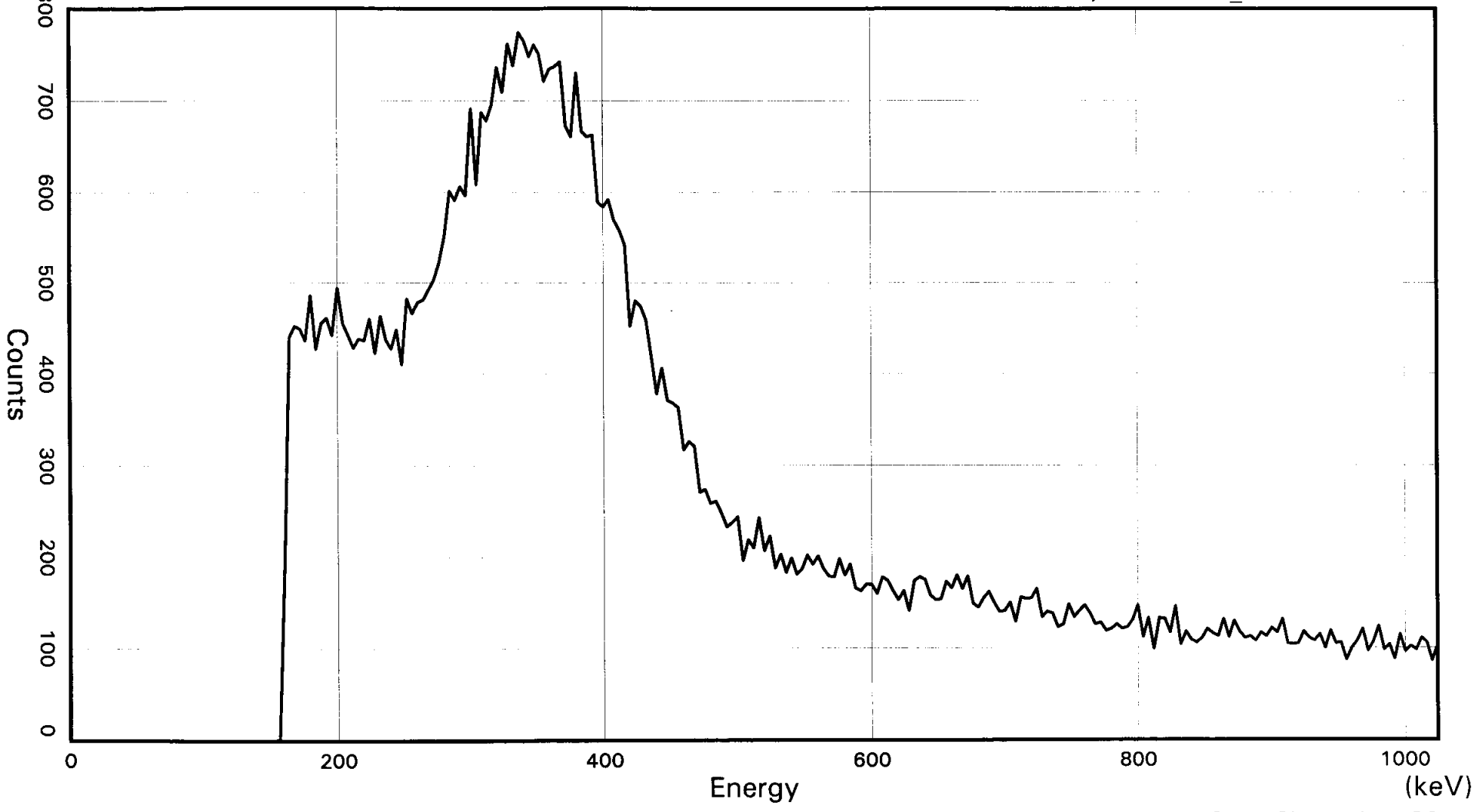
STL Richland WA.

BA133

Sample ID: H9GDP1AC

Detector ID: NAI1 1

Library: [NUC_LIBR]BA133.NLB



Acquisition Start:	28-JUL-2006 12:51:20.87	Start Channel:	80
Preset Live Time:	0 00:30:00	End Channel:	113
Elapsed Live Time:	0 00:30:00	Iterations:	5
Weighting:	DERIVED	Gain shift:	Iter

SAMPLE IDENTIFICATION: H9GDP1AC

CONFIGURATION ID: NAI1:H9GDP1AC_280761251
TITLE : BA133
SAMPLE ID : H9GDP1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 12:51:20
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 19-JUL-2006 12:00:00.00
CALIB DATE: 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 13:21:26

```
Configuration     : RDND06$DKA100:[NAI1.SAMPLE]H9GDP1AC_280761251.CNF;1
Analyses by       : NAI V3.0
Sample title      : BA133
Sample date       : 19-JUL-2006 12:00:00 Acquisition date : 28-JUL-2006 12:51:20
Sample ID         : H9GDP1AC             Sample quantity  : 1.0000 sampl
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.66   0.0%
Sample Multiplier:     1.00              Rejection Coeff. :     0.00
Gain shift type   : ITER                 Threshold Shift  : No
Weighting type    : DERIVED              Calculated counts: No
Iterations        :  5
```

NAI Residuals Report

Ratio of Residuals Over Standard Deviation Per Channel

80:	7.3	5.4	6.6	4.2	5.7	3.7	3.5	2.2
88:	1.7	0.1	-0.1	0.3	1.5	-2.8	-1.5	1.2
96:	-1.6	-2.8	-1.2	-3.6	-4.4	-3.1	-3.3	-3.0
104:	-4.1	-6.7	-4.5	-4.5	-4.9	-5.5	-7.2	-4.6
112:	-4.5	-4.6						

List of Suspicious Channels

81	82	83	84	85	86

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	1.65E+01	0.00E+00	1.02E+00
2	6.55E+00	0.00E+00	1.05E+00
3	1.71E+00	0.00E+00	1.07E+00
4	6.27E-01	0.00E+00	1.08E+00

Brief Report

Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	746.	7.41

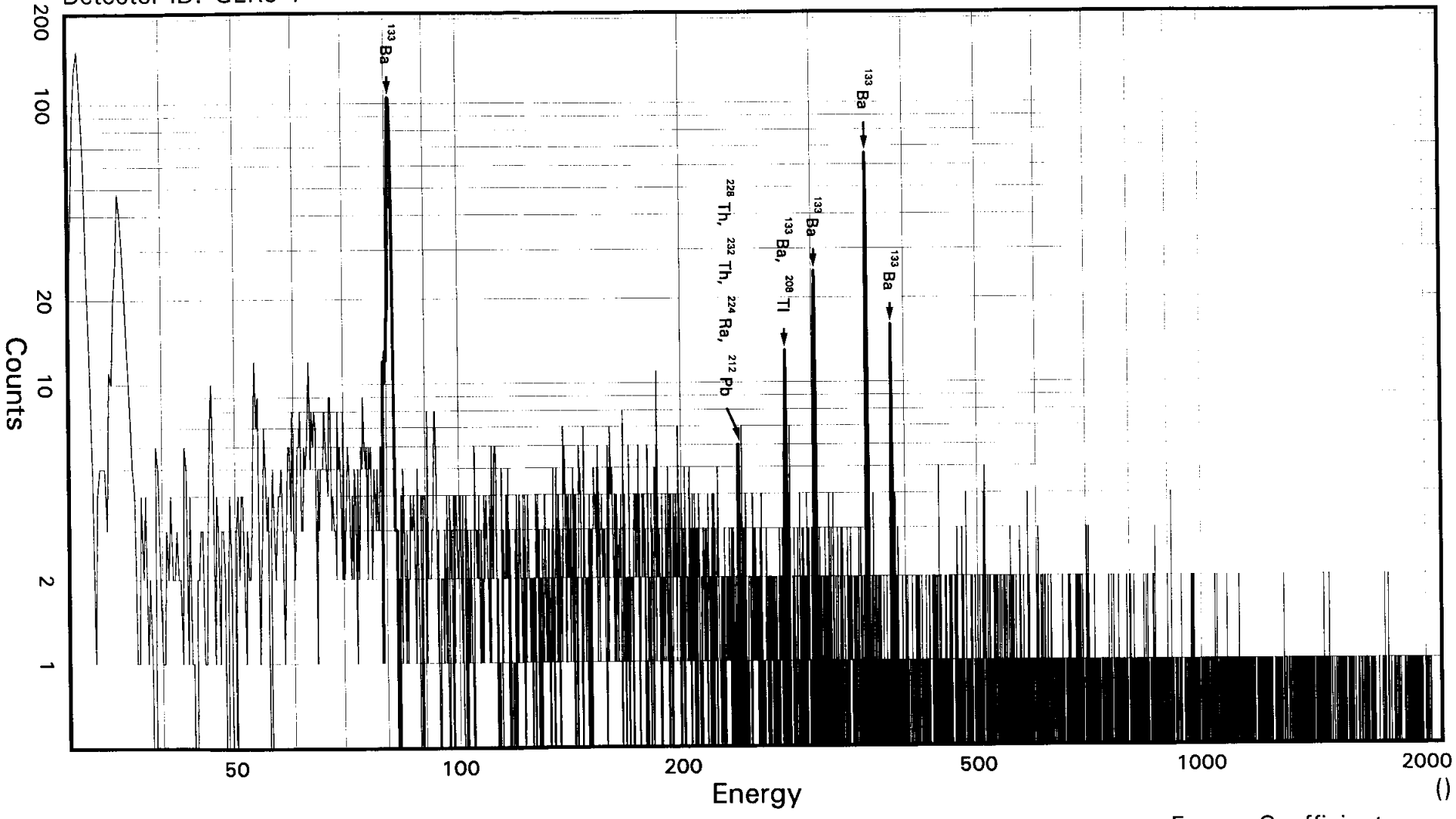
Total Activity :	746.	

STL Richland WA.

BA133

Sample ID: H9GDW1AC
Detector ID: GER5 1

Batch ID: 6200115



Acquisition Start: 28-JUL-2006 12:51:25.50
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: H9GDW1AC

CONFIGURATION ID: GER5:H9GDW1AC_280761251
TITLE : BA133
SAMPLE ID : H9GDW1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 12:51:25
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 13:21:38

Configuration : RDND06$DKA100:[GER5.SAMPLE]H9GDW1AC_280761251.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 12:51:25
Sample ID : H9GDW1AC 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	31.03	563	103	0.92	125.95	120	13	3.13E-01	5.7	
2	0	35.12	221	32	0.88	142.34	133	18	1.23E-01	9.0	
3	0	53.93*	39	28	1.79	217.76	210	16	2.15E-02	34.9	
4	0	80.97	433	37	0.88	326.21	318	17	2.41E-01	5.8	
5	0	239.12*	7	8	0.75	960.29	955	12	4.11E-03	98.0	
6	0	276.24	47	16	0.94	1109.15	1102	13	2.63E-02	22.7	
7	0	302.89	104	14	1.11	1216.00	1208	14	5.78E-02	12.4	
8	0	355.94	307	5	0.89	1428.69	1420	18	1.71E-01	5.9	
9	0	383.74	62	0	0.53	1540.18	1533	14	3.44E-02	12.7	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 28-JUL-2006 13:21:38

Configuration : RDND06$DKA100:[GER5.SAMPLE]H9GDW1AC_280761251.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 12:51:25
Sample ID : H9GDW1AC 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	433	33.00	1.924E+00	2.274E+03	2.277E+03	7.96
	276.40	47	6.90	2.077E+00	1.102E+03	1.103E+03	23.35
	302.84	104	17.80	2.080E+00	9.365E+02	9.380E+02	13.54
	356.00	307	62.05*	2.082E+00	7.932E+02	7.945E+02	8.01
	383.85	62	8.70	2.081E+00	1.141E+03	1.143E+03	13.79

Nuclide Type: NP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
PB-212	238.63	7	44.60*	2.070E+00	2.674E+01	2.674E+01	98.16
	300.09	------	3.41	2.079E+00	------	Line Not Found	------

Flag: "*" = Keyline

Unidentified Energy Lines
Page : 2
Sample ID : H9GDW1AC
Acquisition date : 28-JUL-2006 12:51:25

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	31.03	563	103	0.92	125.95	120	13	3.13E-01	5.7	1.68E+00	
0	35.12	221	32	0.88	142.34	133	18	1.23E-01	9.0	1.72E+00	
0	53.93	39	28	1.79	217.76	210	16	2.15E-02	34.9	1.83E+00	

Flags: "T" = Tentatively associated

Sample ID : H9GDW1AC Acquisition date : 28-JUL-2006 12:51:25

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	1.118E+03	23.35	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	2.699E+01	98.16	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	2.699E+01	98.16	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	2.674E+01	98.16	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 13:21:39

Configuration : RDND06$DKA100:[GER5.SAMPLE]H9GDW1AC_280761251.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 12:51:25
Sample ID : H9GDW1AC 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	7.945E+02	6.364E+01	4.590E+01	9.180E-01	17.309
PB-212	2.674E+01	2.625E+01	8.009E+01	1.611E+00	0.334

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	1.377E+02		6.555E+01	3.142E+02	6.303E+00	0.438
NA-22	-3.175E+00		4.093E+00	1.587E+01	3.364E-01	-0.200
NA-24	3.530E-02		3.495E-02	Half-Life too short		
K-40	-1.050E+02		5.019E+01	2.272E+02	4.881E+00	-0.462
SC-46	-5.619E+00		4.869E+00	1.679E+01	3.520E-01	-0.335
CR-51	-6.321E+01		1.197E+02	4.233E+02	8.469E+00	-0.149
MN-54	5.937E+00		4.698E+00	2.304E+01	4.729E-01	0.258
CO-57	-2.033E+02		1.383E+02	4.475E+02	9.250E+00	-0.454
CO-58	-2.195E+00		6.102E+00	2.363E+01	4.842E-01	-0.093
FE-59	-1.063E+00		6.640E+00	3.005E+01	6.290E-01	-0.035
CO-60	7.835E-02		3.382E+00	1.587E+01	3.379E-01	0.005
ZN-65	6.583E+00		9.674E+00	4.444E+01	9.315E-01	0.148
SE-75	3.723E+00		1.611E+01	6.138E+01	1.231E+00	0.061
SR-85	-3.536E+01		1.165E+01	3.144E+01	6.318E-01	-1.125
Y-88	3.765E+00		2.670E+00	1.747E+01	3.848E-01	0.216
NB-94	2.562E+00		4.939E+00	2.219E+01	4.568E-01	0.115
NB-95	-8.157E+00		6.894E+00	2.352E+01	4.804E-01	-0.347
TC-95M	-5.009E+00		2.024E+01	7.324E+01	1.481E+00	-0.068
ZR-95	1.725E+01		8.882E+00	4.688E+01	9.569E-01	0.368
ZRNB-95	-1.504E+01		1.271E+01	4.336E+01	8.856E-01	-0.347
MO-99	1.851E+02		1.465E+02	5.585E+02	1.152E+01	0.331
RH-101	1.965E+01		1.789E+01	6.906E+01	1.398E+00	0.285
RH-102M	-2.419E-01		6.863E+00	2.696E+01	5.409E-01	-0.009
RU-103	1.023E+01		8.841E+00	3.840E+01	7.710E-01	0.266
RU-106DA	-1.343E+01		5.474E+01	2.202E+02	4.453E+00	-0.061
AG-108M	-2.308E+01		8.245E+00	2.141E+01	4.288E-01	-1.078

Sample ID : H9GDW1AC Acquisition date : 28-JUL-2006 12:51:25

---- Non-Identified Nuclides ----

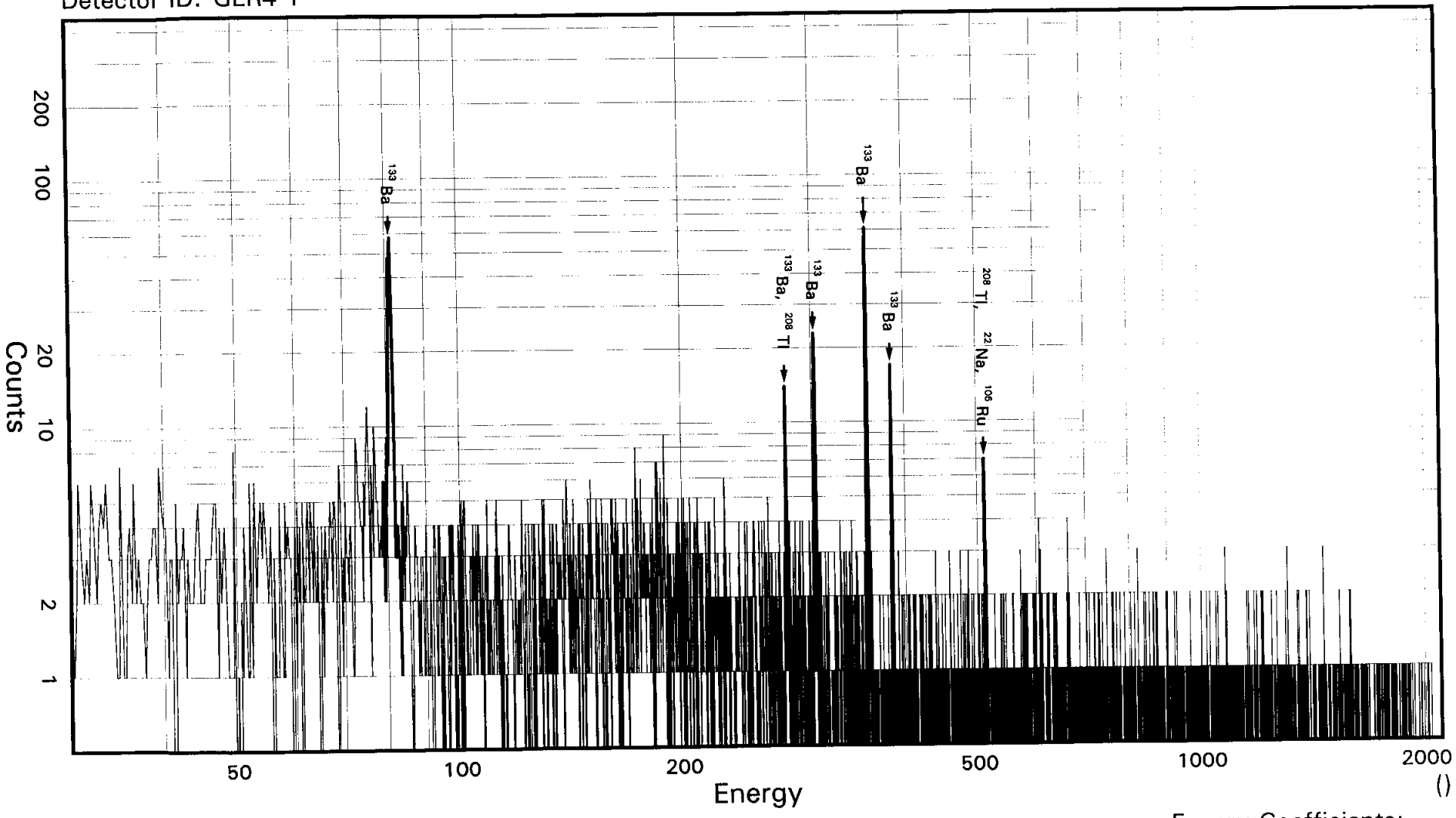
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
AG-110M	-2.016E+00		5.072E+00	2.162E+01	4.455E-01	-0.093
SN-113DA	4.325E+00		1.296E+01	5.131E+01	1.027E+00	0.084
SB-124	7.713E+00		6.775E+00	3.054E+01	6.169E-01	0.253
SB-125	5.726E+00		1.977E+01	8.253E+01	1.653E+00	0.069
SN-126DA	9.274E+00		6.410E+00	2.902E+01	5.887E-01	0.320
I-131	-3.084E+01		2.145E+01	7.201E+01	1.440E+00	-0.428
CS-134	6.538E+00		4.541E+00	2.413E+01	4.939E-01	0.271
CS-137DA	-5.452E+00		6.813E+00	2.501E+01	5.071E-01	-0.218
LA-138	5.068E-01		5.272E+00	2.470E+01	5.297E-01	0.021
CE-139	6.528E+00		1.642E+01	6.190E+01	1.264E+00	0.105
BA-140	2.800E+01		4.428E+01	1.832E+02	3.685E+00	0.153
BALA-140	-2.472E+01		1.500E+01	4.365E+01	9.466E-01	-0.566
LA-140	-3.192E+02		1.937E+02	5.637E+02	1.222E+01	-0.566
CE-141	1.175E+01		3.437E+01	1.247E+02	2.566E+00	0.094
CE-144	-1.441E+02		1.175E+02	3.881E+02	8.035E+00	-0.371
CEPR-144	-2.895E+02		2.349E+02	7.756E+02	1.606E+01	-0.373
PM-144	-2.930E+00		6.504E+00	2.483E+01	5.020E-01	-0.118
PM-146	4.826E+00		9.924E+00	4.118E+01	8.253E-01	0.117
EU-152	1.086E+01		2.720E+01	1.107E+02	2.215E+00	0.098
EU-154	-8.896E+00		1.147E+01	4.446E+01	9.427E-01	-0.200
EU-155	2.295E+01		5.905E+01	2.207E+02	4.655E+00	0.104
HF-181	-4.882E+00		8.524E+00	3.170E+01	6.362E-01	-0.154
BI-207	6.261E+00		6.755E+00	2.926E+01	5.898E-01	0.214
TL-208	6.414E+00		7.760E+00	3.340E+01	6.738E-01	0.192
BI-210M	-3.369E+00		1.821E+01	6.719E+01	1.348E+00	-0.050
BI-212	-1.004E+02		8.644E+01	2.975E+02	9.095E+00	-0.338
BI-214	9.842E+00		1.315E+01	5.706E+01	1.153E+00	0.172
PB-214	-8.625E+00		2.524E+01	7.956E+01	1.591E+00	-0.108
RA-223	1.150E+01		6.705E+01	2.543E+02	5.100E+00	0.045
RA-224DA	2.699E+01	+	2.649E+01	9.462E+01	1.903E+00	0.285
RA-226DA	1.012E+01		1.319E+01	5.728E+01	1.158E+00	0.177
AC-227DA	-8.533E+01		1.024E+02	2.945E+02	5.926E+00	-0.290
AC-228	-1.009E+00		1.763E+01	8.125E+01	1.677E+00	-0.012
RA-228DA	-1.012E+00		1.769E+01	8.150E+01	1.682E+00	-0.012
TH-228DA	1.801E+01		2.180E+01	9.380E+01	1.892E+00	0.192
TH-232DA	-1.343E+01		7.083E+01	2.673E+02	5.347E+00	-0.050
TH-234DA	5.825E+00		5.091E+02	2.375E+03	4.937E+01	0.002
U-234DA	9.206E+01		5.084E+01	2.111E+02	4.228E+00	0.436
U-235HP	-2.201E+02		1.339E+02	4.263E+02	8.781E+00	-0.516
NP-237DA	-2.042E+01		2.622E+01	9.074E+01	1.816E+00	-0.225
U-238DA	-8.625E+00		2.524E+01	7.956E+01	1.591E+00	-0.108
U-238DHP	-1.081E+02		5.391E+02	2.001E+03	4.454E+01	-0.054
AM-241HP	-8.007E+00		4.836E+01	1.736E+02	3.895E+00	-0.046

STL Richland WA.

BA133

Sample ID: H9GD11AC
Detector ID: GER4 1

Batch ID: 6200115



Acquisition Start: 28-JUL-2006 12:51:56.91
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: H9GD11AC

CONFIGURATION ID: GER4:H9GD11AC_280761251
TITLE : BA133
SAMPLE ID : H9GD11AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 12:51:56
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 19-JUL-2006 12:00:00.00
CALIB DATE: 28-JUL-2006 05:19:46.10
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: -.1244E+00 keV
ENERGY SLOPE: 2.4893E-01 keV/C
ENERGY Q COEFF: 1.0604E-08 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 4.8025E-01 keV
FWHM SLOPE: 3.8283E-02 sqr keV
ITERATIONS: 10
GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %
ENERGY TOLERANCE: 1.500 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 28-JUL-2006 13:22:14

```
Configuration     : $DISK1:[GER4.SAMPLE]H9GD11AC_280761251.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 12:51:56
Sample ID         : H9GD11AC             Sample quantity  : 1.0000 SAMPL
Sample type       :                      Sample geometry  : BA133T15
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.42   0.0%
Start energy      :    19.79             End energy       :  2039.79
Sensitivity       :     5.00             Gaussian         :    10.00
Critical level    : No
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.07	214	45	0.85	326.17	317	18	1.19E-01	10.0	
2	0	276.56	44	16	0.57	1111.48	1104	16	2.44E-02	25.3	
3	0	302.86	112	14	1.18	1217.09	1206	18	6.21E-02	12.2	
4	0	355.99	280	27	0.99	1430.53	1423	18	1.56E-01	7.4	
5	0	383.78	52	7	0.40	1542.16	1535	13	2.90E-02	17.1	
6	0	511.92*	11	16	0.76	2056.82	2051	12	6.27E-03	89.8	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 13:22:14

Configuration : $DISK1:[GER4.SAMPLE]H9GD11AC_280761251.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 12:51:56
Sample ID : H9GD11AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.42 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	214	33.00	2.043E+00	1.059E+03	1.060E+03	11.49
	276.40	44	6.90	2.203E+00	9.651E+02	9.667E+02	25.90
	302.84	112	17.80	2.205E+00	9.485E+02	9.500E+02	13.42
	356.00	280	62.05*	2.207E+00	6.814E+02	6.825E+02	10.07
	383.85	52	8.70	2.207E+00	9.077E+02	9.092E+02	18.20

Flag: "*" = Keyline

Sample ID : H9GD11AC Acquisition date : 28-JUL-2006 12:51:56

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	511.92	11	16	0.76	2056.82	2051	12	6.27E-03	89.8	2.20E+00	T

Flags: "T" = Tentatively associated

Sample ID : H9GD11AC
Acquisition date : 28-JUL-2006 12:51:56

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
NA-22	2.60Y	0.01	511.00	179.68	9.592E+00	90.05	Abun.
			1274.54*	99.94	--- Not Found ---		
		% Abundances Found =		64.26			
RU-106DA	368.20D	0.02	511.85	20.60	8.454E+01	90.05	Abun.
			621.84*	9.80	--- Not Found ---		
		% Abundances Found =		67.76			
TL-208	1.41E+10Y	0.00	277.35	6.80	9.793E+02	25.90	Abun.
			510.84	21.60	7.926E+01	90.05	
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		22.71			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 13:22:17

Configuration : $DISK1:[GER4.SAMPLE]H9GD11AC_280761251.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 12:51:56
Sample ID : H9GD11AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.42 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	6.825E+02	6.875E+01	6.190E+01	2.901E+00	11.027

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	1.780E+01		7.810E+01	3.075E+02	1.123E+01	0.058
NA-22	-9.475E-02		5.124E+00	2.110E+01	8.137E-01	-0.004
K-40	5.720E+01		7.705E+01	3.919E+02	1.531E+01	0.146
SC-46	2.097E+00		4.487E+00	2.071E+01	7.897E-01	0.101
CR-51	1.163E-01		9.464E+01	3.631E+02	8.428E+00	0.000
MN-54	3.799E+00		3.926E+00	1.954E+01	7.299E-01	0.194
CO-57	-2.867E+01		1.049E+02	3.851E+02	9.230E+00	-0.074
CO-58	6.432E+00		4.854E+00	2.377E+01	8.863E-01	0.271
FE-59	2.679E-01		6.302E+00	2.985E+01	1.137E+00	0.009
CO-60	-5.064E+00		4.362E+00	1.495E+01	5.788E-01	-0.339
ZN-65	3.499E-01		7.689E+00	3.439E+01	1.311E+00	0.010
SE-75	-1.987E+01		1.667E+01	5.731E+01	1.334E+00	-0.347
SR-85	2.349E+01		6.455E+00	3.380E+01	1.236E+00	0.695
Y-88	-3.484E+00		2.474E+00	4.790E+00	1.918E-01	-0.727
NB-94	1.923E+00		6.317E+00	2.587E+01	9.686E-01	0.074
NB-95	1.505E+00		6.756E+00	2.772E+01	1.030E+00	0.054
TC-95M	7.494E+00		1.752E+01	6.585E+01	1.545E+00	0.114
ZR-95	-1.914E+00		1.147E+01	4.491E+01	1.668E+00	-0.043
ZRNB-95	2.774E+00		1.246E+01	5.110E+01	1.899E+00	0.054
MO-99	1.856E+02		1.265E+02	5.036E+02	1.205E+01	0.368
RH-101	1.909E+01		1.645E+01	6.330E+01	1.487E+00	0.302
RH-102M	7.107E+00		6.861E+00	2.947E+01	1.076E+00	0.241
RU-103	-2.081E+00		8.258E+00	3.167E+01	1.157E+00	-0.066
RU-106DA	1.712E+02		5.743E+01	2.955E+02	1.088E+01	0.579
AG-108M	-1.003E+01		6.504E+00	2.136E+01	7.787E-01	-0.470
AG-110M	2.411E+00		6.519E+00	2.877E+01	1.078E+00	0.084
SN-113DA	8.979E+00		1.011E+01	4.287E+01	1.561E+00	0.209

Sample ID : H9GD11AC Acquisition date : 28-JUL-2006 12:51:56

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	-2.778E+00		6.292E+00	2.437E+01	8.957E-01	-0.114
SB-125	-1.858E+01		2.024E+01	7.309E+01	2.664E+00	-0.254
SN-126DA	-9.923E+00		5.959E+00	1.898E+01	7.004E-01	-0.523
I-131	4.365E-02		1.185E+01	4.953E+01	1.803E+00	0.001
CS-134	-5.880E+00		4.995E+00	1.693E+01	6.304E-01	-0.347
CS-137DA	1.657E+01		7.896E+00	3.630E+01	1.339E+00	0.457
LA-138	2.499E+00		4.161E+00	2.250E+01	8.774E-01	0.111
CE-139	-2.579E+00		1.433E+01	5.222E+01	1.237E+00	-0.049
BA-140	2.363E+01		4.096E+01	1.697E+02	6.214E+00	0.139
BALA-140	1.410E+01		8.926E+00	5.641E+01	2.223E+00	0.250
LA-140	7.155E+01		1.256E+02	6.701E+02	2.641E+01	0.107
CE-141	4.043E+00		2.722E+01	1.022E+02	2.439E+00	0.040
CE-144	-4.236E+01		9.762E+01	3.568E+02	8.565E+00	-0.119
CEPR-144	-2.958E+01		1.913E+02	7.137E+02	1.713E+01	-0.041
PM-144	-3.403E+00		5.196E+00	1.976E+01	7.271E-01	-0.172
PM-146	7.162E+00		6.954E+00	3.286E+01	1.199E+00	0.218
EU-152	2.353E+01		3.289E+01	1.294E+02	3.004E+00	0.182
EU-154	-1.163E+00		1.422E+01	5.820E+01	2.244E+00	-0.020
EU-155	4.757E+01		5.306E+01	2.043E+02	4.996E+00	0.233
HF-181	-7.592E+00		9.075E+00	3.250E+01	1.187E+00	-0.234
BI-207	1.067E+01		5.723E+00	2.712E+01	9.950E-01	0.394
TL-208	-1.291E+01		7.709E+00	2.714E+01	9.965E-01	-0.476
BI-210M	-4.302E+00		1.810E+01	6.728E+01	1.566E+00	-0.064
BI-212	4.464E+01		9.404E+01	3.891E+02	1.693E+01	0.115
PB-212	-2.954E+01		2.250E+01	8.332E+01	1.944E+00	-0.355
BI-214	2.600E+01		1.670E+01	7.569E+01	2.783E+00	0.344
PB-214	-1.319E+01		2.642E+01	7.903E+01	1.834E+00	-0.167
RA-223	5.740E+01		6.421E+01	2.587E+02	6.020E+00	0.222
RA-224DA	-2.980E+01		2.270E+01	8.407E+01	1.962E+00	-0.355
RA-226DA	2.600E+01		1.670E+01	7.569E+01	2.783E+00	0.344
AC-227DA	-9.368E+01		8.225E+01	2.734E+02	6.381E+00	-0.343
AC-228	-2.613E+01		1.637E+01	6.751E+01	2.535E+00	-0.387
RA-228DA	-2.621E+01		1.642E+01	6.771E+01	2.543E+00	-0.387
TH-228DA	-3.627E+01		2.165E+01	7.623E+01	2.799E+00	-0.476
TH-232DA	-7.162E+01		6.812E+01	2.329E+02	5.405E+00	-0.308
TH-234DA	5.822E+02		7.880E+02	3.510E+03	1.327E+02	0.166
U-234DA	-2.855E+01		4.268E+01	1.534E+02	3.565E+00	-0.186
U-235HP	-2.769E+01		1.060E+02	3.876E+02	9.258E+00	-0.071
NP-237DA	7.519E+00		2.206E+01	8.625E+01	2.003E+00	0.087
U-238DA	-1.319E+01		2.642E+01	7.903E+01	1.834E+00	-0.167
U-238DHP	2.866E+02		3.263E+02	1.296E+03	3.342E+01	0.221
AM-241HP	-2.555E-01		3.290E+01	1.226E+02	3.187E+00	-0.002

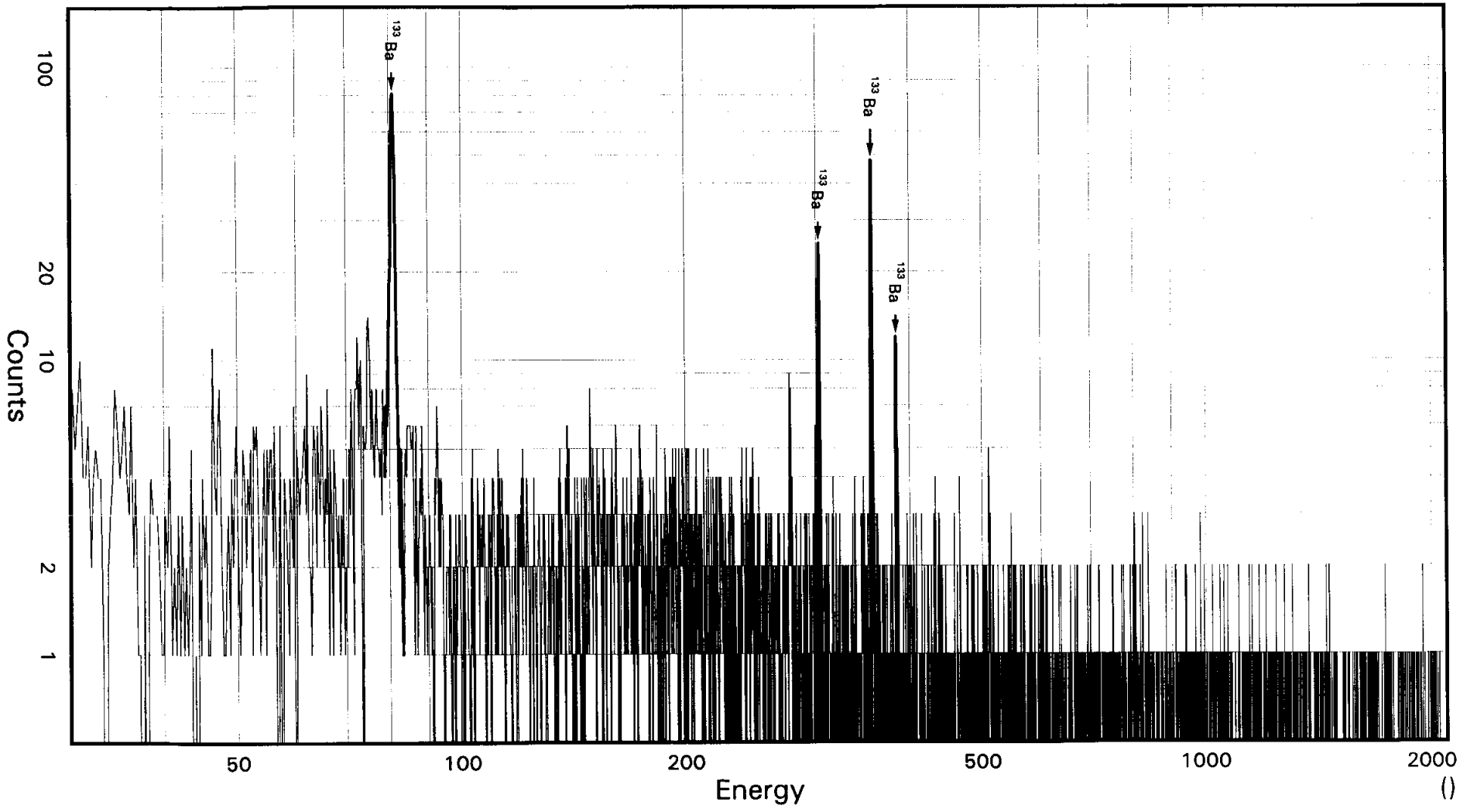
STL Richland WA.

BA133

Sample ID: H9GD41AC

Detector ID: GER7 1

Batch ID: 6200115



Acquisition Start: 28-JUL-2006 12:52:03.17

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: H9GD41AC

CONFIGURATION ID: GER7:H9GD41AC_280761252
TITLE : BA133
SAMPLE ID : H9GD41AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 12:52:03
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 19-JUL-2006 12:00:00.00
CALIB DATE: 28-JUL-2006 05:20:22.55
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 13:22:31

```
Configuration     : $DISK1:[GER7.SAMPLE]H9GD41AC_280761252.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 12:52:03
Sample ID         : H9GD41AC             Sample quantity  : 1.0000 SAMPL
Sample type       :                      Sample geometry  : BA133T15
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.20   0.0%
Start energy      :    20.45             End energy       :  2050.93
Sensitivity       :     5.00             Gaussian         :    10.00
Critical level    : No
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	80.98	354	56	1.02	322.72	314	19	1.97E-01	7.4	
2	0	302.70	126	0	1.09	1211.37	1202	18	7.00E-02	8.9	
3	0	356.00	269	15	1.31	1424.89	1416	21	1.49E-01	7.1	
4	0	383.93	45	8	0.71	1536.79	1528	16	2.50E-02	20.5	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 13:22:31

Configuration : $DISK1:[GER7.SAMPLE]H9GD41AC_280761252.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 12:52:03
Sample ID : H9GD41AC 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	354	33.00	1.923E+00	1.859E+03	1.862E+03	9.17
	276.40	------	6.90	2.076E+00	------	Line Not Found	------
	302.84	126	17.80	2.078E+00	1.135E+03	1.137E+03	10.41
	356.00	269	62.05*	2.080E+00	6.948E+02	6.960E+02	8.92
	383.85	45	8.70	2.080E+00	8.289E+02	8.303E+02	21.18

Flag: "*" = Keyline

None

Flags: "T" = Tentatively associated

Sample ID : H9GD41AC
Acquisition date : 28-JUL-2006 12:52:03

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 13:22:33

Configuration : $DISK1:[GER7.SAMPLE]H9GD41AC_280761252.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 12:52:03
Sample ID : H9GD41AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.20 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	6.960E+02	6.211E+01	4.989E+01	9.978E-01	13.950

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-5.482E+01		5.844E+01	2.082E+02	4.177E+00	-0.263
NA-22	3.503E+00		4.162E+00	2.054E+01	4.354E-01	0.171
K-40	1.995E+01		6.181E+01	3.240E+02	6.961E+00	0.062
SC-46	-1.932E+00		5.473E+00	2.173E+01	4.556E-01	-0.089
CR-51	1.360E+01		1.034E+02	3.976E+02	7.955E+00	0.034
MN-54	-1.650E+00		6.493E+00	2.518E+01	5.170E-01	-0.066
CO-57	-5.331E+00		1.151E+02	4.272E+02	8.832E+00	-0.012
CO-58	-1.064E+01		5.678E+00	1.674E+01	3.431E-01	-0.636
FE-59	-6.873E+00		4.875E+00	9.233E+00	1.933E-01	-0.744
CO-60	5.145E+00		3.832E+00	2.054E+01	4.373E-01	0.250
ZN-65	6.710E+00		8.356E+00	4.074E+01	8.540E-01	0.165
SE-75	1.856E+01		1.724E+01	6.943E+01	1.393E+00	0.267
SR-85	-3.255E+01		1.282E+01	3.738E+01	7.511E-01	-0.871
Y-88	6.201E-02		2.620E+00	1.385E+01	3.051E-01	0.004
NB-94	1.178E+00		3.612E+00	1.715E+01	3.531E-01	0.069
NB-95	4.384E+00		5.530E+00	2.596E+01	5.303E-01	0.169
TC-95M	-2.861E+01		2.025E+01	6.617E+01	1.338E+00	-0.432
ZR-95	3.627E+00		8.494E+00	3.915E+01	7.991E-01	0.093
ZRNB-95	7.649E+00		1.012E+01	4.741E+01	9.685E-01	0.161
MO-99	-1.651E+02		1.249E+02	4.255E+02	8.778E+00	-0.388
RH-101	7.163E+00		1.636E+01	6.100E+01	1.235E+00	0.117
RH-102M	4.961E+00		5.694E+00	2.553E+01	5.122E-01	0.194
RU-103	-5.048E-01		6.811E+00	2.765E+01	5.553E-01	-0.018
RU-106DA	2.182E+01		5.118E+01	2.252E+02	4.555E+00	0.097
AG-108M	-1.958E+01		9.246E+00	2.807E+01	5.623E-01	-0.698
AG-110M	1.004E+01		6.789E+00	3.361E+01	6.925E-01	0.299
SN-113DA	6.700E-01		8.843E+00	3.675E+01	7.353E-01	0.018

Sample ID : H9GD41AC Acquisition date : 28-JUL-2006 12:52:03

---- Non-Identified Nuclides ----

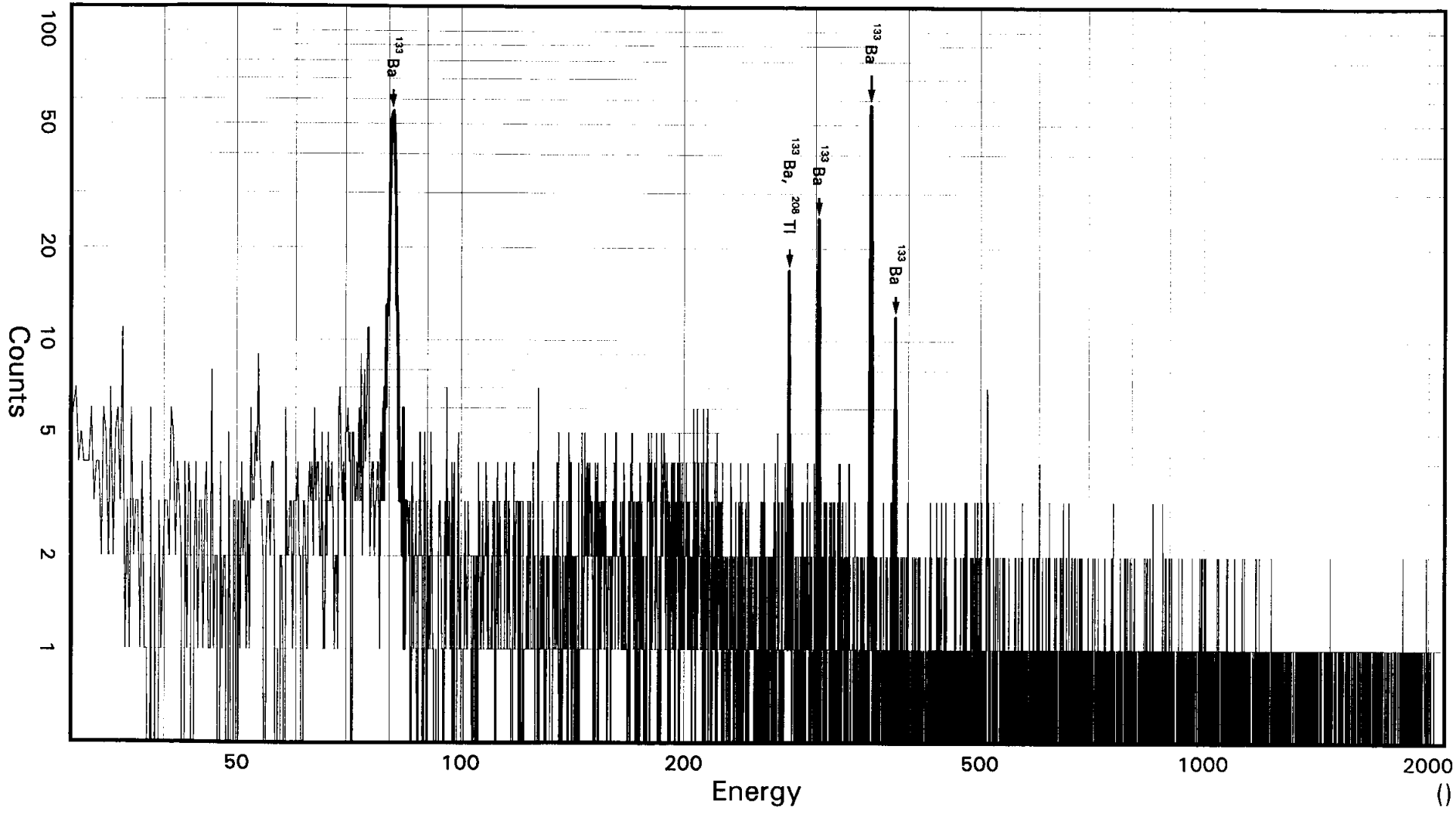
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	-3.745E-01		6.742E+00	2.704E+01	5.462E-01	-0.014
SB-125	-2.131E+01		2.044E+01	7.210E+01	1.444E+00	-0.296
SN-126DA	9.615E+00		6.143E+00	2.830E+01	5.741E-01	0.340
I-131	-1.763E+01		2.409E+01	8.380E+01	1.676E+00	-0.210
CS-134	2.087E+00		5.760E+00	2.537E+01	5.193E-01	0.082
CS-137DA	-1.717E+01		6.566E+00	1.489E+01	3.020E-01	-1.153
LA-138	-1.060E+01		6.456E+00	1.894E+01	4.062E-01	-0.560
CE-139	1.267E+01		1.399E+01	5.493E+01	1.122E+00	0.231
BA-140	-4.817E+01		3.368E+01	1.133E+02	2.279E+00	-0.425
BALA-140	-5.850E+00		5.858E+00	1.606E+01	3.482E-01	-0.364
LA-140	-1.511E+02		1.072E+02	2.074E+02	4.497E+00	-0.729
CE-141	-3.031E+01		2.517E+01	8.659E+01	1.782E+00	-0.350
CE-144	-1.157E+02		9.825E+01	3.408E+02	7.056E+00	-0.340
CEPR-144	-2.302E+02		1.966E+02	6.824E+02	1.413E+01	-0.337
PM-144	-7.602E+00		5.092E+00	1.645E+01	3.327E-01	-0.462
PM-146	-5.029E+00		7.854E+00	2.970E+01	5.952E-01	-0.169
EU-152	1.414E+01		3.211E+01	1.251E+02	2.502E+00	0.113
EU-154	9.816E+00		1.166E+01	5.754E+01	1.220E+00	0.171
EU-155	3.286E+01		5.606E+01	2.123E+02	4.479E+00	0.155
HF-181	4.460E+00		7.923E+00	3.400E+01	6.822E-01	0.131
BI-207	-1.375E+00		4.869E+00	1.985E+01	4.001E-01	-0.069
TL-208	1.232E+01		8.363E+00	3.853E+01	7.773E-01	0.320
BI-210M	2.914E+01		1.875E+01	7.822E+01	1.569E+00	0.373
BI-212	1.131E+02		9.043E+01	4.087E+02	1.250E+01	0.277
PB-212	3.712E+00		2.565E+01	1.010E+02	2.031E+00	0.037
BI-214	1.019E+01		1.427E+01	6.578E+01	1.329E+00	0.155
PB-214	-4.571E+01		2.836E+01	7.807E+01	1.561E+00	-0.585
RA-223	-9.197E+01		7.134E+01	2.417E+02	4.847E+00	-0.381
RA-224DA	3.746E+00		2.588E+01	1.019E+02	2.050E+00	0.037
RA-226DA	1.019E+01		1.427E+01	6.578E+01	1.329E+00	0.155
AC-227DA	-9.705E+01		8.811E+01	3.071E+02	6.179E+00	-0.316
AC-228	2.930E+01		2.003E+01	9.467E+01	1.954E+00	0.310
RA-228DA	2.939E+01		2.009E+01	9.495E+01	1.960E+00	0.310
TH-228DA	3.459E+01		2.349E+01	1.082E+02	2.183E+00	0.320
TH-232DA	1.492E+02		6.956E+01	3.029E+02	6.059E+00	0.492
TH-234DA	1.032E+03		6.269E+02	3.356E+03	6.974E+01	0.308
U-234DA	9.677E+00		5.225E+01	1.969E+02	3.944E+00	0.049
U-235HP	5.169E+01		8.989E+01	3.560E+02	7.333E+00	0.145
NP-237DA	7.813E+00		2.539E+01	9.742E+01	1.950E+00	0.080
U-238DA	-4.571E+01		2.836E+01	7.807E+01	1.561E+00	-0.585
U-238DHP	-5.167E+02		4.047E+02	1.418E+03	3.157E+01	-0.364
AM-241HP	-1.907E+01		3.857E+01	1.392E+02	3.123E+00	-0.137

STL Richland WA.

BA133

Sample ID: H9GD61AC
Detector ID: GER10 1

Batch ID: 6200115



Acquisition Start: 28-JUL-2006 12:52:14.29
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 1.56525E+01
Slope: 2.47003E-01
Quadrature: 2.92722E-09

SAMPLE IDENTIFICATION: H9GD61AC

CONFIGURATION ID: GER10:H9GD61AC_280761252
TITLE : BA133
SAMPLE ID : H9GD61AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 12:52:14
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 05:20:55.32
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: 1.5653E+01 keV
ENERGY SLOPE: 2.4700E-01 keV/C
ENERGY Q COEFF: 2.9272E-09 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 8.7508E-01 keV
FWHM SLOPE: 2.9908E-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 13:22:46

Configuration : $DISK1:[GER10.SAMPLE]H9GD61AC_280761252.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 12:52:14
Sample ID : H9GD61AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.23 0.0%
Start energy : 18.12 End energy : 2039.30
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	80.91	325	86	1.43	264.20	255	24	1.81E-01	9.5	
2	0	276.52	42	21	0.46	1056.12	1048	17	2.31E-02	29.8	
3	0	302.95	122	11	1.24	1163.11	1157	14	6.78E-02	10.7	
4	0	356.01	355	16	1.16	1377.94	1368	23	1.97E-01	6.1	
5	0	384.06	30	18	0.34	1491.50	1481	14	1.66E-02	35.1	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 13:22:47

Configuration : $DISK1:[GER10.SAMPLE]H9GD61AC_280761252.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 12:52:14
Sample ID : H9GD61AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.23 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	325	33.00	2.399E+00	1.369E+03	1.371E+03	10.94
	276.40	42	6.90	2.578E+00	7.783E+02	7.796E+02	30.29
	302.84	122	17.80	2.582E+00	8.854E+02	8.868E+02	11.96
	356.00	355	62.05*	2.584E+00	7.371E+02	7.383E+02	8.15
	383.85	30	8.70	2.583E+00	4.421E+02	4.429E+02	35.47

Flag: "*" = Keyline

None

Flags: "T" = Tentatively associated

Sample ID : H9GD61AC
Acquisition date : 28-JUL-2006 12:52:14

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	7.897E+02	30.29	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 13:22:48

Configuration : $DISK1:[GER10.SAMPLE]H9GD61AC_280761252.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 12:52:14
Sample ID : H9GD61AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.23 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.383E+02	6.016E+01	4.611E+01	9.223E-01	16.011

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	7.458E+01		7.171E+01	2.946E+02	5.910E+00	0.253
NA-22	6.922E-02		3.335E+00	1.477E+01	3.121E-01	0.005
K-40	-7.686E+00		3.817E+01	1.941E+02	4.153E+00	-0.040
SC-46	-3.272E+00		5.145E+00	1.904E+01	3.982E-01	-0.172
CR-51	-9.670E+01		9.751E+01	3.416E+02	6.834E+00	-0.283
MN-54	-2.423E+00		6.153E+00	2.321E+01	4.758E-01	-0.104
CO-57	-8.692E+01		9.504E+01	3.211E+02	6.626E+00	-0.271
CO-58	-3.254E+00		4.233E+00	1.561E+01	3.194E-01	-0.209
FE-59	1.482E+01		8.533E+00	4.227E+01	8.826E-01	0.351
CO-60	4.132E+00		3.635E+00	1.799E+01	3.816E-01	0.230
ZN-65	-3.197E+00		8.338E+00	3.272E+01	6.839E-01	-0.098
SE-75	-1.362E+01		1.522E+01	5.217E+01	1.046E+00	-0.261
SR-85	-2.716E+01		1.128E+01	3.371E+01	6.773E-01	-0.806
Y-88	-1.542E+00		3.389E+00	1.399E+01	3.066E-01	-0.110
NB-94	1.959E-01		4.130E+00	1.736E+01	3.569E-01	0.011
NB-95	1.416E+00		4.233E+00	1.892E+01	3.861E-01	0.075
TC-95M	-1.293E+01		1.649E+01	5.735E+01	1.159E+00	-0.225
ZR-95	5.001E+00		7.511E+00	3.436E+01	7.006E-01	0.146
ZRNB-95	2.610E+00		7.804E+00	3.489E+01	7.117E-01	0.075
MO-99	2.271E+02		1.009E+02	4.144E+02	8.534E+00	0.548
RH-101	6.721E+00		1.463E+01	5.445E+01	1.102E+00	0.123
RH-102M	5.064E+00		6.802E+00	2.754E+01	5.523E-01	0.184
RU-103	4.223E+00		9.359E+00	3.635E+01	7.297E-01	0.116
RU-106DA	6.935E+01		6.175E+01	2.634E+02	5.325E+00	0.263
AG-108M	-1.430E+01		6.870E+00	2.055E+01	4.116E-01	-0.696
AG-110M	-7.012E+00		7.385E+00	2.641E+01	5.432E-01	-0.266
SN-113DA	-1.802E+00		1.085E+01	4.088E+01	8.178E-01	-0.044

Sample ID : H9GD61AC Acquisition date : 28-JUL-2006 12:52:14

---- Non-Identified Nuclides ----

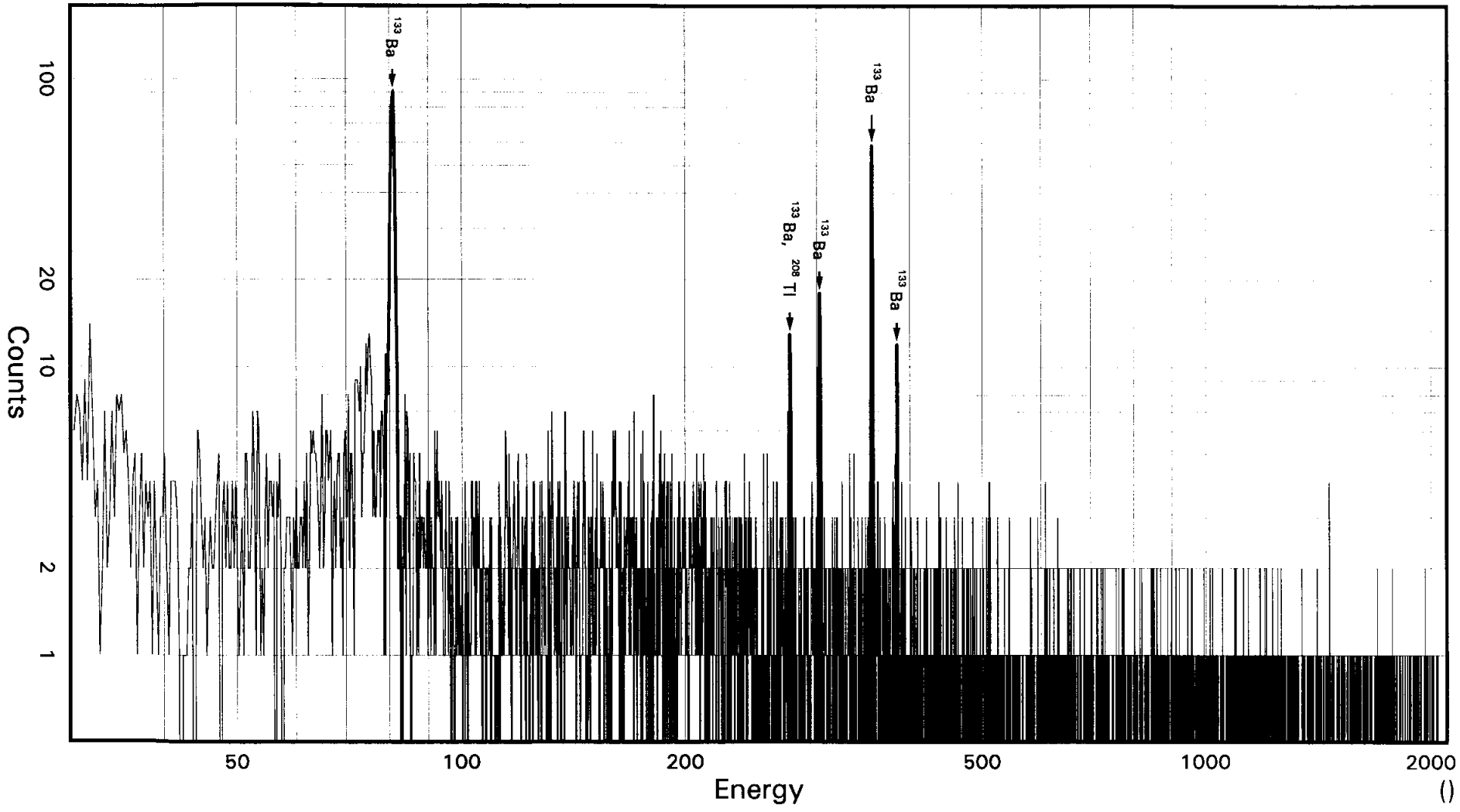
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	6.441E+00		6.896E+00	2.890E+01	5.834E-01	0.223
SB-125	3.814E+01		1.928E+01	8.809E+01	1.764E+00	0.433
SN-126DA	5.229E+00		5.857E+00	2.460E+01	4.987E-01	0.213
I-131	-1.581E+01		1.904E+01	6.747E+01	1.349E+00	-0.234
CS-134	6.508E+00		6.425E+00	2.760E+01	5.643E-01	0.236
CS-137DA	-8.440E+00		6.251E+00	2.090E+01	4.234E-01	-0.404
LA-138	1.998E+00		4.651E+00	2.222E+01	4.747E-01	0.090
CE-139	-1.576E+01		1.352E+01	4.617E+01	9.418E-01	-0.341
BA-140	5.443E+01		3.748E+01	1.655E+02	3.328E+00	0.329
BALA-140	1.743E+01		9.159E+00	5.523E+01	1.192E+00	0.316
LA-140	1.250E+02		1.222E+02	6.615E+02	1.428E+01	0.189
CE-141	-1.842E+01		2.494E+01	8.826E+01	1.814E+00	-0.209
CE-144	4.374E+01		8.035E+01	3.059E+02	6.321E+00	0.143
CEPR-144	8.851E+01		1.608E+02	6.123E+02	1.265E+01	0.145
PM-144	9.716E+00		6.418E+00	2.782E+01	5.621E-01	0.349
PM-146	-1.275E+00		7.397E+00	2.900E+01	5.812E-01	-0.044
EU-152	-2.824E+01		2.599E+01	9.028E+01	1.806E+00	-0.313
EU-154	1.940E-01		9.345E+00	4.138E+01	8.746E-01	0.005
EU-155	-2.207E+01		4.870E+01	1.718E+02	3.612E+00	-0.128
HF-181	-1.166E+01		8.305E+00	2.719E+01	5.455E-01	-0.429
BI-207	9.595E+00		5.760E+00	2.591E+01	5.220E-01	0.370
TL-208	2.701E+00		4.736E+00	2.122E+01	4.279E-01	0.127
BI-210M	2.209E+01		1.600E+01	6.472E+01	1.298E+00	0.341
BI-212	3.778E+01		6.975E+01	2.993E+02	9.146E+00	0.126
PB-212	1.175E+01		1.951E+01	7.458E+01	1.500E+00	0.158
BI-214	-1.156E+01		1.170E+01	4.139E+01	8.360E-01	-0.279
PB-214	1.013E+01		2.353E+01	7.895E+01	1.579E+00	0.128
RA-223	-8.148E+01		5.876E+01	1.928E+02	3.866E+00	-0.423
RA-224DA	1.186E+01		1.968E+01	7.525E+01	1.513E+00	0.158
RA-226DA	-1.144E+01		1.171E+01	4.150E+01	8.381E-01	-0.276
AC-227DA	-8.403E+01		7.751E+01	2.630E+02	5.290E+00	-0.319
AC-228	9.775E+00		1.169E+01	5.760E+01	1.187E+00	0.170
RA-228DA	9.804E+00		1.173E+01	5.777E+01	1.190E+00	0.170
TH-228DA	7.585E+00		1.330E+01	5.959E+01	1.202E+00	0.127
TH-232DA	-1.040E+01		5.973E+01	2.235E+02	4.470E+00	-0.047
TH-234DA	-4.549E+00		5.837E+02	2.470E+03	5.122E+01	-0.002
U-234DA	-2.001E+01		4.274E+01	1.513E+02	3.030E+00	-0.132
U-235HP	-2.678E+02		9.776E+01	2.787E+02	5.732E+00	-0.961
NP-237DA	1.114E+01		2.268E+01	8.797E+01	1.760E+00	0.127
U-238DA	1.013E+01		2.353E+01	7.895E+01	1.579E+00	0.128
U-238DHP	2.612E+02		3.262E+02	1.230E+03	2.721E+01	0.212
AM-241HP	3.243E+01		3.078E+01	1.194E+02	2.662E+00	0.272

STL Richland WA.

BA133

Sample ID: H9GD81AC
Detector ID: GER6 1

Batch ID: 6200115



Acquisition Start: 28-JUL-2006 12:52:21.10
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: H9GD81AC

CONFIGURATION ID: GER6:H9GD81AC_280761252
TITLE : BA133
SAMPLE ID : H9GD81AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 12:52:21
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 05:20:03.87
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 13:23:01

Configuration : $DISK1:[GER6.SAMPLE]H9GD81AC_280761252.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 12:52:21
Sample ID : H9GD81AC 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 : 19.87 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	443	30	1.11	324.53	316	18	2.46E-01	5.6	
2	0	276.42	48	17	0.70	1108.86	1101	14	2.65E-02	23.6	
3	0	302.87	107	4	1.25	1214.91	1207	15	5.97E-02	10.4	
4	0	356.06	326	22	1.42	1428.21	1419	18	1.81E-01	6.5	
5	0	384.05	46	3	0.80	1540.45	1532	15	2.54E-02	17.4	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 13:23:02

Configuration : $DISK1:[GER6.SAMPLE]H9GD81AC_280761252.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 12:52:21
Sample ID : H9GD81AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.23 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	443	33.00	2.166E+00	2.066E+03	2.070E+03	7.81
	276.40	48	6.90	2.334E+00	9.867E+02	9.883E+02	24.18
	302.84	107	17.80	2.337E+00	8.613E+02	8.627E+02	11.72
	356.00	326	62.05*	2.339E+00	7.478E+02	7.490E+02	8.45
	383.85	46	8.70	2.338E+00	7.492E+02	7.505E+02	18.18

Flag: "*" = Keyline

Sample ID : H9GD81AC Acquisition date : 28-JUL-2006 12:52:21

None

Flags: "T" = Tentatively associated

Sample ID : H9GD81AC Acquisition date : 28-JUL-2006 12:52:21

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	1.001E+03	24.18	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 13:23:04

Configuration : $DISK1:[GER6.SAMPLE]H9GD81AC_280761252.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 12:52:21
Sample ID : H9GD81AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.23 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.490E+02	6.328E+01	5.240E+01	1.048E+00	14.294

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	1.414E+02		6.921E+01	3.139E+02	6.297E+00	0.450
NA-22	2.835E+00		4.719E+00	2.111E+01	4.467E-01	0.134
K-40	-1.362E+01		7.270E+01	3.510E+02	7.524E+00	-0.039
SC-46	9.695E+00		5.582E+00	2.678E+01	5.607E-01	0.362
CR-51	1.246E+02		1.068E+02	4.339E+02	8.681E+00	0.287
MN-54	1.450E+00		3.963E+00	1.790E+01	3.673E-01	0.081
CO-57	-4.038E+01		9.724E+01	3.552E+02	7.334E+00	-0.114
CO-58	-9.573E+00		5.083E+00	1.488E+01	3.048E-01	-0.643
FE-59	8.037E+00		1.068E+01	4.699E+01	9.823E-01	0.171
CO-60	-1.522E+00		1.524E+00	4.107E+00	8.727E-02	-0.371
ZN-65	-5.746E+00		1.121E+01	4.250E+01	8.894E-01	-0.135
SE-75	-7.021E+00		1.501E+01	5.360E+01	1.075E+00	-0.131
SR-85	-1.159E+01		1.016E+01	3.480E+01	6.993E-01	-0.333
Y-88	-1.111E+00		1.988E+00	9.184E+00	2.017E-01	-0.121
NB-94	-1.710E-01		4.206E+00	1.759E+01	3.618E-01	-0.010
NB-95	-2.565E+00		6.483E+00	2.504E+01	5.112E-01	-0.102
TC-95M	2.114E+01		1.713E+01	6.818E+01	1.378E+00	0.310
ZR-95	4.025E-01		8.060E+00	3.480E+01	7.099E-01	0.012
ZRNB-95	-4.714E+00		1.195E+01	4.618E+01	9.426E-01	-0.102
MO-99	-1.019E+02		1.115E+02	3.918E+02	8.076E+00	-0.260
RH-101	7.916E+00		1.507E+01	5.577E+01	1.129E+00	0.142
RH-102M	-2.322E+00		7.430E+00	2.743E+01	5.503E-01	-0.085
RU-103	4.156E+00		6.425E+00	2.829E+01	5.680E-01	0.147
RU-106DA	-5.493E+01		5.474E+01	1.959E+02	3.961E+00	-0.280
AG-108M	-1.603E+01		1.010E+01	3.288E+01	6.584E-01	-0.488
AG-110M	-4.522E+00		6.000E+00	2.229E+01	4.588E-01	-0.203
SN-113DA	2.676E+01		1.362E+01	5.806E+01	1.162E+00	0.461

Sample ID : H9GD81AC Acquisition date : 28-JUL-2006 12:52:21

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	-2.910E+00		7.609E+00	2.806E+01	5.667E-01	-0.104
SB-125	-4.524E+01		2.341E+01	7.222E+01	1.446E+00	-0.626
SN-126DA	1.076E+00		5.140E+00	2.132E+01	4.323E-01	0.050
I-131	-6.796E-01		2.234E+01	8.279E+01	1.656E+00	-0.008
CS-134	-8.479E+00		4.529E+00	1.266E+01	2.589E-01	-0.670
CS-137DA	1.821E+00		6.974E+00	2.828E+01	5.733E-01	0.064
LA-138	9.146E+00		4.600E+00	2.745E+01	5.874E-01	0.333
CE-139	-1.903E+01		1.368E+01	4.542E+01	9.270E-01	-0.419
BA-140	-1.422E+01		2.711E+01	1.061E+02	2.135E+00	-0.134
BALA-140	-5.599E-01		1.685E+01	6.906E+01	1.494E+00	-0.008
LA-140	1.027E+02		2.129E+02	9.328E+02	2.018E+01	0.110
CE-141	2.741E+01		2.549E+01	1.008E+02	2.072E+00	0.272
CE-144	-1.996E+01		1.045E+02	3.685E+02	7.621E+00	-0.054
CEPR-144	-3.990E+01		2.090E+02	7.370E+02	1.524E+01	-0.054
PM-144	1.767E+00		4.820E+00	2.084E+01	4.213E-01	0.085
PM-146	-7.121E+00		9.208E+00	3.302E+01	6.618E-01	-0.216
EU-152	9.144E+00		3.076E+01	1.178E+02	2.356E+00	0.078
EU-154	1.366E+01		1.282E+01	6.060E+01	1.283E+00	0.225
EU-155	-1.414E+00		4.809E+01	1.775E+02	3.739E+00	-0.008
HF-181	-1.077E+01		9.547E+00	3.221E+01	6.463E-01	-0.334
BI-207	-9.049E+00		4.747E+00	1.365E+01	2.750E-01	-0.663
TL-208	-7.444E+00		7.720E+00	2.843E+01	5.734E-01	-0.262
BI-210M	-3.836E+00		1.884E+01	6.803E+01	1.365E+00	-0.056
BI-212	3.177E+01		9.427E+01	3.792E+02	1.159E+01	0.084
PB-212	-1.968E+01		2.125E+01	7.733E+01	1.555E+00	-0.255
BI-214	1.988E+01		1.643E+01	7.200E+01	1.455E+00	0.276
PB-214	-9.772E+00		3.086E+01	9.249E+01	1.850E+00	-0.106
RA-223	6.192E+01		7.030E+01	2.718E+02	5.451E+00	0.228
RA-224DA	-1.986E+01		2.144E+01	7.803E+01	1.569E+00	-0.255
RA-226DA	1.975E+01		1.642E+01	7.193E+01	1.453E+00	0.275
AC-227DA	-6.489E+01		8.233E+01	2.884E+02	5.802E+00	-0.225
AC-228	8.760E+00		1.974E+01	9.064E+01	1.869E+00	0.097
RA-228DA	8.786E+00		1.979E+01	9.091E+01	1.875E+00	0.097
TH-228DA	-2.091E+01		2.168E+01	7.984E+01	1.610E+00	-0.262
TH-232DA	-7.126E+01		5.919E+01	2.001E+02	4.002E+00	-0.356
TH-234DA	-1.137E+01		6.478E+02	2.732E+03	5.671E+01	-0.004
U-234DA	6.739E+01		4.539E+01	1.872E+02	3.749E+00	0.360
U-235HP	-1.451E+02		1.026E+02	3.464E+02	7.130E+00	-0.419
NP-237DA	-2.279E+01		2.066E+01	7.142E+01	1.429E+00	-0.319
U-238DA	-9.772E+00		3.086E+01	9.249E+01	1.850E+00	-0.106
U-238DHP	1.292E+02		3.430E+02	1.268E+03	2.814E+01	0.102
AM-241HP	1.725E+00		2.759E+01	1.031E+02	2.304E+00	0.017

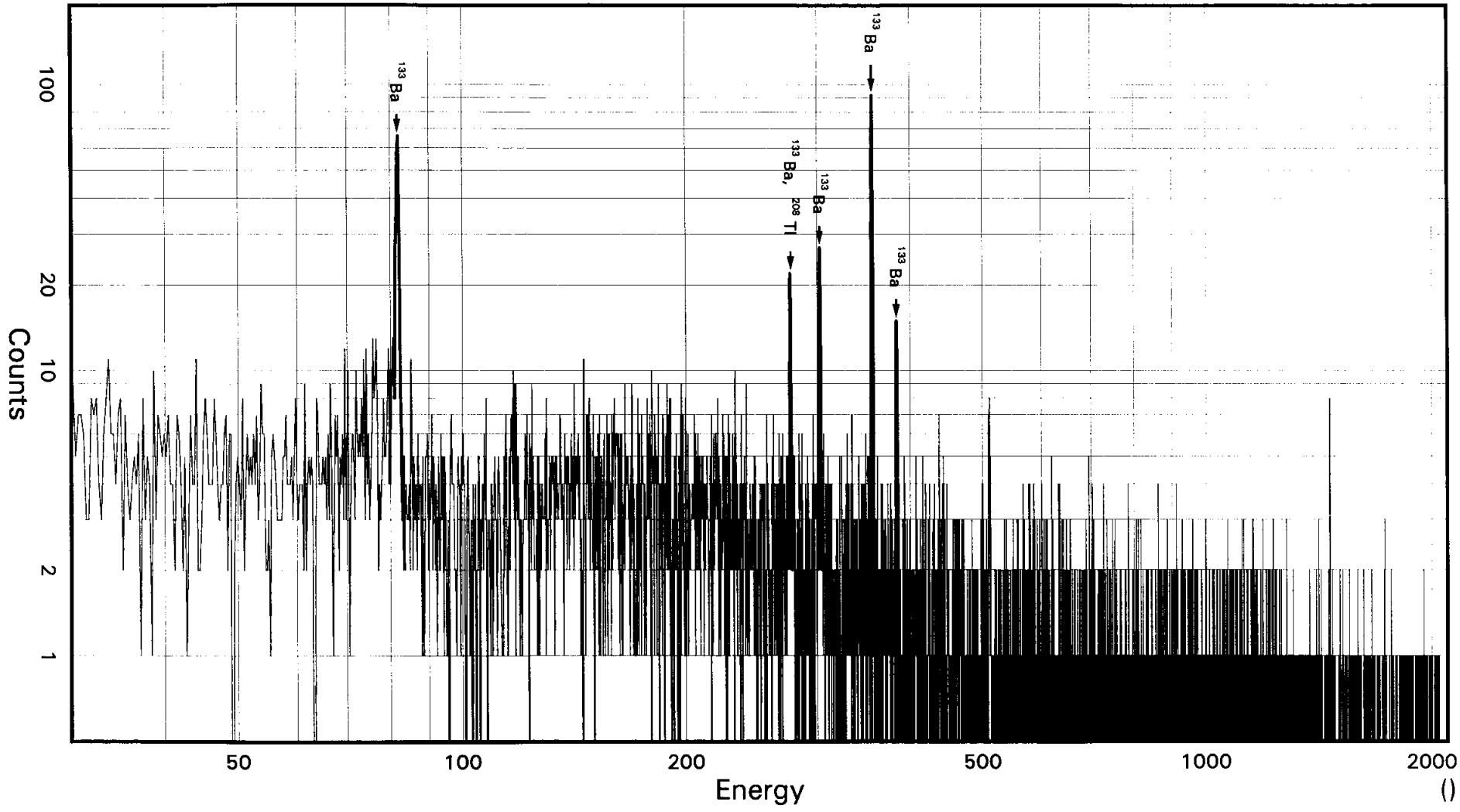
STL Richland WA.

BA133

Sample ID: H9GEC1AC

Detector ID: GER13 1

Batch ID: 6200115



Acquisition Start: 28-JUL-2006 12:52:26.49

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: H9GEC1AC

CONFIGURATION ID: GER13:H9GEC1AC_280761252
TITLE : BA133
SAMPLE ID : H9GEC1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 12:52:26
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 13:23:17

Configuration : $DISK1:[GER13.SAMPLE]H9GEC1AC_280761252.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 12:52:26
Sample ID : H9GEC1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.39 0.0%
Start energy : 19.35 End energy : 2046.72
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.87	206	86	0.68	329.30	321	15	1.14E-01	12.1	
2	0	276.76	46	68	0.80	1106.77	1098	18	2.55E-02	44.6	
3	0	302.63	136	40	1.28	1210.00	1202	16	7.57E-02	13.5	
4	0	355.91	412	47	1.00	1422.65	1412	21	2.29E-01	6.4	
5	0	383.53	70	12	1.18	1532.94	1525	14	3.88E-02	16.4	
6	0	437.01	23	3	0.50	1746.44	1739	13	1.25E-02	26.8	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 13:23:17

Configuration : $DISK1:[GER13.SAMPLE]H9GEC1AC_280761252.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 12:52:26
Sample ID : H9GEC1AC 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	206	33.00	2.704E+00	7.683E+02	7.695E+02	13.23
	276.40	46	6.90	2.897E+00	7.647E+02	7.659E+02	44.90
	302.84	136	17.80	2.900E+00	8.798E+02	8.813E+02	14.49
	356.00	412	62.05*	2.903E+00	7.631E+02	7.643E+02	8.40
	383.85	70	8.70	2.902E+00	9.218E+02	9.233E+02	17.25

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H9GEC1AC
Acquisition date : 28-JUL-2006 12:52:26

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	437.01	23	3	0.50	1746.44	1739	13	1.25E-02	26.8	2.90E+00	

Flags: "T" = Tentatively associated

Sample ID : H9GEC1AC Acquisition date : 28-JUL-2006 12:52:26

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	7.759E+02	44.90	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 13:23:19

Configuration : $DISK1:[GER13.SAMPLE]H9GEC1AC_280761252.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 12:52:26
Sample ID : H9GEC1AC 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	7.643E+02	6.421E+01	5.701E+01	1.140E+00	13.406

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	1.432E+01		4.895E+01	1.998E+02	4.007E+00	0.072
NA-22	-3.653E+00		4.771E+00	1.730E+01	3.650E-01	-0.211
K-40	6.347E-01		9.888E+01	4.716E+02	1.007E+01	0.001
SC-46	1.335E+00		5.603E+00	2.516E+01	5.253E-01	0.053
CR-51	5.452E+01		9.496E+01	3.625E+02	7.253E+00	0.150
MN-54	5.097E+00		5.030E+00	2.175E+01	4.455E-01	0.234
CO-57	5.263E+01		1.094E+02	4.000E+02	8.245E+00	0.132
CO-58	6.681E+00		5.801E+00	2.498E+01	5.108E-01	0.267
FE-59	5.778E-01		1.065E+01	4.216E+01	8.791E-01	0.014
CO-60	-1.437E+00		4.459E+00	1.719E+01	3.640E-01	-0.084
ZN-65	-1.988E+01		1.145E+01	3.685E+01	7.693E-01	-0.539
SE-75	-4.383E+00		1.732E+01	6.170E+01	1.238E+00	-0.071
SR-85	-3.556E+01		1.019E+01	2.715E+01	5.454E-01	-1.310
Y-88	-2.566E+00		2.626E+00	9.842E+00	2.150E-01	-0.261
NB-94	-2.098E+00		4.942E+00	1.869E+01	3.838E-01	-0.112
NB-95	1.068E+01		6.360E+00	2.808E+01	5.725E-01	0.380
TC-95M	1.197E+01		1.793E+01	6.722E+01	1.358E+00	0.178
ZR-95	-3.329E+00		1.091E+01	4.062E+01	8.276E-01	-0.082
ZRNB-95	1.999E+01		1.176E+01	5.196E+01	1.059E+00	0.385
MO-99	-1.262E+01		1.303E+02	4.609E+02	9.482E+00	-0.027
RH-101	7.875E+00		1.479E+01	5.349E+01	1.082E+00	0.147
RH-102M	-7.466E+00		5.532E+00	1.838E+01	3.685E-01	-0.406
RU-103	-6.479E+00		8.492E+00	2.978E+01	5.978E-01	-0.218
RU-106DA	5.129E+01		6.315E+01	2.564E+02	5.181E+00	0.200
AG-108M	5.779E+00		7.942E+00	2.786E+01	5.579E-01	0.207
AG-110M	8.631E+00		7.957E+00	3.353E+01	6.890E-01	0.257
SN-113DA	2.281E+01		1.080E+01	4.653E+01	9.309E-01	0.490

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	1.015E+01		7.288E+00	3.042E+01	6.140E-01	0.334
SB-125	-9.277E+00		2.123E+01	7.783E+01	1.558E+00	-0.119
SN-126DA	1.207E+00		5.332E+00	2.111E+01	4.277E-01	0.057
I-131	-9.271E-01		2.038E+01	7.612E+01	1.522E+00	-0.012
CS-134	-5.383E-01		5.328E+00	2.078E+01	4.246E-01	-0.026
CS-137DA	-1.398E+00		6.535E+00	2.472E+01	5.006E-01	-0.057
LA-138	-5.247E+00		3.998E+00	1.349E+01	2.876E-01	-0.389
CE-139	1.713E+01		1.460E+01	5.454E+01	1.112E+00	0.314
BA-140	-8.333E+00		4.636E+01	1.685E+02	3.389E+00	-0.049
BALA-140	4.207E+00		1.120E+01	5.075E+01	1.093E+00	0.083
LA-140	5.406E+01		1.446E+02	6.552E+02	1.411E+01	0.083
CE-141	-7.133E+01		2.992E+01	9.288E+01	1.907E+00	-0.768
CE-144	1.247E+01		1.061E+02	3.824E+02	7.893E+00	0.033
CEPR-144	2.495E+01		2.122E+02	7.648E+02	1.579E+01	0.033
PM-144	2.804E-01		6.429E+00	2.457E+01	4.963E-01	0.011
PM-146	-1.161E+00		7.811E+00	3.002E+01	6.016E-01	-0.039
EU-152	-3.160E+01		3.615E+01	1.220E+02	2.439E+00	-0.259
EU-154	-5.552E+00		1.307E+01	4.962E+01	1.047E+00	-0.112
EU-155	-2.067E+01		4.612E+01	1.655E+02	3.475E+00	-0.125
HF-181	7.773E-01		8.732E+00	3.317E+01	6.654E-01	0.023
BI-207	-5.134E+00		6.396E+00	2.290E+01	4.614E-01	-0.224
TL-208	-1.540E+01		7.739E+00	2.624E+01	5.289E-01	-0.587
BI-210M	-1.092E+01		1.960E+01	6.863E+01	1.376E+00	-0.159
BI-212	5.738E+01		8.319E+01	3.393E+02	1.037E+01	0.169
PB-212	-1.292E+00		2.387E+01	8.788E+01	1.767E+00	-0.015
BI-214	-8.284E+00		1.619E+01	6.712E+01	1.355E+00	-0.123
PB-214	-4.575E+01		3.413E+01	9.824E+01	1.965E+00	-0.466
RA-223	4.589E+01		7.240E+01	2.697E+02	5.408E+00	0.170
RA-224DA	-1.304E+00		2.408E+01	8.867E+01	1.783E+00	-0.015
RA-226DA	-8.184E+00		1.620E+01	6.716E+01	1.356E+00	-0.122
AC-227DA	-1.905E+02		9.672E+01	3.126E+02	6.287E+00	-0.610
AC-228	3.200E+00		2.130E+01	9.090E+01	1.872E+00	0.035
RA-228DA	3.209E+00		2.137E+01	9.118E+01	1.877E+00	0.035
TH-228DA	-4.324E+01		2.174E+01	7.368E+01	1.486E+00	-0.587
TH-232DA	-9.874E+01		7.123E+01	2.322E+02	4.644E+00	-0.425
TH-234DA	-1.616E+03		7.832E+02	2.294E+03	4.752E+01	-0.704
U-234DA	-6.492E+01		4.996E+01	1.724E+02	3.451E+00	-0.377
U-235HP	-8.640E+01		1.083E+02	3.708E+02	7.619E+00	-0.233
NP-237DA	3.305E+01		2.363E+01	9.266E+01	1.854E+00	0.357
U-238DA	-4.575E+01		3.413E+01	9.824E+01	1.965E+00	-0.466
U-238DHP	-2.035E+00		3.123E+02	1.109E+03	2.446E+01	-0.002
AM-241HP	-2.883E-01		3.382E+01	1.202E+02	2.670E+00	-0.002

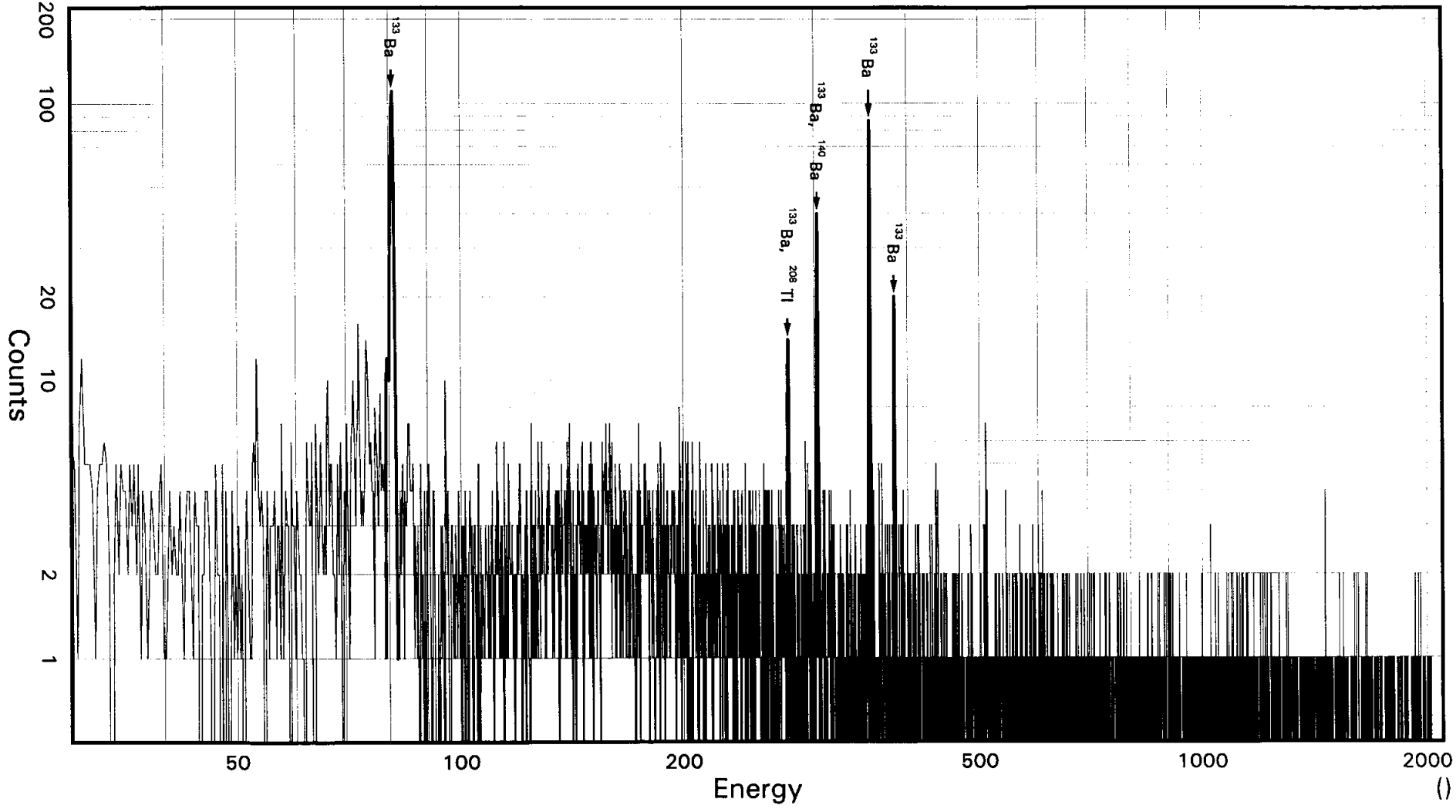
STL Richland WA.

BA133

Sample ID: H9GED1AC

Detector ID: GER12 1

Batch ID: 6200115



Acquisition Start: 28-JUL-2006 12:52:31.95

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: H9GED1AC

CONFIGURATION ID: GER12:H9GED1AC_280761252
TITLE : BA133
SAMPLE ID : H9GED1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 12:52:31
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 13:23:32

Configuration : $DISK1:[GER12.SAMPLE]H9GED1AC_280761252.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 12:52:31
Sample ID : H9GED1AC 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	74.99*	12	29	0.62	253.46	249	10	6.94E-03	95.7	
2	0	80.84	398	27	0.75	277.20	270	13	2.21E-01	5.7	
3	0	276.43	70	7	1.16	1070.53	1063	15	3.87E-02	14.7	
4	0	302.97	151	27	0.87	1178.16	1170	16	8.39E-02	11.3	
5	0	356.03	414	16	1.08	1393.42	1385	16	2.30E-01	5.4	
6	0	383.96	63	8	0.64	1506.70	1501	11	3.49E-02	15.4	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 13:23:32

Configuration : $DISK1:[GER12.SAMPLE]H9GED1AC_280761252.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 12:52:31
Sample ID : H9GED1AC 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	398	33.00	2.899E+00	1.387E+03	1.389E+03	7.86
	276.40	70	6.90	3.105E+00	1.083E+03	1.085E+03	15.68
	302.84	151	17.80	3.109E+00	9.095E+02	9.110E+02	12.50
	356.00	414	62.05*	3.111E+00	7.148E+02	7.160E+02	7.60
	383.85	63	8.70	3.111E+00	7.732E+02	7.744E+02	16.33

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H9GED1AC

Acquisition date : 28-JUL-2006 12:52:31

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	74.99	12	29	0.62	253.46	249	10	6.94E-03	95.7	2.88E+00	

Flags: "T" = Tentatively associated

Sample ID : H9GED1AC Acquisition date : 28-JUL-2006 12:52:31

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	5.874E+03	12.50	
			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	1.099E+03	15.68	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 13:23:34

Configuration : $DISK1:[GER12.SAMPLE]H9GED1AC_280761252.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 12:52:31
Sample ID : H9GED1AC 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	7.160E+02	5.444E+01	4.525E+01	9.050E-01	15.822

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-4.997E+01		3.790E+01	1.247E+02	2.501E+00	-0.401
NA-22	-2.150E+00		2.216E+00	8.361E+00	1.762E-01	-0.257
K-40	-2.741E+01		4.452E+01	2.217E+02	4.729E+00	-0.124
SC-46	2.384E+00		3.419E+00	1.578E+01	3.293E-01	0.151
CR-51	-1.488E+02		7.617E+01	2.307E+02	4.616E+00	-0.645
MN-54	2.197E+00		4.178E+00	1.770E+01	3.624E-01	0.124
CO-57	-4.801E+01		7.944E+01	2.806E+02	5.781E+00	-0.171
CO-58	6.256E-02		3.382E+00	1.445E+01	2.953E-01	0.004
FE-59	-1.487E+00		7.655E+00	3.058E+01	6.371E-01	-0.049
CO-60	-2.187E+00		2.752E+00	1.055E+01	2.231E-01	-0.207
ZN-65	-4.173E+00		7.235E+00	2.759E+01	5.755E-01	-0.151
SE-75	-1.189E+01		1.031E+01	3.519E+01	7.058E-01	-0.338
SR-85	-2.633E+01		7.490E+00	1.980E+01	3.976E-01	-1.330
Y-88	-3.100E-02		1.785E+00	9.168E+00	1.999E-01	-0.003
NB-94	-9.555E-02		3.836E+00	1.549E+01	3.179E-01	-0.006
NB-95	4.192E+00		5.003E+00	2.178E+01	4.440E-01	0.192
TC-95M	-2.461E+01		1.264E+01	4.120E+01	8.322E-01	-0.597
ZR-95	7.881E+00		6.643E+00	3.169E+01	6.456E-01	0.249
ZRNB-95	7.728E+00		9.223E+00	4.016E+01	8.185E-01	0.192
MO-99	2.515E+01		8.794E+01	3.357E+02	6.904E+00	0.075
RH-101	-3.259E+00		1.106E+01	4.037E+01	8.164E-01	-0.081
RH-102M	6.911E-01		4.161E+00	1.693E+01	3.395E-01	0.041
RU-103	3.758E+00		4.301E+00	1.974E+01	3.962E-01	0.190
RU-106DA	-4.328E+01		3.942E+01	1.373E+02	2.773E+00	-0.315
AG-108M	-2.031E+01		6.366E+00	1.587E+01	3.178E-01	-1.280
AG-110M	4.567E+00		4.701E+00	2.190E+01	4.499E-01	0.209
SN-113DA	-6.214E+00		9.419E+00	3.395E+01	6.792E-01	-0.183

Sample ID : H9GED1AC Acquisition date : 28-JUL-2006 12:52:31

---- Non-Identified Nuclides ----

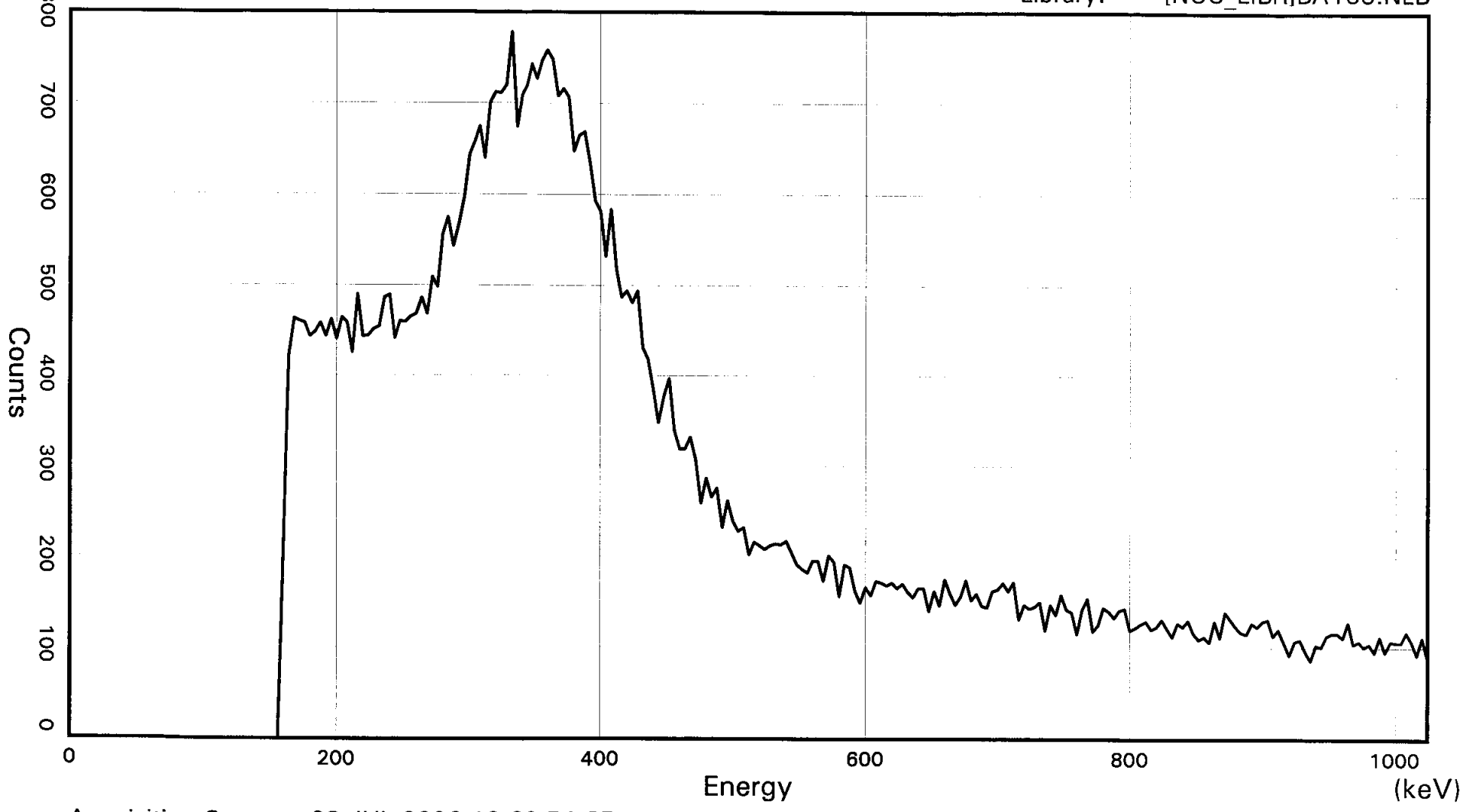
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	3.062E+00		5.530E+00	2.259E+01	4.559E-01	0.136
SB-125	-1.099E+01		1.612E+01	5.854E+01	1.172E+00	-0.188
SN-126DA	-1.473E+00		2.878E+00	1.133E+01	2.296E-01	-0.130
I-131	-3.495E+00		1.377E+01	5.246E+01	1.049E+00	-0.067
CS-134	-5.012E+00		3.609E+00	1.199E+01	2.447E-01	-0.418
CS-137DA	7.189E+00		4.013E+00	1.990E+01	4.029E-01	0.361
LA-138	-3.476E+00		3.453E+00	1.257E+01	2.677E-01	-0.276
CE-139	-3.754E+00		1.068E+01	3.779E+01	7.702E-01	-0.099
BA-140	-5.717E+00		1.812E+01	7.568E+01	1.522E+00	-0.076
BALA-140	1.995E+01		1.178E+01	5.911E+01	1.271E+00	0.338
LA-140	2.244E+02		1.464E+02	7.335E+02	1.577E+01	0.306
CE-141	2.264E+01		2.028E+01	7.893E+01	1.620E+00	0.287
CE-144	-5.520E+01		7.707E+01	2.709E+02	5.588E+00	-0.204
CEPR-144	-1.095E+02		1.542E+02	5.421E+02	1.118E+01	-0.202
PM-144	3.367E+00		4.318E+00	1.854E+01	3.744E-01	0.182
PM-146	2.054E+00		5.113E+00	2.225E+01	4.459E-01	0.092
EU-152	4.007E+00		1.925E+01	7.663E+01	1.533E+00	0.052
EU-154	-7.038E+00		5.946E+00	2.085E+01	4.394E-01	-0.338
EU-155	5.196E+00		3.096E+01	1.203E+02	2.523E+00	0.043
HF-181	-5.161E+00		6.003E+00	2.121E+01	4.254E-01	-0.243
BI-207	1.737E+00		4.799E+00	1.950E+01	3.928E-01	0.089
TL-208	6.251E+00		5.228E+00	2.303E+01	4.643E-01	0.271
BI-210M	-1.715E+01		1.180E+01	3.894E+01	7.810E-01	-0.440
BI-212	-4.268E+01		5.782E+01	2.168E+02	6.623E+00	-0.197
PB-212	3.267E+00		1.584E+01	5.987E+01	1.204E+00	0.055
BI-214	2.555E+01		1.025E+01	4.828E+01	9.746E-01	0.529
PB-214	2.179E+01		1.884E+01	7.063E+01	1.413E+00	0.309
RA-223	8.549E+01		4.825E+01	2.009E+02	4.027E+00	0.426
RA-224DA	3.296E+00		1.599E+01	6.042E+01	1.215E+00	0.055
RA-226DA	2.555E+01		1.025E+01	4.828E+01	9.746E-01	0.529
AC-227DA	-1.829E+01		6.258E+01	2.290E+02	4.604E+00	-0.080
AC-228	9.663E+00		1.025E+01	4.998E+01	1.028E+00	0.193
RA-228DA	9.692E+00		1.028E+01	5.012E+01	1.031E+00	0.193
TH-228DA	1.756E+01		1.468E+01	6.469E+01	1.304E+00	0.271
TH-232DA	3.324E+01		4.439E+01	1.772E+02	3.544E+00	0.188
TH-234DA	-1.395E+02		5.015E+02	2.048E+03	4.239E+01	-0.068
U-234DA	6.318E+01		3.581E+01	1.470E+02	2.943E+00	0.430
U-235HP	1.918E+01		7.651E+01	2.845E+02	5.843E+00	0.067
NP-237DA	-1.444E+01		1.897E+01	6.556E+01	1.312E+00	-0.220
U-238DA	2.179E+01		1.884E+01	7.063E+01	1.413E+00	0.309
U-238DHP	9.615E+01		2.178E+02	8.218E+02	1.809E+01	0.117
AM-241HP	2.860E+01		1.995E+01	8.186E+01	1.815E+00	0.349

STL Richland WA.

BA133

Sample ID: H9GEF1AC
Detector ID: NAI1 1

Library: [NUC_LIBR]BA133.NLB



Acquisition Start:	28-JUL-2006 13:30:54.35
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: H9GEF1AC

CONFIGURATION ID: NAI1:H9GEF1AC_280761330
TITLE : BA133
SAMPLE ID : H9GEF1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 13:30:54
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 19-JUL-2006 12:00:00.00
CALIB DATE: 17-NOV-1993 10:39:59.60
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY:

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: 0.0000E+00 keV
ENERGY SLOPE: 4.0000E+00 keV/C
ENERGY Q COEFF: 0.0000E+00 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: -.2302E+02 keV
FWHM SLOPE: 5.7163E+00 sqr keV
ITERATIONS: 5
GAUSSIAN SENSITIVITY: 35.00 %

ABUNDANCE LIMIT: 75.00 %
ENERGY TOLERANCE: 20.000 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]BA133.NLB

VMS NAI Report V1.2 Generated 28-JUL-2006 14:00:59

Configuration	: RDND06$DKA100:[NAI1.SAMPLE]H9GEF1AC_280761330.CNF;1		
Analyses by	: NAI V3.0		
Sample title	: BA133		
Sample date	: 19-JUL-2006 12:00:00	Acquisition date	: 28-JUL-2006 13:30:54
Sample ID	: H9GEF1AC	Sample quantity	: 1.0000 sampl
Elapsed live time	: 0 00:30:00.00	Elapsed real time	: 0 00:30:00.67 0.0%
Sample Multiplier	: 1.00	Rejection Coeff.	: 0.00
Gain shift type	: ITER	Threshold Shift	: No
Weighting type	: DERIVED	Calculated counts	: No
Iterations	: 5		

NAI Residuals Report

Ratio of Residuals Over Standard Deviation Per Channel

80:	6.0	5.2	5.4	6.5	1.8	1.7	2.7	1.8
88:	1.3	2.3	2.1	0.9	-0.1	-1.1	0.2	-2.3
96:	-1.6	-1.4	-1.2	-3.5	-4.1	-3.4	-1.7	-5.0
104:	-5.5	-3.9	-4.0	-2.6	-5.6	-5.2	-5.6	-6.9
112:	-5.1	-3.5						

List of Suspicious Channels

81 82

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	1.66E+01	0.00E+00	1.02E+00
2	7.30E+00	0.00E+00	1.05E+00
3	2.62E+00	0.00E+00	1.07E+00
4	7.79E-01	0.00E+00	1.08E+00

Brief Report

Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	727.	8.06

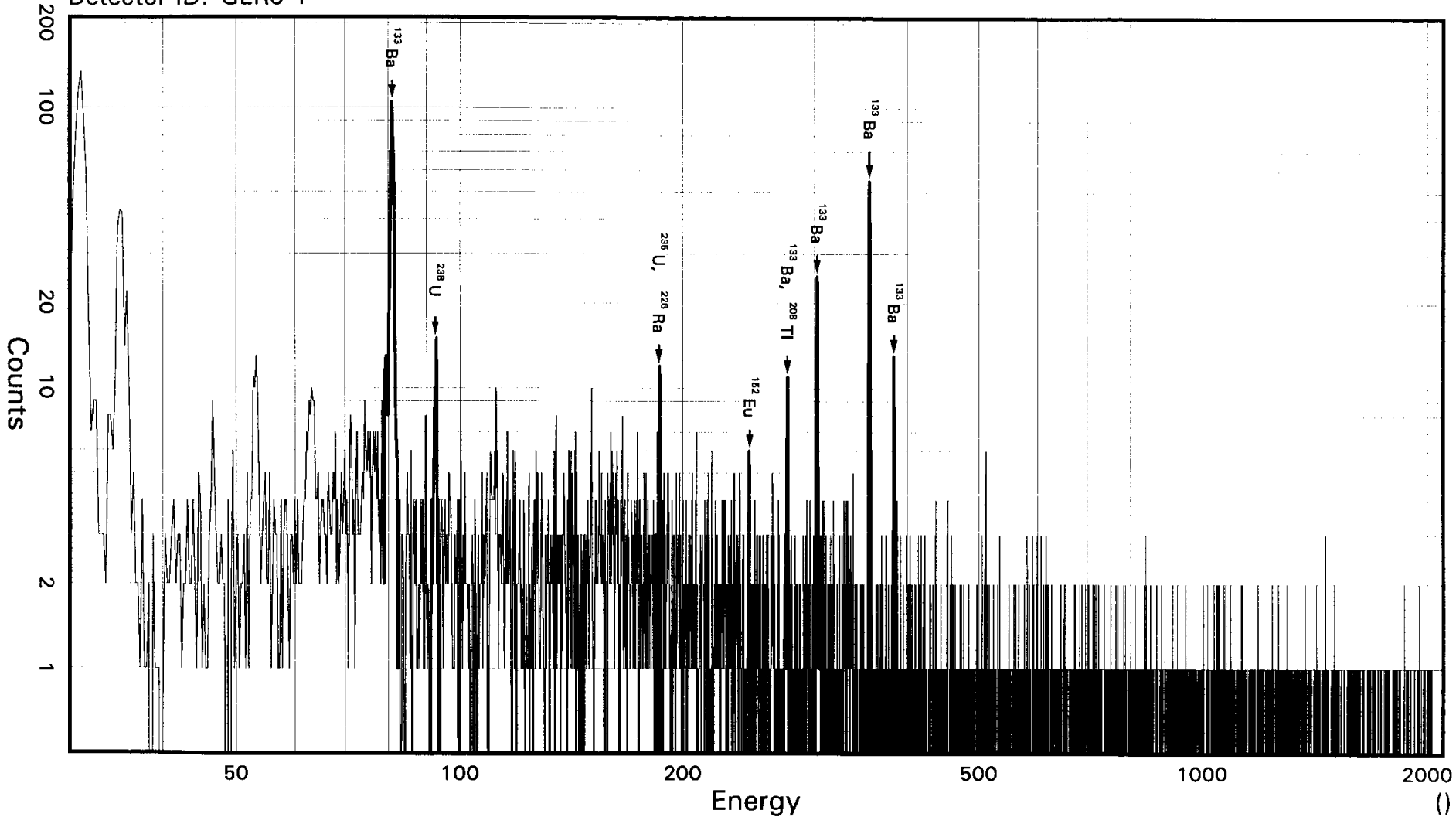
Total Activity :	727.	

STL Richland WA.

BA133

Sample ID: H9GEK1AC
Detector ID: GER5 1

Batch ID: 6200115



Acquisition Start: 28-JUL-2006 13:31:00.94
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: H9GEK1AC

CONFIGURATION ID: GER5:H9GEK1AC_280761331
TITLE : BA133
SAMPLE ID : H9GEK1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 13:31:00
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 14:01:16

Configuration : RDND06$DKA100:[GER5.SAMPLE]H9GEK1AC_280761331.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 13:31:00
Sample ID : H9GEK1AC 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	2	30.94	548	65	1.06	125.60	118	39	3.05E-01	5.1	1.50E+00
2	2	35.10	151	29	1.07	142.27	118	39	8.37E-02	13.1	
3	0	53.73*	19	59	0.87	216.95	212	16	1.03E-02	96.5	
4	0	81.01	361	71	0.87	326.34	317	16	2.00E-01	7.4	
5	0	92.53*	20	9	0.77	372.56	366	12	1.13E-02	45.2	
6	0	185.76*	21	10	0.91	746.36	738	13	1.14E-02	42.3	
7	0	245.82	10	10	0.47	987.15	981	11	5.58E-03	70.5	
8	0	276.23	42	12	0.83	1109.08	1100	16	2.32E-02	24.1	
9	0	302.77	102	22	1.04	1215.50	1207	20	5.65E-02	14.7	
10	0	355.96	269	0	1.08	1428.77	1420	16	1.49E-01	6.1	
11	0	383.77	39	0	0.49	1540.31	1533	13	2.17E-02	16.0	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 28-JUL-2006 14:01:16

Configuration : RDND06$DKA100:[GER5.SAMPLE]H9GEK1AC_280761331.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 13:31:00
Sample ID : H9GEK1AC 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	361	33.00	1.924E+00	1.895E+03	1.898E+03	9.15
	276.40	42	6.90	2.077E+00	9.731E+02	9.747E+02	24.74
	302.84	102	17.80	2.080E+00	9.160E+02	9.175E+02	15.67
	356.00	269	62.05*	2.082E+00	6.942E+02	6.953E+02	8.13
	383.85	39	8.70	2.081E+00	7.180E+02	7.191E+02	16.89

Flag: "*" = Keyline

Sample ID : H9GEK1AC Acquisition date : 28-JUL-2006 13:31:00

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
2	30.94	548	65	1.06	125.60	118	39	3.05E-01	5.1	1.68E+00	
2	35.10	151	29	1.07	142.27	118	39	8.37E-02	13.1	1.72E+00	
0	53.73	19	59	0.87	216.95	212	16	1.03E-02	96.5	1.83E+00	
0	92.53	20	9	0.77	372.56	366	12	1.13E-02	45.2	1.95E+00	T
0	185.76	21	10	0.91	746.36	738	13	1.14E-02	42.3	2.05E+00	T
0	245.82	10	10	0.47	987.15	981	11	5.58E-03	70.5	2.07E+00	T

Flags: "T" = Tentatively associated

Sample ID : H9GEK1AC
Acquisition date : 28-JUL-2006 13:31:00

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
EU-152	13.60Y	0.00	121.78	28.40	--- Not Found ---		Abun.
			244.67	7.49	2.162E+02	70.74	
			344.27*	26.50	--- Not Found ---		
			778.89	12.74	--- Not Found ---		
			964.01	14.40	--- Not Found ---		
			1085.78	10.00	--- Not Found ---		
			1112.02	13.30	--- Not Found ---		
			1407.95	20.70	--- Not Found ---		
		% Abundances Found =		5.61			
TL-208	1.41E+10Y	0.00	277.35	6.80	9.874E+02	24.74	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	9.562E+02	42.68	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			
U-235HP	7.04E+08Y	0.00	143.76*	10.50	--- Not Found ---		Abun.
			185.71	54.00	6.197E+01	42.68	
			205.31	4.70	--- Not Found ---		
		% Abundances Found =		78.03			
U-238DHP	4.47E+09Y	0.00	63.28*	3.80	--- Not Found ---		Abun.
			92.59	5.41	6.420E+02	45.51	
		% Abundances Found =		58.74			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.1 Generated 28-JUL-2006 14:01:17

Configuration : RDND06$DKA100:[GER5.SAMPLE]H9GEK1AC_280761331.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 13:31:00
Sample ID : H9GEK1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	6.953E+02	5.656E+01	4.197E+01	8.394E-01	16.568

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	5.037E+01		6.304E+01	2.749E+02	5.516E+00	0.183
NA-22	-1.526E+00		3.743E+00	1.587E+01	3.364E-01	-0.096
NA-24	-5.309E-02		4.000E-02	Half-Life too short		
K-40	-1.550E+01		6.268E+01	2.983E+02	6.410E+00	-0.052
SC-46	4.044E+00		4.570E+00	2.229E+01	4.674E-01	0.181
CR-51	9.181E+00		9.196E+01	3.564E+02	7.131E+00	0.026
MN-54	-2.124E+00		5.700E+00	2.197E+01	4.511E-01	-0.097
CO-57	8.683E+01		1.282E+02	4.765E+02	9.851E+00	0.182
CO-58	-2.609E-01		5.195E+00	2.165E+01	4.437E-01	-0.012
FE-59	-1.393E+01		8.508E+00	2.511E+01	5.257E-01	-0.555
CO-60	-6.684E+00		3.362E+00	4.622E+00	9.842E-02	-1.446
ZN-65	-7.055E+00		8.429E+00	3.148E+01	6.598E-01	-0.224
SE-75	3.983E+01		1.732E+01	7.390E+01	1.483E+00	0.539
SR-85	-3.974E+01		1.136E+01	2.806E+01	5.639E-01	-1.416
Y-88	3.999E-02		3.745E+00	1.747E+01	3.848E-01	0.002
NB-94	-3.161E-01		3.821E+00	1.696E+01	3.490E-01	-0.019
NB-95	-2.200E+00		6.576E+00	2.568E+01	5.246E-01	-0.086
TC-95M	-8.208E+00		1.895E+01	6.812E+01	1.378E+00	-0.120
ZR-95	-3.596E+00		1.092E+01	4.271E+01	8.719E-01	-0.084
ZRNB-95	-4.055E+00		1.212E+01	4.733E+01	9.669E-01	-0.086
MO-99	-7.604E+00		1.566E+02	5.538E+02	1.143E+01	-0.014
RH-101	-1.220E+00		1.622E+01	5.952E+01	1.205E+00	-0.020
RH-102M	-2.721E-01		7.280E+00	2.832E+01	5.681E-01	-0.010
RU-103	4.761E+00		6.904E+00	3.059E+01	6.142E-01	0.156
RU-106DA	-5.626E+01		6.658E+01	2.419E+02	4.892E+00	-0.233
AG-108M	-1.081E+01		7.959E+00	2.660E+01	5.327E-01	-0.407
AG-110M	-6.571E+00		5.036E+00	1.713E+01	3.530E-01	-0.384

---- Non-Identified Nuclides ----

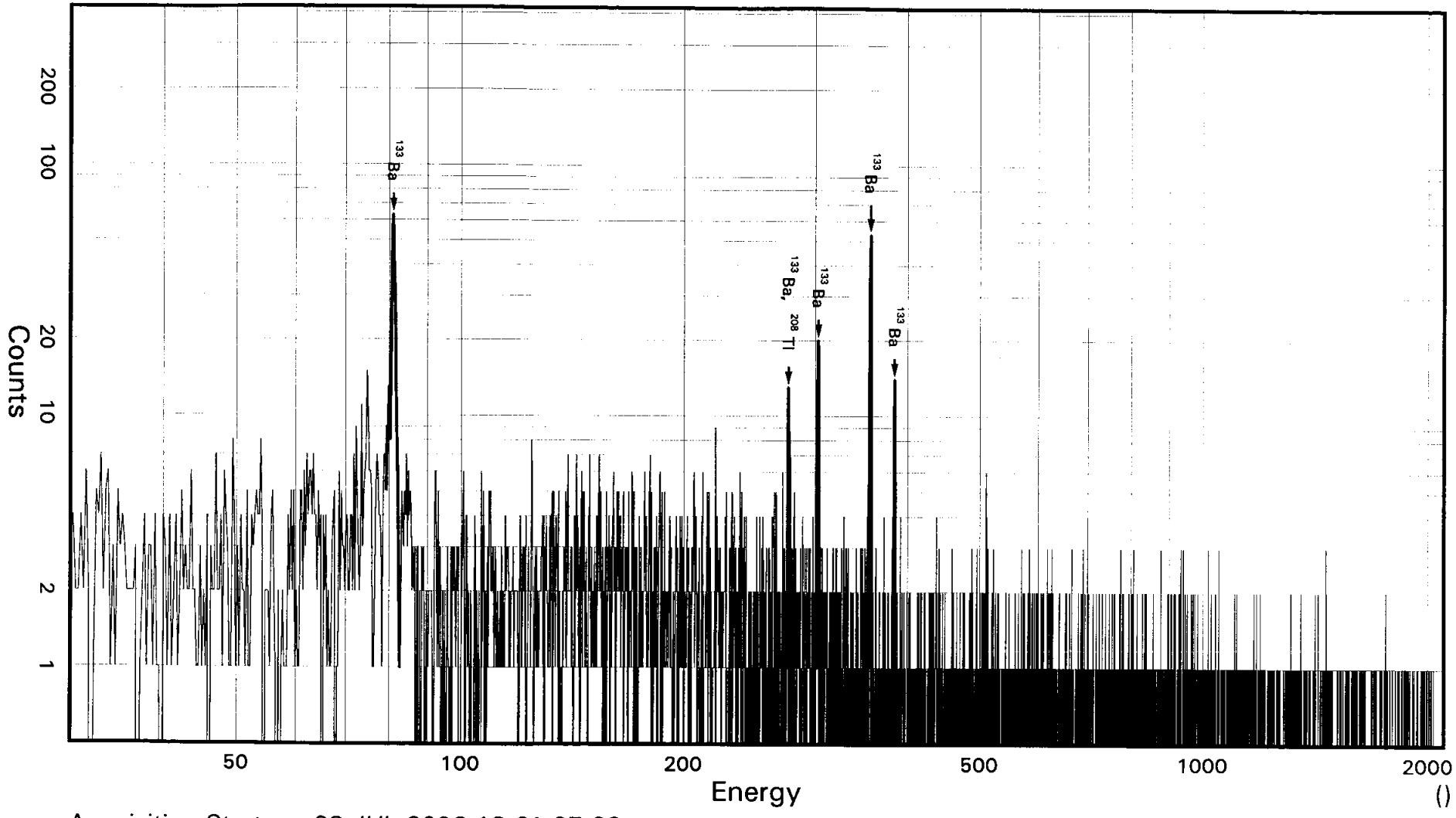
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	2.120E+00		1.109E+01	4.455E+01	8.913E-01	0.048
SB-124	-1.393E+01		7.133E+00	2.184E+01	4.411E-01	-0.638
SB-125	-5.312E+00		1.644E+01	6.602E+01	1.322E+00	-0.080
SN-126DA	-1.546E+00		3.599E+00	1.508E+01	3.058E-01	-0.103
I-131	-1.454E+00		1.651E+01	6.592E+01	1.318E+00	-0.022
CS-134	5.686E+00		5.175E+00	2.535E+01	5.190E-01	0.224
CS-137DA	-3.680E+00		4.624E+00	1.771E+01	3.592E-01	-0.208
LA-138	1.371E-03		3.640E+00	1.893E+01	4.060E-01	0.000
CE-139	-5.941E+00		1.827E+01	6.568E+01	1.341E+00	-0.090
BA-140	8.497E+00		3.230E+01	1.380E+02	2.778E+00	0.062
BALA-140	-8.499E-01		1.475E+01	6.360E+01	1.379E+00	-0.013
LA-140	-2.453E+02		2.104E+02	7.195E+02	1.560E+01	-0.341
CE-141	-2.500E+01		3.153E+01	1.072E+02	2.206E+00	-0.233
CE-144	2.239E+01		1.237E+02	4.484E+02	9.282E+00	0.050
CEPR-144	3.848E+01		2.469E+02	8.941E+02	1.851E+01	0.043
PM-144	1.025E+01		8.351E+00	3.523E+01	7.124E-01	0.291
PM-146	1.223E+01		1.138E+01	4.814E+01	9.648E-01	0.254
EU-152	-4.975E+01		2.678E+01	8.508E+01	1.702E+00	-0.585
EU-154	-4.276E+00		1.049E+01	4.446E+01	9.427E-01	-0.096
EU-155	-1.540E+01		5.752E+01	2.068E+02	4.362E+00	-0.074
HF-181	-5.131E+00		9.091E+00	3.360E+01	6.742E-01	-0.153
BI-207	-4.237E+00		5.765E+00	2.165E+01	4.364E-01	-0.196
TL-208	7.092E+00		7.846E+00	3.389E+01	6.838E-01	0.209
BI-210M	-3.835E+01		2.092E+01	6.594E+01	1.323E+00	-0.582
BI-212	-9.722E-01		8.614E+01	3.493E+02	1.068E+01	-0.003
PB-212	-3.925E+01		2.542E+01	8.921E+01	1.795E+00	-0.440
BI-214	-2.419E+00		1.326E+01	5.244E+01	1.060E+00	-0.046
PB-214	-1.426E+01		2.299E+01	7.004E+01	1.401E+00	-0.204
RA-223	4.440E+01		5.609E+01	2.300E+02	4.614E+00	0.193
RA-224DA	-3.960E+01		2.565E+01	9.002E+01	1.811E+00	-0.440
RA-226DA	-2.419E+00		1.326E+01	5.244E+01	1.060E+00	-0.046
AC-227DA	-6.113E+01		1.023E+02	3.603E+02	7.250E+00	-0.170
AC-228	-1.997E+01		1.826E+01	7.338E+01	1.515E+00	-0.272
RA-228DA	-2.003E+01		1.832E+01	7.360E+01	1.519E+00	-0.272
TH-228DA	1.992E+01		2.204E+01	9.519E+01	1.920E+00	0.209
TH-232DA	-2.259E+01		7.423E+01	2.763E+02	5.526E+00	-0.082
TH-234DA	8.737E+00		6.235E+02	2.754E+03	5.723E+01	0.003
U-234DA	6.505E+01		4.997E+01	2.022E+02	4.048E+00	0.322
U-235HP	5.790E+01		1.271E+02	4.657E+02	9.592E+00	0.124
NP-237DA	-4.998E+01		2.629E+01	8.067E+01	1.614E+00	-0.620
U-238DA	-1.426E+01		2.299E+01	7.004E+01	1.401E+00	-0.204
U-238DHP	1.133E+03		4.969E+02	2.023E+03	4.505E+01	0.560
AM-241HP	-2.676E+01		4.065E+01	1.438E+02	3.226E+00	-0.186

STL Richland WA.

BA133

Sample ID: H9GEM1AC
Detector ID: GER4 1

Batch ID: 6200115



Acquisition Start: 28-JUL-2006 13:31:27.88
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: H9GEM1AC

CONFIGURATION ID: GER4:H9GEM1AC_280761331
TITLE : BA133
SAMPLE ID : H9GEM1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 13:31:27
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 14:01:44

Configuration : $DISK1:[GER4.SAMPLE]H9GEM1AC_280761331.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 13:31:27
Sample ID : H9GEM1AC 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 : 19.79 End energy : 2039.79
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.08	226	49	0.85	326.21	319	15	1.26E-01	9.6	
2	0	276.10	61	6	1.26	1109.60	1100	16	3.36E-02	16.4	
3	0	302.93	95	18	1.39	1217.39	1211	15	5.27E-02	14.3	
4	0	356.05	269	18	1.20	1430.74	1421	18	1.49E-01	7.1	
5	0	383.63	54	4	1.01	1541.52	1533	14	2.99E-02	15.6	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 14:01:45

Configuration : $DISK1:[GER4.SAMPLE]H9GEM1AC_280761331.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 13:31:27
Sample ID : H9GEM1AC 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	226	33.00	2.043E+00	1.119E+03	1.121E+03	11.11
	276.40	61	6.90	2.202E+00	1.329E+03	1.331E+03	17.33
	302.84	95	17.80	2.205E+00	8.056E+02	8.069E+02	15.30
	356.00	269	62.05*	2.207E+00	6.534E+02	6.545E+02	9.91
	383.85	54	8.70	2.207E+00	9.356E+02	9.372E+02	16.74

Flag: "*" = Keyline

Sample ID : H9GEM1AC
Acquisition date : 28-JUL-2006 13:31:27

None

Flags: "T" = Tentatively associated

Sample ID : H9GEM1AC
Acquisition date : 28-JUL-2006 13:31:27

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	1.348E+03	17.33	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 14:01:47

Configuration	: $DISK1:[GER4.SAMPLE]H9GEM1AC_280761331.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 13:31:27
Sample ID	: H9GEM1AC	Sample quantity	: 1.0000 SAMPL
Sample type	:	Sample geometry	: BA133T15
Elapsed live time	: 0 00:30:00.00	Elapsed real time	: 0 00:30:00.39 0.0%
Peak Width (FWHM)	: 3.00	Confidence level	: 5.00 %
Energy tolerance	: 1.50	Half life ratio	: 8.00
Errors propagated	: Yes	Systematic Error	: 5.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 80.00	WTM error limit	: 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	6.545E+02	6.485E+01	5.816E+01	2.726E+00	11.253

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	5.816E+01		7.204E+01	3.020E+02	1.102E+01	0.193
NA-22	-1.630E+00		1.633E+00	4.354E+00	1.679E-01	-0.374
K-40	-2.259E+02		5.215E+01	2.408E+02	9.404E+00	-0.938
SC-46	-1.527E+00		3.735E+00	1.582E+01	6.034E-01	-0.096
CR-51	-3.399E+01		1.131E+02	4.141E+02	9.612E+00	-0.082
MN-54	2.427E+00		5.218E+00	2.275E+01	8.496E-01	0.107
CO-57	-1.684E+02		9.689E+01	3.194E+02	7.656E+00	-0.527
CO-58	-6.063E+00		7.645E+00	2.696E+01	1.005E+00	-0.225
FE-59	-5.767E+00		8.876E+00	3.462E+01	1.318E+00	-0.167
CO-60	-3.453E+00		4.644E+00	1.733E+01	6.710E-01	-0.199
ZN-65	6.920E+00		6.454E+00	3.493E+01	1.332E+00	0.198
SE-75	3.665E+01		1.572E+01	6.825E+01	1.589E+00	0.537
SR-85	-2.013E+01		1.062E+01	3.325E+01	1.216E+00	-0.605
Y-88	6.691E-01		1.090E+00	9.856E+00	3.946E-01	0.068
NB-94	4.388E+00		3.392E+00	1.827E+01	6.841E-01	0.240
NB-95	-2.076E+00		4.978E+00	1.988E+01	7.388E-01	-0.104
TC-95M	-3.396E+01		1.920E+01	6.107E+01	1.433E+00	-0.556
ZR-95	-6.720E+00		1.082E+01	4.027E+01	1.495E+00	-0.167
ZRNB-95	-3.827E+00		9.175E+00	3.664E+01	1.362E+00	-0.104
MO-99	-6.143E+01		1.289E+02	4.631E+02	1.108E+01	-0.133
RH-101	-7.392E+00		1.463E+01	5.167E+01	1.214E+00	-0.143
RH-102M	6.858E+00		6.831E+00	2.930E+01	1.070E+00	0.234
RU-103	5.940E+00		7.764E+00	3.328E+01	1.216E+00	0.178
RU-106DA	-6.027E+01		7.538E+01	2.717E+02	9.999E+00	-0.222
AG-108M	-1.425E+01		9.149E+00	3.023E+01	1.102E+00	-0.472
AG-110M	-3.355E+00		6.258E+00	2.463E+01	9.232E-01	-0.136
SN-113DA	1.886E+01		1.069E+01	4.786E+01	1.743E+00	0.394

Sample ID : H9GEM1AC Acquisition date : 28-JUL-2006 13:31:27

---- Non-Identified Nuclides ----

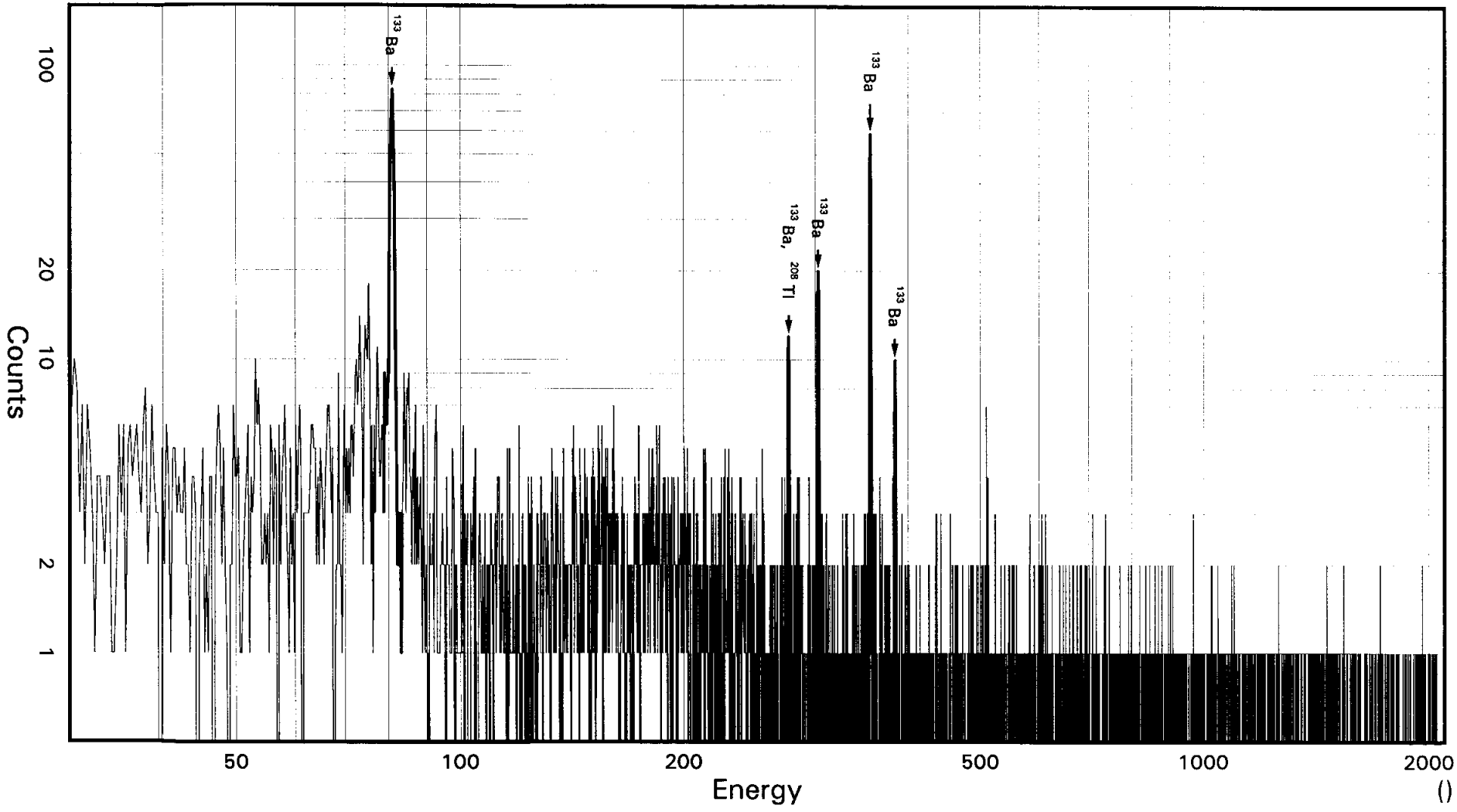
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	-7.883E+00		6.046E+00	2.076E+01	7.631E-01	-0.380
SB-125	1.711E+01		2.222E+01	9.388E+01	3.421E+00	0.182
SN-126DA	1.609E+00		4.025E+00	1.839E+01	6.787E-01	0.088
I-131	-1.038E+01		1.659E+01	6.040E+01	2.199E+00	-0.172
CS-134	1.269E+01		5.557E+00	2.892E+01	1.077E+00	0.439
CS-137DA	-6.170E-01		6.054E+00	2.457E+01	9.064E-01	-0.025
LA-138	7.371E-02		3.378E+00	1.783E+01	6.953E-01	0.004
CE-139	-1.316E+01		1.521E+01	5.278E+01	1.250E+00	-0.249
BA-140	-2.167E+01		3.202E+01	1.193E+02	4.367E+00	-0.182
BALA-140	5.497E+00		1.257E+01	6.024E+01	2.374E+00	0.091
LA-140	2.482E+01		1.531E+02	7.190E+02	2.834E+01	0.035
CE-141	-9.984E+00		3.064E+01	1.106E+02	2.641E+00	-0.090
CE-144	1.765E+02		1.081E+02	4.365E+02	1.048E+01	0.404
CEPR-144	2.688E+02		2.209E+02	8.722E+02	2.094E+01	0.308
PM-144	-8.563E-01		7.028E+00	2.728E+01	1.004E+00	-0.031
PM-146	-2.889E+00		7.497E+00	2.960E+01	1.080E+00	-0.098
EU-152	-1.162E+01		3.078E+01	1.123E+02	2.606E+00	-0.103
EU-154	-4.567E+00		4.576E+00	1.220E+01	4.704E-01	-0.374
EU-155	2.113E+01		4.574E+01	1.752E+02	4.285E+00	0.121
HF-181	-1.424E+01		8.300E+00	2.605E+01	9.511E-01	-0.547
BI-207	3.895E+00		6.122E+00	2.570E+01	9.430E-01	0.152
TL-208	1.265E+01		7.930E+00	3.723E+01	1.367E+00	0.340
BI-210M	1.288E+01		1.860E+01	7.330E+01	1.706E+00	0.176
BI-212	-4.308E+01		6.758E+01	2.581E+02	1.123E+01	-0.167
PB-212	-6.930E+00		2.616E+01	9.996E+01	2.333E+00	-0.069
BI-214	-2.900E+00		1.555E+01	6.434E+01	2.366E+00	-0.045
PB-214	2.785E+01		2.944E+01	1.017E+02	2.360E+00	0.274
RA-223	-5.256E+01		6.891E+01	2.452E+02	5.705E+00	-0.214
RA-224DA	-6.993E+00		2.640E+01	1.009E+02	2.354E+00	-0.069
RA-226DA	-3.033E+00		1.554E+01	6.425E+01	2.363E+00	-0.047
AC-227DA	-1.872E+02		9.792E+01	3.023E+02	7.057E+00	-0.619
AC-228	-4.115E+01		1.932E+01	6.934E+01	2.604E+00	-0.594
RA-228DA	-4.128E+01		1.938E+01	6.955E+01	2.612E+00	-0.594
TH-228DA	3.552E+01		2.227E+01	1.046E+02	3.839E+00	0.340
TH-232DA	-7.377E+01		5.557E+01	1.848E+02	4.289E+00	-0.399
TH-234DA	2.227E+02		7.301E+02	3.161E+03	1.195E+02	0.070
U-234DA	2.214E+01		4.582E+01	1.787E+02	4.152E+00	0.124
U-235HP	7.044E+01		1.163E+02	4.415E+02	1.055E+01	0.160
NP-237DA	-4.159E+00		2.329E+01	8.677E+01	2.015E+00	-0.048
U-238DA	2.785E+01		2.944E+01	1.017E+02	2.360E+00	0.274
U-238DHP	3.374E+02		3.897E+02	1.502E+03	3.873E+01	0.225
AM-241HP	-4.506E+00		3.197E+01	1.186E+02	3.080E+00	-0.038

STL Richland WA.

BA133

Sample ID: H9GEQ1AC
Detector ID: GER7 1

Batch ID: 6200115



Acquisition Start: 28-JUL-2006 13:31:34.69
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: H9GEQ1AC

CONFIGURATION ID: GER7:H9GEQ1AC_280761331
TITLE : BA133
SAMPLE ID : H9GEQ1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 13:31:34
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 19-JUL-2006 12:00:00.00
CALIB DATE: 28-JUL-2006 05:20:22.55
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 14:02:01

Configuration : $DISK1:[GER7.SAMPLE]H9GEQ1AC_280761331.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 13:31:34
Sample ID : H9GEQ1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.19 0.0%
Start energy : 20.45 End energy : 2050.93
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	80.96	340	59	1.00	322.64	314	19	1.89E-01	7.7	
2	0	276.53	44	24	1.25	1106.56	1097	16	2.44E-02	29.2	
3	0	302.81	103	3	1.21	1211.83	1205	14	5.70E-02	10.6	
4	0	355.89	288	10	1.20	1424.47	1415	20	1.60E-01	6.5	
5	0	383.81	55	0	0.94	1536.31	1528	15	3.06E-02	13.5	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 14:02:01

Configuration : $DISK1:[GER7.SAMPLE]H9GEQ1AC_280761331.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 13:31:34
Sample ID : H9GEQ1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.19 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	340	33.00	1.923E+00	1.786E+03	1.789E+03	9.46
	276.40	44	6.90	2.076E+00	1.022E+03	1.024E+03	29.65
	302.84	103	17.80	2.078E+00	9.248E+02	9.263E+02	11.88
	356.00	288	62.05*	2.080E+00	7.425E+02	7.438E+02	8.43
	383.85	55	8.70	2.080E+00	1.013E+03	1.015E+03	14.52

Flag: "*" = Keyline

None

Flags: "T" = Tentatively associated

Sample ID : H9GEQ1AC
Acquisition date : 28-JUL-2006 13:31:34

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	1.037E+03	29.65	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 14:02:04

Configuration : $DISK1:[GER7.SAMPLE]H9GEQ1AC_280761331.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 13:31:34
Sample ID : H9GEQ1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.19 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.438E+02	6.271E+01	5.805E+01	1.161E+00	12.812

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-2.134E+01		4.608E+01	1.834E+02	3.679E+00	-0.116
NA-22	8.104E-02		3.382E+00	1.588E+01	3.366E-01	0.005
K-40	-1.253E+02		4.545E+01	2.273E+02	4.884E+00	-0.551
SC-46	-7.340E+00		3.692E+00	4.894E+00	1.026E-01	-1.500
CR-51	9.220E+01		8.440E+01	3.659E+02	7.321E+00	0.252
MN-54	1.741E-02		5.302E+00	2.199E+01	4.514E-01	0.001
CO-57	1.293E+01		9.934E+01	3.788E+02	7.830E+00	0.034
CO-58	1.152E-01		5.672E+00	2.365E+01	4.846E-01	0.005
FE-59	1.675E+01		1.234E+01	5.671E+01	1.187E+00	0.295
CO-60	2.270E-02		3.411E+00	1.588E+01	3.381E-01	0.001
ZN-65	1.014E+01		7.629E+00	4.075E+01	8.540E-01	0.249
SE-75	5.740E+00		1.239E+01	5.078E+01	1.019E+00	0.113
SR-85	-7.153E+00		1.020E+01	3.573E+01	7.182E-01	-0.200
Y-88	0.000E+00		0.000E+00	5.092E+00	1.122E-01	0.000
NB-94	1.535E+00		5.504E+00	2.324E+01	4.783E-01	0.066
NB-95	-3.598E+00		5.437E+00	2.110E+01	4.310E-01	-0.170
TC-95M	-1.285E+01		1.717E+01	5.958E+01	1.205E+00	-0.216
ZR-95	3.506E+00		7.190E+00	3.509E+01	7.164E-01	0.100
ZRNB-95	-6.631E+00		1.002E+01	3.889E+01	7.944E-01	-0.171
MO-99	-2.092E+02		1.276E+02	4.237E+02	8.741E+00	-0.494
RH-101	1.665E+01		1.540E+01	6.009E+01	1.217E+00	0.277
RH-102M	4.374E+00		5.043E+00	2.338E+01	4.690E-01	0.187
RU-103	1.021E+01		8.335E+00	3.692E+01	7.413E-01	0.277
RU-106DA	3.367E-01		5.816E+01	2.370E+02	4.794E+00	0.001
AG-108M	-9.700E+00		8.419E+00	2.893E+01	5.793E-01	-0.335
AG-110M	4.617E+00		4.693E+00	2.508E+01	5.168E-01	0.184
SN-113DA	-4.323E+00		9.526E+00	3.676E+01	7.354E-01	-0.118

Sample ID : H9GEQ1AC Acquisition date : 28-JUL-2006 13:31:34

---- Non-Identified Nuclides ----

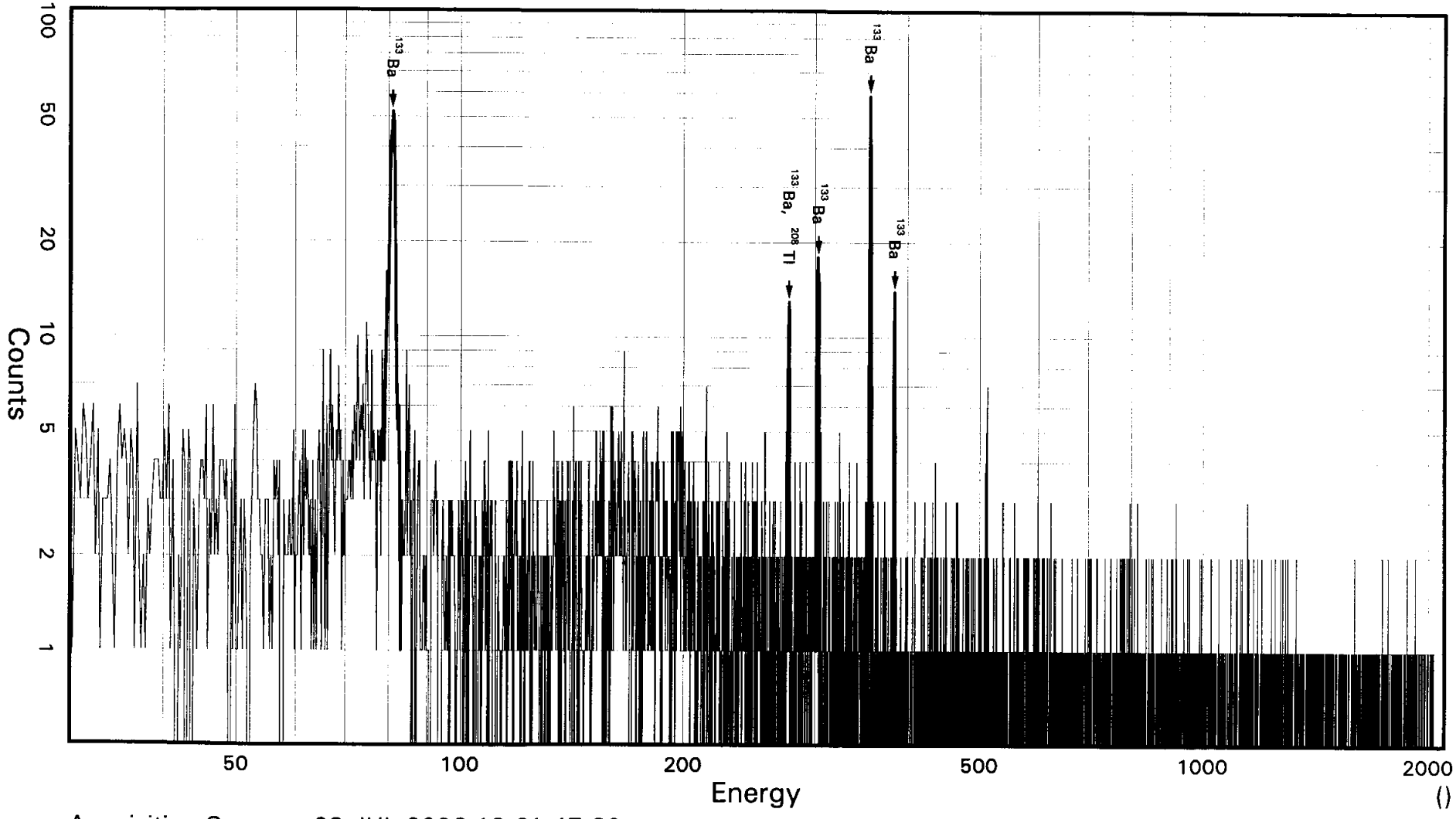
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	5.716E+00		7.959E+00	3.327E+01	6.721E-01	0.172
SB-125	2.807E+01		2.391E+01	1.035E+02	2.073E+00	0.271
SN-126DA	-6.818E+00		6.179E+00	2.130E+01	4.320E-01	-0.320
I-131	-2.674E+01		1.842E+01	5.895E+01	1.179E+00	-0.454
CS-134	-3.609E+00		6.635E+00	2.537E+01	5.193E-01	-0.142
CS-137DA	2.495E+00		6.505E+00	2.763E+01	5.603E-01	0.090
LA-138	4.807E+00		5.117E+00	2.732E+01	5.860E-01	0.176
CE-139	7.839E+00		1.294E+01	5.051E+01	1.032E+00	0.155
BA-140	1.235E+01		3.399E+01	1.476E+02	2.971E+00	0.084
BALA-140	2.418E+01		1.207E+01	7.186E+01	1.558E+00	0.337
LA-140	3.880E+02		1.748E+02	1.017E+03	2.205E+01	0.382
CE-141	-6.835E+01		3.151E+01	1.001E+02	2.060E+00	-0.683
CE-144	2.325E+01		1.045E+02	3.979E+02	8.238E+00	0.058
CEPR-144	4.775E+01		2.091E+02	7.964E+02	1.649E+01	0.060
PM-144	-9.047E+00		5.880E+00	1.899E+01	3.839E-01	-0.477
PM-146	1.104E+01		7.236E+00	3.596E+01	7.208E-01	0.307
EU-152	-4.690E+00		2.895E+01	1.087E+02	2.174E+00	-0.043
EU-154	2.275E-01		9.476E+00	4.449E+01	9.432E-01	0.005
EU-155	-8.495E+00		5.014E+01	1.828E+02	3.856E+00	-0.046
HF-181	1.339E+01		7.195E+00	3.571E+01	7.165E-01	0.375
BI-207	-8.471E+00		5.269E+00	1.689E+01	3.404E-01	-0.502
TL-208	1.158E+01		8.692E+00	3.922E+01	7.914E-01	0.295
BI-210M	9.330E+00		1.369E+01	5.744E+01	1.152E+00	0.162
BI-212	-7.844E+01		4.552E+01	6.703E+01	2.049E+00	-1.170
PB-212	-2.946E+00		2.373E+01	9.348E+01	1.880E+00	-0.032
BI-214	-1.643E+01		1.353E+01	5.355E+01	1.082E+00	-0.307
PB-214	-2.402E+01		2.989E+01	9.184E+01	1.837E+00	-0.262
RA-223	-5.361E+01		6.045E+01	2.143E+02	4.298E+00	-0.250
RA-224DA	-2.972E+00		2.394E+01	9.432E+01	1.897E+00	-0.032
RA-226DA	-1.601E+01		1.359E+01	5.391E+01	1.089E+00	-0.297
AC-227DA	-9.769E+00		7.785E+01	2.961E+02	5.957E+00	-0.033
AC-228	2.315E+01		2.094E+01	9.467E+01	1.954E+00	0.245
RA-228DA	2.322E+01		2.100E+01	9.495E+01	1.960E+00	0.245
TH-228DA	3.251E+01		2.441E+01	1.102E+02	2.223E+00	0.295
TH-232DA	3.007E+01		5.995E+01	2.406E+02	4.812E+00	0.125
TH-234DA	4.673E+02		4.959E+02	2.684E+03	5.578E+01	0.174
U-234DA	1.254E+00		4.103E+01	1.579E+02	3.163E+00	0.008
U-235HP	5.964E+01		1.109E+02	4.251E+02	8.757E+00	0.140
NP-237DA	1.022E+01		2.127E+01	8.513E+01	1.704E+00	0.120
U-238DA	-2.402E+01		2.989E+01	9.184E+01	1.837E+00	-0.262
U-238DHP	9.323E+01		3.902E+02	1.485E+03	3.306E+01	0.063
AM-241HP	-4.704E+01		3.966E+01	1.370E+02	3.074E+00	-0.343

STL Richland WA.

BA133

Sample ID: H9GER1AC
Detector ID: GER10 1

Batch ID: 6200115



Acquisition Start: 28-JUL-2006 13:31:47.30
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 1.56525E+01
Slope: 2.47003E-01
Quadrature: 2.92722E-09

SAMPLE IDENTIFICATION: H9GER1AC

CONFIGURATION ID: GER10:H9GER1AC_280761331
TITLE : BA133
SAMPLE ID : H9GER1AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 13:31:47
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 05:20:55.32
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: 1.5653E+01 keV
ENERGY SLOPE: 2.4700E-01 keV/C
ENERGY Q COEFF: 2.9272E-09 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 8.7508E-01 keV
FWHM SLOPE: 2.9908E-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 14:02:18

Configuration : $DISK1:[GER10.SAMPLE]H9GER1AC_280761331.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 13:31:47
Sample ID : H9GER1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Start energy : 18.12 End energy : 2039.30
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	268	86	1.32	264.56	255	19	1.49E-01	10.3	
2	0	276.47	75	10	1.32	1055.93	1045	22	4.15E-02	16.1	
3	0	302.89	97	23	1.46	1162.86	1153	18	5.41E-02	15.3	
4	0	356.00	317	19	1.41	1377.89	1368	19	1.76E-01	6.5	
5	0	384.15	55	10	0.96	1491.86	1481	18	3.07E-02	18.6	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 14:02:18

Configuration : $DISK1:[GER10.SAMPLE]H9GER1AC_280761331.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 13:31:47
Sample ID : H9GER1AC 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	268	33.00	2.399E+00	1.130E+03	1.132E+03	11.62
	276.40	75	6.90	2.578E+00	1.400E+03	1.403E+03	17.01
	302.84	97	17.80	2.582E+00	7.062E+02	7.073E+02	16.20
	356.00	317	62.05*	2.584E+00	6.598E+02	6.609E+02	8.45
	383.85	55	8.70	2.583E+00	8.198E+02	8.211E+02	19.35

Flag: "*" = Keyline

None

Flags: "T" = Tentatively associated

Sample ID : H9GER1AC
Acquisition date : 28-JUL-2006 13:31:47

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	1.421E+03	17.01	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 14:02:21

Configuration : $DISK1:[GER10.SAMPLE]H9GER1AC_280761331.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 13:31:47
Sample ID : H9GER1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	6.609E+02	5.581E+01	4.998E+01	9.996E-01	13.223

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-1.962E+01		6.176E+01	2.316E+02	4.646E+00	-0.085
NA-22	5.515E+00		3.367E+00	1.799E+01	3.801E-01	0.307
K-40	-3.438E+01		4.638E+01	2.051E+02	4.389E+00	-0.168
SC-46	5.764E+00		3.597E+00	1.905E+01	3.983E-01	0.303
CR-51	-3.638E+01		1.024E+02	3.760E+02	7.523E+00	-0.097
MN-54	4.209E+00		4.001E+00	1.902E+01	3.898E-01	0.221
CO-57	-2.948E+01		1.041E+02	3.655E+02	7.541E+00	-0.081
CO-58	-2.909E-01		5.170E+00	2.058E+01	4.211E-01	-0.014
FE-59	-1.140E+01		6.922E+00	2.018E+01	4.214E-01	-0.565
CO-60	8.250E+00		4.361E+00	2.177E+01	4.619E-01	0.379
ZN-65	-1.420E+01		7.467E+00	2.004E+01	4.190E-01	-0.708
SE-75	-1.688E+00		1.349E+01	4.966E+01	9.962E-01	-0.034
SR-85	-2.242E+01		1.076E+01	3.304E+01	6.639E-01	-0.678
Y-88	-2.244E-02		3.028E+00	1.400E+01	3.067E-01	-0.002
NB-94	8.031E+00		4.190E+00	2.102E+01	4.319E-01	0.382
NB-95	-8.317E+00		5.381E+00	1.697E+01	3.462E-01	-0.490
TC-95M	2.041E+01		1.701E+01	6.600E+01	1.334E+00	0.309
ZR-95	7.626E+00		7.964E+00	3.697E+01	7.539E-01	0.206
ZRNB-95	-1.533E+01		9.917E+00	3.127E+01	6.380E-01	-0.490
MO-99	-7.149E+01		1.128E+02	3.874E+02	7.979E+00	-0.185
RH-101	4.638E+01		1.688E+01	6.756E+01	1.367E+00	0.686
RH-102M	-1.991E+00		5.711E+00	2.151E+01	4.315E-01	-0.093
RU-103	-8.008E+00		8.182E+00	2.821E+01	5.663E-01	-0.284
RU-106DA	2.812E+01		4.660E+01	2.031E+02	4.104E+00	0.139
AG-108M	-1.678E+00		7.222E+00	2.701E+01	5.408E-01	-0.062
AG-110M	5.767E+00		5.583E+00	2.641E+01	5.433E-01	0.218
SN-113DA	8.591E+00		9.820E+00	4.088E+01	8.179E-01	0.210

Sample ID : H9GER1AC Acquisition date : 28-JUL-2006 13:31:47

---- Non-Identified Nuclides ----

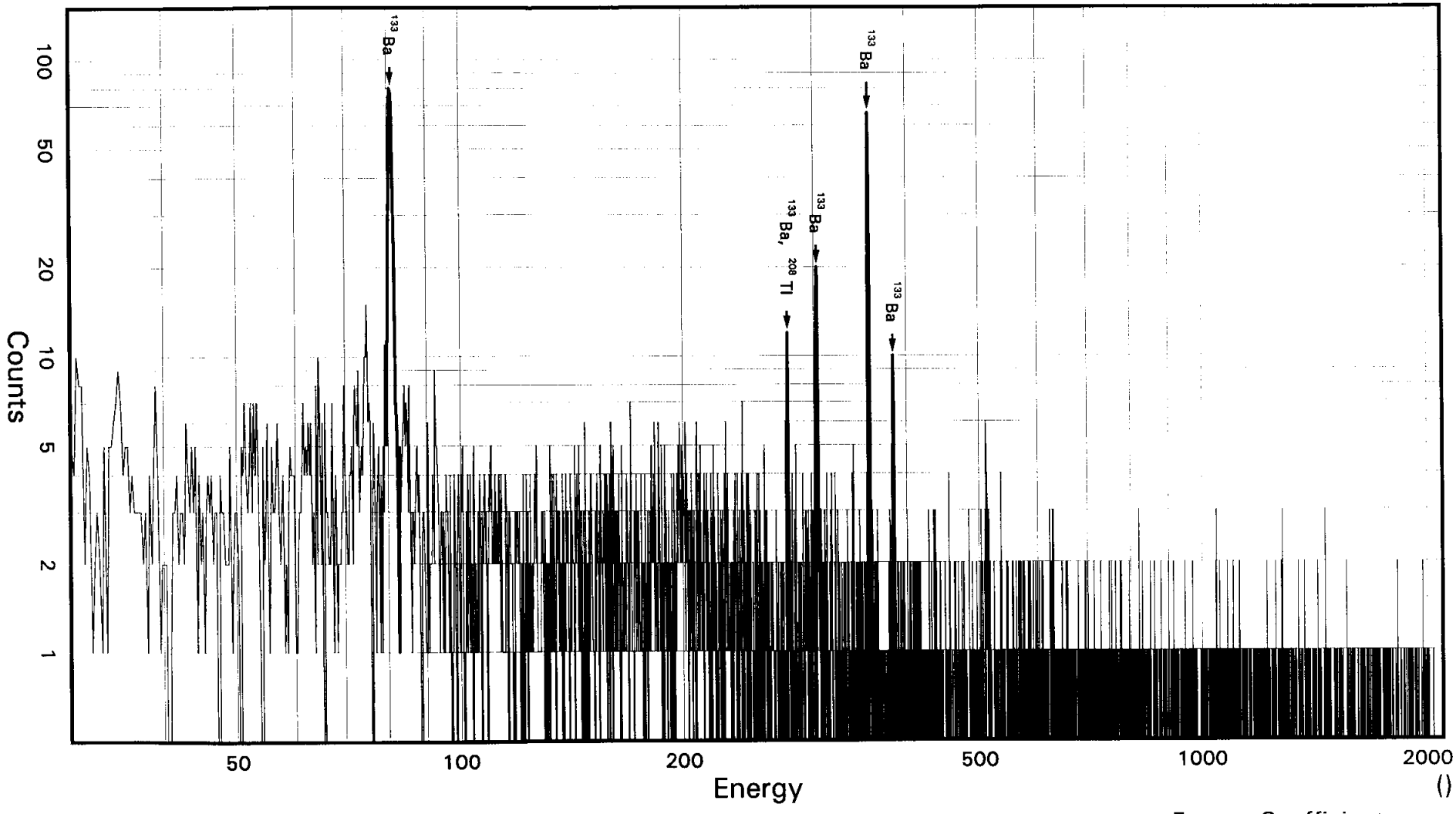
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	-6.782E+00		8.124E+00	2.876E+01	5.806E-01	-0.236
SB-125	4.756E+01		2.226E+01	9.887E+01	1.980E+00	0.481
SN-126DA	3.921E+00		5.398E+00	2.277E+01	4.615E-01	0.172
I-131	1.126E+01		1.650E+01	6.763E+01	1.353E+00	0.167
CS-134	-5.456E-01		6.366E+00	2.469E+01	5.047E-01	-0.022
CS-137DA	-1.227E+01		5.781E+00	1.653E+01	3.349E-01	-0.742
LA-138	6.130E+00		5.502E+00	2.706E+01	5.782E-01	0.227
CE-139	7.344E+00		1.561E+01	5.779E+01	1.179E+00	0.127
BA-140	3.637E+01		3.341E+01	1.477E+02	2.971E+00	0.246
BALA-140	-1.138E+01		1.091E+01	3.988E+01	8.608E-01	-0.285
LA-140	-1.162E+02		1.492E+02	5.771E+02	1.246E+01	-0.201
CE-141	-2.063E+01		2.481E+01	8.731E+01	1.794E+00	-0.236
CE-144	5.128E+01		9.105E+01	3.410E+02	7.046E+00	0.150
CEPR-144	1.005E+02		1.820E+02	6.811E+02	1.407E+01	0.148
PM-144	1.808E+00		4.834E+00	2.037E+01	4.116E-01	0.089
PM-146	-8.617E+00		1.067E+01	3.747E+01	7.508E-01	-0.230
EU-152	-1.044E+01		2.916E+01	1.071E+02	2.141E+00	-0.098
EU-154	7.889E+00		1.082E+01	5.040E+01	1.065E+00	0.157
EU-155	-7.042E+01		4.739E+01	1.547E+02	3.254E+00	-0.455
HF-181	2.596E+00		7.745E+00	3.115E+01	6.250E-01	0.083
BI-207	2.942E+00		4.907E+00	2.110E+01	4.251E-01	0.139
TL-208	4.631E-01		6.806E+00	2.689E+01	5.423E-01	0.017
BI-210M	6.971E-01		1.508E+01	5.634E+01	1.130E+00	0.012
BI-212	-7.111E+01		5.939E+01	2.024E+02	6.184E+00	-0.351
PB-212	8.190E-01		1.866E+01	6.921E+01	1.392E+00	0.012
BI-214	2.275E+01		1.372E+01	5.981E+01	1.208E+00	0.380
PB-214	8.630E+00		2.215E+01	7.476E+01	1.495E+00	0.115
RA-223	-3.453E+01		5.411E+01	1.913E+02	3.836E+00	-0.180
RA-224DA	8.264E-01		1.883E+01	6.983E+01	1.404E+00	0.012
RA-226DA	2.264E+01		1.371E+01	5.975E+01	1.207E+00	0.379
AC-227DA	5.396E-01		6.746E+01	2.522E+02	5.073E+00	0.002
AC-228	5.243E+00		1.578E+01	6.763E+01	1.394E+00	0.078
RA-228DA	5.258E+00		1.583E+01	6.783E+01	1.398E+00	0.078
TH-228DA	1.301E+00		1.911E+01	7.553E+01	1.523E+00	0.017
TH-232DA	-8.406E+01		6.361E+01	2.155E+02	4.310E+00	-0.390
TH-234DA	-2.275E+00		4.127E+02	1.909E+03	3.960E+01	-0.001
U-234DA	-4.255E+01		4.330E+01	1.467E+02	2.937E+00	-0.290
U-235HP	2.163E+02		9.424E+01	3.832E+02	7.882E+00	0.564
NP-237DA	-1.248E+00		2.055E+01	7.782E+01	1.557E+00	-0.016
U-238DA	8.630E+00		2.215E+01	7.476E+01	1.495E+00	0.115
U-238DHP	-3.489E+02		3.519E+02	1.206E+03	2.668E+01	-0.289
AM-241HP	-2.736E+01		3.360E+01	1.170E+02	2.608E+00	-0.234

STL Richland WA.

BA133

Sample ID: H9GE01AC
Detector ID: GER6 1

Batch ID: 6200115



Acquisition Start: 28-JUL-2006 13:31:54.83
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: H9GE01AC

CONFIGURATION ID: GER6:H9GE01AC_280761331
TITLE : BA133
SAMPLE ID : H9GE01AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 13:31:54
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 19-JUL-2006 12:00:00.00
CALIB DATE: 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 14:02:34

Configuration : $DISK1:[GER6.SAMPLE]H9GE01AC_280761331.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 13:31:54
Sample ID : H9GE01AC 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 : 19.87 End energy : 2043.51
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	80.96	324	71	0.90	325.04	319	14	1.80E-01	8.0	
2	0	276.68	48	6	0.54	1109.89	1103	16	2.64E-02	19.5	
3	0	302.99	120	13	1.39	1215.39	1207	22	6.66E-02	11.6	
4	0	356.00	328	10	0.96	1427.97	1418	20	1.82E-01	6.0	
5	0	383.78	44	7	1.03	1539.37	1532	13	2.42E-02	19.4	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 14:02:34

Configuration : $DISK1:[GER6.SAMPLE]H9GE01AC_280761331.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 13:31:54
Sample ID : H9GE01AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.23 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	324	33.00	2.167E+00	1.511E+03	1.513E+03	9.64
	276.40	48	6.90	2.334E+00	9.837E+02	9.853E+02	20.25
	302.84	120	17.80	2.337E+00	9.604E+02	9.620E+02	12.80
	356.00	328	62.05*	2.339E+00	7.538E+02	7.551E+02	8.06
	383.85	44	8.70	2.338E+00	7.128E+02	7.139E+02	20.12

Flag: "*" = Keyline

None

Flags: "T" = Tentatively associated

Sample ID : H9GE01AC Acquisition date : 28-JUL-2006 13:31:54

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	9.982E+02	20.25	Abun.
			510.84	21.60	--- Not Found ---		
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		5.44			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 14:02:36

Configuration : $DISK1:[GER6.SAMPLE]H9GE01AC_280761331.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 13:31:54
Sample ID : H9GE01AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.23 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.551E+02	6.089E+01	5.110E+01	1.022E+00	14.777

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	1.724E+01		6.197E+01	2.503E+02	5.020E+00	0.069
NA-22	-1.346E+00		4.987E+00	1.990E+01	4.213E-01	-0.068
K-40	-1.138E+02		6.235E+01	2.966E+02	6.358E+00	-0.384
SC-46	9.259E+00		5.517E+00	2.644E+01	5.536E-01	0.350
CR-51	-2.318E+02		1.045E+02	3.169E+02	6.340E+00	-0.732
MN-54	-7.585E+00		5.429E+00	1.791E+01	3.673E-01	-0.424
CO-57	4.358E+01		9.024E+01	3.514E+02	7.257E+00	0.124
CO-58	-4.561E+00		4.843E+00	1.754E+01	3.593E-01	-0.260
FE-59	9.167E+00		1.085E+01	4.795E+01	1.002E+00	0.191
CO-60	9.116E+00		3.755E+00	2.141E+01	4.550E-01	0.426
ZN-65	-8.727E+00		1.161E+01	4.250E+01	8.895E-01	-0.205
SE-75	5.304E+00		1.324E+01	5.157E+01	1.035E+00	0.103
SR-85	-2.884E+00		1.125E+01	4.086E+01	8.210E-01	-0.071
Y-88	-5.144E+00		2.983E+00	4.516E+00	9.919E-02	-1.139
NB-94	-6.076E+00		3.692E+00	1.078E+01	2.216E-01	-0.564
NB-95	5.386E+00		5.189E+00	2.458E+01	5.017E-01	0.219
TC-95M	-6.714E+00		1.729E+01	6.284E+01	1.270E+00	-0.107
ZR-95	-2.883E+00		8.453E+00	3.424E+01	6.985E-01	-0.084
ZRNB-95	9.899E+00		9.559E+00	4.527E+01	9.241E-01	0.219
MO-99	8.016E+00		1.055E+02	3.977E+02	8.197E+00	0.020
RH-101	3.373E+01		1.754E+01	6.801E+01	1.377E+00	0.496
RH-102M	9.292E+00		6.227E+00	2.781E+01	5.579E-01	0.334
RU-103	9.445E+00		7.628E+00	3.387E+01	6.801E-01	0.279
RU-106DA	-6.880E+01		6.034E+01	2.108E+02	4.261E+00	-0.326
AG-108M	-4.897E+00		8.567E+00	3.088E+01	6.185E-01	-0.159
AG-110M	2.928E+00		6.507E+00	2.832E+01	5.830E-01	0.103
SN-113DA	-3.605E-01		1.143E+01	4.413E+01	8.829E-01	-0.008

---- Non-Identified Nuclides ----

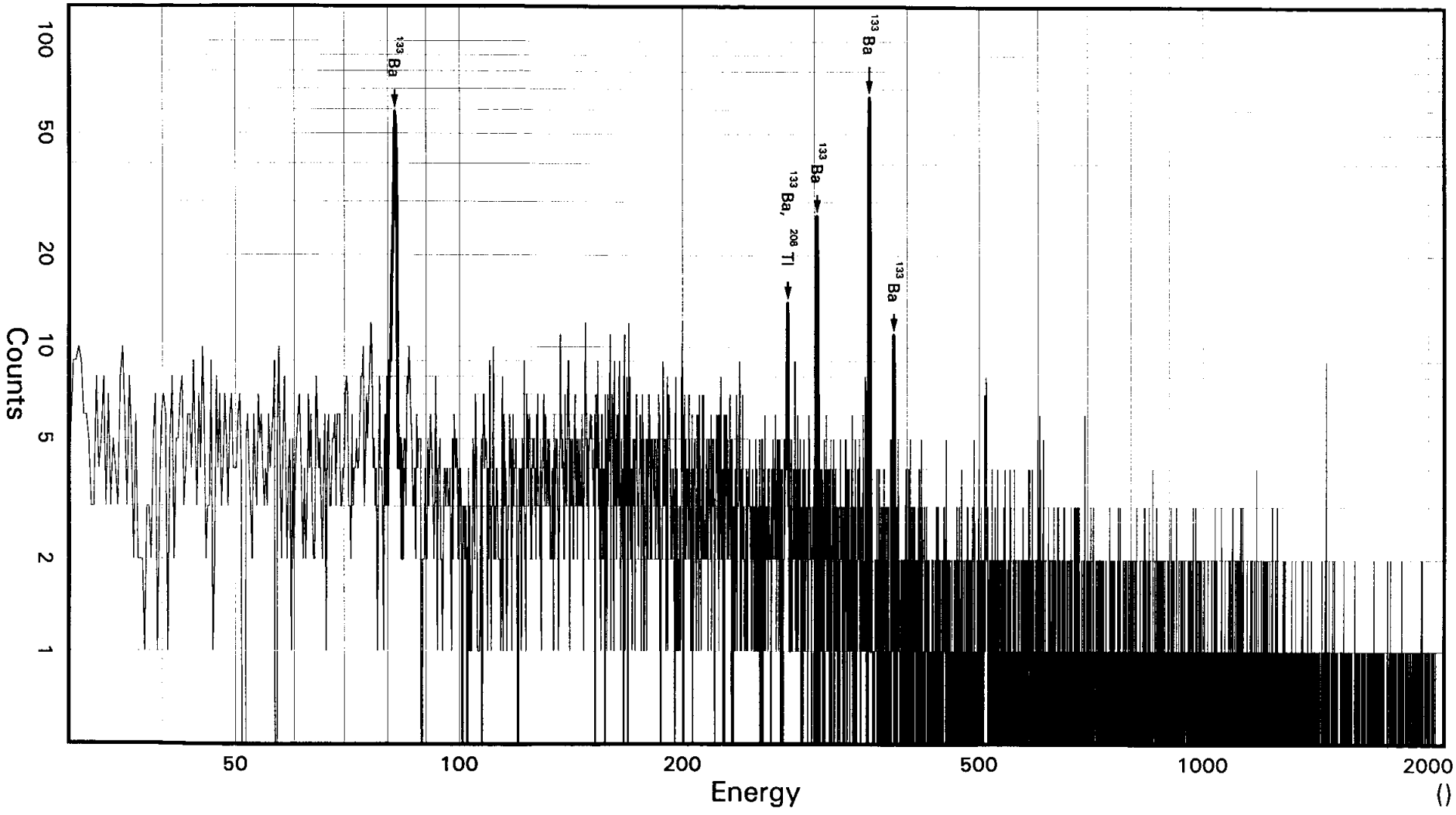
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	-2.599E+00		7.645E+00	2.830E+01	5.715E-01	-0.092
SB-125	-9.672E+00		1.956E+01	7.346E+01	1.471E+00	-0.132
SN-126DA	6.851E+00		5.546E+00	2.485E+01	5.039E-01	0.276
I-131	9.932E+00		1.795E+01	7.220E+01	1.444E+00	0.138
CS-134	-1.573E+00		6.166E+00	2.426E+01	4.962E-01	-0.065
CS-137DA	-1.005E+01		5.869E+00	1.827E+01	3.703E-01	-0.550
LA-138	2.415E+00		5.058E+00	2.460E+01	5.264E-01	0.098
CE-139	-1.149E+01		1.312E+01	4.541E+01	9.268E-01	-0.253
BA-140	8.866E+01		4.357E+01	1.965E+02	3.954E+00	0.451
BALA-140	-2.243E-01		1.067E+01	4.899E+01	1.060E+00	-0.005
LA-140	-2.938E+00		1.392E+02	6.390E+02	1.382E+01	-0.005
CE-141	-1.936E+01		2.453E+01	8.689E+01	1.787E+00	-0.223
CE-144	-2.893E+01		9.251E+01	3.269E+02	6.761E+00	-0.089
CEPR-144	-5.897E+01		1.849E+02	6.532E+02	1.351E+01	-0.090
PM-144	-6.876E+00		5.203E+00	1.775E+01	3.588E-01	-0.387
PM-146	-1.451E-02		9.500E+00	3.700E+01	7.415E-01	0.000
EU-152	-4.601E+00		2.953E+01	1.097E+02	2.195E+00	-0.042
EU-154	-3.771E+00		1.397E+01	5.577E+01	1.180E+00	-0.068
EU-155	-2.810E+01		5.044E+01	1.787E+02	3.763E+00	-0.157
HF-181	-1.084E+01		6.917E+00	2.155E+01	4.323E-01	-0.503
BI-207	-1.209E+00		6.187E+00	2.373E+01	4.784E-01	-0.051
TL-208	9.944E+00		8.065E+00	3.543E+01	7.146E-01	0.281
BI-210M	-5.718E+00		1.509E+01	5.493E+01	1.102E+00	-0.104
BI-212	1.751E+01		8.078E+01	3.309E+02	1.011E+01	0.053
PB-212	-3.281E+01		2.267E+01	7.877E+01	1.584E+00	-0.417
BI-214	4.298E-01		1.564E+01	6.440E+01	1.301E+00	0.007
PB-214	1.355E+01		2.419E+01	8.240E+01	1.648E+00	0.164
RA-223	-7.397E+00		5.268E+01	1.970E+02	3.951E+00	-0.038
RA-224DA	-3.311E+01		2.288E+01	7.948E+01	1.599E+00	-0.417
RA-226DA	4.291E-01		1.564E+01	6.440E+01	1.301E+00	0.007
AC-227DA	3.462E+01		8.600E+01	3.257E+02	6.552E+00	0.106
AC-228	-1.496E+01		2.062E+01	8.413E+01	1.735E+00	-0.178
RA-228DA	-1.501E+01		2.069E+01	8.438E+01	1.740E+00	-0.178
TH-228DA	2.793E+01		2.265E+01	9.950E+01	2.007E+00	0.281
TH-232DA	7.525E+01		6.820E+01	2.744E+02	5.488E+00	0.274
TH-234DA	-2.390E+02		6.066E+02	2.448E+03	5.082E+01	-0.098
U-234DA	-4.831E+01		4.930E+01	1.718E+02	3.440E+00	-0.281
U-235HP	1.361E+02		9.537E+01	3.850E+02	7.924E+00	0.354
NP-237DA	-2.613E+01		2.503E+01	8.635E+01	1.728E+00	-0.303
U-238DA	1.355E+01		2.419E+01	8.240E+01	1.648E+00	0.164
U-238DHP	-6.054E+02		3.771E+02	1.231E+03	2.732E+01	-0.492
AM-241HP	-1.533E+01		3.168E+01	1.124E+02	2.513E+00	-0.136

STL Richland WA.

BA133

Sample ID: H9GE51AC
Detector ID: GER13 1

Batch ID: 6200115



Acquisition Start: 28-JUL-2006 13:31:58.91
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: H9GE51AC

CONFIGURATION ID: GER13:H9GE51AC_280761331
TITLE : BA133
SAMPLE ID : H9GE51AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 13:31:58
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 05:40:04.31
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 14:02:48

Configuration : $DISK1:[GER13.SAMPLE]H9GE51AC_280761331.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 13:31:58
Sample ID : H9GE51AC 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	81.85	216	65	0.82	329.20	322	16	1.20E-01	10.9	
2	0	276.68	34	55	0.79	1106.45	1100	16	1.89E-02	53.3	
3	0	302.73	136	25	1.14	1210.43	1202	17	7.55E-02	12.1	
4	0	355.79	359	30	1.31	1422.19	1413	17	1.99E-01	6.3	
5	0	383.80	57	7	1.49	1533.99	1527	13	3.19E-02	16.1	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 14:02:49

Configuration : $DISK1:[GER13.SAMPLE]H9GE51AC_280761331.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 13:31:58
Sample ID : H9GE51AC 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	216	33.00	2.704E+00	8.052E+02	8.066E+02	12.19
	276.40	34	6.90	2.897E+00	5.675E+02	5.684E+02	53.58
	302.84	136	17.80	2.900E+00	8.778E+02	8.793E+02	13.22
	356.00	359	62.05*	2.903E+00	6.643E+02	6.654E+02	8.31
	383.85	57	8.70	2.902E+00	7.576E+02	7.588E+02	16.95

Flag: "*" = Keyline

Sample ID : H9GE51AC
Acquisition date : 28-JUL-2006 13:31:58

None

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : H9GE51AC
Acquisition date : 28-JUL-2006 13:31:58

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	5.758E+02	53.58	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 14:02:50

Configuration : $DISK1:[GER13.SAMPLE]H9GE51AC_280761331.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 13:31:58
Sample ID : H9GE51AC 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	6.654E+02	5.527E+01	4.755E+01	9.510E-01	13.994

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-2.112E+02		6.924E+01	1.798E+02	3.606E+00	-1.175
NA-22	-1.292E+00		4.069E+00	1.598E+01	3.372E-01	-0.081
K-40	-1.122E+02		1.002E+02	4.585E+02	9.789E+00	-0.245
SC-46	-3.748E+00		5.588E+00	2.343E+01	4.892E-01	-0.160
CR-51	8.515E+01		1.064E+02	4.050E+02	8.102E+00	0.210
MN-54	-3.675E+00		6.690E+00	2.435E+01	4.987E-01	-0.151
CO-57	1.385E+02		1.105E+02	4.170E+02	8.595E+00	0.332
CO-58	-5.767E+00		5.479E+00	1.937E+01	3.961E-01	-0.298
FE-59	-1.254E+01		9.647E+00	3.300E+01	6.882E-01	-0.380
CO-60	3.443E-01		3.575E+00	1.517E+01	3.213E-01	0.023
ZN-65	-5.595E+00		1.146E+01	4.259E+01	8.892E-01	-0.131
SE-75	3.256E+01		1.837E+01	7.137E+01	1.432E+00	0.456
SR-85	-4.543E+01		1.148E+01	2.980E+01	5.986E-01	-1.525
Y-88	-1.191E+00		3.487E+00	1.440E+01	3.146E-01	-0.083
NB-94	3.822E+00		5.841E+00	2.370E+01	4.866E-01	0.161
NB-95	3.222E+00		6.173E+00	2.508E+01	5.113E-01	0.128
TC-95M	-1.445E+00		1.796E+01	6.510E+01	1.315E+00	-0.022
ZR-95	2.998E+01		1.090E+01	5.106E+01	1.040E+00	0.587
ZRNB-95	6.250E+00		1.141E+01	4.644E+01	9.468E-01	0.135
MO-99	1.087E+02		1.322E+02	4.861E+02	1.000E+01	0.224
RH-101	-2.663E+01		1.531E+01	4.836E+01	9.781E-01	-0.551
RH-102M	4.896E+00		6.038E+00	2.464E+01	4.941E-01	0.199
RU-103	-2.654E+00		7.657E+00	2.820E+01	5.660E-01	-0.094
RU-106DA	9.240E+01		4.752E+01	2.231E+02	4.508E+00	0.414
AG-108M	-1.521E+00		6.569E+00	2.462E+01	4.931E-01	-0.062
AG-110M	-1.952E+00		7.134E+00	2.731E+01	5.612E-01	-0.071
SN-113DA	-2.114E+01		1.095E+01	3.487E+01	6.977E-01	-0.606

Sample ID : H9GE51AC Acquisition date : 28-JUL-2006 13:31:58

---- Non-Identified Nuclides ----

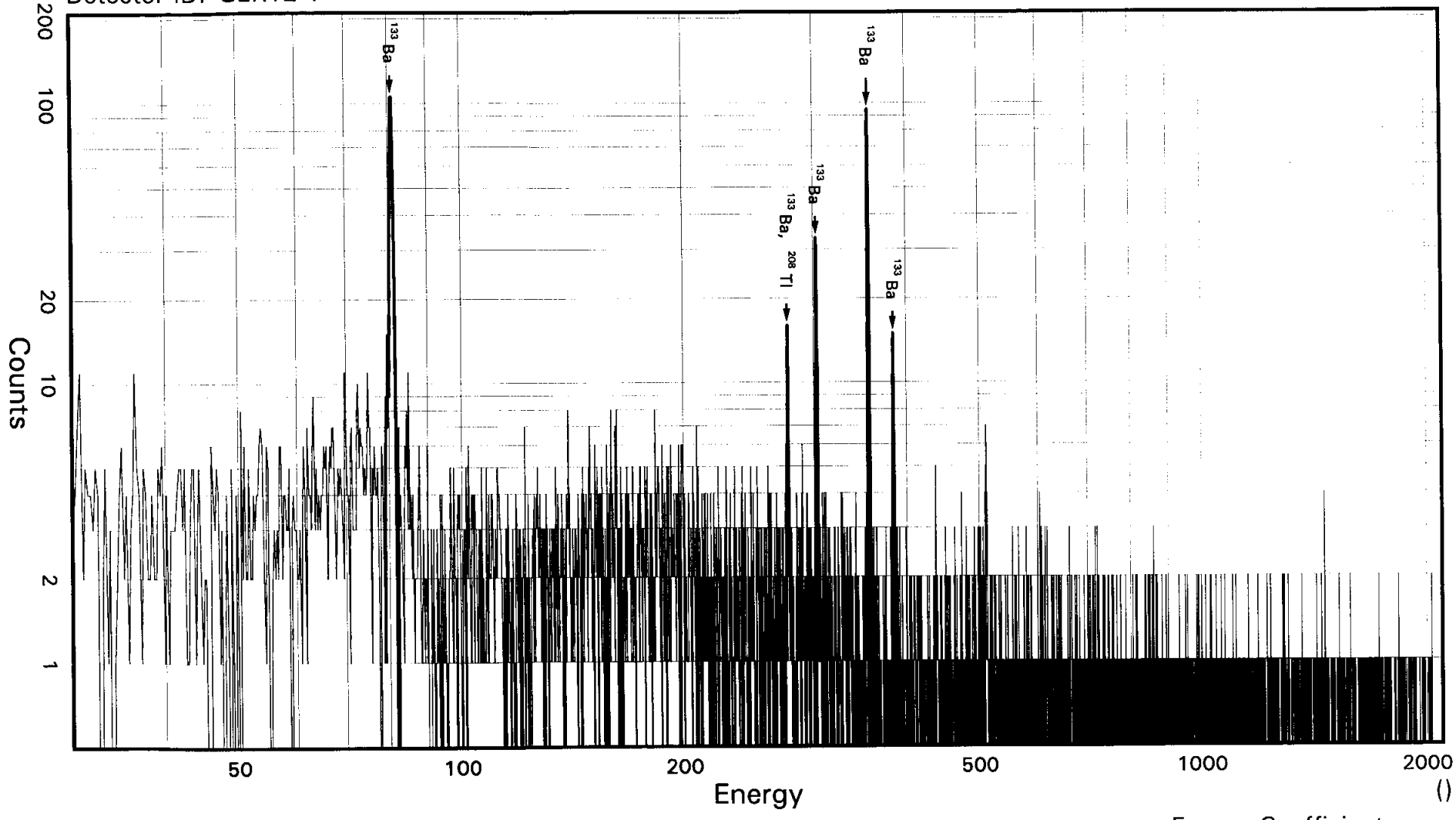
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	3.391E+00		8.581E+00	3.281E+01	6.622E-01	0.103
SB-125	-1.827E+01		2.113E+01	7.451E+01	1.492E+00	-0.245
SN-126DA	1.185E+00		5.577E+00	2.189E+01	4.435E-01	0.054
I-131	6.847E+00		1.973E+01	7.582E+01	1.516E+00	0.090
CS-134	1.917E+00		6.334E+00	2.499E+01	5.105E-01	0.077
CS-137DA	2.385E+00		6.646E+00	2.635E+01	5.338E-01	0.091
LA-138	-1.670E+01		5.832E+00	1.128E+01	2.406E-01	-1.480
CE-139	-1.467E+00		1.604E+01	5.618E+01	1.145E+00	-0.026
BA-140	2.491E+01		3.931E+01	1.559E+02	3.135E+00	0.160
BALA-140	1.336E+01		9.646E+00	5.159E+01	1.111E+00	0.259
LA-140	1.103E+02		1.355E+02	6.630E+02	1.428E+01	0.166
CE-141	-4.163E+01		3.036E+01	1.004E+02	2.062E+00	-0.414
CE-144	-6.480E+01		1.008E+02	3.505E+02	7.235E+00	-0.185
CEPR-144	-1.278E+02		2.016E+02	7.017E+02	1.448E+01	-0.182
PM-144	2.246E+00		4.955E+00	2.046E+01	4.132E-01	0.110
PM-146	-4.141E+00		1.031E+01	3.746E+01	7.506E-01	-0.111
EU-152	6.264E+01		3.507E+01	1.375E+02	2.749E+00	0.456
EU-154	-4.438E+00		1.128E+01	4.392E+01	9.266E-01	-0.101
EU-155	-7.229E+00		4.762E+01	1.733E+02	3.639E+00	-0.042
HF-181	9.972E+00		9.278E+00	3.744E+01	7.510E-01	0.266
BI-207	-4.454E+00		6.040E+00	2.185E+01	4.402E-01	-0.204
TL-208	1.280E+01		8.370E+00	3.584E+01	7.225E-01	0.357
BI-210M	1.087E+01		2.158E+01	7.917E+01	1.588E+00	0.137
BI-212	1.631E+02		9.763E+01	4.119E+02	1.258E+01	0.396
PB-212	2.596E+00		2.586E+01	9.497E+01	1.909E+00	0.027
BI-214	-3.810E+00		1.540E+01	6.584E+01	1.329E+00	-0.058
PB-214	-3.419E+01		3.232E+01	9.609E+01	1.922E+00	-0.356
RA-223	8.981E+01		7.114E+01	2.735E+02	5.483E+00	0.328
RA-224DA	2.620E+00		2.610E+01	9.583E+01	1.927E+00	0.027
RA-226DA	-3.609E+00		1.541E+01	6.593E+01	1.331E+00	-0.055
AC-227DA	-6.870E+01		9.452E+01	3.289E+02	6.614E+00	-0.209
AC-228	1.535E+01		2.250E+01	9.768E+01	2.011E+00	0.157
RA-228DA	1.539E+01		2.257E+01	9.797E+01	2.017E+00	0.157
TH-228DA	3.596E+01		2.351E+01	1.007E+02	2.029E+00	0.357
TH-232DA	3.684E+01		7.202E+01	2.665E+02	5.330E+00	0.138
TH-234DA	-1.320E+03		6.227E+02	1.698E+03	3.517E+01	-0.777
U-234DA	3.794E+01		5.159E+01	1.978E+02	3.960E+00	0.192
U-235HP	8.425E+00		1.085E+02	3.881E+02	7.975E+00	0.022
NP-237DA	5.104E+01		2.575E+01	1.022E+02	2.045E+00	0.499
U-238DA	-3.419E+01		3.232E+01	9.609E+01	1.922E+00	-0.356
U-238DHP	5.267E+01		3.115E+02	1.116E+03	2.462E+01	0.047
AM-241HP	-2.846E+01		3.353E+01	1.140E+02	2.533E+00	-0.250

STL Richland WA.

BA133

Sample ID: H9HT71AA
Detector ID: GER12 1

Batch ID: 6200115



Acquisition Start: 28-JUL-2006 13:32:06.08
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: H9HT71AA

CONFIGURATION ID: GER12:H9HT71AA_280761332
TITLE : BA133
SAMPLE ID : H9HT71AA

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 13:32:06
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 14:03:03

Configuration : $DISK1:[GER12.SAMPLE]H9HT71AA_280761332.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 13:32:06
Sample ID : H9HT71AA Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.34 0.0%
Start energy : 12.75 End energy : 2032.21
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	80.83	408	33	0.81	277.13	269	14	2.27E-01	5.8	
2	0	276.29	58	18	0.61	1069.98	1063	14	3.19E-02	20.3	
3	0	302.82	134	17	0.72	1177.58	1170	16	7.47E-02	10.9	
4	0	356.01	433	9	0.94	1393.34	1384	17	2.40E-01	5.1	
5	0	383.99	60	11	0.72	1506.82	1500	15	3.35E-02	17.7	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 14:03:03

Configuration : $DISK1:[GER12.SAMPLE]H9HT71AA_280761332.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 13:32:06
Sample ID : H9HT71AA 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	408	33.00	2.899E+00	1.422E+03	1.424E+03	7.97
	276.40	58	6.90	3.105E+00	8.947E+02	8.961E+02	21.00
	302.84	134	17.80	3.109E+00	8.097E+02	8.111E+02	12.17
	356.00	433	62.05*	3.111E+00	7.468E+02	7.480E+02	7.38
	383.85	60	8.70	3.111E+00	7.416E+02	7.428E+02	18.47

Flag: "*" = Keyline

Sample ID : H9HT71AA
Acquisition date : 28-JUL-2006 13:32:06

None

Flags: "T" = Tentatively associated

Sample ID : H9HT71AA Acquisition date : 28-JUL-2006 13:32:06

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	9.078E+02	21.00	Abun.
			510.84	21.60	--- Not Found ---		
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		5.44			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 28-JUL-2006 14:03:05

Configuration : $DISK1:[GER12.SAMPLE]H9HT71AA_280761332.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 13:32:06
Sample ID : H9HT71AA 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	7.480E+02	5.522E+01	4.130E+01	8.261E-01	18.110

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-1.251E+01		4.640E+01	1.768E+02	3.546E+00	-0.071
NA-22	4.549E+00		2.288E+00	1.365E+01	2.876E-01	0.333
K-40	-7.100E+01		4.970E+01	2.217E+02	4.729E+00	-0.320
SC-46	1.162E+00		4.009E+00	1.698E+01	3.543E-01	0.068
CR-51	8.072E+01		7.503E+01	3.037E+02	6.076E+00	0.266
MN-54	-3.338E+00		4.333E+00	1.577E+01	3.229E-01	-0.212
CO-57	3.482E+01		6.908E+01	2.656E+02	5.472E+00	0.131
CO-58	3.923E-01		4.818E+00	1.931E+01	3.946E-01	0.020
FE-59	7.874E-01		8.612E+00	3.481E+01	7.252E-01	0.023
CO-60	2.317E+00		2.770E+00	1.365E+01	2.886E-01	0.170
ZN-65	2.211E+00		6.794E+00	2.959E+01	6.173E-01	0.075
SE-75	-1.364E+01		1.148E+01	3.892E+01	7.806E-01	-0.350
SR-85	-2.939E+01		8.737E+00	2.459E+01	4.939E-01	-1.195
Y-88	2.401E+00		3.563E+00	1.634E+01	3.563E-01	0.147
NB-94	1.094E+00		4.301E+00	1.752E+01	3.595E-01	0.062
NB-95	-2.394E+00		3.626E+00	1.408E+01	2.869E-01	-0.170
TC-95M	3.669E+00		1.207E+01	4.624E+01	9.341E-01	0.079
ZR-95	1.659E+01		7.983E+00	3.869E+01	7.882E-01	0.429
ZRNB-95	-4.413E+00		6.682E+00	2.595E+01	5.288E-01	-0.170
MO-99	6.449E+01		8.318E+01	3.296E+02	6.777E+00	0.196
RH-101	-4.559E+00		1.249E+01	4.461E+01	9.021E-01	-0.102
RH-102M	9.366E-01		4.807E+00	1.909E+01	3.827E-01	0.049
RU-103	-2.799E-01		6.591E+00	2.508E+01	5.035E-01	-0.011
RU-106DA	-6.821E+01		4.232E+01	1.346E+02	2.719E+00	-0.507
AG-108M	-5.097E+00		6.342E+00	2.235E+01	4.477E-01	-0.228
AG-110M	1.714E+00		2.766E+00	1.473E+01	3.026E-01	0.116
SN-113DA	-9.927E+00		7.293E+00	2.458E+01	4.917E-01	-0.404

Sample ID : H9HT71AA Acquisition date : 28-JUL-2006 13:32:06

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	-5.455E+00		6.171E+00	2.175E+01	4.390E-01	-0.251
SB-125	2.265E+00		1.593E+01	6.312E+01	1.264E+00	0.036
SN-126DA	-2.626E+00		3.462E+00	1.273E+01	2.579E-01	-0.206
I-131	3.422E+01		1.339E+01	6.248E+01	1.250E+00	0.548
CS-134	1.395E+00		3.842E+00	1.692E+01	3.456E-01	0.082
CS-137DA	8.854E+00		4.279E+00	2.124E+01	4.300E-01	0.417
LA-138	-3.476E+00		3.453E+00	1.257E+01	2.677E-01	-0.276
CE-139	5.071E-01		9.502E+00	3.494E+01	7.120E-01	0.015
BA-140	-3.193E+01		2.650E+01	9.231E+01	1.856E+00	-0.346
BALA-140	2.562E-01		7.763E+00	3.661E+01	7.871E-01	0.007
LA-140	9.831E+01		1.006E+02	5.450E+02	1.172E+01	0.180
CE-141	-5.868E+00		1.902E+01	6.864E+01	1.409E+00	-0.086
CE-144	1.679E+01		6.772E+01	2.566E+02	5.293E+00	0.065
CEPR-144	3.273E+01		1.354E+02	5.128E+02	1.058E+01	0.064
PM-144	4.149E+00		4.420E+00	1.913E+01	3.865E-01	0.217
PM-146	3.623E+00		6.335E+00	2.669E+01	5.348E-01	0.136
EU-152	-2.024E+01		1.824E+01	6.436E+01	1.287E+00	-0.314
EU-154	1.173E+01		6.147E+00	3.704E+01	7.807E-01	0.317
EU-155	-3.972E+00		3.340E+01	1.261E+02	2.645E+00	-0.032
HF-181	6.174E+00		6.211E+00	2.663E+01	5.342E-01	0.232
BI-207	-6.617E-01		3.653E+00	1.475E+01	2.971E-01	-0.045
TL-208	-1.003E+01		5.389E+00	1.673E+01	3.372E-01	-0.600
BI-210M	2.433E+01		1.283E+01	5.405E+01	1.084E+00	0.450
BI-212	2.266E+01		6.257E+01	2.624E+02	8.016E+00	0.086
PB-212	1.912E+01		1.604E+01	6.405E+01	1.288E+00	0.298
BI-214	-1.395E+01		9.923E+00	3.292E+01	6.644E-01	-0.424
PB-214	1.201E+00		2.006E+01	6.738E+01	1.348E+00	0.018
RA-223	-8.725E+01		4.970E+01	1.591E+02	3.189E+00	-0.549
RA-224DA	1.929E+01		1.618E+01	6.463E+01	1.299E+00	0.298
RA-226DA	-1.395E+01		9.923E+00	3.292E+01	6.645E-01	-0.424
AC-227DA	-9.518E+00		6.048E+01	2.241E+02	4.506E+00	-0.042
AC-228	-4.619E+00		1.215E+01	4.776E+01	9.828E-01	-0.097
RA-228DA	-4.633E+00		1.219E+01	4.791E+01	9.857E-01	-0.097
TH-228DA	-2.817E+01		1.514E+01	4.698E+01	9.470E-01	-0.600
TH-232DA	-4.645E+01		4.610E+01	1.557E+02	3.114E+00	-0.298
TH-234DA	-1.746E+02		5.964E+02	2.358E+03	4.882E+01	-0.074
U-234DA	-3.600E+01		3.529E+01	1.199E+02	2.402E+00	-0.300
U-235HP	5.225E+01		6.684E+01	2.613E+02	5.366E+00	0.200
NP-237DA	7.225E+00		1.811E+01	6.882E+01	1.377E+00	0.105
U-238DA	1.201E+00		2.006E+01	6.738E+01	1.348E+00	0.018
U-238DHP	6.189E+01		2.637E+02	9.625E+02	2.119E+01	0.064
AM-241HP	-2.187E+01		2.304E+01	7.951E+01	1.763E+00	-0.275

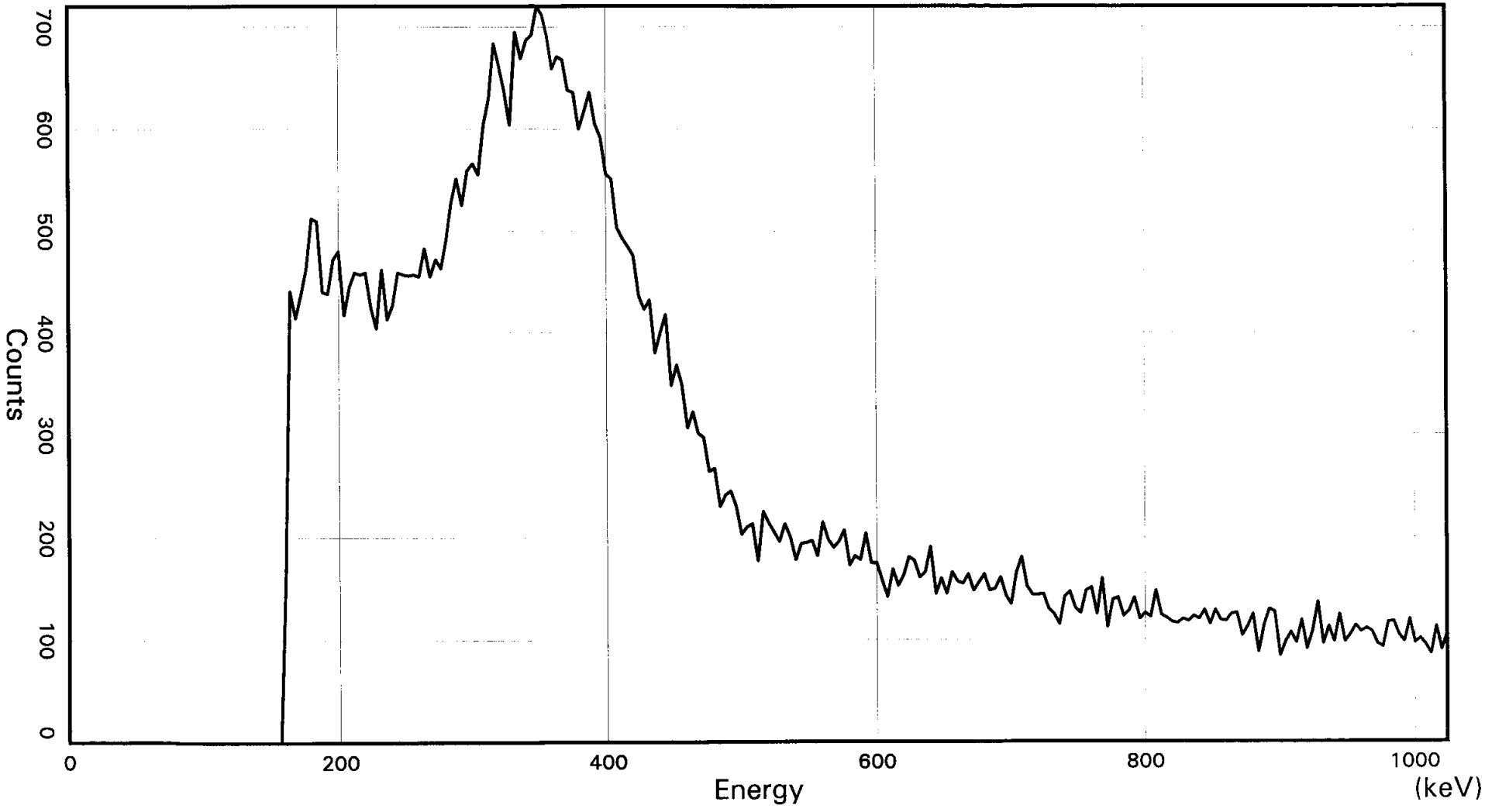
STL Richland WA.

BA133

Sample ID: H9HT71AC

Detector ID: NAI1 1

Library: [NUC_LIBR]BA133.NLB



Acquisition Start:	28-JUL-2006 14:20:34.82
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: H9HT71AC

CONFIGURATION ID: NAI1:H9HT71AC_280761420
TITLE : BA133
SAMPLE ID : H9HT71AC

REPORT DATE: 28-JUL-06
ACQUIRE DATE: 28-JUL-06 14:20:34
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 13-JUN-2006 12:00:00.00
CALIB DATE: 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 14:50:39

Configuration	: RDND06$DKA100:[NAI1.SAMPLE]H9HT71AC_280761420.CNF;1		
Analyses by	: NAI V3.0		
Sample title	: BA133		
Sample date	: 13-JUN-2006 12:00:00	Acquisition date	: 28-JUL-2006 14:20:34
Sample ID	: H9HT71AC	Sample quantity	: 1.0000 sampl
Elapsed live time	: 0 00:30:00.00	Elapsed real time	: 0 00:30:00.65 0.0%
Sample Multiplier	: 1.00	Rejection Coeff.	: 0.00
Gain shift type	: ITER	Threshold Shift	: No
Weighting type	: DERIVED	Calculated counts	: No
Iterations	: 5		

NAI Residuals Report

Ratio of Residuals Over Standard Deviation Per Channel

80:	6.5	3.9	1.4	4.1	3.5	3.9	4.7	3.1
88:	2.0	1.2	-0.3	-0.1	0.5	-1.8	0.0	-1.2
96:	-1.0	-1.1	-0.9	-1.5	-3.3	-2.0	-4.0	-4.4
104:	-4.2	-3.8	-4.9	-4.5	-3.5	-5.2	-4.8	-3.0
112:	-4.7	-3.1						

List of Suspicious Channels

84 85 86 87

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	1.28E+01	0.00E+00	1.02E+00
2	7.13E+00	0.00E+00	1.04E+00
3	2.36E+00	0.00E+00	1.07E+00
4	7.64E-01	0.00E+00	1.08E+00

Sample ID : H9HT71AC Acquisition date : 28-JUL-2006 14:20:34

Brief Report

Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	644.	7.55

Total Activity :	644.	